Incident Command, Escape & Rescue

A Competency-Based Training Program in Emergency Preparedness and Response

The University of Arizona

THE UNIVERSITY OF ARIZONA
MEL & ENID ZUCKERMAN COLLEGE OF PUBLIC HEALTH
Mountain West Preparedness & Emergency Response Learning Center
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Outline for Training Manual

Learning Objectives

1. Understand emergency response system planning and organizational command and control.

2. Recognize your role in emergency preparedness and response efforts.

3. Understand how to manage and assess information to maintain situational awareness in emergencies.

4. Maintain good communication and interpersonal skills to manage emergency information in a coordinated fashion.

5. Take protective actions to minimize exposure to hazards and impeding threats.

6. Understand the principles of crisis management and implement strategies to improve communications among teams of individuals.
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Pre-Training Assessment of Competencies

Today’s Date (Month/Day/Year): ___________/____________/___________


Gender: Male____ Female____

What is your current job title and/or profession?
_____________________________________________________________________________

How long have you been employed in the mining industry? _________ (months/years)

How long have you been employed in your current position?_______(months/years)

Have you completed the following training(s) prior to this training:

Newly Employed Inexperienced Miner? Yes No If yes, when (Month/Year)_________________

Current Annual Refresher? Yes No If yes, when (Month/Year)_________________

Experienced Miner? Yes No If yes, when (Month/Year)_________________

Hazard Training? Yes No If yes, when (Month/Year)_________________
Please circle the appropriate number for your level of response.

<table>
<thead>
<tr>
<th>How competent do you feel in your ability to:</th>
<th>COMPETENCE BEFORE THE TRAINING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very Low</td>
</tr>
<tr>
<td>A. I understand my mine’s coordinated operational structure during an emergency response effort.</td>
<td>1</td>
</tr>
<tr>
<td>B. I am familiar with my mine’s emergency response plan and understand my role.</td>
<td>1</td>
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<tr>
<td>C. I am able to manage stress and can recognize signs and symptoms of acute stress/distress among my coworkers.</td>
<td>1</td>
</tr>
<tr>
<td>D. I am able to maintain situational awareness and demonstrate accountability to deliver enhanced information to reinforce ongoing lifesaving and life-sustaining activities to meet basic human needs and stabilize the incident.</td>
<td>1</td>
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<tr>
<td>E. I am able to assess information related to an emergency and recognize hazards to mitigate potential cascading effects</td>
<td>1</td>
</tr>
<tr>
<td>F. I am able to maintain good interpersonal listening and speaking skills to promote collaboration and cooperation to solve safety concerns.</td>
<td>1</td>
</tr>
<tr>
<td>G. I use principles of crisis and risk communication to ensure information is concise and clearly understood among underground mine team.</td>
<td>1</td>
</tr>
<tr>
<td>H. I can use psychological first aid to diminish physiological stress response and facilitate function and action toward self-escape and survivability</td>
<td>1</td>
</tr>
<tr>
<td>I. I am able to establish and maintain different types of communication (i.e. interoperable voice, data, etc.).</td>
<td>1</td>
</tr>
<tr>
<td>J. I am able to relay and document the six categories of critical information that should be provided during emergency communications: Who, Where, What, Miners, Event, and Response.</td>
<td>1</td>
</tr>
<tr>
<td>K. I am able to communicate information on the course of action and implementation to the relevant people.</td>
<td>1</td>
</tr>
<tr>
<td>L. I am able to ensure the capacity for timely communications in support of security, situational awareness, and operations by any and all means available.</td>
<td>1</td>
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</tr>
<tr>
<td>M.</td>
<td>I understand my mine communications plan to include protocols for family reunification, media control, &amp; external management teams.</td>
</tr>
<tr>
<td>N.</td>
<td>I can identify threats and immediate hazards during a mine emergency (explosions, hazardous spill, etc.) and implement primary response methods to control the hazard and minimize injury and/or death.</td>
</tr>
<tr>
<td>O.</td>
<td>I am able to maintain familiarity with emergency escape route(s) according to mine site procedures.</td>
</tr>
<tr>
<td>P.</td>
<td>I am able to select most appropriate action for dealing with the situation (i.e. hazard) according to mine site emergency response plans and procedures.</td>
</tr>
<tr>
<td>Q.</td>
<td>I am able to continuously monitor threat/hazard and reassess controls (i.e. ventilation) in place to ensure the safety of personnel in the vicinity of threat (i.e. fire).</td>
</tr>
<tr>
<td>R.</td>
<td>I can perform primary and secondary assessments of miners (i.e. each team member) condition to recognize and implement life support measures.</td>
</tr>
<tr>
<td>S.</td>
<td>I understand and apply the hierarchy of controls to reduce and/or eliminate immediate risks.</td>
</tr>
<tr>
<td>T.</td>
<td>I am able to use appropriate personal protective equipment and apply appropriate procedures (i.e. self-rescue equipment, confined spaces, noise, isolation, etc.) for managing hazards, risks, and emergencies.</td>
</tr>
<tr>
<td>U.</td>
<td>I am able to recognize, access, and respond to alarms and warning devices according to mine site procedures.</td>
</tr>
<tr>
<td>V.</td>
<td>I am able to report unresolved threats to physical and mental health through the chain of command.</td>
</tr>
<tr>
<td>W.</td>
<td>I employ protective behaviors according to changing conditions, personal limitations, and threats.</td>
</tr>
<tr>
<td>X.</td>
<td>I am familiar conducting health and safety hazard assessments and ensure the availability and dissemination of guidance and resources (i.e. deploying hazardous materials teams).</td>
</tr>
<tr>
<td>Y.</td>
<td>I am able to take precautions to safeguard workers and maintain standards of health, fitness and well-being.</td>
</tr>
</tbody>
</table>
Z. I am able to focus on timely restoration of mine infrastructure and revitalization post incident to promote resilience of miner health, and environmental fabric of community (i.e. social, cultural, historic, and economy, etc.).

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

AA. I able to participate in risk and disaster resilience assessments so that mine community (decision makers, responders, and community members) can take informed action to reduce their entity’s risk and increase their resilience.

|   | 1 | 2 | 3 | 4 | 5 |
Harry’s Hard Choices

Pre-Session Tutorial

Harry’s Hard Choices

Computer gaming training tool to test players’ decision making in response to various disaster events.
Your Notes
The Foundation: Leadership, Management, & Decision Making
TRUE OR FALSE? HOW ABOUT PARTIALLY TRUE?

A comprehensive, mine-specific emergency preparedness and response system is critical to effective rescue/recovery operations.

MSHA


• The Mine Safety and Health Administration (MSHA) orders mine emergency management requirements for mine operators, including designation and training for responsible persons and the development of mine emergency response plans. To minimize the impact of mine emergencies, it is crucial for companies to be adequately prepared to manage them.

Provide Risk Assessments/Mitigation

- Plan for Contingencies in ERPs (What If If’s)
- Provide Training
- Plan ahead
- Develop a Mine Emergency Organizational Structure

A series of tragic events over the course of a decade demonstrate the need for competency in managing mine emergencies at all levels in the mining community. These events were Brookwood in 2001 (13 fatalities), followed by Sago (2006, 12 fatalities), Darby (2006, 5 fatalities), Aracoma (2006, 2 fatalities), Crandall Canyon (2007, 6 fatalities), and Upper Big Branch (2010, 29 fatalities). The Mine Safety and Health Administration (MSHA) orders mine emergency management requirements for mine operators, including designation and training for responsible persons and the development of mine emergency response plans. To minimize the impact of mine emergencies, it is crucial for companies to be adequately prepared to manage them.
A comprehensive, mine-specific emergency preparedness and response system is critical to effective rescue/recovery operations. Based on the standard Incident Command System (ICS), which has been adopted by fire departments, search and rescue organizations, and other government agencies,

**A Mine Emergency Command System:**

- Is an organizational structure designed to respond to any mine emergency.
- Establishes a common framework based on the ICS.
- Creates controls in dealing with:
  - Personnel
  - Facilities
  - Equipment
  - Communications
- Can be established and expanded depending upon the changing conditions of the emergency.
- Is staffed and operated by qualified personnel from a variety of agencies.
- The Mine Emergency Command System establishes a common framework and practical procedures for controlling all aspects of a mine emergency.
NIOSH

- Researchers from the Office of Mine Safety and Health Research (OMSHR) have conducted a series of group and individual interviews to learn what happens in the first crucial moments of a mine emergency.

- Results from focus groups and interviews about the initial moments of a mine emergency indicate that there are common themes in initial response, which include the importance of mine emergency planning and training, quantity and quality of communication that provides information for decision-making, leadership and trust, and individual personal issues.

The subjects represented underground mines in several commodities and were located throughout the U.S. They included on-site responders, mine rescue team members, and experts in mine emergency response with extensive experience in managing mine disasters. The goal is to learn lessons from these experts that can be passed on to future responders. The loss of critical mine emergency management knowledge as a result of the departure of employees with firsthand experience in mine emergency response has also been explored.

OMSHR has assessed the need for written mine emergency response plans. A variety of plans were studied and guidance was developed for mine operators. Researchers also studied past mine emergencies and used examples from these events to highlight the importance of emergency response planning.

Knowing there will always be the possibility of mine emergency events, it is critical for mine officials at all levels to have the knowledge, skills, and ability to step in and manage response to the event thoroughly and efficiently. Recently, the Mine Rescue and Escape Training Laboratory was created at NIOSH’s Pittsburgh campus. With the inauguration of this laboratory, researchers are poised to investigate how virtual reality (VR) technologies can be used for teaching critical mine emergency response skills including emergency management. As part of this effort, researchers will develop training for command center leaders that incorporates virtual reality components.

Broad questions to be answered by this work include:

How can VR training techniques be used to train command center leaders?

How can command center training contribute to the development of integrated live, virtual, and constructive training simulation for mine emergency response?

This work will build on past NIOSH findings on command center training, coaching and leadership skills, and crisis decision-making.
Figure 1—Coal mine emergency response is conceptually shown as a broken or weakened three-legged stool on the left to represent current status and a well-balanced solid stool on the right depicting the long term goal for the U.S. emergency management system. (NIOSH, 2010, Circular 9522).

Self-Escape skills are improving, but the emphasis on developing individual miner evacuation skills has not received the resources nor the attention needed (extend the short leg of the stool). Self-escape from adverse events in underground mines is inherently not a solo effort, even in the case of a single individual escaping alone. It is a broader effort of multiple teams and personnel acting in concert.

Safe-Rescue is functional but has wide variations between individual team capabilities. Rescue would benefit from better prioritization, combining of resources, and a focus on real-life training and rapid response methods rather than contests, while maintaining the safety of rescuers (strengthen the weak part of the leg).

Incident Command is broken; it is neither well-defined, consistent with non-mining national practice, nor are managers and technical advisors taught thoroughly or drilled regularly throughout the industry as is needed to be effective during an incident. Incident command requires renewed commitment (fix the broken leg).
Emergency Management in U.S. Mining Industry

- The U.S. mining industry has a number of ongoing programs and procedures that promote planning for emergencies.
  - mine emergency and fire
  - evacuation plans
  - mine emergency response development (MERD) exercises
  - quarterly escape way drills, and emergency response plans (ERPs).

The capacity to provide adequate escape training appears to be inconsistent across the mining industry and often oriented toward ‘checking the box’ of minimal compliance with federal and state training criteria because of the cost and difficulty of devising effective exercises (Committee on Mine Safety, 2013 report).
Committee on Mine Safety, 2013 report

- CONCLUSION: Efforts on the part of mine operators and other industry stakeholders to empower self-escape in a mine emergency—to include, but not be limited to, training, technology, equipment, and emergency response plans—need to be fully integrated and coordinated, using a human-systems integration approach, to establish unified, efficient, and effective protocols.

Improving Self-Escape from Underground Coal Mines (ESSENTIAL COMPONENTS OF SELF-ESCAPE)

Training appears to be inconsistent across the mining industry and often oriented toward ‘checking the box’ of minimal compliance with federal and state training criteria because of the cost and difficulty of devising effective exercises.

UA RESEARCH FINDINGS

- Lack of a universal mine emergency response model has contributed to a less than ideal and fragmented approach to all-hazards disaster planning and response.
  - Lack of a competency model for emergency preparedness and response
  - Lack of standardized format for emergency response plans
  - Inconsistent standards and metrics for exercise design, conduct, & evaluation
  - Planning, Training, Exercising—STILL HAPPENING IN SILOS

HOW DO WE FIX IT?

DON'T REINVENT THE WHEEL

- February 28, 2003: The Secretary of Homeland Security
- To enhance the ability of the United States to manage domestic incidents by establishing a single, comprehensive national incident management system
- Develop a national response framework

National Incident Management System (NIMS)

- NIMS is a comprehensive, national approach to incident management that is applicable at all jurisdictional levels and across functional disciplines. It is intended to:
  - Be applicable across a full spectrum of potential incidents, hazards, and impacts, regardless of size, location or complexity
  - Improve coordination and cooperation between public and private entities in a variety of incident management activities
  - Provide a common standard for overall incident management


Your Notes
This unit is divided into three sections covering each of the Command and Management elements:

- Incident Command System
- Multiagency Coordination Systems
- Public Information
- the NIMS Command and Management component facilitates incident management by building upon all of the components covered in the previous lessons

**Incident Command System (ICS)**

- The Incident Command System (ICS) is a standardized approach to the command, control, and coordination of emergency response providing a common hierarchy within which responders from multiple agencies can be effective.

- ICS was initially developed to address problems of inter-agency responses to wildfires in California and Arizona but is now a component of the National Incident Management System (NIMS) in the US, where it has evolved into use in All-Hazards situations, ranging from active shootings to HazMat scenes. In addition, ICS has acted as a pattern for similar approaches internationally.

*Your Notes*
Other Preparedness Efforts

- **HSPD-7**: Critical Infrastructure Identification, Prioritization, and Protection established the U.S. policy for “enhancing protection of the Nation’s critical infrastructure and key resources.”
- **HSPD-8**: National Preparedness directed DHS to develop a common, unified approach to “strengthen the preparedness of the United States to prevent and respond to threatened or actual domestic terrorist attacks, major disasters, and other emergencies.”

Homeland Security Presidential Directive 5 (HSPD-5) established a single, comprehensive approach to incident management. Present the following key points about additional Homeland Security Presidential Directives linked to national preparedness.

**Your Notes**
FEMA:
The National Preparedness System outlines an organized process for everyone in the whole community to move forward with their preparedness activities and achieve the National Preparedness Goal. “A secure and resilient nation with the capabilities required across the whole community to prevent, protect against, mitigate, respond to, and recover from the threats and hazards that pose the greatest risk.”

For 37 years, FEMA’s mission remains: to lead America to prepare for, prevent, respond to and recover from disasters with a vision of "A Nation Prepared." On April 1, 1979, President Jimmy Carter signed the executive order that created the Federal Emergency Management Agency (FEMA). From day one, FEMA has remained committed to protecting and serving the American people. That commitment to the people we serve and the belief in our survivor centric mission will never change.

HSEEP

- The Homeland Security Exercise and Evaluation Program (HSEEP) provides a set of guiding principles for exercise programs, as well as a common approach to exercise program management, design and development, conduct, evaluation, and improvement planning.
Psychosocial Approach: A Formula for Understanding Brain & Behavior

Our brain has structures and systems designed to keep us alive so we survive long enough to have progeny that will perpetuate our species. We survive to a great degree by finding ways to interact with the environment.

The brain does this by producing behavior. What we say and do to respond to and effect changes on the environment so that we will ensure our safety and well being.
The Brain and Our Survival: PTEM=B

- **P = Perception** (occurs in the 3 back lobes of the cerebral cortex: occipital (vision), temporal (hearing), and parietal (touch))
- **T = Thinking** (occurs in the frontal lobes)
- **E = Emotions** (which is produced by our thinking)
- **M = Memories** (which are stored in the brain and composed of our perceptions, thoughts, and emotions).

The 4 brain functions combine to produce our BEHAVIOR

The brain does this through an interaction of four systems

---

**PERCEPTION**
- The brain has 5 senses that receive information:
  - 2 chemical senses: Taste & Smell
  - 3 physical senses: Vision, Hearing, and Touch
- The brain’s analysis of these 3 physical senses produces our PERCEPTION

---

**Question?**
If two people perceive the same event, will their perception be exactly the same?

**NO**

---

Your Notes
WHY? Two kinds of long-term factual memories

- Episodic Declarative Memories
  - Sequential autobiographical events of our lives (What you had for breakfast this morning?)
- Semantic Declarative Memories
  - Memories not linked to a specific event in time (What the make and model of the car you drive?)
- These memory networks flavor and bias the perceptual system

THE BRAIN DOESN’T PERCEIVE THE REAL WORLD; IT PERCEIVES THE WORLD IT’S LEARNED TO PERCEIVE AND WANTS TO PERCEIVE

In other words, through memory-biased perceptions, the brain creates its own reality.
THINKING

- Occurs in the frontal lobe of the brain
- Frontal lobe also plans, organizes, and carries out all of our actions
- Holds on to short term memory
- Plays a larger role in our “consciousness”
- Understands symbols and concepts
- Regulates attention
- Controls impulses
- Creates our EMOTIONS

After the brain perceives an event, it thinks about the perception.

COGNITIVE APPRAISALS

- P + T = COGNITIVE APPRAISALS
- Each individual will have a unique cognitive appraisal of the world

Your Notes
EMOTIONS

- Emotions are produced by our cognitive appraisals
- As a basic model, our thinking creates our emotions
- Emotions are internal brain states that exists to ensure our survival
  - Positive emotions motivate behavior toward getting things we desire in order to help us thrive and survive
  - Negative emotions motivate us to avoid or defend ourselves against things that would threaten our personal and social existence
- A great advancement in the human frontal lobe is that our thoughts have the capacity to control our emotions.
- CBT, mindfulness, etc

Cognitive-Appraisal Theory of Emotion

Figure 12.4, page 329
Richard Lazarus (1991)

Your Notes
Cognitive Appraisal Approach

Primary Appraisal
An initial evaluation of whether an event is...
(1) irrelevant to you
(2) relevant but not threatening
(3) stressful

Secondary Appraisal
An evaluation of your coping resources & options for dealing with the stressor

Other factors?

MEMORY
• Our whole pattern of thinking, feeling, behaving—called our personality—is based on overload and memorized actions.
• Both positive and negative emotional memories are stored as powerful networks in the brain because of their influence on our survival.
• Memories affect each individual’s perception and thinking in a unique way to produce emotions and behaviors that become characteristics of that person.

EACH PERSON’S UNIQUE PTEM = PERSONALITY
Many cognitive neuroscientists believe we are nothing but our memories. Our whole pattern of thinking, feeling, behaving—called our personality—is based on overload and memorized actions.

Your Notes
### Five Minute Personality Test

Choose the item in each line that is most like you and put a 4. Then pick the item that is next most like you and put a 3. Then 2 and then 1 which is least like you. Do this across the page for each list of descriptors.

<table>
<thead>
<tr>
<th></th>
<th>Likes authority</th>
<th>Enthusiastic</th>
<th>Sensitive Feelings</th>
<th>Likes Instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2.</td>
<td>Takes Charge</td>
<td></td>
<td></td>
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<tr>
<td>3.</td>
<td>Determined</td>
<td></td>
<td></td>
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<tr>
<td>4.</td>
<td>Enterprising</td>
<td></td>
<td></td>
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<tr>
<td>5.</td>
<td>Competitive</td>
<td></td>
<td></td>
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<tr>
<td>6.</td>
<td>Problem Solver</td>
<td></td>
<td></td>
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<tr>
<td>7.</td>
<td>Productive</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>8.</td>
<td>Bold</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>9.</td>
<td>Decision Maker</td>
<td></td>
<td></td>
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<tr>
<td>10.</td>
<td>Persistent</td>
<td></td>
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<tr>
<th>Totals</th>
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</table>
**Lion** - This personality likes to lead. The lion is good at making decisions and is very goal-oriented. They enjoy challenges, difficult assignments, and opportunity for advancement. Because lions are thinking of the goal, they can step on people to reach it. Lions can be very aggressive and competitive. Lions must learn not to be too bossy or to take charge in other's affairs. Strength: Goal-oriented, strong, direct. Weakness: Argumentative, too dictatorial. Limitation: Doesn’t understand that directness can hurt others, hard time expressing grace.

**Otter** - Otters are very social creatures. Otter personalities love people. They enjoy being popular and influencing and motivating others. Otter can sometimes be hurt when people do not like them. Otter personalities usually have lots of friends, but not deep relationships. They love to goof-off. (They are notorious for messy rooms.) Otters like to hurry and finish jobs. (Jobs are not often done well.) The otter personality is like Tigger in Winnie The Pooh. Strength: People person, open, positive. Weakness: Talks too much, too permissive. Limitation: Remembering past commitments, follow through with discipline.

**Golden Retriever** - Good at making friends. Very loyal. Retriever personalities do not like big changes. They look for security. Can be very sensitive. Very caring. Has deep relationships, but usually only a couple of close friends. Wants to be loved by everyone. Looks for appreciation. Works best in a limited situation with a steady work pattern. Strength: Accommodating, calm, affirming. Weakness: Indecisive, indifferent, unable to express emotional, too soft on other people. Limitation: Seeing the need to be more assertive, holding others accountable.

**Beaver** - Organized. Beavers think that there is a right way to do everything and they want to do it exact that way. Beaver personalities are very creative. They desire to solve everything. Desire to take their time and do it right. Beavers do not like sudden changes. They need reassurance. Strength: High standards, order, respect. Weakness: Unrealistic expectations of self & others, too perfect. Limitation: Seeing the optimistic side of things, expressing flexibility.
## Personality Interpretations

<table>
<thead>
<tr>
<th></th>
<th>The Lion</th>
<th>The Otter</th>
<th>The Golden Retriever</th>
<th>The Beaver</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Relational Strengths:</strong></td>
<td>Takes charge.</td>
<td>Optimistic.</td>
<td>Warm &amp; Relational.</td>
<td>Accurate and precise.</td>
</tr>
<tr>
<td></td>
<td>Confrontational.</td>
<td></td>
<td>Sensitive Feelings.</td>
<td></td>
</tr>
<tr>
<td><strong>Strengths Out of Balance:</strong></td>
<td>Too direct or impatient.</td>
<td>Unrealistic or day-dreamer.</td>
<td>Attract the hurting.</td>
<td>Too critical or too strict.</td>
</tr>
<tr>
<td></td>
<td>Too busy.</td>
<td>Impulsive or takes big risks.</td>
<td>Missed opportunities.</td>
<td>Too controlling.</td>
</tr>
<tr>
<td></td>
<td>Cold blooded.</td>
<td>Insensitive to others.</td>
<td>Stays in a rut.</td>
<td>Too negative of new opportunities.</td>
</tr>
<tr>
<td></td>
<td>Impulsive or takes big risks.</td>
<td></td>
<td>Sacrifice own feelings for harmony.</td>
<td>Lose overview.</td>
</tr>
<tr>
<td><strong>Communication Style:</strong></td>
<td>Direct or blunt.</td>
<td>Can inspire others.</td>
<td>Indirect.</td>
<td>Factual.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Weakness: High energy can manipulate others.</td>
<td>Weakness: Uses too many words or provides too many details.</td>
<td>Weakness: Desire for detail and precision can frustrate others.</td>
</tr>
<tr>
<td></td>
<td>Areas where he or she can be in charge.</td>
<td>Opportunity to verbalize.</td>
<td>Agreeable Environment.</td>
<td>Exact expectations.</td>
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<tr>
<td></td>
<td>Opportunity to solve problems.</td>
<td>Visibility.</td>
<td></td>
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<tr>
<td></td>
<td>Freedom to change.</td>
<td>Social recognition.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Relational Balance:</strong></td>
<td>Add softness.</td>
<td>Be attentive to mate’s needs.</td>
<td>Learn to say &quot;NO&quot;... establish emotional boundaries.</td>
<td>Total support is not always possible.</td>
</tr>
<tr>
<td></td>
<td>Become a great listener.</td>
<td>There is such a thing as too much optimism.</td>
<td>Learn to confront when own feelings are hurt.</td>
<td>Thorough explanation isn’t everything.</td>
</tr>
</tbody>
</table>
The Communications Challenge: Emotional & Social Intelligence

The 3 Nervous Systems & The Stress Response

- Central Nervous System: Brain & Spinal Cord
- Peripheral Nervous System: Connects brain and spinal cord of CNS to organs of the body
- Autonomic Nervous System: Sympathetic and Parasympathetic Nervous Division: The Yin & Yang of Stress

The autonomic nervous system is more involuntary and automatic but can be controlled (by relaxation training, meditation, etc.). Parasympathetic is only activated when sympathetic is NOT activated and has the opposite effects.

**Parasympathetic:** relaxation, body repair and restoration, slower heart rate, constriction of pupils, lower blood pressure, lower glucose, decreased pain perception

**Sympathetic:** The Stress Response
Sympathetic Division- The “Stress” Response

- Named by Roman physician Galen as providing sympathy between thinking (brain) and feeling (visceral organs).
- Stress response activates in an automatic and immediate fashion to:
  1. Physiological threats like injuries
  2. Real perceived imminent threats like someone coming at you with a knife
  3. Imaginary or anticipated threats or emergencies, including just worrying

The stress system does NOT know the difference
between real and imagined threats and responds in the same manner

Mediates the “Four F’s of Behavior”

- FEAR
- FREEZE
- FIGHT
- FLIGHT

Creates states of fear, anxiety, anger, vigilance, activation, arousal, and mobilization

Amygdala fear (flight) and anger (fear) initiate and drive the stress response
Blood pressure rises, heart beats faster, blood glucose rises, pain threshold rises, pupils dilate, etc
Emergency Reaction to Acute Stress

- **Fight-or-Flight Response**
  - Prepares the body for combat and struggle or for running away to safety

- **Tend-and-Befriend Response**
  - Females protect offspring and join social groups

**Tend and Befriend Theory** --- Dr. Shelley E. Taylor University of California, Los Angeles (2011)-research has shown that women

Do not react to stress with fight or flight so common in male stress response. Tending to others children and befriending for support, evolutionary benefit as banding together for defense and taking care of children helped survival in ancient past.

**Stress**

- The process by which we perceive & respond to certain events (known as *stressors*) that we appraise as threatening and/or challenging

  - **Stress is not...**
    - A simple stimulus or response
    - Necessarily a negative thing

**Diagram:**

- Stressful event (tough math test)
  - Appraisal:
    - Threat ("Yikes! This is beyond me!")
    - Challenge ("I've got to apply all I know")
  - Response:
    - Stressed to distraction
    - Aroused, focused
Stress and Tunnel Vision

Type I Emotional Thinking

- Negative emotions from stress cause cognitive tunnel vision
- Our behavioral response to the threat is determined by over learned, habitual emotional procedures memories that automatically kick in
- Emotions control and limit thinking

Type II Rational Thinking

- Analytic processes of problem solving and creativity
- Helps to inhibit and control emotions
- Typically, the cognitive pattern associated with positive emotions
- Humans have the intellectual capacity to resist and control our impulses, including strong emotional impulses like anger and fear

Stress Activity (Group Exercise)
7 Basic Forms of Intelligence

- Verbal
- Mathematical Logical
- Spatial Capacity
- Kinesthetic
- Musical
- Intrapyschic Capacity
- Interpersonal Skills

Emotional and Social Intelligence

Dr. Howard Gardner research stated with a broader concept of intelligence. Each person will vary individually in their capacities within each domain of these multiple intelligence. The last two contain a set of brain functions that underlie the concepts of emotional and social intelligence.

Emotional Intelligence

- First proposed in 1990 by two researchers, Peter Salovey of Yale University and John Mayer of the University of New Hampshire (later popularized by Daniel Goleman).
- 1. Knowing One's Emotions
- 2. Managing Emotions
- 3. Motivating Oneself
- 4. Recognizing Emotions in Others
- 5. Managing Relationships

Researchers believed that other factors other than intellectual intelligence were important in contributing to the success in life. Not everyone with a high IQ is successful in life.

Your Notes
Social Intelligence

Daniel Goleman's research on the ability of a person to understand and effectively manage interpersonal relationships with others.

- 2 Main Components:
  1. Social Awareness—Perceiving how another person feels
     1. Primal Empathy
     2. Attunement
     3. Empathetic Accuracy
     4. Social Cognition
  2. Social Facility—Going beyond social awareness to enable the person to produce and maintain smooth and compatible interactions with other people.
     1. Synchrony
     2. Self-presentation
     3. Influence
     4. Concern
Communicating Effectively

DON’T SHOOT THE MESSENGER!

Interpersonal Communications: Nonverbal, Voice, & Verbal

• Interactions between two people are based on communication. Interpersonal communication researchers have found that there are three elements critical to effective communication.

  1. The nonverbal or visual part of the message.
  2. Your voice tone and vocal element.
  3. The verbal content or the words that you choose.

• Research shows the more consistency there is among the three elements, the more believable the communication is.

---

What is Non-verbal Communication?

• Communication without words

  Communication Visually

  • Signs
  • Symbols
  • Maps
  • Posters
  • colors

  Communication with apparent behaviors:

  • Facial expressions, eyes, touching, tone of voice, spatial distance, and posture

---

Non-Verbal Communication in Crisis and Emergency

• In the event of an emergency, donning your SCBA will require you to use effective non-verbal communication.

• How you communicate:

  • Cap Lamp signals
  • Note writing: pen & paper, chalk, or rock dust
  • Nonverbal hand signals

---
Nonverbal Communication Activity

You and your group/partner will be given a situation to relay to another group, using the non-verbal communication signals for mine emergency you will successfully lead the team to safety.

The team with the fastest and most correct response will....
NIOSH Mine Emergency Escape Training: Nonverbal Communication

1. Yes/Good Idea (thumbs up)
2. No/Bad Idea (thumbs down)
3. You/It/Them/There (point at person(s) or thing(s))
4. I/Me (point at yourself)
5. We/Us (point finger up, move in circular motion)
6. Stop/Stay Here (arm straight out, angled toward floor, palm facing forward)
7. Go This Way (arm at side, extend outward from waist indicating direction, palm facing out)
8. Don’t Know/Don’t Understand (hold both hands out with palms up, shrug)
9. SCSR (put hand in front of face, palm facing you)
10. Refuge Chamber/Barricade (touch fingertips to make triangle in front of chest)
11. Gas Detector/Gas Readings (simulate holding gas detector up to the roof)
12. A Problem (palm facing forward, move hand to and away from top of head)
13. Follow Me/Come This Way (bend lower arm to bring hand up toward self; beckoning motion)
14. Slow Down (slowly lower hand, palm facing down)
15. Evacuate (move bent arms back and forth next to body; running motion)
16. Lifeline/Tether (arm at side with elbow bent 90 degrees to front, move hand as if grasping line)

Nonverbal Communication Activity
NIOSH TOOL
The Emergency Communication Triangle

Effective Mine Emergency Communication

The Critical Information

- Who? Where? What?
- Miners? Event? Response?

NIOSH: Safety and Communication

How Do We Communicate?

- Mine Phones
- Land Line telephones
- Radio
- Word of Mouth
- Head Lamps
- All ways in which to communicate but how do we communicate?
However, What Do We Communicate?

Emergency Communications: Why is effective communication a training topic?
The more communication becomes detail oriented the more it becomes effective

- Effective communication:
  - Reduces confusion ↓
  - Increases confidence in decision-making ↑
  - Ends the exchange of wrong information and the space for rumors ×
  - Increases the prospect of success ↑

Common sense versus details

Common Sense, Right?
- In 2003 study conducted in Western Pennsylvania, 48 mine workers who had escaped three serious mine fires were interviewed and after their stories were collected and analyzed, it prevailed that common sense was not entirely enough when it came to emergency communication. Throughout the study it was noted:
  - The Who, The Where, and the What provide invaluable context, time, and information often left out when just relying on “common sense’ in emergency communications.
How would these be communicated?

<table>
<thead>
<tr>
<th>WHO</th>
<th>WHERE</th>
<th>WHAT</th>
</tr>
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Who

- Identify who you are
- Will create a difference in how others communicate with you
- Experienced miner versus inexperienced miner
- Knowing who you are creates a space for the right kind of communication to happen

Where?

- Attention to Details: it is the little things that change everything
  - “there is a fire on the belt”
  - Research specific to this study found that out of the three fires and the evacuation of more than 60 miners through thick smoke, the 48 miners that were interviewed- only 2 actually knew the location of the fire
  - The researchers commented that the dispatcher and the person who found the fire knew the location but as a result of non-communication, decisions were made about escape routes without this crucial piece of information. Lack of information and poor communication increases the stress level of an already potentially dangerous situation thus possibly affecting the decision-making process.
Case Study: The What
During a serious mine fire, a warning message was given for everyone on the section to evacuate. Miners who had been near the phone when the call came in went to gather the others on their crew. One of these miners, a shuttle car operator, ducked under the check curtain and yelled to the miner operator saying, "Come on down to the mantrip. We're going out." Since the belt was down and it was close to quitting time, the miner operator and his helper thought they were just leaving the section a little early. They completed their normal end of shift routine (backing the continuous miner out of the cut, setting jacks, tightening check curtains, and disconnecting the power) before reporting to the mantrip. Thus, valuable time was lost.


The Details
• Miners: is anyone hurt? Is everyone accounted for? When and where was a missing person last seen?
• Event: do you require a first aid kit or an ambulance? Should we call for mine rescue terms or just a couple of fire extinguishers?
• Response: What has been done so far? How many people on the scene? What equipment is needed?
Communicating Details Scenario Activity

PARTNER ACTIVITY

Scenario:

You and your partner have each been given a scenario:

- First, place the information in the order of importance and secondly, develop how to relate the information based on the communication triangle.
- Next you and your partner will share your communication triangle information with another pair and they will formulate a response based on what you have communicated.
Principles of Crisis and Emergency Risk Communications
“CERC is a way to talk to people, a set of principles that allow us, in the heat of a crisis when the unthinkable happens, to be able to get a message through to people in a way that they can actually understand it and act on it.”

Dr. Barbara Reynolds, Centers for Disease Control and Prevention

Crisis Communication

- The term crisis, as outlined in the 2014 Crisis and Emergency Communication manual, is used to define the “communication activities of an organization or agency facing a crisis”.

- This type of communication generally happens after a crisis occurs and there is a need to communicate information about the situation to stakeholders, partners, and the public.

- Crisis communications may also be used in reference to any type of public alert system or notification that informs the public about an event.

Risk Communications

- Risk communication originated in the environmental health field. “Through risk communication, the communicator hopes to provide the receiver information about the expected type (good or bad) and magnitude (weak or strong) of an outcome from a behavior or exposure.”

- In the health field, risk communication often involves discussion about an adverse outcome and the probability of that outcome occurring for an individual. For example, risk communication can help an individual decide whether to vaccinate their child against measles. The messaging will help convey the risks associated with getting the disease and offer steps to reduce the chances of becoming ill.

Key Communication Principles

- Be First: Crises are time-sensitive. Communicating information quickly is almost always important.

- Be Right: Accuracy establishes credibility. Information can include what is known, what is not known, and what is being done to fill in the gaps.

- Be Credible: Honesty and truthfulness should not be compromised during crises.

- Express Empathy: Crises create horror, and the suffering should be acknowledged in words, addressing people’s feelings, and the challenges they face, builds trust and rapport.

- Promote Action: Giving people meaningful things to do calms anxiety, helps restore order, and promotes a sense of control.

- Show Respect: Respectful communication is particularly important when people feel vulnerable. Respectful communication promotes cooperation and rapport.

Plan Your Communications Plan

- Communication is a critical tool in addressing the needs of a community post disaster. It is important for the communication aspects of emergency response to be integrated into all aspects of crisis management.

- The communication plan should be integrated into the overall mine emergency response plan and be understood by all leadership.

- Finally, it is important that your mine share the communication plan with other partnering agencies so that policies and procedures can be aligned and stakeholders can collaborate with each other.

**Fundamental Communication Strategy**

Two essential considerations during crisis and emergency risk communication are the **audience** and the **message**.

1. Develop goals and key messages
2. Ease public’s concern
3. Give guidance on how to respond
4. Stay on message
5. Deliver accurate and timely information

A communications goal of “educating the public on the complexities of bio-terrorism and preparing them for any eventuality” is **not realistic**;

informing the public of the problem and specific dangers, providing guidance on appropriate responses, and easing concerns are achievable goals.

Source: (U.S. Department of Health and Human Services, SAMHSA, 2002)

**Developing Goals and Key Messages**

- Communication failure is often due to a lack of clear goals and key messages that support the spokesperson delivering the message during a crisis. Setting goals and identifying vital messages are decisions that should be made prior to issuing any public comment, especially during a crisis.

- It can be a challenge to write a message to delivery to the public and the media. The initial message must be provided shortly after the event occurs and it must be accurate. When information is still unknown, it is important to explain the process being undertaken to gather additional facts.
Further Training on CERC

- Working with the Media
- Constructing messages to the media and the public
- Working directly with the public
- Managing information related to an emergency
- Integrating Social Media into your Communications Plan
Situational Awareness

HAZARD RECOGNITION

Situational Awareness and Your Senses

- Sight
- Hearing
- Smell
- Touch & Taste

“As a Scout, you should make it a point to see and observe more than the average person.” —Scout Field Book, 1948

HAZARD RECOGNITION

IF YOU SEE IT ....YOU OWN IT!

30 CFR

- RULES TO LIVE BY
- TOP 20 CITATIONS FOR YOUR INDUSTRY
- COMPANY VIOLATIONS
- RELY ON OTHERS EXPERIENCE
It’s Not About the Incident
  • The incident is just the beginning of a story
  • Your life and everyone around you is affected by an injury

Your Notes
HAZARDS

Do you see any hazards here?
Your Notes

WHY IS IT IMPORTANT?
SOME HAZARDS ARE EASILY IDENTIFIED
SOME ARE NOT
ELECTRICAL – FIVE MOST CITED
ELECTRICAL – FIVE MOST CITED (cont.)
YOUR SAFETY CULTURE
SAFETY COMMITTEE AUDITS

- TRAIN YOUR COMMITTEE MEMBERS
- LIMIT THE NUMBER OF PARTICIPANTS ON YOUR AUDITS
- LIMIT YOUR TIME
- LIMIT YOUR INSPECTION AREAS
- RESOLUTION TO ISSUES FOUND ON INSPECTION

A WISE MAN SAID USE

“COMMON SENSE”

WHEN PERFORMING A JOB.

A WISER MAN SAID USE

“GOOD SENSE”

WHEN PERFORMING A JOB.
Understanding the Human Brain—Where Risk Assessment All Starts

• The Brain receives and processes millions of bits of information every minute (1850 bits / every moment (1/18th second).

• Our conscious mind can only process about 0.3% of this information or “5-9 bits”.

• This means that our brain, by design, misses 99% of all information that is potentially received.

• Why is this?

• How does the brain know what is important?

• How will this affect how I make decisions in conducting tasks?

• The limitations of the conscious mind is one of the reasons that observations and risk assessments are so important!

• More importantly, it also helps us understand the limitations of our UNCONSCIOUS mind...our attitudes, habits, values and experience/memories. Some of these are BLIND SPOTS!

Brains Information Processing

• The Brain decides what is most important at the moment bases on 4 Criteria....What is DIPI!

• Dangerous – Information about things, people or experiences that threaten physical survival, personal values or self-esteem (i.e. Rattlesnake, Vehicle on wrong side of the road)

• Important – Information that is significant based on the each individuals perception of its value, (i.e. Family, relationships)

• Pleasurable – Events, objects and experiences that are enjoyable

• Interesting – Different or unusual, people, objects and event that are consciously processed.

WHAT MAKES A PERSON DRIVE 55 MPH IN A 35 MPH ZONE?

WHAT MAKES A PERSON CROSS A TRAIN TRACK WHEN THEY SEE A TRAIN APPROACHING IN THE DISTANCE?

WHAT HAPPENS IS WE WEIGH OUT THE RISK IN OUR MINDS.

SOMEBEWHERE BETWEEN OUR BRAIN AND REACTION, WE ARE MAKING A CONSCIOUS CHOICE FROM WHICH WE ARE ULTIMATELY RESPONSIBLE
Task Risk- Power of Observation

- Knowing the limitations and attributes of the brain. Risk management is primarily about observation of the hazards and then applying the correct controls and tools.
- The KEYS to making good observations are (engage the brain):
  - Taking the time to look up, down and around your work area
  - Understanding what hazards are and what you are looking for
  - Having more than one set of eyes on the task
- The main topic being taught today is what to do with your observations, knowledge and the risk processes to achieve a ZERO HARM outcome.

Observation is where all risk assessments start. The next slides are purposefully not about mining but about the observational process. These are animated so that you don’t reveal all the answers until you ask the questions. This will also help to get the trainees engaged. Call on everyone in the room...especially the quiet ones.

IMPORTANT: rehearse these slides on slide show so that you know what is animated and also what the answers are in advance. Practice this.
The Power of Observation

*Observation is key for effective risk management*

The Power of Observation in conducting risk management. Who saw the face in 1-2 seconds? This is sometimes all you get to see a hazard!

Your Notes
The Power of Observation
What do we see?
How many faces are there?
What do you see hidden in the photo?

Another image with a hidden face and animals.

The face is in the front of the image, with green grass growing on it.

You will also be able to identify a number of faces in the rock formations.

You can see a baboon face, a fish, a cat. What else can you observe? There are over 40 in the picture if you had time to look.

More importantly, what don’t you see...why do some see the shapes immediately and why do some only see them when pointed out?
The “Art of Vision”

In the land of the blind, the one eyed man is king. It's one of those sayings that seems universally acknowledged for its truth, and equally universally ignored.

After all, haven't most people got two good eyes?

The thing is, the saying isn't about how many eyes you've got, or how good they are, it's about how well you use them

vision is the art of seeing things invisible to others

And why does so much of what's in front of us seem invisible?

- people only see what they are prepared to see (Ralph Waldo Emerson)
- what we see depends mainly on what we look for (John Lubbock)

One of the strangest things about being a human is the way we have to unconsciously ignore most of the information available to our senses

We have to do this to continue functioning - otherwise we'd probably end up like those old fashioned sci-fi robots - all flashing lights, warning buzzers and smoke pouring from our ears as we shout overload - overload!

So the ability to be blind to most of what we see and deaf to most of what we hear is quite useful. It helps us get by in life.

Unfortunately, there's a flip side, because we also miss a lot of very important stuff. Whatever our role we tend to be so busy just getting along that we rarely make the time to sit up and really take notice. So in this particular land of the blind we may well be with the blind.

Those that have taken the time to properly look around them have a tremendous advantage.

Habit of not looking

We are in the habit of not looking, of not hearing - of not noticing. Making the decision to change that habit can offer immense paybacks.

By exercising our Power of Observation, we will be able to see the things invisible to others.

Here are just a few of the benefits of enhanced observation skills:

- Better understanding our team members and understanding their strengths and areas where they require support
- Improved decision making skills
- Recognizing and emulating 'success behavior' (whatever your own definition of 'success' is)
- Learning the best ways to help people
- Learning the best ways to influence people
Finding new ways to solve persistent problems
Seeing opportunities and problems before they happen
See hazards and correct them before someone is injured

The Power of Observation – Quick Test

How many sides does a STOP sign have?
6

How many stars on the US Flag?
50

Do books generally have even numbered pages on the left or right side?
Left

There are 12 buttons on a touch phone. What 2 symbols bear no digits?
@ and #

How many lug nuts are on a standard car wheel?
5

How many curves in a standard paperclip?
2
The Process Of Observation
Courage to Intervene

- Improve your power of observation
- Have the courage to intervene when unsafe behaviors or hazards are observed
- Use the correct task risk tools all the time.

The standard you set is the standard you walk past

Do you see swans or elephants?

Different people inherently see different things immediately. You have to really look to see both. Do you see the man in the upper left?
Definition of an Accident

- Any unplanned and unanticipated event that results in personal injury and/or property damage.

Understand ways in which accidents happen on the job!

Herbert William Heinrich
- Travelers Insurance - 1930
- Industrial Accident Prevention
- 88-10-2 Heinrich Law
  - 88% unsafe acts of employees
  - 10% unsafe conditions
  - 2% unpreventable

Accident Triangle

149Lt/1 Fatality
1 Lost Time
29 Recordable
330 Near Miss
660 Practices

Unsafe Behavior or Act
- Taking Risks
- Shortcuts
- Lack of Focus

Training
“SLAM” Risks

Environmental factors
- Weather
- Dusts, gases and vapors
- Noise
- Illumination

Personal Factors
- Safety motivation and awareness
- Knowledge and training
- Physical and mental state
- Reaction time

Your Notes
Causes

Unsafe Conditions
- Sliding or falling material at bins, hoppers and dump points
- Pressure lines and vessels
- Inadequate supports or guards
- Poor housekeeping
- Poor illumination
- Hazardous highwalls, spoil banks, and water pools
- Fire and explosion hazards
- Defective tools, equipment, or supplies
- Congestion of work place
- Inadequate warning systems
- Bad weather

Exhaustiveness
- Absence of berms along haulageway and dump sites

Direct Causes:
- Unplanned release of energy and/or hazardous material such as falls of rock or materials, falling brakes, or removal of air hose without first bleeding the line.

Miners' responsibilities:
- Reporting hazards
- Tagging unsafe equipment
- Eliminating known hazards
- Warning others
- Avoiding areas of hazards
Hierarchy of Control - Simplified

Accidents are avoidable when everyone works together to prevent them.
HAZARD RECOGNITION
WHERE DO WE START

- 30 CFR
- RULES TO LIVE BY
- TOP 20 CITATIONS FOR YOUR INDUSTRY
- COMPANY VIOLATIONS
- RELY ON OTHERS EXPERIENCE

WHY IS IT IMPORTANT?
PREVENTION

SOME HAZARDS ARE EASILY IDENTIFIED
ELECTRICAL – FIVE MOST CITED
YOUR SAFETY CULTURE

SAFETY COMMITTEE AUDITS

• Train your committee members
• Limit the number of participants on your audits
• Limit your time
• Limit your inspection areas
• Resolution to issues found on inspection
Post-Training Assessment of Competencies

Please circle the appropriate number for your level of response.

<table>
<thead>
<tr>
<th>How competent do you feel in your ability to:</th>
<th>COMPETENCE AFTER THE TRAINING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very Low</td>
</tr>
<tr>
<td>BB. I understand my mine’s coordinated operational structure during an emergency response effort.</td>
<td>1</td>
</tr>
<tr>
<td>CC. I am familiar with my mine’s emergency response plan and understand my role.</td>
<td>1</td>
</tr>
<tr>
<td>DD. I am able to manage stress and can recognize signs and symptoms of acute stress/distress among my coworkers.</td>
<td>1</td>
</tr>
<tr>
<td>EE. I am able to maintain situational awareness and demonstrate accountability to deliver enhanced information to reinforce ongoing lifesaving and life-sustaining activities to meet basic human needs and stabilize the incident.</td>
<td>1</td>
</tr>
<tr>
<td>FF. I am able to assess information related to an emergency and recognize hazards to mitigate potential cascading effects</td>
<td>1</td>
</tr>
<tr>
<td>GG. I am able to maintain good interpersonal listening and speaking skills to promote collaboration and cooperation to solve safety concerns.</td>
<td>1</td>
</tr>
<tr>
<td>HH. I use principles of crisis and risk communication to ensure information is concise and clearly understood among underground mine team.</td>
<td>1</td>
</tr>
<tr>
<td>II. I can use psychological first aid to diminish physiological stress response and facilitate function and action toward self-escape and survivability</td>
<td>1</td>
</tr>
<tr>
<td>JJ. I am able to establish and maintain different types of communication (i.e. interoperable voice, data, etc.).</td>
<td>1</td>
</tr>
<tr>
<td>KK. I am able to relay and document the six categories of critical information that should be provided during emergency communications: Who, Where, What, Miners, Event, and Response.</td>
<td>1</td>
</tr>
<tr>
<td>LL. I am able to communicate information on the course of action and implementation to the relevant people.</td>
<td>1</td>
</tr>
<tr>
<td>MM. I am able to ensure the capacity for timely communications in support of security, situational awareness, and operations by any and all means available.</td>
<td>1</td>
</tr>
<tr>
<td></td>
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<td>---</td>
<td>---</td>
</tr>
<tr>
<td>NN.</td>
<td>I understand my mine communications plan to include protocols for family reunification, media control, &amp; external management teams.</td>
</tr>
<tr>
<td>OO.</td>
<td>I can identify threats and immediate hazards during a mine emergency (explosions, hazardous spill, etc.) and implement primary response methods to control the hazard and minimize injury and/or death.</td>
</tr>
<tr>
<td>PP.</td>
<td>I am able to maintain familiarity with emergency escape route(s) according to mine site procedures.</td>
</tr>
<tr>
<td>QQ.</td>
<td>I am able to select most appropriate action for dealing with the situation (i.e. hazard) according to mine site emergency response plans and procedures.</td>
</tr>
<tr>
<td>RR.</td>
<td>I am able to continuously monitor threat/hazard and reassess controls (i.e. ventilation) in place to ensure the safety of personnel in the vicinity of threat (i.e. fire).</td>
</tr>
<tr>
<td>SS.</td>
<td>I can perform primary and secondary assessments of miners (i.e. each team member) condition to recognize and implement life support measures.</td>
</tr>
<tr>
<td>TT.</td>
<td>I understand and apply the hierarchy of controls to reduce and/or eliminate immediate risks.</td>
</tr>
<tr>
<td>UU.</td>
<td>I am able to use appropriate personal protective equipment and apply appropriate procedures (i.e. self-rescue equipment, confined spaces, noise, isolation, etc.) for managing hazards, risks, and emergencies</td>
</tr>
<tr>
<td>VV.</td>
<td>I am able to recognize, access, and respond to alarms and warning devices according to mine site procedures.</td>
</tr>
<tr>
<td>WW.</td>
<td>I am able to report unresolved threats to physical and mental health through the chain of command.</td>
</tr>
<tr>
<td>XX.</td>
<td>I employ protective behaviors according to changing conditions, personal limitations, and threats.</td>
</tr>
<tr>
<td>YY.</td>
<td>I am familiar conducting health and safety hazard assessments and ensure the availability and dissemination of guidance and resources (i.e. deploying hazardous materials teams).</td>
</tr>
<tr>
<td>ZZ.</td>
<td>I am able to take precautions to safeguard workers and maintain standards of health, fitness and well-being.</td>
</tr>
</tbody>
</table>
AAA. I am able to focus on timely restoration of mine infrastructure and revitalization post incident to promote resilience of miner health, and environmental fabric of community (i.e. social, cultural, historic, and economy, etc.).

1  2  3  4  5

BBB. I able to participate in risk and disaster resilience assessments so that mine community (decision makers, responders, and community members) can take informed action to reduce their entity’s risk and increase their resilience.

1  2  3  4  5

1. What did you like the most about this Training? (Please write your answer below)

2. What did you like the least about this Training? (Please write your answer below)

3. Please tell us what your personality type is? ________________________________

[Images of lion, beaver, otter, and dog]