

# Mine Rescue Teams

## Ensuring Safety

In real emergencies, the lives of MRTs and their co-workers depend on the proficiency of each individual's skill and training. Miners face many challenges: lack of visibility due to smoke, unknown electrical hazards, radiological hazards and a toxic/explosive atmosphere just to name a few. In addition to intense safety training, other measures, such as the use of an air monitoring system, daily inspections of the tunnel, weekly inspections of the shaft and air quality checks twice a day, help ensure safety. Also, any employee working underground is required to take a training course prior to working underground.

Additionally, all NNSS underground facilities are required to have a rescue notification plan outlining the procedures to follow in notifying the MRTs when there is an emergency. A copy of the underground facility rescue notification plan must be posted at the underground facility and be accessible to personnel who are working in the facility. These personnel are required to complete a training course prior to working underground.

## Introduction

In order to provide a safe work environment for Nevada National Security Site (NNSS) workers, Mine Rescue Teams (MRTs) are required to ensure proper rescue services in an emergency situation. The MRTs must comply with Mine Safety and Health Administration (MSHA) requirements and the NNSS Underground Facility Safety and Health Program requirements.

To be considered for MRT membership, each person must have worked in an underground facility for a minimum of one year within the past five years. Two MRTs must be available at all times when work is performed underground, as one team will enter the mine while the other remains at the fresh-air base (an underground station, located in an intake airway that provides fresh-air into

the station). Each team consists of five voluntary participants and one alternate volunteer who are fully qualified, trained and equipped for providing emergency mine rescue services.

Additionally, a mine rescue station is maintained at the U1a Complex for all NNSS underground facilities and no underground facility served by a MRT can be located more than two hours ground travel time from the mine rescue station. All of the required mine rescue and safety equipment is stored in a state of readiness.

## Underground Rescue Responsibilities

The MRTC is responsible for:

- Method of team communication;
- Entry/reentry route;



*During a mine rescue demonstration, mine rescuers apply a self-contained breathing apparatus to an "unconscious" dummy.*



number of personnel underground and conditions of the refuge chamber with the LED. The MRTC briefs the rest of the MRT and rescue efforts begin.

Underground, the highest-ranking underground supervisor is responsible for an orderly evacuation to the surface or directs personnel to the nearest refuge chamber as appropriate. All areas underground are checked to ensure no one has been left behind and there is full accountability for all personnel.

## Underground Entry

Once the MRTC receives permissions from the LED to proceed, the MRTC enters the facility and fresh-air base. The MRT entering the mine uses the reentry communications reel and headset equipment to maintain voice communications with the MRT that is at the fresh-air base. If the entry team completely loses communication and communication cannot be reestablished within 10 minutes, a backup team is sent in.

Breathing apparatus and pressure gauge readings are checked at 15-minute intervals while the rescue team is underground or away from the fresh-air base. The team immediately returns to the fresh-air base if any breathing apparatus appears to be malfunctioning or any team member indicates that it is impossible to continue.

- Potential hazards to the team and how they are addressed or avoided;
- Monitoring equipment (air quality, radiological, etc.); and
- Trigger levels for team evacuation.

The Local Emergency Director (LED) & MRTC monitors the facility environment as the MRT advances and performs the following:

- Keeps the tunnel or shaft water tanks full and provides compressed air continually;
- Plots all advances using a current map of the tunnel complex;
- Establishes or reestablishes underground ventilation as required; and
- Maintains the underground power and ventilation system throughout the duration of the emergency.

## Initial Response

When an underground emergency occurs at the NNSS, the Operations Coordination Center (OCC) is contacted and the underground emergency warning system is activated. Next, the LED is notified and initiates the emergency response at the facility and confirms that the MRT Coordinator (MRTC) is contacted to activate the MRT. After the initial briefing, the MRTC confirms the



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