**EMERGENCY RESPONSE PLAN**

***(This template is for general guidance and is not mandatory that it be used)***

**MSHA ID Number: 46-09999 New Base Plan (01/20/2021)**

**Mine Name: Draft Mine**

**Company Name: ABC Mining Co., LLC**

Evacuation is the primary goal during any mine emergency. Sheltering or barricading should only be done as a last resort. This plan is developed to help save the life of miners who cannot escape during an emergency. The miners’ representative will be notified prior to submission of the ERP or any revisions and a copy of the plan will be provided**. A copy of the currently approved Emergency Response Plan will be posted at the mine.**

**1. POST-ACCIDENT COMMUNICATION**

For alternatives to fully wireless post-accident communications, refer to Appendix A.

**2. POST-ACCIDENT TRACKING**

For electronic tracking, refer to Appendix B.

**3. POST-ACCIDENT BREATHABLE AIR**

**Maintenance of Individuals Trapped Underground**

**Refuge Alternatives**

Refuge Alternatives and components listed on the following pages that are in use at this mine are pre-fabricated self-contained units that are MSHA **30 CFR Part 7** approved and comply with all applicable sections of 30 CFR Subpart L, Refuge Alternatives 7.501 through 7.510. Subpart L establishes requirements for MSHA approval of refuge alternatives and components for use in underground coal mines. Refuge alternatives are intended to provide a life-sustaining environment for persons trapped underground when escape is impossible.

**PART 7 APPROVED SECTION REFUGE ALTERNATIVES**

**(EXAMPLE)**

|  |  |
| --- | --- |
| **MANUFACTURER** | ACME |
| MODEL # | FAB 26XX |
| HARMFUL GAS REMOVAL SYSTEM APPROVAL # | 07-LPAXXXXXX |
| BREATHABLE AIR SYSTEM APPROVAL # | 07-LCAXXXXXX |
| AIR MONITORING SYSTEM APPROVAL # | 07-LDAXXXXXX |
| STRUCTURAL COMPONENT APPROVAL # | 07-LCAXXXXXX |
| CAPACITY | 30 |
| NO. OF PERSONS EXPECTED TO USE | 15 |
| MANUFACTURERS MAXIMUM MINE AIR TEMP(\*F) | 60\* |

|  |  |
| --- | --- |
| **MANUFACTURER** |  |
| MODEL # |  |
| HARMFUL GAS REMOVAL SYSTEM APPROVAL # |  |
| BREATHABLE AIR SYSTEM APPROVAL # |  |
| AIR MONITORING SYSTEM APPROVAL # |  |
| STRUCTURAL COMPONENT APPROVAL # |  |
| CAPACITY |  |
| NO. OF PERSONS EXPECTED TO USE |  |
| MANUFACTURERS MAXIMUM MINE AIR TEMP(\*F) |  |

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| **MANUFACTURER** |  |
| MODEL # |  |
| HARMFUL GAS REMOVAL SYSTEM APPROVAL # |  |
| BREATHABLE AIR SYSTEM APPROVAL # |  |
| AIR MONITORING SYSTEM APPROVAL # |  |
| STRUCTURAL COMPONENT APPROVAL # |  |
| CAPACITY |  |
| NO. OF PERSONS EXPECTED TO USE |  |
| MANUFACTURERS MAXIMUM MINE AIR TEMP(\*F) |  |

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| **MANUFACTURER** |  |
| MODEL # |  |
| HARMFUL GAS REMOVAL SYSTEM APPROVAL # |  |
| BREATHABLE AIR SYSTEM APPROVAL # |  |
| AIR MONITORING SYSTEM APPROVAL # |  |
| STRUCTURAL COMPONENT APPROVAL # |  |
| CAPACITY |  |
| NO. OF PERSONS EXPECTED TO USE |  |
| MANUFACTURERS MAXIMUM MINE AIR TEMP(\*F) |  |

**(If the refuge alternative information is the same for all working sections delete tables not used)**

**PART 7 APPROVED OUTBY REFUGE ALTERNATIVES**

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| **MANUFACTURER** | ACME |
| MODEL # | FAB 26XX |
| HARMFUL GAS REMOVAL SYSTEM APPROVAL # | 07-LPAXXXXXX |
| BREATHABLE AIR SYSTEM APPROVAL # | 07-LCAXXXXXX |
| AIR MONITORING SYSTEM APPROVAL # | 07-LDAXXXXXX |
| STRUCTURAL COMPONENT APPROVAL # | 07-LCAXXXXXX |
| CAPACITY | 30 |
| NO. OF PERSONS EXPECTED TO USE | 15 |
| MANUFACTURERS MAXIMUM MINE AIR TEMP(\*F) | 60\* |

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| --- | --- |
| **MANUFACTURER** |  |
| MODEL # |  |
| HARMFUL GAS REMOVAL SYSTEM APPROVAL # |  |
| BREATHABLE AIR SYSTEM APPROVAL # |  |
| AIR MONITORING SYSTEM APPROVAL # |  |
| STRUCTURAL COMPONENT APPROVAL # |  |
| CAPACITY |  |
| NO. OF PERSONS EXPECTED TO USE |  |
| MANUFACTURERS MAXIMUM MINE AIR TEMP(\*F) |  |

|  |  |
| --- | --- |
| **MANUFACTURER** |  |
| MODEL # |  |
| HARMFUL GAS REMOVAL SYSTEM APPROVAL # |  |
| BREATHABLE AIR SYSTEM APPROVAL # |  |
| AIR MONITORING SYSTEM APPROVAL # |  |
| STRUCTURAL COMPONENT APPROVAL # |  |
| CAPACITY |  |
| NO. OF PERSONS EXPECTED TO USE |  |
| MANUFACTURERS MAXIMUM MINE AIR TEMP(\*F) |  |

|  |  |
| --- | --- |
| **MANUFACTURER** |  |
| MODEL # |  |
| HARMFUL GAS REMOVAL SYSTEM APPROVAL # |  |
| BREATHABLE AIR SYSTEM APPROVAL # |  |
| AIR MONITORING SYSTEM APPROVAL # |  |
| STRUCTURAL COMPONENT APPROVAL # |  |
| CAPACITY |  |
| NO. OF PERSONS EXPECTED TO USE |  |
| MANUFACTURERS MAXIMUM MINE AIR TEMP(\*F) |  |

**(If the refuge alternative information is the same for all outby refuge alternatives then delete tables not used)**

**REFUGE ALTERNATIVE REQUIREMENTS**

The refuge alternatives are not located within direct line of sight of the working face.

The refuge alternative is maintained within 1,000 feet of the nearest working face and from locations where mechanized mining equipment is being installed or removed.

Where feasible, the refuge alternative is not placed in areas directly across from, nor closer than 500 feet radially from, belt drives, take-ups, transfer points, air compressors, explosive magazines, seals, entrances to abandoned areas, and fuel, oil, or other flammable or combustible material storage.

The refuge alternative is stocked with the following: A minimum of 2,000 calories of food and 2.25 quarts of potable water per person per day in approved containers sufficient to sustain the maximum number of persons reasonably expected to use the refuge alternative for at least 96 hours; A sufficient number of permissible flashlights or chemical lighting sticks are provided to allow persons to perform tasks; a manual that contains sufficient detail for each refuge alternative or component addressing in-mine transportation, operation, and maintenance of the unit; sufficient quantities of materials and tools to repair components; and **first aid supplies\***.

The refuge alternative provides sanitation facilities.

The manufacturer’s procedures or methods for maintaining the refuge alternative will be followed.

This refuge alternative is provided with an airlock with breathable air in the airlock. Instructions on purging the airlock are provided in the summaries of deployment and use of refuge alternatives in the 75.1502 Mine Emergency Evacuation and Fire Fighting Program of Instruction

The maximum air temperature where the refuge alternative is placed shall not exceed the manufacturer’s recommendation.

This Refuge Alternative can withstand exposure to a flash fire of 300 degrees Fahrenheit for 3 seconds and a pressure wave of 15 pounds per square inch (psi) for 0.2 seconds.

***\*List of contents of first-aid kit supplied in the refuge alternatives.***

**Breathable Air, Air Monitoring and Harmful Gas Removal Components**

The breathable air, air monitoring, and harmful gas removal components are MSHA 30 CFR Part 7 approved. These components will provide **96 hours** of breathable air for persons using the refuge alternative.

**BREATHABLE AIR**

**Breathable air** will be provided by a **30 CFR Part 7** approved breathable air component consisting of compressed-breathable oxygen cylinders providing 96 hours of uncontaminated breathable air*.* This Part 7 approved system will maintain oxygen concentration at levels between 18.5 and 23 percent and provide a minimum flow rate of 1.32 cubic feet per hour per person ofbreathable air. **Back-up oxygen controls** with an independent regulator is provided in all refuge alternatives for back-up in case of failure. The miners are trained in how to replace or repair the back-up oxygen controls.

**AIR MONITORING SYSTEM**

Air monitoring in this refuge alternative will consist of aMSHA 30 CFR Part 7

Approved Air Monitoring System.

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| **APPROVAL HOLDER** | **NO. OF SPARE BATTERIES** |
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There will be enough spare batteries to operate the air monitoring component for the

length of time the Refuge Alternative will sustain life.

This air monitoring component will provide persons inside with the ability to determine

the concentrations of carbon dioxide, carbon monoxide, oxygen and methane, inside and

outside the structure including the airlock. The Air Monitoring components will be

calibrated at least every 31 days according to the manufacturer’s recommendations.

Miners will be trained in the use of the air monitoring devices in accordance with 30

CFR 75.1502 and 75.1504

**HARMFUL GAS REMOVAL SYSTEM**

Harmful gases in this refuge alternative will be removed by purging the **airlock provided** in this refuge alternative to dilute the carbon monoxide concentration to 25ppm or less and the methane concentration to 1.0 percent or less as persons enter, within 20 minutes of persons deploying the refuge alternative.

Chemical scrubbing or other effective procedures shall be provided so that the average Carbon Dioxide concentration in the occupied structure shall not exceed 1.0 percent over the rated duration and the excursions shall not exceed 2.5 percent. Carbon Dioxide removal components shall remove carbon dioxide at a rate of 1.08 cubic feet per hour per person. The miners will be instructed in the deployment and operation of the harmful gas removal components.

**OTHER REFUGE ALTERNATIVE CONSIDERATIONS**

As required by 30 C.F.R. § 75.1506(h), each refuge alternative is identified with a sign or marker made of a reflective material with the word “REFUGE” posted conspicuously at each refuge alternative. Directional signs made of a reflective material are posted leading to each refuge alternative location.

The locations of the breathable air areas will be shown on the mine map required by 30 C.F.R. § 75.1200 and the escapeway maps required by 30 C.F.R. § 75.1505. All persons going underground will be trained on the breathable air provisions in the ERP.

The manufacturer’s recommendations for the Post-Accident Breathable Air systems for training, maintenance, routine examination, storage, transportation and retirement of the systems will be adopted and followed. Each miner will be trained quarterly in the activation and use of each type of refuge alternatives used in the mine, purging contaminants from the refuge alternatives and given expectation training annually in accordance with 30 C.F.R. § 75.1504. Miners will also be trained in the proper handling, usage and storage of compressed air, compressed oxygen cylinders, carbon dioxide scrubbing agents and other breathable air devices.

All refuge alternatives will be examined as required by 30 C.F.R. § 75.360(d).

Roof and Rib support necessary at each refuge alternative will be addressed in the mine roof control plan as directed in 30 CFR § 75.1506(d).

**ADDITIONAL SCSRs and SCSR STORAGE**

As per MSHA Policy, additional SCSRs that may be needed in a mine evacuation are addressed in 30 CFR 75.1714-4.

This mine is in compliance with 30 CFR 75.1714-4

If the one-hour SCSR, required by 30 C.F.R. § 75.1714(a,) is placed more than 25 feet from a miner and the miner is wearing a less than 1-hour device an SCSR storage plan will be submitted as an attachment to this Emergency Response Plan. **(*See Attached Storage Plan)***

If mining advances to a point that an elevator or an air shaft with escape facilities is utilized to escape from the mine, all miners arriving at the mine elevator or escape shaft will be able to exit the mine in less than one hour. If needed, additional one-hour SCSRs will be available on the surface that can be lowered to miners waiting at the elevator or shaft bottom.

On a yearly basis, 1% but not more than 5 of the SCSRs at the mine will be opened and donned during an evacuation drill to assure their reliability. Units at the end of their service life, if available; will be used for this purpose. The results of the tests will be maintained at the mine for a period of one year that will be made available to the Secretary and miners working at the mine.

Manufacturer’s recommendations for SCSR maintenance, routine examinations, storage, and retirement will be followed. Outdated and/or defective SCSRs will be taken out of service and replaced with new SCSRs. The retired SCSRs will be replaced with technologically advanced SCSRs as they become commercially available and are approved for use in the mines. Daily examination by the wearer, weekly examination for outby storage caches and every 90 days a check will be made according to manufacturer’s recommendation. Storage compartments will be according to State and Federal law and manufacturer’s recommendations.

**4. LOCAL COORDINATION**

An up-to-date list of emergency contact phone numbers to be used during mine emergencies will be posted in a conspicuous location in the mine office. The list will contain telephone numbers for the Mine Safety and Health Administration and State Agency, the mine rescue teams assigned to the mine, appropriate mine management personnel. The list will also direct mine personnel to use 911 to contact pertinent emergency services such as ambulance, rescue squads, fire departments, and local and state police agencies and other parties that may be required when a mine emergency exists.

We will familiarize local emergency responders with surface functions that they may be required to perform in the course of mine rescue work. The mine will schedule an annual on-site mine visit by local emergency responders to familiarize them with the surface facilities.

MSHA will be provided advance notice, either by phone or fax, of all on-site activities related to local emergency response coordination so they have the opportunity to observe or participate.

**5. ADDITIONAL PLAN CONTENT PROVISIONS**

The following post-accident logistics have been established.

1. Security and traffic control at the mine site will be implemented by mine personnel in combination with Company Security, WV State Police, and the County Sheriff’s Department.

2. Designated location of a command and communication center with security, telephone and all necessary equipment provided will be at the ***Mine Foreman’s Office****.*

3. Designated location for staging and briefing mine rescue teams will be at the ***Superintendent’s Office***.

4. Designated location for emergency medical services will be at the ***Waiting Room*** at the mine site.

5. Designated location for privacy, shelter, accommodations and briefing of families of the affected miners will be at the ***John Doe Baptist Church***. Security will be provided by the WV State Police.

6. Designated location for the press will be at the ***Preparation plant parking lot***.

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| EMERGENCY SUPPLIES | |
| General Mining, Inc. | General mine supplies. |
| ABC Safety Supply | General mine supplies and safety equipment. |
| XYZ | General mine supplies and mine rescue equipment. |
| DEF Hardware | General mine supplies, bolts, and timbers, etc. |

In accordance with the MINER Act, at least once every six months, MSHA will review this ERP to determine whether it could be amended to enhance miners’ ability to evacuate or otherwise survive in an emergency. In addition, we will periodically update this ERP to reflect changes in mining operations that may affect the content of this plan. MSHA approval will be obtained before any changes to this ERP are implemented.

**POST-ACCIDENT COMMUNICATION**

Because fully wireless communications technology is not sufficiently developed at this time, this mine has installed the ***Acme Communications System*** approved by MSHA. This system provides two-way communication between surface and miners in escapeways and coverage zones both inby and outby strategic areas where miners are required to work or likely congregate in an emergency. This wireless alternative communication system has been installed in accordance with the manufacturers recommendations.

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| **Table 1: Communication System** | | | |
| **Type:** | ***Leaky Feeder*** | | |
| **Vendor:** | ***Acme Communications*** | | |
| **Equipment Manufacturer** | **Model Number** | **MSHA Approval Number** | **Component Description** |
| ***Acme Communications*** | ***Handset AAA-1a*** | **23-*A123456-7*** | ***Handheld Two-Way Radio*** |
| ***Acme Communications*** | ***Acme Leaky Feeder System*** | **23-*A123456-8*** | ***Leaky Feeder Communication System*** |

**General Considerations**

The alternative system will:

a. Have an untethered device that miners can use to communicate with the surface. The untethered device will be readily accessible to each group of miners working or traveling together and to any individual miner working or traveling alone.

b. Provide communication in the form of two-way voice and/or two-way text messages. If used, pre-programmed text messages will be capable of providing information to the surface necessary to determine the status of miners and the conditions in the mine, as well as providing the necessary emergency response information to miners.

c. Provide an audible, visual, and/or vibrating alarm that is activated by an incoming signal on each untethered device. The alarm will be distinguishable from the surrounding environment.

d. Be capable of sending an emergency message to each of the untethered devices.

e. Be capable of communicating between untethered devices over the network

infrastructure.

f. Be installed to prevent interference with blasting circuits and other electrical systems. All untethered devices and communication components will be maintained at a minimum safe distance of 50 feet from explosives, detonators, and blasting circuits. Shot-firers and other persons directly involved in blasting operations will leave untethered devices at a designated location, which complies with the minimum safe distance, before conducting blasting operations. After completing work, the shot-firer will notify a person on the surface that work has been completed and will return immediately to the storage location and retrieve the untethered device.

**Coverage Area**

a. The system will provide coverage throughout each working section in a mine.

b. The system will also provide continuous coverage along the escapeways and a coverage zone of 200 feet inby and outby strategic areas of the mine. Strategic areas are those locations where miners are normally required to work or likely congregate in an emergency. Strategic areas at this mine include manned belt drives, section power centers, SCSR caches, refuge alternatives and escape facilities. Wireless alternative communication will be maintained within 200 feet of each belt drive.

c. Miners will follow an established check-in/check-out procedure or an equivalent procedure when working/traveling in bleeders or other areas of the mine that are not provided with communications coverage. An acceptable time will be established by the Responsible Person for the check-in/check-out system to ensure miners’ safety.

d. Communications for refuge alternatives must be provided as required under 30 C.F.R. § 75.1600-3**. *The two communication systems to be provided are the wireless alternative system and a hardwired system.***

**Permissibility**

The communication system will be approved by MSHA and will comply with 30 C.F.R. Part 23 and applicable policies. Current approvals of components are listed in Table 1.

**Standby Power for Underground Components and Devices**

a. Stationary components (infrastructure) will be equipped with a standby power

source capable of providing sufficient power to facilitate evacuation and rescue

in the event the line power fails or is cut off. At least 24 hours of standby power

based on a 5% transmit time, 5% receive time, and 90% idle time duty cycle

(denoted as 5/5/90) will be provided.

b. The system can display whether it is operating on line or standby power.

c. The system can determine the state-of-charge (SOC) of standby power.

d. Untethered devices, such as hand-held radios, will provide sufficient power

to facilitate evacuation and rescue following an accident. At least 4 hours of

operation in addition to the normal shift duration (12-hour minimum total

duration) based on a 5/5/90 duty cycle will be provided.

**Surface Component Considerations**

a. The surface portion of the communication system will be equipped with standby power to ensure continuous operation in the event the line power is interrupted. A generator is providing backup power for the surface portion of the communication system.

b. The communication system will be configured to allow communication between underground personnel and the communication facility required under 30 CFR § 75.1600-1 where a person who is always on duty, when miners are underground, can receive incoming messages and respond immediately in the event of an emergency.

The person at the surface will be trained in the operation of the communication system and will be knowledgeable of the mine’s Emergency Response Plan.

c. If the communication system is monitored from a remote site, the mine site will also have full system capability.

d. The surface portion of the system is equipped with the capability to print communications, message histories, and other system data in a post-accident situation.

**Survivability**

a. The post-accident communication system will provide redundant signal pathways to the surface component.

b. Redundancy can be achieved by two or more systems installed in two or more entries, or one system with two or more pathways to the surface; provided that a failure in one system or pathway does not affect the other system or pathway. **Redundancy at this mine will be achieved by two lines in separate entries.**

c. Redundancy means that the system can maintain communications with the surface when a single pathway is disrupted. Disruption can include major events in an entry or component failure.

d. If system components must be installed in areas vulnerable to damage (such as in front of seals), protection against forces that could cause damage will be provided by location to minimize damage, hardening of lines or other acceptable means.

**Maintenance**

Communication systems will be maintained in a fully functional manner when miners are underground. To continue mining operations, the mine will establish and follow a procedure to provide communications during system or component failures in the event that an accident occurs before the failure can be corrected. This procedure includes restoring at least 24 hours of standby power for the infrastructure. ***A hard-wired mine phone system is used as a backup to the wireless alternative communication system.***

***(Page A-4)***

The infrastructure will be examined to verify on a weekly basis that the communication system is maintained in proper operating condition. A record of the examination will be kept and made available to an authorized representative of the Secretary and miners.

The untethered devices will be examined on a daily basis to verify that they have sufficient battery charge and are maintained in proper operating condition.

The manufacturer’s maintenance recommendations will be followed.

If the communication system or a component of the system fails, appropriate corrective actions will begin immediately and continue until it is repaired, and the back-up communication procedure (page A-4) will be initiated immediately in the affected area. Communication system failures or component failures will be recorded in a record book for MSHA’s inspection along with other examinations conducted.

**The record book will, at minimum;**

1. Identify the date and time of system failure
2. List the date and time the system was restored to full operational capacity
3. List the nature of the failure
4. List the extent of the system affected by the failure
5. List the manner in which the failure was corrected

**The MSHA Hotline will be notified after a 12-hour continuous period of time**

**where a system failure of the wireless alternative communication system**

**occurs.** The term “system failure” is defined for the purpose of this ERP to mean

failure of the wireless alternative communication system in an entire working

section, or in 50% or greater of the entire length of any one of the mine escapeways

where the system is installed. However, work will be initiated promptly to repair any

failure of the wireless alternative communication system, regardless of whether it is

deemed to be a “system failure”.

*(This is an example of an acceptable backup communication procedure)*

Back-Up Communication Procedure

In the event of a wireless alternative communication system malfunction or failure, all miners in the affected area will use the hard wired mine page-phone system until the wireless alternative communication system is repaired and made operable.

The operation of the backup communication system will be checked every 30

minutes by the communication person in conjunction with persons underground to

insure the back-up communication system is in proper operating condition.

The established check-in/check-out procedure when traveling in remote areas or

bleeders not provided with communication coverage will be as follows:

1. Before traveling in remote areas or bleeders not provided with communication coverage, persons traveling in these areas will inform the mine communication center dispatcher how long they plan to be out of the coverage area and their intended route of travel.
2. If the persons traveling in areas without communication coverage have not responded within the time allowed to complete the travel, the dispatcher will contact the responsible person on that shift to initiate a search for persons considered missing.

**POST-ACCIDENT TRACKING**

This mine has installed the***Acme Communications Tracking System*** approved by MSHA. The tracking system is able to determine the current or immediate pre-accident location of all underground personnel. This electronic tracking system has been installed in accordance with the manufacturer’s recommendations.

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| **Table 2: Tracking System** | | | |
| **Type:** | ***RFID*** | | |
| **Vendor:** | ***Acme Communications*** | | |
| **Equipment Manufacturer** | **Model Number** | **MSHA Approval Number** | **Component Description** |
| ***Acme Communications*** | ***Tracking Tag 4.0*** | ***23-A123456-9*** | ***Tracking Tag*** |
| ***Acme Communications*** | ***Acme Hound Dog Tracking*** | ***23-A123456-10*** | ***RFID Tracking System*** |

**Performance**

a. The approved electronic tracking system will:

i. Determine the location of miners on a working section to within 200 feet. (Typical installation configuration attached)

ii. Determine the location of miners in escapeways at intervals not exceeding 2000 feet.

iii. Determine the location of miners within 200 feet of strategic areas. Strategic areas are those locations where miners are normally required to work or likely congregate in an emergency. Strategic areas at this mine include manned belt drives, section power centers, SCSR caches, refuge alternatives and escape facilities.

iv. Determine the direction of travel at key junctions in escapeways. (Typical installation configuration attached)

v. Determine the location of miners in the belt entries at intervals not to exceed 4000 feet unless the belt entry is part of a designated escapeway at which the distance will be reduced to 2000 feet. (Typical installation configuration attached)

vi. Determine the location of miners traveling within the section return airway. At a minimum, the tracking system will identify miners as they leave the section traveling the return airway and identify them when they reach the mouth of the section.

vii. Miners, such as outby crews, examiners, pumpers, remote workers, etc., will follow an established check-in/check-out procedure or an equivalent manual tracking procedure when working/traveling in bleeders, remote return airways or other areas of the mine that are not covered with electronic tracking. An acceptable time will be established by the Responsible Person for the check-in/check-out system to ensure miners’ safety.

b. The electronic tracking system will be installed to prevent interference with blasting circuits and other electrical systems. Electronic tracking devices will be maintained at a minimum safe distance of 50 feet from explosives, detonators, and blasting circuits. (An individually-worn/carried tracking tag does not apply.) Shot-firers and other persons directly involved in blasting operations will leave tracking devices at a designated location, which complies with the minimum safe distance, before conducting blasting operations. After completing work, the shot-firer will notify a person on the surface that work has been completed and will return immediately to the storage location and retrieve any required tracking device.

**Permissibility**

The electronic tracking system will be approved by MSHA under 30 C.F.R. Part 23 and applicable policies. Current approvals of components are listed in Table 2.

**Standby Power for Underground Components and Devices**

a. The Stationary components (infrastructure) will be capable of tracking

persons underground during evacuation and rescue efforts, even upon loss of

mine power. The capacity to provide a minimum of 24 hours of continuous

tracking operation after a power loss will be provided.

b. The system can display whether it is operating on line or standby power.

c. The system can determine the state-of-charge (SOC) of standby power.

d. An individually-worn/carried tracking device (e.g., a tag) will provide a low

power warning. To facilitate evacuation and rescue efforts, the individually-

worn/carried tracking device will provide at least 4 hours of operation in addition

to the normal shift duration (12 hour total minimum duration).

**Capacity**

The tracking system components (readers) will be capable of tracking the maximum number of persons, including visitors, expected to be in a coverage area.

**Scanning Rate**

The tracking system will be capable of updating (refreshing) location data at least every 60 seconds.

**Surface Component Considerations**

a. The surface portion of the tracking system will be equipped with standby power to ensure continuous operation in the event the line power is interrupted.

b. The tracking system will be configured to allow monitoring the location of miners underground from the communication facility required under 30 C.F.R. § 75.1600-1 where a person is always on duty when miners are underground and should include the capability to display the location of all miners underground. The person on duty on the surface will be trained in the operation of the tracking system and knowledgeable in the mine’s ERP

c. The tracking system interface will display the last known location of a miner when the tracking device is not communicating with the system.

d. Each miner will be uniquely identified.

e. Location data will be associated with a time stamp.

f. Location data will be stored for two weeks so that it will be available for evacuation and rescue of persons underground, as well as for accident investigations. Miners beyond tracking coverage such as in remote locations will be tracked manually. The manual tracking log will be stored and made available for two weeks.

g. A printer must be available at the mine site which can be immediately

connected to the tracking system to provide a printed record of the location of

all miners underground in the event of an emergency.  The printed record

must show the last known location of miners within the tracking distances

established in the approved ERP.

**Survivability**

a. If system components must be installed in areas vulnerable to damage (such as in front of seals), protection against forces that could cause damage will be provided by location to minimize damage, hardening of lines or other acceptable means.

b. Data storage will not be impacted by interruption of the data link between underground and surface components.

c. The system should display pathway interruptions and system malfunctions.

**Maintenance**

Tracking systems will be maintained in a fully functional manner when miners are underground. To continue mining operations, the mine will establish and follow a procedure to provide tracking ***(a written log, page B-4)*** during system or component failures in the event that an accident occurs before the failure can be corrected. This procedure includes restoring at least 24 hours of standby power for the infrastructure.

The infrastructure will be examined to verify on a weekly basis that the electronic tracking system is maintained in proper operating condition. A record of the examination will be kept and made available to an authorized representative of the Secretary and miners.

The tracking devices worn/carried by miners will be examined on a daily basis to verify that they have sufficient battery charge and are maintained in proper operating condition.

The manufacturer’s maintenance recommendations will be followed.

If the tracking system or a component of the system fails, appropriate corrective actions will begin immediately and continue until it is repaired, and the back-up tracking system will be initiated immediately in the affected area. Tracking system failures or component failures will be recorded in a record book for MSHA’s inspection along with other examinations conducted. **The record book will, at minimum;**

1. Identify the date and time of system failure
2. List the date and time the system was restored to full operational capacity
3. List the nature of the failure
4. List the extent of the system affected by the failure
5. List the manner in which the failure was corrected.

**The MSHA Hotline will be notified after a 12-hour continuous period of time where**

**a system failure of the electronic tracking system occurs.** The term “system failure” is

defined for the purpose of this ERP to mean failure of the electronic tracking system in an

entire working section, or in 50% or greater of the entire length of any one of the mine

escapeways, where the system is installed or the failure of the tracking system affecting

the entire non-escapeway beltlines system. However, work will be initiated promptly to

repair any failure of the electronic tracking system, regardless of whether it is deemed to

be a “system failure.

*(This is an example of an acceptable backup manual tracking procedure)*

Manual Tracking Procedures

The mine communication center dispatcher will keep a written log that will provide the last known location of miners when the electronic tracking system is down for repair.

Manual tracking will be achieved by breaking the mine into zones. Employees will report to the mine communications center when they enter a coverage area (zone).

Employees will contact the mine communications center dispatcher when leaving coverage areas (zone).

When traveling in remote areas not covered by electronic tracking, persons will report to the dispatcher how long they plan to be out of the coverage area and their intended route of travel.\*

When the manual tracking procedure is in place, during the time required to restore 24 hours of standby power (e.g. recharging of batteries) to the electronic tracking system because of a malfunction or loss of power, the operation of the backup communication system will be checked every 30 minutes regardless of whether miners enter or leave a zone.

In the event of an electronic tracking system malfunction or failure, all miners in the affected area will be manually tracked by the dispatcher until the electronic tracking system is repaired and made operable. The manual tracking procedure will maintain listings of the last known location of all miners by zone. Either the electronic or manual dispatcher-based tracking system will be maintained in a functional manner anytime miners are underground.

\*The established check-in/check-out procedure when traveling in remote areas or

bleeders not provided with electronic tracking will be as follows:

1. Before traveling in remote areas or bleeders not provided with electronic

tracking, persons traveling in these areas will inform the dispatcher how long

they plan to be out of the coverage area and their intended route of travel. The

dispatcher will enter the name of the person traveling into the remote areas into

the manual tracking log.

1. If the persons traveling in areas without electronic tracking have not responded

back to the dispatcher within the time specified to complete the travel, the

dispatcher will contact the responsible person on that shift to initiate a search for

persons considered missing.

1. The manual tracking log will be maintained, stored and made available for

two weeks.

Typical Section Tracking Configuration

*(Actual configuration will vary according to section layout)*

*(This map configuration may not be correct for your tracking system)*

**Section Loading Point**

**Belt**

|  |  |
| --- | --- |
|  | Permanent Stopping |
|  | Temporary Stopping |
|  | Primary Escapeway |
|  | Secondary Escapeway |

WIRED RFID READER

WIRELESS RFID READER

**Typical Escapeway Intersection**

**Tracking Configuration**

*(This map configuration may not be correct for your tracking system)*

**TO SURFACE**

Primary and Alternate Escapeways

**SECTION**

**INBY**

RFID READER

Typical Belt Entry

Tracking Configuration

**MAIN BELT**

4000 ft max

**SECTION BELT**

4000 ft max

Distance reduced to 2000 ft. if belt entry is a designated escapeway.

*(Actual configuration will vary according to mine layout)*

**30 C.F.R. § 75.1502**

**MINE EMERGENCY EVACUATION AND FIREFIGHTING PROGRAM OF INSTRUCTION**

(Within 30 days of approval, the operator shall conduct training in accordance with the revised program.)

|  |  |
| --- | --- |
| **Mine ID Number:** | ***46-09999*** |
| **Mine Name:** | ***Draft Mine*** |
| **Company Name:** | ***ABC Mining Co., LLC*** |

**1.** **RESPONSIBLE PERSON**

The Mine Emergency Evacuation and Fire Fighting Program of Instruction is designed to instruct miners on all shifts the procedures for evacuating due to mine emergencies that present an imminent danger to miners due to fire, explosions, or gas or water inundations and to evacuate all miners not required for a mine emergency response. Before implementing any new or revised approved provision in this program of instruction, the miners shall be instructed in the change.

|  |  |
| --- | --- |
| **Responsible Person (RP) (Title only)** | |
| Day Shift: | ***Superintendent*** |
| Day Shift Backup: | ***Chief Electrician*** |
| Evening Shift: | ***Shift Foreman*** |
| Evening Shift Backup: | ***Maintenance Foreman*** |
| Midnight Shift: | ***Shift Foreman*** |
| Midnight Shift Backup: | ***Maintenance Foreman*** |

For each shift that miners work underground, there shall be in attendance a Responsible Person designated by the mine operator to take charge in a mine emergency.

If there are any changes in the Responsible Person, then mine management will notify the underground miners through posting on the bulletin boards and through direct contact with shift meetings. If the Responsible Person must leave during the shift, miners underground will be notified by mine phone or direct communication that the identity of the Responsible Person has changed.

A list of Responsible Persons will be maintained at the mine office on the bulletin board. All miners will be notified of any changes before entering the mine.

Responsible Person will have current knowledge of the assigned location and expected movements of miners underground, the operation of the mine ventilation system, the location of the mine escapeways and refuge alternatives, the mine communications system, and any mine monitoring system if used, locations of fire-fighting equipment, the mines Emergency Response Plan, the Mine Rescue Notification Plan and the Mine Emergency Evacuation and Firefighting Program of Instruction.

The Responsible Person shall initiate and conduct an immediate mine evacuation when there is a mine emergency which presents an imminent danger to miners due to fire, explosion or gas or water inundations.

**2. LOCATION OF FIREFIGHTING EQUIPMENT**

Miners will receive instruction quarterly on the following:

**Location of all fire-fighting hose and fittings.**

* Near belt transfer points or where required by the 30 CFR.
* Near all section dumping points where it is normally stored.

**Location of all firefighting water outlets (hydrants).**

* All belt drive areas and every belt tailpiece.
* Every 300 feet along belt lines.

**Location of all fire extinguishers.**

* Electrical installations.
* Oil storage locations.
* Surface.

**Location and storage of any brattice material.**

* Emergency material supply hole, as designated in 30 C.F.R. § 75.1100-2(i).
* Section supply hole.

**Location of mine phones or communication devices.**

* Surface communication center.
* Section dumping points.
* Any area where mechanized mining equipment is being installed or removed.
* At all escape facilities.

**Location of all escapeways, exits, routes to the surface.**

* Each working section or area where mechanized mining equipment is being installed or removed will have a primary and a secondary escapeway.
* The return entries in this mine are not designated, nor will they be designated as an escapeway to exit the mine in an emergency. The return should only be used as a last resort to exit the mine when all other entries are blocked.

**Location of escapeway maps.**

* All sections have two distinct escapeways indicated on maps.
* Escapeway maps are located on all sections and all areas where mechanized mining equipment is being installed or removed. Escapeway maps are located at all refuge alternatives and areas where miners congregate at the surface staging area.

**Location of any additional fire-fighting equipment stored on mine property.**

* Rock dust is stored on each working section.
* Emergency materials required by 30 C.F.R. § 75.1100-2(i) will be located within 2 miles of each working section.

**3.**  **RESPONSE TO FIRE ALARMS**

*(Choose whether your mine uses a CO system installed and enforced in accordance with 30 CFR §*

*75.1103 or an AMS system installed and enforced in accordance with 30 CFR § 75.351 and 75.352)*

*Note: Some mines use both systems in different areas of the mine.*

This mine utilizes a **Carbon Monoxide** detection system as an automatic fire sensor system to give a warning when a fire occurs on or near the belt conveyors at this mine. The miners will be instructed in the actions and response to automatic fire warning alarms as outlined in 30CFR § 75.1103-5 when a fire occurs on or near a belt conveyor**. If any sensor indicates an alarm, appropriate personnel must notify miners in affected working sections, areas where mechanized mining equipment is being installed and removed and any area where miners would be affected by a fire. All miners in these affected areas, unless assigned emergency response duties, must be immediately withdrawn to a safe location in fresh air outby the first CO sensor in alarm or to the surface.**

This mine utilizes an **Atmospheric Monitoring System** to fulfill the requirements of Secs. 75.323(d) (1) (ii), 75.340(a) (1) (ii), 75.340(a) (2) (ii), 75.350(b), 75.350(d), or 75.362(f) where applicable. The miners will be instructed in the actions in response to malfunction, alert and alarm signals as outlined in 30CFR §75.352**. If any sensor indicates an alarm, appropriate personnel must notify miners in affected working sections, areas where mechanized mining equipment is being installed and removed and any area where miners would be affected by a fire. All miners in these affected areas, unless assigned emergency response duties, must be immediately withdrawn to a safe location in fresh air at least outby the first AMS sensor NOT in alarm or to the surface if belt air is used in the face. If belt air is not used in the face and belt air is directed outby toward the surface, persons must be withdrawn to a safe location outby the sensor in alarm or to the surface.**

**4.** **USE OF FIREFIGHTING EQUIPMENT**

The nearest person will call outside to report the location and nature of the fire. Foremen will account for their miners.

The Responsible Person will call all affected miners and evacuate them outby the fire in intake air or to the surface.

If a mine emergency occurs that is considered an immediately reportable accident under 30 C.F.R. § 50.2, an agent of the operator or his designee shall notify without delay:

* MSHA
* WVMHST
* Mine rescue teams if miners are entrapped.

In the event of an emergency evacuation, the miners will use a pre-determined location as the assembly point on the section and contact the Responsible Person for instructions on the escape route and to report the nature of the emergency. **This pre-determined location will be the section power center.**

Rapid assembly and transportation of necessary miners, fire suppression equipment and rescue apparatus to the scene of the mine emergency will be dispatched from their location by the Responsible Person or the foreman in charge.

The assembly and transportation of fire extinguishers, rock dust, fire-fighting hose and any rescue apparatus will be supervised by the Responsible Person or the foreman in charge.

Once the location and nature of an emergency is identified, if needed, the mine rescue teams will be notified by telephone.

Fire-fighting instruction will be given to all miners quarterly.

All miners in each working section and all outby miners on each shift will be instructed on the location and in the use of firefighting equipment and fire suppression systems.

**5.** **ESCAPEWAY MAPS AND DRILLS**

A map shall be available at each working section, and in each area where mechanized mining equipment is being installed or removed, and at each refuge alternative. The map shall show the designated escapeways from the working section and miners’ work stations to the surface. A map showing all escapeways shall be posted at the surface location of the mine where miners congregate, such as the mine bulletin board, or waiting room. All maps shall be kept up to date. Maps will be reviewed with miners quarterly. This review will include the escapeway system; the escape, firefighting, and emergency evacuation procedures in effect at the mine; and the location of refuge alternatives and abandoned areas in the mine. Any changes in route of travel, locations of any doors, location of SCSR caches, and locations of refuge alternatives shall be shown on the 30 C.F.R. § 75.1200 and 30 C.F.R. § 75.1505 maps by the end of the shift on which the changes are made. Affected miners shall be informed of the changes before entering the underground areas of the mine. Any changes to the location of the communication or tracking components will be noted on the **75.1200** map by the end of the next shift after the changes have been made.

Quarterly, but no less than four times per year, all miners working underground shall participate in practice escapeway drills. The drill will include traveling the primary or alternate escapeway in its entirety from the miner’s working section or area where mechanized mining equipment is being installed or removed. During the drill, each miner will be instructed on the location and use of the directional lifeline, tethers and doors. During a quarterly drill, all miners will be instructed on the location, quantity, types and use of stored SCSR devices as applicable. During quarterly drills, miners will be instructed in the deployment, use and maintenance of refuge alternatives. Outby miners shall also participate in these quarterly drills. An escapeway drill shall not be conducted in the same escapeway as the preceding drill.

Scenarios requiring a discussion of options and a decision as to the best option for evacuation under each of the various mine emergencies (fires, explosions, or gas or water inundations) are attached.

Before or during practice escapeway drills, miners shall be instructed on the locations of escapeways, exits and routes of travel to the surface including the location of continuous directional lifelines or equivalent devices.

During the quarterly evacuation training and drills, the miners will be instructed on the use, care and maintenance of self-rescue devices. The quarterly drills will include hands-on training in the donning and transferring of SCSRs.

Annually, each miner shall participate in expectations training that include donning and transferring SCSRs in smoke, simulated smoke, or an equivalent environment, and breathing through a realistic SCSR training unit that provides the sensation of SCSR airflow resistance and heat. Also annually, miners shall participate in expectations training that will include deployment and use of refuge alternatives similar to those in use at the mine, including deployment and operation of component systems, instruction on when to use refuge alternatives during a mine emergency, emphasizing that it is the last resort when escape is impossible.

During the quarterly evacuation training and drill, each miner will be instructed in the importance of evacuating the mine during an emergency. All efforts must be made to exit the mine and only when all escapeways and alternate entries are blocked should using a refuge alternative be considered an option. This instruction will include discussing the limitations of “locating systems” such as seismic systems. The limitations include:

* Present systems are based on old technology.
* These systems take an extended period of time to arrive at the mine and be set up.
* These systems have never located a missing miner.

**6.** **MINING UNDER BODIES OF WATER**

In the event that a plan for mining under bodies of water is approved for this mine, employees shall be given training in accordance with the approved 30 C.F.R. § 75.1716 Plan.

**7. PROTECTION FROM FLOOD WATERS, FIRE, FUMES, AND SMOKE**

In the event that a 75.380(e) plan to protect surface openings exists for this mine, the employees shall be given training in accordance with the contents of the plan.

**8.** **LOCATION AND USE OF CONTINUOUS DIRECTIONAL LIFELINES OR** **EQUIVALENT DEVICES**

Primary and Secondary Escapeway

Lifelines are installed from the working section to the surface escape drift opening or continuous to the escape shaft/slope bottom in the Primary and Secondary Escapeways. The lifelines are attached to SCSR storage caches and refuge alternatives through branch lines. Reflective directional signs are provided to show where the SCSR caches and Refuge Alternatives are located. Miners will be instructed in the location and use of continuous directional lifelines, or equivalent devices and the directional indicators during quarterly evacuation drills.

**9.** **INSTRUCTORS**

* Superintendent
* Mine Foreman
* All Shift Foremen and Responsible Persons
* Safety Department Instructors

The above persons have the ability, training, knowledge or experience to conduct the mine emergency evacuation instruction and drills in his/her area of expertise. Persons conducting SCSR donning and transferring training are able to effectively train and evaluate whether miners can successfully don the SCSR and transfer to additional SCSR devices.

**10.** **SUMMARY OF THE PROCEDURES RELATED TO THE DEPLOYMENT OF THE REFUGE** **ALTERNATIVE** *List the manufacturer’s instructions on how to deploy the types of refuge alternatives in use at this mine*

**11.** **SUMMARY OF THE CONSTRUCTION METHODS FOR PRE-**

**CONSTRUCTED REFUGE ALTERNATIVE STOPPINGS**

Pre-constructed refuge alternatives will not be used at this mine.

**12.** **SUMMARY OF THE PROCEDURES RELATED TO THE USE OF**

**STRATA REFUGE ATERNATIVE** *List the manufacturer’s instructions related to the use of the type refuge alternative in use at this mine*

**Explosion Scenario for 30 C.F.R. § 75.1502**

|  |  |  |  |
| --- | --- | --- | --- |
| **Location(s) of Event(s)** | **Location of Miners and Specific Circumstances of the Event** | **Best Option(s) for Evacuation** | **Conditions requiring immediate donning of self rescue device** |
| **Section Area** | **Miners – on Section**   * Account for and assemble applicable personnel to prepare for evacuation. The responsible person will initiate and conduct immediate evacuation when imminent danger exists. * Report location and extent of explosion, if known, to surface personnel. * Evacuate all personnel not required for emergency response. * Evaluate status of ventilation and ventilation controls: altered, destroyed, removed, installed, etc. * Evaluate air qualities and quantities in areas of the mine. * Evaluate status/location of electrical and mechanical equipment/vehicles. * Evaluate extent of the explosion area. | **Transportation Equipment Available**  Travel by transportation equipment the safest and most expedient entry (primary or alternate escapeway) to the surface, shaft/slope bottom, etc.  **Transportation Equipment Unavailable**  Travel (walk/crawl) the primary or alternate escapeway entry – whichever provides the safest and most expedient travelway to the surface, shaft/slope bottom, etc.  Utilize the continuous lifeline or equivalent devices, tethers and doors during escape.  Evaluate/execute best options to traverse undercasts or overcasts and switching escapeways as conditions require.  Evaluate/execute best options while negotiating escapeway conditions such as smoke, dust, fire, water, adverse roof conditions, obstructions and other unique conditions. **Consider using a refuge alternative only if escape is impossible.** | Miners should don a self-rescue device when smoke, odor, fire, or any contaminated atmosphere is encountered. Miners are encouraged to don self-rescue devices whenever they believe they are exposed to a toxic or irrespirable atmosphere. Miners should don a self-rescue device when a hazardous atmosphere is identified by conducting/evaluating gas tests with a multi-gas detector. |
| **Outby Section** | **Miners – Located outby and on Other Sections**   * Account for and assemble applicable personnel to prepare for evacuation. The responsible person will initiate and conduct immediate evacuation when imminent danger exists. * Report location and extent of explosion, if known, to surface personnel. * Evacuate all personnel not required for emergency response. * Evaluate status of ventilation and ventilation controls: altered, destroyed, removed, installed, etc. * Evaluate air qualities and quantities in areas of the mine. * Evaluate status/location of electrical and mechanical equipment/vehicles. * Evaluate extent of the explosion area. | **Transportation Equipment Available**  Travel by transportation equipment the safest and most expedient entry (primary or alternate escapeway) to the surface, shaft/slope bottom, etc.  **Transportation Equipment Unavailable**  Travel (walk/crawl) the primary or alternate escapeway entry – whichever provides the safest and most expedient travelway to the surface, shaft/slope bottom, etc.  Utilize the continuous lifeline or equivalent devices, tethers and doors during escape.  Evaluate/execute best options to traverse undercasts or overcasts and switching escapeways as conditions require.  Evaluate/execute best options while negotiating escapeway conditions such as smoke, dust, fire, water, adverse roof conditions, obstructions and other unique conditions. **Consider using a refuge alternative only if escape is impossible.** | Miners should don a self-rescue device when smoke, odor, fire, or any contaminated atmosphere is encountered. Miners are encouraged to don self-rescue devices whenever they believe they are exposed to a toxic or irrespirable atmosphere. Miners should don a self-rescue device when a hazardous atmosphere is identified by conducting/evaluating gas tests with a multi-gas detector. |

**Fire Scenario for 30 C.F.R. § 75.1502**

|  |  |  |  |
| --- | --- | --- | --- |
| **Location(s) of Event(s)** | **Location of Miners and Specific Circumstances of the Event** | **Best Option(s) for Evacuation** | **Conditions requiring immediate donning of self rescue device** |
| **Section Area** | **Miners - On Section**   * Make a prompt effort to extinguish when specific conditions dictate. * Account for and assemble applicable personnel to prepare for evacuation. The responsible person will initiate and conduct immediate evacuation when imminent danger exists. * Report type, location and extent of fire, if known to surface personnel. * Evacuate all personnel not required for emergency response. * Evaluate status of ventilation and ventilation controls: altered, destroyed, removed, installed, etc. * Evaluate air qualities and quantities in areas of the mine. * Evaluate status/location of electrical and mechanical equipment/vehicles. * Evaluate extent of fire area. | **Transportation Equipment Available**  Travel by transportation equipment the safest and most expedient entry (primary or alternate escapeway) to the surface, shaft/slope bottom, etc.  **Transportation Equipment Unavailable**  Travel (walk/crawl) the primary or alternate escapeway entry – whichever provides the safest and most expedient travelway to the surface, shaft/slope bottom, etc.  Utilize the continuous lifeline or equivalent devices, tethers and doors during escape.  Evaluate/execute best options to traverse undercasts or overcasts and switching escapeways as conditions require.  Evaluate/execute best options while negotiating escapeway conditions such as smoke, dust, fire, water, adverse roof conditions, obstructions and other unique conditions.  **Consider using a refuge alternative only if escape is impossible.** | Miners should don a self-rescue device when smoke, odor, fire, or any contaminated atmosphere is encountered. Miners are encouraged to don self-rescue devices whenever they believe they are exposed to a toxic or irrespirable atmosphere. Miners should don a self-rescue device when a hazardous atmosphere is identified by conducting/evaluating gas tests with a multi-gas detector. |
| **Outby Section** | **Miners – Located Outby and on Other Sections**   * Make a prompt effort to extinguish when specific conditions dictate. * Account for and assemble applicable personnel to prepare for evacuation. The responsible person will initiate and conduct immediate evacuation when imminent danger exists. * Report type, location and extent of fire, if known to surface personnel. * Evacuate all personnel not required for emergency response. * Evaluate status of ventilation and ventilation controls: altered, destroyed, removed, installed, etc. * Evaluate air qualities and quantities in areas of the mine. * Evaluate status/location of electrical and mechanical equipment/vehicles. * Evaluate extent of fire area. | **Transportation Equipment Available**  Travel by transportation equipment the safest and most expedient entry (primary or alternate escapeway) to the surface, shaft/slope bottom, etc.  **Transportation Equipment Unavailable**  Travel (walk/crawl) the primary or alternate escapeway entry – whichever provides the safest and most expedient travelway to the surface, shaft/slope bottom, etc.  Utilize the continuous lifeline or equivalent devices, tethers and doors during escape.  Evaluate/execute best options to traverse undercasts or overcasts and switching escapeways as conditions require.  Evaluate/execute best options while negotiating escapeway conditions such as smoke, dust, fire, water, adverse roof conditions, obstructions and other unique conditions.  **Consider using a refuge alternative only if escape is impossible.** | Miners should don a self-rescue device when smoke, odor, fire, or any contaminated atmosphere is encountered. Miners are encouraged to don self-rescue devices whenever they believe they are exposed to a toxic or irrespirable atmosphere. Miners should don a self-rescue device when a hazardous atmosphere is identified by conducting/evaluating gas tests with a multi-gas detector. |

**Gas Inundation Scenario for 30 C.F.R. § 75.1502**

|  |  |  |  |
| --- | --- | --- | --- |
| **Location(s) of Event(s)** | **Location of Miners and Specific Circumstances of the Event** | **Best Option(s) for Evacuation** | **Conditions requiring immediate donning of self rescue device** |
| **Section Area** | **Miners – On Section**   * Account for and assemble applicable personnel to prepare for evacuation. The responsible person will initiate and conduct immediate evacuation when imminent danger exists. * Report location and extent of gas inundation, if known, to surface personnel. * Evacuate all personnel not required for emergency response. * Evaluate status of ventilation and ventilation controls: altered, destroyed, removed, installed, etc. * Evaluate air qualities and quantities in areas of the mine. * Evaluate status/location of electrical and mechanical equipment/vehicles. * Evaluate extent of the gas inundation area. | **Transportation Equipment Available**  Travel by transportation equipment the safest and most expedient entry (primary or alternate escapeway) to the surface, shaft/slope bottom, etc.  **Transportation Equipment Unavailable**  Travel (walk/crawl) the primary or alternate escapeway entry – whichever provides the safest and most expedient travelway to the surface, shaft/slope bottom, etc.  Utilize the continuous lifeline or equivalent devices, tethers and doors during escape.  Evaluate/execute best options to traverse undercasts or overcasts and switching escapeways as conditions require.  Evaluate/execute best options while negotiating escapeway conditions such as the extent of the gas inundation, gas concentrations, adverse roof conditions, obstructions and other unique conditions.  **Consider using a refuge alternative only if escape is impossible.** | Miners should don a self-rescue device when smoke, odor, fire, or any contaminated atmosphere is encountered. Miners are encouraged to don self-rescue devices whenever they believe they are exposed to a toxic or irrespirable atmosphere. Miners should don a self-rescue device when a hazardous atmosphere is identified by conducting/evaluating gas tests with a multi-gas detector. |
| **Outby Section** | **Miners – Located Outby and on Other Sections**   * Account for and assemble applicable personnel to prepare for evacuation. The responsible person will initiate and conduct immediate evacuation when imminent danger exists. * Report location and extent of gas inundation, if known, to surface personnel. * Evacuate all personnel not required for emergency response. * Evaluate status of ventilation and ventilation controls: altered, destroyed, removed, installed, etc. * Evaluate air qualities and quantities in areas of the mine. * Evaluate status/location of electrical and mechanical equipment/vehicles. * Evaluate extent of the gas inundation area. | **Transportation Equipment Available**  Travel by transportation equipment the safest and most expedient entry (primary or alternate escapeway) to the surface, shaft/slope bottom, etc.  **Transportation Equipment Unavailable**  Travel (walk/crawl) the primary or alternate escapeway entry – whichever provides the safest and most expedient travelway to the surface, shaft/slope bottom, etc.  Utilize the continuous lifeline or equivalent devices, tethers and doors during escape.  Evaluate/execute best options to traverse undercasts or overcasts and switching escapeways as conditions require.  Evaluate/execute best options while negotiating escapeway conditions such as the extent of the gas inundation, gas concentrations, adverse roof conditions, obstructions and other unique conditions.  **Consider using a refuge alternative only if escape is impossible.** | Miners should don a self-rescue device when smoke, odor, fire, or any contaminated atmosphere is encountered. Miners are encouraged to don self-rescue devices whenever they believe they are exposed to a toxic or irrespirable atmosphere. Miners should don a self-rescue device when a hazardous atmosphere is identified by conducting/evaluating gas tests with a multi-gas detector. |

**Water Inundation Scenario for 30 C.F.R. § 75.1502**

|  |  |  |  |
| --- | --- | --- | --- |
| **Location(s) of Event(s)** | **Location of Miners and Specific Circumstances of the Event** | **Best Option(s) for Evacuation** | **Conditions requiring immediate donning of self rescue device** |
| **Section Area** | **Miners – On Section**   * Account for and assemble applicable personnel to prepare for evacuation. The responsible person will initiate and conduct immediate evacuation when imminent danger exists. * Report location and extent of water inundation, if known, to surface personnel. * Evacuate all personnel not required for emergency response. * Evaluate status of ventilation and ventilation controls: altered, destroyed, removed, installed, etc. * Evaluate air qualities and quantities in areas of the mine. * Evaluate status/location of electrical and mechanical equipment/vehicles. * Evaluate extent of the water inundation area. | **Transportation Equipment Available**  Travel by transportation equipment the safest and most expedient entry (primary or alternate escapeway) to the surface, shaft/slope bottom, etc. while considering mine elevations.  **Transportation Equipment Unavailable**  Travel (walk/crawl) the primary or alternate escapeway entry – whichever provides the safest and most expedient travelway to the surface, shaft/slope bottom, etc.  Utilize the continuous lifeline or equivalent devices, tethers and doors during escape.  Evaluate/execute best options to traverse undercasts or overcasts and switching escapeways as conditions require.  Evaluate/execute best options while negotiating escapeway conditions such as the extent of the water inundation, water and gas concentration levels, adverse roof conditions, obstructions and other unique conditions. **Consider using a refuge alternative only if escape is impossible.** | Miners should don a self-rescue device when smoke, odor, fire, or any contaminated atmosphere is encountered. Miners are encouraged to don self-rescue devices whenever they believe they are exposed to a toxic or irrespirable atmosphere. Miners should don a self-rescue device when a hazardous atmosphere is identified by conducting/evaluating gas tests with a multi-gas detector. |
| **Outby Section** | **Miners – Located Outby and on Other Sections**   * Account for and assemble applicable personnel to prepare for evacuation. The responsible person will initiate and conduct immediate evacuation when imminent danger exists. * Report location and extent of water inundation, if known, to surface personnel. * Evacuate all personnel not required for emergency response. * Evaluate status of ventilation and ventilation controls: altered, destroyed, removed, installed, etc. * Evaluate air qualities and quantities in areas of the mine. * Evaluate status/location of electrical and mechanical equipment/vehicles. * Evaluate extent of the water inundation area. | **Transportation Equipment Available**  Travel by transportation equipment the safest and most expedient entry (primary or alternate escapeway) to the surface, shaft/slope bottom, etc. while considering mine elevations.  **Transportation Equipment Unavailable**  Travel (walk/crawl) the primary or alternate escapeway entry – whichever provides the safest and most expedient travelway to the surface, shaft/slope bottom, etc.  Utilize the continuous lifeline or equivalent devices, tethers and doors during escape.  Evaluate/execute best options to traverse undercasts or overcasts and switching escapeways as conditions require.  Evaluate/execute best options while negotiating escapeway conditions such as the extent of the water inundation, water and gas concentration levels, adverse roof conditions, obstructions and other unique conditions. **Consider using a refuge alternative only if escape is impossible.** | Miners should don a self-rescue device when smoke, odor, fire, or any contaminated atmosphere is encountered. Miners are encouraged to don self-rescue devices whenever they believe they are exposed to a toxic or irrespirable atmosphere. Miners should don a self-rescue device when a hazardous atmosphere is identified by conducting/evaluating gas tests with a multi-gas detector. |

**STORAGE OF SELF CONTAINED SELF RESCUERS**

**(Use of 10-minute SCSRs with required one-hour SCSRs stored more than 25 feet from miners)**

|  |  |
| --- | --- |
| **Mine ID Number:** | ***46-00000*** |
| **Mine Name:** | ***Draft Mine*** |
| **Company Name:** | ***ABC Mining Co., LLC*** |
| **Mine Location:** | ***Bluestone Road, Fayette County, WV*** |

|  |  |
| --- | --- |
| **Type of one-hour SCSR Stored:** | |
| **Manufacturer** | *XYZ* |
| **Model** | *AB-100* |
| **No. in use** | *XX* |
| **Type of 10 minute SCSR Worn:** | |
| **Manufacturer** | *XYZ* |
| **Model** | *B20* |
| **No. in use** | *XX* |
| **Additional type of one-hour SCSR Stored:** | |
| **Manufacturer** | *N/A* |
| **Model** | *N/A* |
| **No. in use** | *N/A* |

|  |  |
| --- | --- |
| **Mining Method (Miner, Conventional, Longwall)** | |
|  | *Continuous Miner* |
| **Seam Height** | |
|  | *xx inches* |
| **Distance one-hour SCSRs will be stored from the farthest working place.** | |
|  | *xxx feet* |
| **Location of section storage of one-hour SCSRs** | |
|  | *No. x entry, near intake escapeway.* |

**1.** **DESCRIPTION OF SCSR USE AND STORAGE**

1. All miners on the working section will wear or carry a 10-minute***XYZ B-20*** SCSR. The ***XYZ AB-100 one hour SCSR*** will be stored within 5 minutes travel time of the farthest working place on the section. When a 10-minuteSCSR is worn or carried, at least two one-hour SCSRs will be stored for each person on the section.
2. Persons who work or travel in outby areas and who are wearing a less than 1-hour SCSR device will always be within five (5) minutes travel time (walking) to an approved 1-hour SCSR device.

**2. GENERAL REQUIREMENTS**

All SCSR units will be stored, examined and maintained in accordance with 30 C.F.R. § 75.1714-3 and the manufacturer’s instructions and recommendations.

When mining near abandoned areas, as described in 30 C.F.R. § 75.388, or into areas having a high potential for outbursts, a one-hour SCSR will be kept within 25 feet of each miner.

Miners will be allowed to wear or carry their one-hour SCSR if desired.

As required by 30 C.F.R. § 75.1714-4(f), reflective location and directional signs will be provided for one-hour SCSRs stored in caches.

**3. TRAINING**

Each miner will be trained in the storage location of one-hour SCSRs and the specific details of the storage plan in effect.