§ 75.1506 Refuge alternatives.

(a) Each operator shall provide refuge alternatives and components as follows:

(1) Prefabricated self-contained units, including the structural, breathable air, air monitoring, and harmful gas removal components of the unit, shall be approved under 30 CFR part 7;

(2) The structural components of units consisting of 15 psi stoppings constructed prior to an event shall be approved by the District Manager, and the breathable air, air monitoring, and harmful gas removal components of

§ 75.1505 Escapeway maps.

(a) Content and accessibility. An escapeway map shall show the designated escapeways from the working sections or the miners’ work stations to the surface or the exits at the bottom of the shaft or slope, refuge alternatives, and SCSR storage locations. The escapeway map shall be posted or readily accessible for all miners—

(1) In each working section;

(2) In each area where mechanized mining equipment is being installed or removed;

(3) At the refuge alternative; and

(4) At a surface location of the mine where miners congregate, such as at the mine bulletin board, bathhouse, or waiting room.

(b) Keeping maps current. All maps shall be kept up-to-date and any change in route of travel, location of doors, location of refuge alternatives, or direction of airflow shall be shown on the maps by the end of the shift on which the change is made.

(c) Informing affected miners. Miners underground on a shift when any such change is made shall be notified immediately of the change and other affected miners shall be informed of the change before entering the underground areas of the mine.

§ 75.1506 Refuge alternatives.

(4) Upon request, a copy of the certification that shows his or her own training shall be provided to the participating miner.

these units shall be approved under 30 CFR part 7.

(3) Prefabricated refuge alternative structures that states have approved and those that MSHA has accepted in approved Emergency Response Plans (ERPs) that are in service prior to March 2, 2009 are permitted until December 31, 2018, or until replaced, whichever comes first. Breathable air, air-monitoring, and harmful gas removal components of either a prefabricated self-contained unit or a unit consisting of 15 psi stoppings constructed prior to an event in a secure space and an isolated atmosphere that states have approved and those that MSHA has accepted in approved ERPs that are in use prior to March 2, 2009 are permitted until December 31, 2013, or until replaced, whichever comes first. Refuge alternatives consisting of materials pre-positioned for miners to deploy in a secure space with an isolated atmosphere that MSHA has accepted in approved ERPs that are in use prior to March 2, 2009 are permitted until December 31, 2010, or until replaced, whichever comes first.

(b) Except as permitted under paragraph (a)(3) of this section, each operator shall provide refuge alternatives with sufficient capacity to accommodate all persons working underground.

(1) Refuge alternatives shall provide at least 15 square feet of floor space per person and 30 to 60 cubic feet of volume per person according to the following chart. The airlock can be included in the space and volume if waste is disposed outside the refuge alternative.

<table>
<thead>
<tr>
<th>Mining height (inches)</th>
<th>Unrestricted volume (cubic feet) per person*</th>
</tr>
</thead>
<tbody>
<tr>
<td>36 or less</td>
<td>30</td>
</tr>
<tr>
<td>&gt;36–≤42</td>
<td>37.5</td>
</tr>
<tr>
<td>&gt;42–≤48</td>
<td>46</td>
</tr>
<tr>
<td>&gt;48–≤54</td>
<td>52.5</td>
</tr>
<tr>
<td>&gt;54</td>
<td>60</td>
</tr>
</tbody>
</table>

*Includes an adjustment of 12 inches for clearances.

(2) Refuge alternatives for working sections shall accommodate the maximum number of persons that can be expected on or near the section at any time.

(3) Each refuge alternative for outby areas shall accommodate persons reasonably expected to use it.

(c) Refuge alternatives shall be provided at the following locations:

1. Within 1,000 feet from the nearest working face and from locations where mechanized mining equipment is being installed or removed except that for underground anthracite coal mines that have no electrical face equipment, refuge alternatives shall be provided if the nearest working face is greater than 2,000 feet from the surface.

2. Spaced within one-hour travel distances in outby areas where persons work such that persons in outby areas are never more than a 30-minute travel distance from a refuge alternative or safe exit. However, the operator may request and the District Manager may approve a different location in the ERP. The operator's request shall be based on an assessment of the risk to persons in outby areas, considering the following factors: proximity to seals; proximity to potential fire or ignition sources; conditions in the outby areas; location of stored SCSRs; and proximity to the most direct, safe, and practical route to an intake escapeway.

(d) Roof and rib support for refuge alternative locations shall be specified in the mine's roof control plan.

(e) The operator shall protect the refuge alternative and contents from damage during transportation, installation, and storage.

(f) A refuge alternative shall be removed from service if examination reveals damage that interferes with the functioning of the refuge alternative or any component.

(1) If a refuge alternative is removed from service, the operator shall withdraw all persons from the area serviced by the refuge alternative, except those persons referred to in §104(c) of the Mine Act.

(2) Refuge alternative components removed from service shall be replaced or repaired for return to service in accordance with the manufacturer's specifications.

(g) At all times, the site and area around the refuge alternative shall be kept clear of machinery, materials, and obstructions that could interfere with the deployment or use of the refuge alternative.

(h) Each refuge alternative shall be conspicuously identified with a sign or marker as follows:
§ 75.1507 Emergency Response Plan; refuge alternatives.

(a) The Emergency Response Plan (ERP) shall include the following for each refuge alternative and component:

(1) The types of refuge alternatives used in the mine, i.e., a prefabricated self-contained unit or a unit consisting of 15 psi stoppings constructed prior to an event in a secure space and an isolated atmosphere.

(2) Procedures or methods for maintaining approved refuge alternatives and components.

(3) The rated capacity of each refuge alternative, the number of persons expected to use each refuge alternative, and the duration of breathable air provided per person by the approved breathable air component of each refuge alternative.

(4) The methods for providing breathable air with sufficient detail of the component’s capability to provide breathable air over the duration stated in the approval.

(5) The methods for providing ready backup oxygen controls and regulators.

(6) The methods for providing an airlock and for providing breathable air in the airlock, except where adequate positive pressure is maintained.

(7) The methods for providing sanitation facilities.

(8) The methods for harmful gas removal, if necessary.

(9) The methods for monitoring gas concentrations, including charging and calibration of equipment.

(10) The method for providing lighting sufficient for persons to perform tasks.

(11) Suitable locations for the refuge alternatives and an affirmative statement that the locations are—

(i) Not within direct line of sight of the working face; and

(ii) Where feasible, 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. However, the operator may request and the District Manager may approve an alternative location in the ERP if mining involves two-entry systems or yield pillars in a longwall that would prohibit locating the refuge alternative out of direct line of sight of the working face.

(b) For a refuge alternative consisting of 15 psi stoppings constructed prior to an event in a secure space and an isolated atmosphere, the ERP shall specify that—

(1) The breathable air components shall be approved by MSHA; and

(2) The refuge alternative can withstand exposure to a flash fire of 300 degrees Fahrenheit (°F) for 3 seconds and a pressure wave of 15 pounds per square inch (psig) overpressure for 0.2 seconds.

(c) If the refuge alternative sustains persons for only 48 hours, the ERP shall detail advanced arrangements that have been made to assure that persons who cannot be rescued within