

## Appendix B

### 30 CFR § 48.27(a) Task Training for Atmospheric Monitoring System (AMS) Operators (Suggested Outline)

SUBJECT	OBJECTIVES	TEACHING METHODS	COURSE MATERIAL	EVALUATION METHODS
Familiarity with Underground Mining Systems Used at the Mine (General Overview of Topics)	<p>The AMS operator/trainee will demonstrate a working knowledge of underground mining systems used at their mine (cover topics in the context of the AMS operator's duties):</p> <ul style="list-style-type: none"> <li>• Discuss underground belt haulage and ventilation system in use at the mine.</li> <li>• Identify and discuss underground electrical installations in use at the mine.</li> <li>• Describe and discuss fire protection systems in use at the mine.</li> <li>• Describe and discuss the mine's two-way communication and tracking systems.</li> </ul>	<p>Demonstration Discussion Q&amp;A OJT</p>	<p>"AMS Operator's Training Guide" 30 CFR Part 75 Mine Maps/Schematics Other Applicable Mine-Specific Plans and/or Work Procedures</p>	<p>Verbal Responses  Discussion  Demonstration</p>
Mine Ventilation System Used at the Mine	<p>The AMS operator/trainee will demonstrate a thorough working knowledge of the mine's ventilation system:</p> <ul style="list-style-type: none"> <li>• Discuss the mine's ventilation plan.</li> <li>• Discuss/describe the type of ventilation system used at the mine.</li> <li>• Discuss/describe planned air directions.</li> <li>• Identify and discuss ventilation controls in use at the mine.</li> <li>• Discuss belt-air course ventilation.</li> <li>• Discuss minimum and maximum air velocity requirements, based on the mine's approved ventilation plan.</li> <li>• Locate all designated escapeways at the mine.</li> </ul>	<p>Demonstration Discussion Q&amp;A OJT</p>	<p>"AMS Operator's Training Guide" 30 CFR Part 75 Subpart D – Ventilation (applicable sections) The Mine's AMS Approved Ventilation Plan Mine Ventilation Map/Schematics Mine Maps/Schematics (showing air directions, working sections, and escapeways) Other Applicable Mine-Specific Plans and/or Work Procedures</p>	<p>Verbal Responses  Discussion  Demonstration  <b>NOTE:</b> Where applicable, skills demonstration should include operation of the AMS console and graphic displays.</p>

SUBJECT	OBJECTIVES	TEACHING METHODS	COURSE MATERIAL	EVALUATION METHODS
<p>The Mine's Emergency Evacuation and Firefighting Program of Instruction</p>	<p>The AMS operator/trainee will demonstrate a thorough working knowledge of the mine's emergency evacuation and firefighting program of instruction:</p> <ul style="list-style-type: none"> <li>• Discuss the mine's ERP.</li> <li>• Identify the mine's responsible person(s).</li> <li>• Discuss/describe the mine's procedures for an emergency evacuation.</li> <li>• Locate the mine's escapeways, exits, and routes of travel to the surface.</li> <li>• Locate the mine's emergency shelters/refuge alternatives.</li> <li>• Locate the mine's firefighting equipment.</li> <li>• Describe operation of the mine's underground personnel tracking system.</li> <li>• Locate contact list of all appropriate personnel.</li> </ul>	<p>Demonstration Discussion Q&amp;A OJT</p>	<p>"AMS Operator's Training Guide" 30 CFR Part 75 Subpart L and Subpart P The Mine's AMS ERP The Mine's Emergency Evacuation and Firefighting Program of Instruction Mine Maps/Schematics showing: <ul style="list-style-type: none"> <li>• Working Sections</li> <li>• Ventilation System</li> <li>• Escapeway Systems</li> <li>• Location of Firefighting Equipment</li> </ul> Other Applicable Mine-Specific Plans and/or Work Procedures</p>	<p>Verbal Responses Discussion Demonstration <b>NOTE:</b> Where applicable, skills demonstration should include operation of the AMS console and graphic displays.</p>
<p>Mine Specific Basic AMS Requirements</p>	<p>The AMS operator/trainee will demonstrate a thorough working knowledge of the basic requirements for the AMS used at their mine:</p> <ul style="list-style-type: none"> <li>• Identify, locate, and describe all hardware and software components of the mine's AMS, including the Uninterruptible Power Supply (UPS).</li> <li>• Identify and locate all types of sensors monitored by the mine's AMS.</li> <li>• Demonstrate daily audio/visual function tests on AMS (alerts/alarms).</li> <li>• Select appropriate icons to check operation of underground equipment.</li> <li>• Demonstrate ability to monitor sensors, equipment, and working sections.</li> </ul> <p style="text-align: center;"><i>(continued on next page)</i></p>	<p>Demonstration Discussion Q&amp;A OJT</p>	<p>"AMS Operator's Training Guide" The Mine's AMS 30 CFR § 75.351 – Atmospheric Monitoring Systems Other Applicable Mine-Specific Plans and/or Work Procedures</p>	<p>Verbal Responses Discussion Demonstration <b>NOTE:</b> Where applicable, skills demonstration should include operation of the AMS console and graphic displays.</p>

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<p>Mine Specific Basic AMS Requirements</p>	<p><i>(continued from previous page)</i></p> <ul style="list-style-type: none"> <li>• Demonstrate ability to monitor and record data relevant to conditions, equipment, sensors, alerts, and alarms.</li> <li>• Distinguish between alert and alarm signals.</li> <li>• State ambient levels in the mine.</li> <li>• Demonstrate actions for excessive methane if applicable.</li> <li>• Identify underground electrical installations (intake air for battery charging stations) if applicable.</li> <li>• Demonstrate ability to monitor belt air course ventilation if applicable.</li> <li>• Locate point-feed regulators if applicable.</li> <li>• Demonstrate on-shift examinations/tests for methane if applicable.</li> <li>• Locate key contact list of AMS manufacturer technical experts.</li> </ul>			
<p>Appropriate Responses to Alert and Alarm Signals, and Malfunctions</p>	<p>The AMS operator/trainee will demonstrate the appropriate actions and notification protocols for alert and alarm signals, and malfunctions of the AMS in use at the mine:</p> <ul style="list-style-type: none"> <li>• Identify and locate the sensor that has been activated.</li> <li>• Identify type(s) of sensor(s) activated.</li> <li>• Initiate prompt notification of appropriate personnel.</li> <li>• Notify appropriate personnel to investigate to determine cause.</li> <li>• Take required actions based on situation.</li> </ul> <p><i>(continued on next page)</i></p>	<p>Demonstration Discussion Q&amp;A OJT</p>	<p>“AMS Operator’s Training Guide” 30 CFR § 75.351 – Atmospheric Monitoring Systems The Mine’s AMS Manufacturer’s Technical Manuals and Training Guidelines Mine Maps/Schematics (showing locations of sensors) Mine Maps Other Applicable Mine-Specific Plans and/or Work Procedures Mine Communication Equipment</p>	<p>Verbal Responses Discussion Demonstration <b>NOTE:</b> Where applicable, skills demonstration should include operation of the AMS console and graphic displays.</p>

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<p>Appropriate Responses to Alert and Alarm Signals, and Malfunctions</p>	<p><i>(continued from previous page)</i></p> <ul style="list-style-type: none"> <li>• Communicate with responsible person.</li> <li>• Notify all working sections.</li> <li>• Initiate mine wide evacuation, if necessary.</li> <li>• Demonstrate actions and notification procedures in the event of a malfunction.</li> <li>• Describe Time Delays.</li> <li>• Describe plans and notification procedures for underground persons qualified to respond to emergency.</li> <li>• Demonstrate actions for inoperative sensors.</li> <li>• Identify appropriate persons to monitor air course in belt entry.</li> </ul>			
<p>Use of the Mine's Communication Systems (Including Emergency Notification Procedures)</p>	<p>The AMS operator/trainee will:</p> <ul style="list-style-type: none"> <li>• Use two-way voice communication.</li> <li>• Describe types of communication systems.</li> <li>• Identify the location of communication devices.</li> <li>• Demonstrate Audible/Visual Communication Devices.</li> <li>• Notify all working sections with voice communication.</li> <li>• Notify appropriate persons for AMS testing/calibration.</li> <li>• Demonstrate notification procedure for mine-wide evacuation.</li> </ul>	<p>Demonstration Discussion Q&amp;A OJT</p>	<p>"AMS Operator's Training Guide"</p> <p>The Mine's AMS 30 CFR § 75.351(r) 30 CFR § 75.1600-2</p> <p>The Mine's AMS Mine Maps/Schematics Communication system equipment used at the mine</p> <p>Other applicable mine-specific plans, procedures, and/or notification plans.</p>	<p>Verbal Responses Discussion Demonstration</p>

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AMS Recordkeeping Requirements	<p>The AMS operator/trainee will demonstrate knowledge of AMS recordkeeping requirements at the mine:</p> <ul style="list-style-type: none"> <li>• Alerts and alarms.</li> <li>• Type and location of sensor.</li> <li>• Cause for activation.</li> <li>• Malfunctions (cause and corrective action).</li> <li>• Seven-day test.</li> <li>• Calibrations.</li> <li>• Maintenance performed.</li> <li>• Person entering record must include name, date, and signature.</li> <li>• Demonstrate knowledge of recording and logging information correctly.</li> <li>• Show the location of where records are kept.</li> </ul>	<p>Demonstration Discussion Q&amp;A OJT</p>	<p>“AMS Operator’s Training Guide” The Mine’s AMS Mine Maps/Schematics 30 CFR § 75.351(o) 30 CFR § 75.351(p) AMS Logs and Records</p>	<p>Verbal Responses Discussion Demonstration <b>NOTE:</b> Where applicable, skills demonstration should include operation of the AMS console and graphic displays.</p>
Underground Travel Requirements	<p>The AMS operator/trainee will travel to all working sections underground in order to retain familiarity with the underground mining system at their operation.</p>	<p>Demonstration Discussion Q&amp;A OJT</p>	<p>“AMS Operator’s Training Guide” 30 CFR § 75.351(q)(2) Transportation underground Notebook Other Mine-Specific Materials</p>	<p>Verbal Responses Discussion Demonstration</p>