




*State of West Virginia*  
**Joe Manchin III, Governor**

**WV Office of Miners' Health, Safety & Training**  
**Ronald L. Wooten, Director**  
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**MEMO**

**TO:** All West Virginia Underground Mines  
**FROM:** Ronald L. Wooten, Director   
**DATE:** March 15, 2007  
**RE:** Guidance for Submission of Emergency Shelter Plans

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Under Title 56, Series 4, Section 8.1, "Emergency Shelters/Chambers", operators of underground mines are required to submit Emergency Shelter Plans to the Office of Miners Health Safety and Training by April 15, 2007. Since that date falls on a Sunday, submittals will be accepted until 4pm on Monday April 16, 2007.

Attached are notes and table of contents to assist operators in completing their plans. Copies of these documents along with the current approvals can be found at [www.wvminesafety.com](http://www.wvminesafety.com).

RLW:ks

**Attachments (3)**

- 1) Text of W. Va. §56-4-8 "Emergency Shelters/Chambers"
- 2) Emergency Shelter Plan Notes
- 3) Emergency Shelter Plan Table of Contents

**§56-4-8. Emergency Shelters/Chambers.**  
Notes for Manufacturer Training – version March 11, 2007

**Rule**

8.1. An emergency shelter/chamber shall be maintained within one thousand (1,000) feet of the nearest working face in each working section. Such emergency shelter/chamber shall be approved by the Director and shall be constructed and maintained in a manner prescribed by the Director.

8.1.1. The Director may approve, as an alternative to a shelter/chamber, an additional surface opening located no more than 1,000 feet from the nearest working face and accurately located on escape-way maps as required in W. Va. Code Chapter 22A Article 2-1.

8.5. No later than April 15, 2007 all underground mine operators shall submit an emergency shelter/chamber plan for approval by the Director in accordance with W. Va. Code Chapter 22A Article 1-36. The design, development, submission, and implementation of the shelter/chamber plan shall be the responsibility of the operator of each mine.

**Notes**

*The shelter plan serves several purposes:*

- 1) It provides a record of the thought process used in determining how emergency shelters will be used to provide life support for miners that are unable to escape in an emergency.*
- 2) It serves as the basis for training miners and mine rescue teams in the use of the shelter used in the mine.*
- 3) It serves as resource to mine rescue teams in the event they are called to the mine.*
- 4) It forms an enforceable agreement between the OMHS&T and the operator.*

*At this time the only exception to manufactured shelters that will be entertained is for mines that are too low for one of the approved shelters. Those mines must contact their regional inspector-at-large prior to April 15th for a case-by-case determination.*

*Three copies the mine's Emergency Shelter Plan in 3-ring binders shall arrive at the mine's respective OMHS&T regional office by 4:00 pm April 16, 2007. Addresses can be found at [www.wvminesafety.org](http://www.wvminesafety.org) (the rule says 4/15 but that is a Sunday so delivery will be accepted through the next day.*

**§56-4-8. Emergency Shelters/Chambers.**  
Notes for Manufacturer Training – version March 11, 2007

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8.6. Within thirty (30) calendar days after submission of the emergency shelter/chamber plan, the Director shall either approve the emergency shelter/chamber plan or shall reject and return the plan to the operator for modification and resubmission, stating in detail the reason for such rejection. If the plan is rejected, the Director shall give the operator a reasonable length of time, not to exceed fifteen (15) calendar days, to modify and resubmit such plan.

8.7. Within 15 days of approval of the emergency shelter/chamber plan by the Director, the underground mine operator shall submit as an addendum to its emergency shelter/chamber plan a copy of any contract, or purchase order, or other proof of purchase of any equipment required to complete the emergency shelter/chamber and for installation and ongoing maintenance

**Notes**

*The contents of the submittal shall follow the table of contents attached here.*

*The OMHS&T does not anticipate delays in the review of shelter plans and it is expected that any necessary revisions by operators will be carried out expeditiously.*

*The OMHS&T has the authority to issue a cessation order if in his opinion an operator is intentionally delaying the installation of shelters.*

*The operator must submit a copy of their purchase order for any necessary items or services required to implement the shelter plan. This includes not only the shelter themselves but any maintenance or emergency response services identified.*

*At a minimum there will be purchase order documentation for the shelters, for routine and emergency survey services and for emergency well drilling. If the operator is doing these things in-house then proof of qualified staff and available equipment is required.*

*The delivery dates indicated from the manufacturer become enforceable dates for compliance.*

*If a manufacturer identifies that they will not be able to meet committed date, the manufacture will contact the operator and the Director immediately with the details of the reason for the delay, what is being done to correct them and when delivery can*

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**Notes**

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8.8. The operator shall submit certified progress reports no less frequently than every sixty (60) calendar days until full compliance is achieved.

8.9. After the Director has approved an operator's emergency shelter/chamber plan, the operator shall submit revisions to the emergency shelter/chamber plan at any time that changes in operational conditions result in substantive modification. In addition, at any time after approval, the operator may submit proposed modifications or revisions to its plan along with reasons therefore to the Director. Within thirty (30) days after receipt by the Director of any proposed revisions or modifications to the emergency shelter/chamber plan, the Director shall either approve or reject the revisions, stating in detail the reasons for such rejection.

*be expected. It is the intent of the OMHS&T that every mine in WV will be in full compliance as soon as possible. Every possible tool will be used to ensure full compliance.*

*If a manufacturer is found to be not working in good faith to meet committed delivery dates the Director shall take what actions are deemed appropriate up to revoking approval of their products.*

*The OMHS&T will independently verify each purchase order submitted with the vendor(s) identified. If an item will can not be verified as represented it be will grounds for a finding of intentionally delaying installation of shelters and the Director shall take what actions are deemed appropriate up to issuing a cessation order until compliance is achieved.*

*These will be submitted to the OMHS&T Regional Office to which the plan was submitted.*

*The plan shall describe how the operator proposes to ensure that the OMHS&T has the most current version of its shelter plan. (i.e., updated with period mine map updates etc.)*

*The plan shall describe under what conditions the operator anticipates submitting modifications to other elements of the plan and the rationale for determining this approach.*

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8.10. In developing the emergency shelter/chamber plan and any revisions, the operator shall take into consideration the physical features of the particular mine, emergency plans, advances in emergency shelter/chamber technologies and any other aspect of the particular mine the operator deems relevant to the development of the emergency shelter/chamber plan.

8.11. A copy of the approved emergency shelter/chamber plan shall be provided to the mine rescue teams providing coverage for the mine and included in the mine rescue program required by W. Va. Code Chapter 22A Article 1-35(q). Copies of the most recent version shall be available at the mine for emergency responders. As changes are made to the approved emergency shelter/chamber plan, updated versions shall be submitted to the above parties.

**Notes**

*The plan shall begin with a description of the geology overlying the mine and the mining technique including the most recent mine map indicating the proposed location of the shelter(s), SCSR caches, mine phones, fire fighting equipment, and any other emergency equipment.*

*The plan shall describe likely scenarios in which the shelters might be used and how those scenarios affected the plan.*

*The plan shall state the criteria to be used in selecting the specific location of the crosscut into which the shelter will be placed and the rationale for those criteria.*

*The plan shall describe the mines emergency plans and attach a copy those plans as an appendix*

*The plan shall describe how advances in technology will be incorporated in the plan as they become available.*

*The plan may include any other information that is deemed important and useful to miners and emergency responders regarding understanding the capabilities and use of selected shelters in an emergency.*

*The plan shall identify all relevant emergency organizations and the means that will ensure they have the most recent version of the shelter plan. These include but are not limited to all mine rescue teams covering the mine (company, private, state, and federal), on-call survey team(s), on-call drilling team(s) and any other organization whose ability to respond*

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**Rule**

**Notes**

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8.12. The proposed emergency shelter/chamber plan shall:

8.12.1. Describe the structure and operations of the emergency shelter/chamber, the surveyed location of the shelter and any necessary survey monuments for locating emergency drilling operations to the shelter/chamber and the shelter/chamber's role in emergency response;

8.12.2. Ensure that proper emergency shelter/chamber use is included in initial mine hazard training in such a manner that it is in compliance with all manufacturer's requirements and is provided yearly in addition to annual

*would benefit from having advance access to the shelter plan.*

***There are a number of items included here:***

- 1) The plan must summarize and include as an attachment the operating instructions for the shelter and its contents***
  
- 2) The plan must contain information on the surveyed location and how that location will be found on the surface in the event of an accident. This will require information on how and who is on call for surveying and how and who is on call to drill any holes needed. These shall not only be summarized in the plan but copies of proof of such arrangement as attachments. The persons and firms listed on these attachments will be contacted for confirmation before a plan can be approved. Also, the plan must describe the process for resurveying the shelter location each time it is moved and how the escapeway maps will be updated each time.***
  
- 3) To address the role of the shelter in an emergency response there will need to be references in the mines emergency plans that contain this information Copies of these documents shall be submitted as addendums.***

***The plan will need to explain how the use of the shelters is included in training. The first element of all training is that escape is the primary response to accident. The plan shall***

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refresher training. All training shall be recorded and made available upon request;

8.12.3. Ensure weekly inspections of emergency shelters/chambers and contents shall be conducted by a certified mine foreman and/or mine examiner and recorded in weekly ventilation examination book;

8.12.4. Ensure that weekly safety meetings review the current location of applicable emergency shelters/chambers and results of the latest inspection;

8.12.5. Ensure that all opening to emergency shelters/chambers shall be equipped with easily removable tamper-proof tags such that a visual indication of unauthorized access to the emergency shelter/chamber can be detected; and

8.12.6. Ensure that the mine's communication center shall monitor any communication systems associated with the emergency shelter/chamber at all times that the mine is occupied.

**Notes**

*include a summary of training and the attachment of all training materials along with the schedule for training for the year and the method for documenting training along where those records will be kept.*

*The training described shall include both lecture and experiential lessons with some form of demonstration of mastery of the information.*

*The plan must describe the procedure for each inspection and where the records of those inspections will be kept.*

*Attached must be the manufacturer's checklists for each type of inspection, routine, relocation, annual, etc.*

*The plan must describe the procedure for ensuring that each shift is briefed on the location and status of shelters along with measures to ensure that is done.*

*Provide examples of the tags to be used and a copy of the signage indicating that tampering with the unit is a felony.*

*The plan must describe the type(s) of communication system that is available to anyone that is forced to use the shelter and what provisions have been made to rapidly reestablish communication if lost in the accident. The plan shall describe provision made for the incorporation of communication and*

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*tracking technologies as they become available in the mine.*



#### **§56-4-8. Emergency Shelters/Chambers.**

8.1. An emergency shelter/chamber shall be maintained within one thousand (1,000) feet of the nearest working face in each working section. Such emergency shelter/chamber shall be approved by the Director and shall be constructed and maintained in a manner prescribed by the Director.

8.1.1. The Director may approve, as an alternative to a shelter/chamber, an additional surface opening located no more than 1,000 feet from the nearest working face and accurately located on escape-way maps as required in W. Va. Code Chapter 22A Article 2-1.

8.2. The Director shall acquire, no later than July 1, 2006, the necessary technical/engineering support needed to evaluate the performance of emergency shelter/chamber components/systems, and to review the effectiveness of emergency shelter/chamber plans.

8.3. The Director shall, no later than July 10, 2006, issue an open opportunity for emergency shelter/chamber providers to submit products for approval. The Director shall maintain a current list of pending and approved emergency shelter/chambers on the West Virginia MHS&T web site <http://www.wvminesafety.org>

8.3.1. Providers of emergency shelter/chamber seeking approval shall submit documentation prescribed by the Director that shall include a certification by an independent West Virginia licensed professional engineer that the proposed product meets the requirements set forth in Section 8, a description of the process used in making that determination and a certification in the following form: "I, the undersigned, hereby certify that this product, to the best of my knowledge and belief, meets or exceeds all requirements set forth in W. Va. CSR Title 56 Series 4-8."

8.4. Any emergency shelter/chamber approved by the Director shall:

8.4.1. Provide a minimum of 48 hours life support (air, water, emergency medical supplies, and food) for the maximum number of miners reasonably expected on the working section;

8.4.2. Be capable of surviving an initial event with a peak overpressure of 15 psi for 3 seconds and a flash fire as

defined by National Fire Protection Association standard NFPA-2113 of 300 degrees Fahrenheit for 3 seconds;

8.4.3. Be constructed such that it will be protected under normal handling and pre-event mine conditions;

8.4.4. Provide for rapidly establishing and maintaining an internal shelter atmosphere of oxygen above 19.5%, carbon dioxide below 0.5%, carbon monoxide below 50 ppm, and an apparent-temperature of 95 degrees Fahrenheit;

8.4.5. Provide the ability to monitor carbon monoxide and oxygen inside and outside the shelter/chamber;

8.4.6. Provide a means for entry and exit that maintains the integrity of the internal atmosphere;

8.4.7. Provide a means for MSHA certified intrinsically safe power if power required;

8.4.8. Provide a minimum eight quarts of water per miner;

8.4.9. Provide a minimum of 4,000 calories of food per miner;

8.4.10. Provide a means for disposal of human waste to the outside of the shelter/chamber;

8.4.11. Provide a first aid kit as defined at W. Va. Code Chapter 22A Article 2-59(3)(b) independent of the section first aid kit required by W. Va. Code Chapter 22A Article 2-59(3) and 2-60(f);

8.4.12. Have provisions for inspection of the shelter/chamber and contents;

8.4.13. Contain manufacturer recommended repair materials;

8.4.14. Provide a battery-powered occupant-activated strobe light of a model approved by the Director that is visible from the outside indicating occupancy;

8.4.15. Provide provisions for communications to the surface; and

8.4.16. Provide proof of current approval for all items and materials subject to MSHA approval.

8.5. No later than April 15, 2007 all underground mine operators shall submit an emergency shelter/chamber plan for approval by the Director in accordance with W. Va. Code Chapter 22A Article 1-36. The design, development, submission, and implementation of the shelter/chamber plan shall be the responsibility of the operator of each mine.

8.6. Within thirty (30) calendar days after submission of the emergency shelter/chamber plan, the Director shall either approve the emergency shelter/chamber plan or shall reject and return the plan to the operator for modification and resubmission, stating in detail the reason for such rejection. If the plan is rejected, the Director shall give the operator a reasonable length of time, not to exceed fifteen (15) calendar days, to modify and resubmit such plan.

8.7. Within 15 days of approval of the emergency shelter/chamber plan by the Director, the underground mine operator shall submit as an addendum to its emergency shelter/chamber plan a copy of any contract, or purchase order, or other proof of purchase of any equipment required to complete the emergency shelter/chamber and for installation and ongoing maintenance

8.8. The operator shall submit certified progress reports no less frequently than every sixty (60) calendar days until full compliance is achieved.

8.9. After the Director has approved an operator's emergency shelter/chamber plan, the operator shall submit revisions to the emergency shelter/chamber plan at any time that changes in operational conditions result in substantive modification. In addition, at any time after approval, the operator may submit proposed modifications or revisions to its plan along with reasons therefore to the Director. Within thirty (30) days after receipt by the Director of any proposed revisions or modifications to the emergency shelter/chamber plan, the Director shall either approve or reject the revisions, stating in detail the reasons for such rejection.

8.10. In developing the emergency shelter/chamber plan and any revisions, the operator shall take into consideration the physical features of the particular mine, emergency plans, advances in emergency shelter/chamber technologies and any other

aspect of the particular mine the operator deems relevant to the development of the emergency shelter/chamber plan.

8.11. A copy of the approved emergency shelter/chamber plan shall be provided to the mine rescue teams providing coverage for the mine and included in the mine rescue program required by W. Va. Code Chapter 22A Article 1-35(q). Copies of the most recent version shall be available at the mine for emergency responders. As changes are made to the approved emergency shelter/chamber plan, updated versions shall be submitted to the above parties.

8.12. The proposed emergency shelter/chamber plan shall:

8.12.1. Describe the structure and operations of the emergency shelter/chamber, the surveyed location of the shelter and any necessary survey monuments for locating emergency drilling operations to the shelter/chamber and the shelter/chamber's role in emergency response;

8.12.2. Ensure that proper emergency shelter/chamber use is included in initial mine hazard training in such a manner that it is in compliance with all manufacturer's requirements and is provided yearly in addition to annual refresher training. All training shall be recorded and made available upon request;

8.12.3. Ensure weekly inspections of emergency shelters/chambers and contents shall be conducted by a certified mine foreman and/or mine examiner and recorded in weekly ventilation examination book;

8.12.4. Ensure that weekly safety meetings review the current location of applicable emergency shelters/chambers and results of the latest inspection;

8.12.5. Ensure that all opening to emergency shelters/chambers shall be equipped with easily removable tamper-proof tags such that a visual indication of unauthorized access to the emergency shelter/chamber can be detected; and

8.12.6. Ensure that the mine's communication center shall monitor any communication systems associated with the emergency shelter/chamber at all times that the mine is occupied.

8.13. If the Director, in his sole discretion, determines that an operator has failed to provide an emergency shelter/chamber plan or progress report, has provided an

inadequate emergency shelter/chamber plan or progress report, has failed to comply with its approved emergency shelter/chamber plan or compliance schedule, or has failed to provide a copy of any contract, purchase order or other proof of purchase required under this section, in an effort to delay, avoid or circumvent compliance with W. Va. Code Chapter 22A Article 2-55 or these rules, the Director shall issue a cessation order to the operator for the affected mine.

8.14. If there are no emergency shelters/chambers approved by May 29, 2007, operators shall install in lieu of an emergency shelter/chamber, within one thousand (1,000) feet of the nearest working face in each working section, storage caches of SCSRs sufficient to provide each miner reasonably expected to be at the working section with no less than sixteen (16) additional SCSRs rated by MSHA each for a duration of sixty (60) minutes or greater, or an equivalent amount of breathable air and barricading materials described at W. Va. Code Chapter 22A Article 2-58(n).

8.15. The Director may require modifications to an emergency shelter/chamber approval or an emergency shelter/chamber plan at any time following the investigation of a fatal accident or serious injury, as defined by W. Va. CSR Title 36 Series 19-3.2, if such modifications are warranted by the findings of the investigation.

8.16. As provided in W. Va. Code Title 22A Articles 2-55(f)(3), 2-55(g)(2), and 2-55(h)(2) any person that, without the authorization of the operator or the Director, knowingly removes or attempts to remove emergency shelter/chamber or its contents approved by the Director from the mine or mine site with the intent to permanently deprive the operator of the device or knowingly tampers with or attempts to tamper with such a device shall be deemed guilty of a felony and, upon conviction thereof, shall be imprisoned in a state correctional facility for not less than one year nor more than ten years or fined not less than ten thousand dollars nor more than one hundred thousand dollars, or both.

# Emergency Shelter Plan

March 14, 2007

The Emergency Shelter Plan submittal to OMHS&T regional offices by 4 pm April 15, 2007 shall consist of three binders (Avery 3-ring binder Heavy-Duty EZD® or equivalent) with eight dividers (Avery Ready-Index® or equivalent). All maps or other oversize sheets shall be folded in such a manner that they fit into sheet protectors located in the appropriate tab.

The tabs shall be organized in the following manner:

## **Tab 1 – Entrapment Contact Information**

Included behind this tab will contact information for all persons that would be involved in an entrapment event in which a shelter might be used. This shall include at least:

Mine name and address

Mine Superintendent: name, day time and emergency number, email address

Safety Director: name, day time and emergency number, email address

Safety Committee Chairman (if applicable): name, day time and emergency number, email address

Mine Rescue Team(s): name, day time and emergency number, email address

Emergency Surveyor: name, day time and emergency number, email address

Emergency Drilling: name, day time and emergency number, email address

Shelter Manufacturer: name, day time and emergency number, email address

OMS&T Regional Inspector at Large: name, day time and emergency number, email address

MSHA District Manager: name, day time and emergency number, email address

Any other person or organization that reasonably would be expected to be contacted an entrapment event

## **Tab 2 – Mine Description**

Included behind this tab shall be information providing anyone reading the document with information necessary for them to have a fundamental understanding of the mine and its operation. This shall include at least:

Location of the mine and driving directions from the appropriate Regional OMHS&T office

Short history of the mine including ownership

Description of the geology overlying the mine and the mining technique

Most recent mine map indicating the proposed location of the shelter(s), SCSR caches, mine phones, fire fighting equipment, and any other emergency equipment

### **Tab 3 – Emergency Response Plans**

Included behind this tab will be information such that it provides anyone reading this document with an understanding of the mines emergency response plans and how the emergency shelters have been integrated into those plans. This shall include at least:

A description of the likely scenarios in which the shelters might be used and how those scenarios affected the plan

Copies of mines emergency plans modified to include the role of shelters should be placed in this tab

Scheduled and conditions for submitting updates to OMHS&T and others

The plan shall describe under what conditions the operator anticipates submitting modifications to elements of the plan and the rationale for determining this approach

### **Tab 4 – Shelter Operations**

The information behind this tab shall describe the shelter(s) selected and an understanding of shelter operations. This shall include at least:

State the criteria to be used in selecting the specific location of the crosscut into which the shelter will be placed and the rationale for those criteria

Operating instructions for the shelter and its contents

Schedule, procedures, and manufacturer's checklists for each inspection and location of inspection records

Attached must be the manufacturer's checklists for each type of inspection, routine, relocation, annual, etc.

Examples of the tamper indicating tags to be placed on all shelter openings and a copy of the signage to be affixed at each shelter opening indicating that tampering with the unit is a felony

Description of communication system that is will be used in the shelter and provisions have been made to rapidly reestablish communication if lost in the accident.

The plan shall describe how advances in technology will be incorporated in the plan as they become available

### **Tab 5 – Emergency Surveying & Drilling**

The information behind this tab shall provide the reader with an understanding of how the corresponding surface location to the shelter will be found in an emergency and the provisions in place to drill to that shelter. This shall include at least:

Description of the procedure to be used for determining the surveyed location of the shelter each time it is moved and how escapeway maps will be updated

Description of the procedure for contacting emergency survey and drill teams

Description of the procedure for determining the corresponding shelter location on the surface in the case of an emergency (include map showing location of survey monuments and describe the procedure for ensuring the monuments are maintained)

### **Tab 6 – Training**

The information behind this tab shall provide sufficient information for the reader to understand intended shelter training. This shall include at least:

|Description of initial and refresher training for miners and responders

“The first element of all training is that escape is the primary response to accident”

The training described shall include both lecture and experiential lessons with some form of demonstration of mastery of the information.

Copies of all training materials included here

Training schedule

Description of the method for documenting training along where those records will be kept

Describe the procedure for ensuring that each shift is briefed on the current location and status of shelters along with measures to ensure that is done

### **Tab 7 – Proof of order and compliance dates**



This section will contain all correspondence that confirms the order and status of the shelter delivery and maintenance along with related products and services. This shall include at least:

A schedule for delivery and installation of shelters

At the time of submittal or when approved the operator, a copy of their purchase order for any necessary items or services required to implement the shelter plan. This includes not only the shelter themselves but any maintenance or emergency response services identified.

At a minimum there will be purchase order documentation for the shelters, for routine and emergency survey services and for emergency well drilling. If the operator is doing these things in-house then proof of qualified staff and available equipment is required.

### **Tab 8 – Transmittals**

Included behind this tab will be copies of the transmittal correspondence with the OMHS&T and a copy of all approvals.