

## Frequently Asked Questions and Answers as updated September 22, 2007



West Virginia Office of Miners Health Safety and Training  
Communications and Tracking Requirement



Additional Questions and Refined Answers Will be Posted Periodically  
Submit additional question or comments to: [randall.j.harris@version.net](mailto:randall.j.harris@version.net)

1	Are non-coal underground mines covered under §56-4's communication and tracking requirements?	No. Review of the legislative rule indicated that the preamble only discusses underground coal mines.
2	Do I need to select a specific manufacturer in the initial plan submittal?	No. You will need to narrow it down to a few and have thought through how you will install and operate your system. After the plan is approved you submit copies of executed purchase orders from any vendors needed to complete your installation.
3	What happens if I decide to switch manufacturers after I have submitted my purchase order?	If an operator decides to change vendors from those for which purchase orders were submitted, the new purchase orders should be sent to the OMHS&T regional office. However, the change must not extend the operational date that were originally accept by OMHS&T.
4	What happens if the manufacturer I select is unable to get their MSHA electrical approval?	All approved manufacturers have submitted letters to MSHA allowing them to discuss approval status with OMHS&T. If there is determination made that any approved manufacturer will be unable to meet the MSHA safety requirements, we will contact all operators with whom they had purchase orders and request they submit a modified plan utilizing other approved manufacturers.
5	Survivability - what is the minimum requirement?	<p>The minimum survivability requirement is that each operator must identify areas within their mine where an accident could cutoff communications to those inby and provides an adequate level of hardening or redundancy to minimize such damage.</p> <p>Plans should include a discussion of mine specific relevant situations that might result in the loss of elements of the integrated communication and tracking infrastructure referring to specific locations on an included mine map. For each unique situation the plans should describe what steps are proposed to ensure survivability and/or provide for a redundant or alternative means of maintaining the communication and tracking capability. Situations of concern include but should not be limited to:</p>

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		<ul style="list-style-type: none"> <li>○ Potential fire source areas <ul style="list-style-type: none"> <li>▪ Electrical equipment</li> <li>▪ Belts</li> <li>▪ Underground shops</li> </ul> </li> <li>○ Potential areas of explosive force pathways <ul style="list-style-type: none"> <li>▪ Intersections of sealed areas</li> <li>▪ Intersections of completed sections</li> </ul> </li> <li>○ Potential ground control failure areas <ul style="list-style-type: none"> <li>▪ Areas with potential roof problems</li> <li>▪ Areas with potential rib problems</li> </ul> </li> <li>○ Potential areas for impacts by mining equipment <ul style="list-style-type: none"> <li>▪ Travel ways</li> <li>▪ Charging stations</li> </ul> </li> </ul>
6	Where is it necessary to harden or provide redundancy to increase survivability?	These areas include but are not limited to places where the communication or tracking infrastructure extends past seals, through major intersections, in an entry with possible sources of fire (motors, power centers, etc) and sections that are substantially removed from the mains.
7	What backup power supply capacity is required on communication and tracking equipment?	Communication and tracking infrastructure should have sufficient backup power and power management techniques to remain operational after the main power has been removed for a period equal to that provided for survival in any shelters or barricades.
8	Will Communication-Tracking Systems approved by WV be deemed acceptable by MSHA for compliance	<p>MSHA is not required under the 2006 MINER Act to make a determination until June 2009. It is not currently known how MSHA will enforce the MINER Act requirements for two-way wireless communications and electronic tracking.</p> <p>NIOSH was given the task of evaluating options and making recommendations to MSHA. Although, NIOSH</p>

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	with the MINER Act?	<p>is evaluating technology solutions other than those currently approved by WV, none of them are incompatible with those approved.</p> <p>It is the belief of OMHS&amp;T that the area with the highest chance of variance from current WV rules would be potential MSHA performance requirements that might necessitate increased redundancy or hardening. Therefore, it is in the best interest of operators to have identified areas of greatest risk and take measures to increase survivability.</p>
9	Must miners who are isolated by a loss of communications infrastructure be able to communicate between themselves?	The operator is required to provide the ability to maintain communication between miners that might be trapped in by any event that cuts power and communication to the outside. It is critical that those in by be provided the tools to coordinate their escape.
10	Is text messaging acceptable as a two-way communications technology?	WV rules do not preclude the use of text as the form of communications to meet emergency communication requirements.
11	What does wireless mean?	“Wireless” as defined at §56-4-3.10 as allowing individual communications by a miner through a mine communications and tracking/location system without a physical connection.
12	To what precision do we need to track miners?	At §56-4-3.12 it is defined as knowing the position of a miner in relation to a tracking device at a known location to enhance escape and/or rescue. We have asked that your plans allow knowing the location of miners and direction of travel at key points in the escapeways, at a minimum at junctions (section, section-submain/mains intersections), so that all options of travel are covered. There is also provision for use of manual check in and out for areas seldom traveled.
13	Will survivability be mine specific?	Yes, Since the design of each mine is unique and operating procedures vary from company to company it is important that each operator do a critical review of their mine, identifying those areas where the

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		<p>communication and tracking system will be at greatest risk of destruction.</p> <p>One of the main purposes of the plan is to demonstrate adequate hardening or redundant communication pathways around identified areas of the greatest risk to increase the chances that systems will function for miners inby in an emergency.</p>
14	What is meant by “operational” regarding the date to be submitted with the purchase orders?	“Operational” means that all equipment has been installed and tested and that initial training has been completed.
15	What are the options if a chosen manufacturer encounters delays from their suppliers that jeopardize quoted operational dates?	Manufacturers have been required to contact OMHS&T as soon as they recognize circumstances that may affect their delivery commitments. When that occurs OMHS&T will work with them and their suppliers to resolve the problem. However, if they can not be resolved in a manner that ensure committed operational dates OMHS&T will contact those mines affected and request they modify their plan with another product.
16	Are training materials available from the manufacturers?	Each manufacturer as part of their application process presented training materials for their products. However, a mine will likely incorporate multiple products and systems along with some procedural solutions, therefore, the complete training for each mine will be unique.
17	Must each miner have a radio and tracking device?	Yes. This has been a component of the law since it was passed in January 2006 and has consistently been included in as rules evolved through the final legislative rules in 2007.
18	How do miners talk with an SCSR on?	NIOSH did a study of voice communication while wearing and SCSR that is on our web page. It concluded that you could communicate over a radio with an SCSR on but that you needed to talk slowly due to the distortion of the mouthpiece. Manufacturers have several types of throat or bone microphones from which to choose.
19	Under what conditions	When the communications and or tracking systems fails to function as approved it will be treated under

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	will enforcement action be taken when a communication or tracking system fails in an active mine?	precedence set under §22A-2-42(b)(4) “In the event of any failure in the system that results in loss of communication, <u>repairs shall be started immediately, and the system restored to operating condition as soon as possible</u> ” and as with §36-5(2.3)(3) “ <u>If after a reasonable time the failed system is not restored to an operating condition, all persons shall be removed from the working section … a reasonable time shall be defined as such time as is required to promptly examine, after discovery of the loss of communication, the section communications line to the section branch line, and if the cause of the failure is determined during this examination, to immediately correct the same.</u> ”
20	Can we only chose those products that have completed both the MSHA electrical approval and the functionality approval product?	The fully approved designation used on many of the OMHS&T presentations on the web site indicates that a product had on the date of that presentation completed the MSHA safety approval process in addition to its WV functionality process. In order for acceptance in a WV communication and tracking plan a product must have completed its WV process and have either completed or will have completed its MSHA approval process prior to installation as part of an approved plan.
21	What do we do when we are contacted by a communication and tracking company that is not listed as approved or undergoing approval?	Only those companies whose functionality in meeting WV §56-4 requirements has been validated by the Director will be considered appropriate for meeting a mine’s communication and tracking requirements. If you are interested in a company that is not working with OMHS&T advise them to contact us immediately.
22	Have any communications and tracking systems been demonstrated in low coal seams (32 inches or less)?	Leaky feeder systems have been deployed in low coal mines for several years. Installations in low coal require care in their design. Signals at all frequencies do not propagate as readily as they do in high coal. This may mean installation of infrastructure in more areas and with greater frequency than a mine of higher seams. The results of functionality in various seam heights can be found on the OMHS&T web site and will be updated as new data is received.
23	What are examples of redundancy and	Steps should be taken to minimize disruptions in any area that the operator believes to be susceptible to an event that would affect operation of or render the communication/ tracking system inoperable.. These actions

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	hardening?	could be routing the system around such areas, burying or placing any communication infrastructure in steel pipe secured to ribs, or providing a means to automatically or manually reroute the areas inby to the communication center through alternative communication pathways.
24	Does a system that does not allow for communication between miners inby a break in the backbone to the outside meet the requirements for two-way communications?	No. The rule requires that in an emergency, miners have two-way communication between each other.
25	What role does the mine phone system play in maintaining survivable communication?	Mine phones can be an integral part of an integrated communication system and their requirement under various provisions of WV and federal rules have not been altered. While mine phones do not meet the definition of wireless they provide a redundancy to those systems that are wireless. However, the routing of cables, placement of phones, and means used to harden the system must be carefully planned. Several companies are working on wireless devices to phone line units that would allow use of wireless communication devices to communicate over the phone system. As these come to market they will provide even greater redundancy options for a properly installed phone system.
26	What do I do with dispatchers that are not black hats?	The role of monitoring communication and tracking is defined as a communication center operator. The minimum requirements for a new communication center operator are those of a certified miner. There was an option to allow an individual that held the position prior to May 25, 2006 to complete the classroom portion of the training by December 31, 2006 and become an apprentice miner.
27	Do I need to have coverage in a tunnel mine that is only traveled by belt men?	The rules allow for use of check-in check-out procedures for seldom traveled areas of a mine. An operator can propose such a solution for a tunnel mine. In the review process OMHS&T will review the rationale for the proposal and the procedures developed for monitoring by the communication center operator. The determination will be made based upon the appropriateness of safety provided.

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28	How detailed should the documentation regarding maintenance be?	<p>All of the approved communications and tracking systems will work if properly installed and maintained. All of these systems also require specialized knowledge and skills to properly design, install and maintain. It is important that not only those approving the plans understand the qualification of those selected to do these tasks but even more so to the miners whose survival in an emergency may depend on the quality of work they did.</p> <p>A plan should include sufficient information on those involved to demonstrate to reviewers their professional qualifications.</p>
29	Can a company with more than one mine have a common communication center?	The rules did not preclude this option, however, evaluation of such an application will require additional information to understand the added technology risks that would be added along with all administrative controls that the company would have to develop.
30	Can a phone be part of the communication to shelters?	Yes. Providing a hardwired phone in a shelter could be part of the means of providing communication to those that might be forced to retreat there in an emergency. Consideration should be given to survivability of the connection through hardening and redundancy of cables.
31	Do MSHA regulations allow communication and tracking devices to be activated after a ventilation failure?	<p>There is much misunderstanding about this. Title 30 Code of Federal Regulations (30 CFR) Section 75.313 stipulates which equipment must be de-energized under a fan stoppage. It currently exempts only intrinsically safe atmospheric monitoring systems.</p> <p>However, the approval part under which MSHA approves communications and tracking equipment (30 CFR Part 23) requires back-up power to allow the system to remain operational after a power stoppage.</p> <p>The MSHA regulations are not in harmony but it is our belief, and we believe it is MSHA's position that the communications and tracking systems approved under Part 23 will be allowed to remain operational under back-up power. After all, that's what the MINER Act requires.</p>