

# MINE RESCUE RULES TRAINING

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April 5, 2017

National Mine Health and Safety Academy

Beckley, WV

# Rules Committee

- The committee discussed whether any new rules needed to be added. For this year, there are no “new” rules.
- The committee also determined that the Q and A from last year will remain in effect for this year’s contests. “If” we get any new questions this year, they will be added to the Q and A link on [MSHA.gov](http://MSHA.gov).
- The statement of facts are the same as last year.

# Rules Committee

- The committee also discussed what rules that were changed or removed last year due to the possibility of adding a skills day to the contest should be changed back or added back in.
- For this year, it was determined the only one we would address would be the way the combination team winner would be determined.

# Combination Team Scoring

Rule 6 – General Information – For a combination team, the three working first aid team members will be chosen from the registered mine rescue team members.

The final ranking of combination teams will be determined from a composite of **both days mine rescue scores** ~~the mine rescue~~ and the first aid team's ~~ss'~~ scores. In the event a team enters more than one first aid team, the first aid team's lowest score will be used to determine the final ranking. In the event of ties in the Combination Contest, the final Mine Rescue ranking will be the tie breaker.

# Problem Design

- If ventilation controls are not to be used, teams must be informed of that in written instructions or statement (controls staked down, barricades built with frame, etc.).
- Can't build or hold line curtain to corner of intersection that is designated as unsafe roof or rib.
- Place gas placards adjacent to and touching placards for conditions if the gas is intended to go into the condition.
- Clearly state how entries and crosscuts are laid out if team enters mine from different approach.

# FAB Procedures – Rule 1

- BO and CC Attendant should be taken straight to the command center when the team reaches the field
- SD card and computer should be provided to BO/CC Attendant upon entrance to the command center
- We are looking at weather-proof structures for command center for the national contest

# Interpretation of A Cards – Rule 5

- L. The following changes need to be noted on the team map to indicate the conditions left in the mine and the fresh-air base: .....; roof supports installed; and in the areas reentered by team, smoke cleared, gases removed, and permanent changes in direction of ventilation. Any terminology which describes these changes is acceptable.
- E. The team may place any additional information on the mine map concerning objects/conditions found in the mine if it does not adversely affect the legibility of the items/conditions required to be mapped.



# Interpretation of A Cards – Rule 5

- If the team reenters an area where ventilation has changed, the team must mark such changes on the map. If the team does not reenter the area, but wants to add additional information, the team can do so. It could be the first of multiple ventilations, and the team may need to mark the information on the map so it doesn't get confused later.
- This applies to Rule 6 as well.



# Legend

- The symbols for caved and unsafe roof was discussed. The legend shows a double row of Xs for a caved, and a double row of a dashed-solid line combination for the unsafe roof. The concern was what needed to be drawn if only one side of the caved or unsafe roof could be reached – one row or the double row?
- If the team only gets to one side, only one row should be mapped.

# Rules Governing 2017 Contests

- Rule 1 – In the event of an emergency, the Contest Director may exempt a team from the seven person minimum, and allow only the replacement of a patient.
- At the national contest, we will consider an emergency as something that occurs after the team has registered on site. We expect a team to bring a patient with them to the contest. If something happens at the contest and the team is then without a patient, the contest directors will provide a patient. At the national contest, we plan to use someone that is trained as a mine rescue team member (our MEU team). Local contests may have similar requirements.

# Interpretations of B Card – Rule 7

- Failure to make proper apparatus examination during any required apparatus check, each infraction
- A proper apparatus examination will include a visual examination of the gauge, facepiece, hoses, and determine by sight or feel, that the protective cover is secure. If the gauge has a protective holder, the gauge must be put back into the holder after viewing.

# Interpretations of B Card – Rule 12

- Failure to conduct a complete initial assessment of each patient.
- When assessing a conscious live person, a team member must physically contact the patient and **verbalize** the following assessments.
  - 1. Ask if he/she is okay; asking person if he/she is “alright” will suffice.
  - 2. Looking for life threatening injuries.
- When assessing an unconscious live person, a team member must physically contact patient and **verbalize** the following assessments.
  - 1. Ask patient if he/she is okay; asking if he/she is “alright”
  - 2. Look for absence of breathing or gasping.
  - 3. Check for presence of a carotid pulse (5-10 seconds).
  - 4. Looking for life threatening injuries.

# Interpretations of B Card – Rule 18

- Failure to give proper notification with lifeline or communication system of team's intentions
- Must be in constant communication – System must work, or must be repaired per the rules
- Improper signals would apply only to signals transmitted between the No. 5 team member and the command center or lifeline judge. If an improper signal is corrected prior to team moving, the team shall not be discounted. To correct an improper signal, the No. 5 team member gives a "Stop" signal prior to moving, then gives corrected signal and receives the reply from the command center or lifeline judge.
- When using wireless communication/link line, if the captain is leading, the team is “advancing”; if the tail captain is leading, the team is “retreating”

# Interpretations of B Card – Rule 19

- The team must notify the command center and obtain permission before ventilation changes are made or power circuit's energized
- At the team's request and direction, the command center will be responsible for starting, stopping, or reversing fans, and for energizing and de-energizing power circuits.
- Contest Officials will designate whether work done in the fresh air base will be conducted by the competing team or by back-up teams. If backup team is utilized, they will be limited to making ventilation changes in the fresh air base if the working team captain has performed a roof and rib test for that ventilation structure.

# Interpretations of B Card – Rule 22

- In smoke, each team member not having hold of lifeline/link line, or not being firmly attached to his/her person, each infraction

Where:

- A. No. 5 man does not travel into smoke. Captain and other team members may travel into smoke. All members must hold or be firmly attached to lifeline and/or link line. Captain's travel limited by rules covering exploration (e.g. 25' limit.)
- This had been interpreted to mean that no team member could travel into smoke if the No. 5 man was moving and the team was only on the link line (not tied off with lifeline).

# Rule 22 – Team in Smoke

- Interpretation this year will be that, as long as the No. 5 man does not get in smoke, any of the other team members may be in smoke, even if the No. 5 man (and team) is advancing or retreating. All team members must be on the lifeline/link line in this scenario.



# Interpretations of B Card – Rule 23

- Failure of captain to test the roof, faces, and/or ribs by the sound and vibration method, each infraction (maximum – 4 points at any one location except fires. An improper roof test is a maximum of 2 - each infraction).
- Improper test – Straight line when zigzag was required or vice versa, OR not testing either the roof, face, or ribs

# Rule 23 – Roof and Face Tests cont'd

- In an intersection, placards on imaginary rib lines will be considered as being discovered when the captain enters the intersection. In these cases, the sound and vibration method must be made by the captain prior to the team leaving the area. Team members may be in the intersection prior to the test being made.
- As it says, tests for unsafe roof on imaginary rib lines do not have to be made when the captain enters the intersection, but must be made before the team advances or retreats from the intersection

# Rule 23 – Roof and Face Tests cont'd

- Prior to extinguishing a fire, roof and rib tests shall be made from rib to rib.
- Gas tests do **NOT** have to be made prior to extinguishing a fire, but must be made before the team advances or retreats from that team stop.

# Rule 24 E – Extent of Smoke and Gases

- When smoke is encountered, it will be considered to extend to a placard stating the “end of smoke” or a separation intended or indicated to be airtight.
- If methane, carbon monoxide, or oxygen deficiency is found in an opening containing a separation intended or indicated to be airtight, the gas will be considered to extend to the airtight separation or to a gas placard indicating a change in the gas constituents. If methane carbon monoxide, or oxygen deficiency is encountered in other locations, it will be considered to extend to a gas placard indicating a change in the gas constituents or the next normal/required area to be tested for that gas, depending on direction of team travel, at which time the continuance or discontinuance of the gas will be determined by gas placard or by results of the tests..

# Rule 24 E – Extent of Smoke and Gases

- See Figure 4

# Rule 25 – Improper Testing

- METHANE - Detector shall be held at eye level or higher
- CARBON MONOXIDE - Detector shall be held at chest (between neck and waist) level
- OXYGEN DEFICIENCY - Detector shall be held below the waist level
- The team member shall *verbally* identify each test.
- Using multi-gas detectors that continuously monitors all three gases does NOT require a distinct stop at each location.

# Dates and Initials – Rule 27

- This rule requires captain to mark legibly the date and his/her initials at required locations/conditions. Since this year's national contest will be outdoors, it will be hard to mark legibly on grass. The national contest will require dates and initials to be written by the captain on an index card and placed at the required location/condition.
- Index cards will be provided by the contest officials, and cannot be pre-dated.
- Chalk will be provided at the check board so **Rule 26** can be complied with.

# Rule 29 – Initial Exploration

- Before advancing into an unexplored intersection, teams will be required to explore all accessible areas at each team stop up to the imaginary line of the next intersection or to an object/condition that prohibits further travel in that direction. **This includes initial exploration into all entries from the fresh air base/surface.**
- Added to ensure proper and systematic exploration. Teams can't circumvent problem design by only exploring certain distances. Problem designers can control desired ventilations easier.
- See FIGURE 5



# Endangering Team – Rule 30D

- Not immediately retreating to the fresh-air base when the manufacturer's warning device of the apparatus is activated.
- There have been discussions as to whether the low-battery warning should be excluded from this rule. For this year, it will not be excluded. At this time, the committee could not guarantee consistency in the way affected teams would be judged. This issue will be revisited next year, a non-national contest year.
- Teams should check and/or change the batteries before contests.

# Rule 31 B – Withdrawal Situations

- Continuing exploration after conditions are found to indicate an imminent explosion is possible by the presence of an explosive mixture and evidence of fire (visual acknowledgment of a fire, smoke or carbon monoxide above 10 ppm), or continuing exploration when energized electrical equipment, energized circuits (including all batteries except cap light batteries) or energized cables are found in an explosive mixture.
- A team must continue to explore if it knows there is a continuous non-explosive separation between the explosive mixture and the evidence of fire or energized cables. (See Drawings – page 6)

# Rule 32 – Locating Missing Persons

- If roof support is provided, bodies located under unsafe roof must be examined before the clock is stopped and after all missing persons have been accounted for.
- Live or missing persons take precedence over bodies. If a team has the timbers necessary to explore to find or rescue missing or live persons, the team would be discounted (all missing persons and objects that should have been mapped and written instructions as applicable) if it used the timbers to examine a body under unsafe roof and didn't have enough timbers to finish the problem

# Systematic Exploration – Rule 44A

- This should be assessed for not exploring all areas of mine that can be explored without endangering team if problem requires entire mine to be explored or leaving accessible areas unexplored outby where team is working and for passing accessible openings.

# Systematic Exploration – Rule 44B

- If the team encounters contaminants in multiple entries, the team has the option of which entry to examine first. As the team advances into a contaminated entry and subsequently encounters a placard(s) indicating that all contaminants are cleared prior to reaching an intersection, the team must ~~stop (prior to the captain passing the placard(s)) and~~ make further advances in the other contaminated or adjacent entry.
- The change to Rule 29 last year caused Rule 44C to be changed. Upon review, Rule 44B also should be changed for the same reason, we expect the team to explore all possible areas as defined in Rule 29 from each team stop.

# Systematic Exploration – Rule 44B

- Teams can now continue past a placard indicating clear air or end of contaminant to the extents required by Rule 29 for the next team stop.
- Teams will still need to comply with Rule 41 – Prompt Removal of Patient(s), but there should be no contradiction with Rule 29.

# Systematic Exploration – Rule 44F

- Inaccessible areas need not be explored unless the team has explored all accessible areas and there are unaccounted for persons or an explosive mixture to be moved through the inaccessible (unexplored) areas.
- If problem designers want these areas explored after all persons are accounted for, the written problem must give a clear reason for doing so
- Examples – Map all areas of mine, locate all explosive or irrespirable atmospheres, leave for bare-face exploration

# Intent of Problem– Rule 48E

- Team members holding up brattice cloth in an attempt to clear a contaminant shall be discounted under this rule and the contaminant shall not be cleared. Line Curtain is the designated curtain provided for teams to hold up in order to remove contaminants from an airtight separation to a **corner** of the nearest intersection.
- This prohibits teams from holding line curtain to solid rib



# Written Instructions – Rule 50

- Written problems/instructions should deal with exploration, rescue, recovery and ventilation. If covered under another rule, don't include in written problem/instructions (e.g., spelling, mapping, etc.) When written instructions require a team to explore the entire mine this will apply to accessible areas (Rule 44A) and not inaccessible areas as defined in Rule 44F.
- Written instructions will be defined as anything given to team after the clock is started. Any information in the written statement given to the team before the clock is started is to inform the team of the conditions leading up to the event and known conditions after the event and will not be discounted under this Rule. (Discount under Rule 49 – example – turn over placards before passing)

# General Information

- If a mine rescue problem(s) is utilized to comply with Part 49, the problem(s) must be submitted and certified by the National Contest Director(s).
- We try to catch things that don't comply with the rules. It helps if we get a complete package (maps, team stops, ventilations, keys to working problem, judges instructions, written instructions, superintendent statement, etc.)

# Miscellaneous – Rule 3

- Solid lines on a map denote actual and accurately measured workings. A solid line means there will be no openings from above, below or on the same plane that are not shown on the map.
- If there are cut-throughs in the mine, they must be shown on the maps given to the teams. If not shown, teams will not know that air can be pulled out of or sent into unknown workings.

# Rule 7 – A Cards

- Each team may have a command center attendant.....
- If the Briefing Officer's map is used for scoring purposes and there is a discount on the Briefing Officer's map, the Attendant's map will be reviewed. If that discount is correct on the Attendant's map, no discount will be assessed on the Briefing Officer's map. The same removal of discount will apply if the attendants map is scored and the discount is correct on the briefing officers' map.

# B Cards – Rule 11

- Patient should be secured to stretcher by at least two bandages or straps, one around trunk of body and one around legs, covered with blanket from the neck to and including the feet and placed so as not to crimp air hoses. The bandages or straps shall be fastened perpendicular to the patient's body.
- Make sure someone is keeping an eye on the patient when put under oxygen. If the patient is tied down, he may not be able to let anyone know if a malfunction occurs and he can't breathe.



