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| Morenci Safe Production Standard | Standard # 2.5 <i>Supersedes FMMOP-006</i> | |
| | OHSAS 18001:2007 | 4.4.6 |
| | Revision # | 04 |
| | Revision Date | 06/24/2013 |
| | Effective Date | 08/2011 |
| | Document Owner | Health and Safety |
| Approvals: | | |
| <i>Senior VP Morenci Operations:</i> | <i>General Managers:</i> | |

1.0 PURPOSE:

The purpose of this standard is to provide guidelines for protecting personnel by controlling access into hazardous areas through the construction and installation of barricades and/or flagging. Flagging is used as a warning to indicate that a hazard, potential hazard as a result of work duties or unsafe condition exists. Barricading is used to physically prevent access to significant hazards and must be installed when falls or other serious hazards exist. Flagging alone is not sufficient where there is the potential for falls or other significant hazards, in these cases barricading must installed in addition to flagging.

2.0 SCOPE:

This standard addresses the minimum requirements for occupational health and safety related aspects for flagging and barricading. This standard applies to the use of flagging and barricading as a control for hazards produced by or inherent to Morenci operations. For protection procedures associated with “open holes” or fall of person hazards refer to **Morenci Safe Production Standard 2.9 - Open Hole Policy**. This standard applies to employees and other individuals (including temporary employees and contractor personnel), company’s visitors, or any other person(s) who work and/or are present on Morenci Operations property.

3.0 TERMS, DEFINITIONS AND ABBREVIATIONS

3.1. Barricade – a self-supporting structure consisting of vertical and/or horizontal components used to create an exclusion zone and prevent the entry of persons, vehicles or mobile equipment to a high risk work area. It is usually erected as a temporary measure and when associated with a fall of person concern within or near safe work platforms must be designed and installed in accordance with open hole guidelines and applicable MSHA regulations.

3.2 Flagging - a demarcation system used to warn persons of hazards and to delineate the boundaries of the hazardous area(s).

3.3 Demarcate – the process of identifying and/or delineating areas within the workplace through the use of warning systems, signage, labels or through other effective means.

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3.4 Open Hole – Modification (intentional as a result of work duties or unintentional as a result of damage) of a safe work platform in manner that creates a fall of person and/or fall of material hazard. Please refer to **Morenci Safe Production Standard 2.9 - Open Hole Policy** for a more comprehensive definition.

3.5 Significant Hazard – a hazard that could be reasonably expected to result in serious injuries or death under normal continued mining operation.

4.0 RESPONSIBILITIES:

4.1 Area Manager:

- Ensure compliance with this standard.
- Ensure that all open holes in their area of control, are properly identified and protected.
- Ensure that all employees and contractors under their responsibility are properly trained on this policy.
- Provide resources to implement and maintain this policy.

4.2 Health and Safety Manager:

- Establish, implement and enforce compliance with this policy.
- Coordinate with operational, maintenance and administrative areas to ensure all employees have received training regarding this standard according to requirements.

4.3 Supervisor and/or person responsible for the work:

- Comply and ensure all employees and contractors in their area of responsibility comply with this work standard.
- Provide employees the necessary resources to effectively implement this standard. Monitor the behavior of all employees that perform the work, with compliance to this standard.
- Check work area safety after mitigation/correction activities, verifying that fall prevention devices are in good condition and properly installed. After the completion of all work activities verify that the safe work platform has been restored to meet all applicable regulatory requirements.

4.4 Responsibilities of worker/contractors:

- Understand, comply and enforce the requirements of this standard.
- Stop work and assist with the control of known or suspected hazards
- Ensure that control measures identified as necessary to control exposure are implemented

4.5 Contractor Companies

- Comply with the standards described in this document in all work areas. Contractors should provide their employees all required materials and resources for compliance.

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5.0 STANDARDS OF PERFORMANCE

5.1 Tagging

Employees identifying an area needing flagging or barricading must advise the area supervisor or designee of the need. Once the flagging/barricading is in place, the responsible employee will then tag it. Enough tags will be placed on the flagging/barricading so they can be seen from all access points.

The following information shall be printed on the tag(s):

1. The employee's name and employee identification number.
2. The name of the employee's supervisor.
3. The employee's department, or company if a contractor.
4. The hazard or condition to be flagged and barricaded.
5. The time and date the flagging/barricading was erected.

5.2 Barricading

Barricading shall be used to keep persons out of an area where a significant hazard exists. The barricade shall be tagged to describe the nature of the hazard. Floor openings shall be covered with appropriate material or otherwise barricaded in such a way that impedes travel into the area in accordance with **Morenci Safe Production Standard 2.9 - Open Hole Policy**.

Note: Work requiring a barricade shall not commence until the requirements of this standard have been satisfied.

- 5.2.1 **Type 1 – Fall Prevention Barricade**, must be capable of withstanding 200 pounds of horizontal force from within 2 inches above/below the top rail, be erecting at a height of 42 inches, and equipped with a mid-rail. A toeboard shall also be installed if a fall of material hazard exists that is not effectively controlled by other means.
- 5.2.2 **Type 2 - Solid Barricade**, constructed free-standing safety barriers to signify danger. Free standing barricade should be used for defining and protecting entry to hazardous areas (such as trenches and excavations, fall hazards near roadway work and vehicular travel) in conjunction with signage.
 - Barricades for self propelled mobile equipment shall be capable of impeding the travel of the largest piece of equipment that would reasonably be expected to operate within the area. Berms or guardrails when use shall be at least mid-axle height of the largest self-propelled mobile equipment which usually travels within the area.
- 5.2.3 **Type 3 - Semi-Solid Barricade**, constructed of an expanding barrier mesh or net, in Orange or Yellow color, or regular expanded metal fencing or equivalent, with intermediate vertical supports at not more than 9 feet center, or a yellow colored chain secured at either end to the wall or structure, with the appropriate sign secured in the middle of the barricade.

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5.2.4 Type 4 – Other Barricades, Other barricades shall be of the type and design to effectively control access and mitigate the risk of other hazards specific to the configuration, layout and work duties of the area.

5.3 Flagging/Demarcation

Flagging shall be used to warn persons of hazards and to isolate areas. Flagging may be used in conjunction with barricading but shall not be used in place of barricading. Red, Red/White and yellow flagging may only be used as specified below and no other flagging may be used to denote safety hazards. Flagging does not take the place of physical barricades such as handrails and/or grating. Portable handrails and floor guards must be used when a safe work platform has been modified in a manner that constitutes a hazard.

5.3.1 **RED DANGER FLAGGING**

This flagging shall be used to identify areas that contain known hazards with medium or high-energy sources. No one is to enter a RED flagged area except for those individuals responsible for mitigating the **hazard (i.e. correcting, repairing, evaluating, assessing, and/or investigating)** If an immediate hazard is to be mitigated, Red flagging may be used in lieu of Red/White (if the correct flagging is not readily available). The appropriate tags must be filled out to identify an open hole in accordance to the Morenci Safe Production Standard 5.1-Flagging and Barricading policy. **If entry for any other reasons than the above is required all reasonable efforts must be made to contact the employee, direct supervisor or area management representative responsible for installing the protection and the reason for its use. If contact cannot be made a Non-Routine Flagging and Barricading Entry/Removal permit must be completed prior to entering into a red flagged area. All employees entering the area must be effectively protected from the hazard**

Flagging is not an acceptable alternative to barricading or guarding when a fall of person or moving machine part hazard exists.

5.3.2 **YELLOW FLAGGING**

This flagging shall be used to identify areas where potential hazards exist with low energy sources. Employees shall not enter a flagged area unless they have business (work in progress) that cannot be conducted elsewhere. If this is the case, the individuals seeking access will familiarize themselves with the hazards written on the tag. The employee(s) should then proceed with caution once they are aware of the hazards and/or work in progress.

5.3.3 **RED/WHITE FLAGGING**

This flagging should be used to identify areas containing open hole hazards and may be substituted with RED flagging to isolate an immediate danger to personnel if Red/White flagging is not readily available. The appropriate flagging and tagging shall be used in conjunction with barricading when a fall of person hazard exists. Employees shall not enter a flagged area unless they have business (work in progress related to the open hole), have been trained in accordance

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with **Morenci Safe Production Standard 2.9 - Open Hole Policy**, have read and signed the open hole permit and are properly protected from remaining hazards.

5.3.4 **Other Flagging**

Other colors and styles of flagging may be used to identify other, non-safety circumstances (e.g., Environmental flagging, surveyor's flagging).

5.3.5 **Orange Safety/Traffic Cone**

Generally used to define traffic flow and/or hazards on or across walkways, yards or roadways

5.4 Correction of Hazard

A work request to correct the hazard shall be submitted in a timely manner if the hazard is not corrected immediately. Until corrected the hazard shall be effectively controlled to prevent injury or death through the use of energy isolation procedures, open hole procedures or those defined within this policy. **If flagging or barricading is use for periods exceeding one shift a supervisor must evaluate the flagging and barricading protection (Appendix 8.1 Flagging & Barricading Log should be used document corrective actions) Critical thinking should be used to correctly utilize the proper flagging, barricading needed to control the hazards identified.**

5.5 Flagging and Barricade Removal

All flagging/barricades shall be completely removed by the individual(s) or group responsible for the repair when the hazard or unsafe condition is corrected. **If red/red and white flagging is required to be removed by any other person than the individual responsible for the installation, a Non-Routine Flagging and & Barricading Entry/Removal Permit must be completed prior to its removal.**

5.6 Emergency Response

Emergency Response Team members may enter flagged/barricaded areas during an emergency only after ascertaining the hazards, protecting themselves from injury and in accordance with the emergency response training.

6.0 REFERENCE DOCUMENTS

6.1 - 30 CFR Part 56.20011 Barricades and Warning Signs

6.2 – Morenci Safe Production Standard 2.9 - Open Hole Policy

7.0 RECORDS

| Name of the Document | Responsible for Control | Records Retention |
|------------------------------------|-------------------------------|-----------------------------------|
| Original Document of this Standard | Health and Safety | Permanent |
| Task Training Records | Technical Training Department | Duration of employment + 10 years |

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8.0 APPENDICES

None

9.0 REVIEW AND CHANGE

All changes, modifications and/or revisions must be documented on the table below:

| Description of Changes to this Document |
|--|
| <i>Safe Production Standard Format – S. Apodaca 01/16/2012</i> |
| <i>Replaced references to Transversal Policy with references to Morenci Safe Production Standard 2.9 Open Hole Policy Added records table – S. Elias 03/29/2012 Revision 02</i> |
| <i>Corrected dates in “Approvals” section in accordance with actual original records. The Policy was approved in May 2011. Since then there have been no significant changes that would require re-approval. Also changed “Safety Steering Committee” to “General Managers” as the Safety Steering Committee was not established until June 2011 – S. Elias 06/18/2012 Revision 03</i> |
| <i>Modified flagging requirements specific to open holes to provide consistent understanding across the site (B.L. 10/1/2012) Rev. 04</i> |
| <i>Updated record retention requirements – S. Elias Rev. – Rev. 04 not approved and released to field therefore this is part of Rev. 04 - 06242013</i> |