### CORESafety Safety and Health Management

#### My Position

- The importance of safety and health management to achieving 0:50:5.

- The NMA version of Safety and health management is sufficient to achieve 0:50:5.

- The NMA version of safety and health management clearly goes beyond the requirements of MSHA/OSHA.

#### NMA SHMS Module Expectations

#### Our Status

**Fatality Prevention and Risk Management:**

- Maintain effective informal and formal hazard identification procedures, e.g., inspections, worker feedback, task observations, pre-task assessments, etc.

- Develop or adopt a personal & pre-task (PPT) risk assessment tool [Level 1] and require workers who are at-risk in their job duties to utilize the tool before job tasks.

- Develop or adopt systematic job & task (SJT) risk assessment tools [Level 2] for routine and repeatable non-routine work. Develop documentation and train accordingly.

- Apply formal, process & equipment (FPE) risk assessment tools [Level 3] to the mining process, equipment, including development, operations, maintenance and reclamation.

- Define and document the acceptable level of risk through a risk matrix (likelihood & consequences), or adopt the CORESafety generic risk matrix as a minimum guideline.

- Ensure risks are evaluated by the appropriate level of management, consistent with the significance of the risk. Senior management should be included when assessing major risks and variances.

- Document the company’s risk management approach

- Not doing this, but recognize the need

- Not doing this, but working on it

- Doing this, or something equivalent
for all high-risk (low likelihood, high consequence) work activities and ensure consistent application of those protocols.

- Establish a management policy that applies the hierarchy of controls to hazard control opportunities and obligations. The policy should include specific criteria for variances.

- Where PPE is permitted to be used in lieu of more comprehensive controls, wearers should be trained on specific uses, proper usage and protection limitations.

- Verify that controls maintain their effectiveness or are modified should circumstances change over time. Include control verification in safety and health audit criteria.

- Document risk management decisions for tracking and verification purposes, and for future reference.

- Develop and maintain an up-to-date registry of site-specific high risk activities.

- Assess high risk work activities using risk assessment tools including ‘systematic job & task’, ‘process & equipment’ and ‘personal’.

- Develop and/or adopt site-level high risk procedures to maintain risk at as low a level as practicable.

- Verify that all affected employees are educated, trained and competent relative to the high risk procedures.

- Regularly audit high risk procedures to ensure full compliance and effectiveness.

- Ensure internal reporting of all high risk procedure-activity near miss and injury incidents and conduct incident investigation and root cause analysis, as appropriate.

**Action needed:**

**Change Management:**

- Define change requiring management review. Communicate this process to all affected employees, contractors and other stakeholders.

- Develop a change management procedure that defines the ‘who, what, when and how’ for the reviews. Define who is authorized to approve change actions.

- Ensure that the procedure includes provisions to verify that change management actions have been completed...

- Not doing this, but recognize the need
- Not doing this, but working on it
- Doing this, or something equivalent
Engineering and Construction:

- Safety and health management, operations and maintenance expertise are integrated into project planning processes from the inception.

- Where engineering and design codes and standards and/or regulatory compliance are inadequate or absent, management should develop its own with external validation.

- Design and construction for any project with safety and health management considerations should target regulatory as the minimal allowable risk.

- Deviations from standard and accepted design are reviewed and approved by senior management. Variances are documented with adequate justification details.

- The S&H management aspects of construction work conducted on company property should conform to the company’s SHMS standards and expectations.

- Pre-start up safety review should be conducted on all new operations, expansions, processing facilities, major mobile and fixed equipment and control systems.

Action needed:

Safe Work Procedures and Permits:

- Standard operating procedures (SOPs) are developed for routine and repeated non-routine work based on work procedures and outcomes of systematic job and task (SJT) analyses.

Action needed:
• SOPs are used as the basis for on-the-job training and audited against by front line supervisor or managers. Competency verifications are also based on SOPs.

• General and specialized S&H rules should be developed, communicated to all employees and contractors and enforced through a fair and equitable disciplinary policy.

• Risk-specific and/or general work permit program should cover all high risk work (whether routine or non-routine) and include sign-off authority and operational limitations.

• Protocols (more detailed SOPs) should be developed for high-risk tasks that warrant the highest level of control owing to the difficulty in minimizing risk and high consequences.

• Ensure all contractors and vendors are trained on and comply with the work permit and safe work procedure requirements.

Action needed:

Training and Competence:

• Conduct training needs assessment for all jobs. Training programs should define the skill level to be acquired and demonstrated, frequency, and requirements for competency.

• All new or transferred employees, visitor, contractors and vendors receive site-based safety and health orientation before being permitted to work onsite.

• Initial, on-going and periodic refresher training is conducted to ensure job and regulatory requirements.

• Combine discretionary training with regulatory training (MSHA, OSHA) whenever possible, e.g., new employee/miner training with company orientation.

• Where on-the-job training is conducted, the instructor should follow standards for knowledge transfer and adhere to standard operating procedure where they exist.

• Ensure contractors, visitors and vendors receive appropriate training to provide adequate worker protection for both the company and their third-party partners.

☐ Not doing this, but recognize the need
☐ Not doing this, but working on it
☐ Doing this, or something equivalent
Action needed:

**Occupational Health:**

- Conduct representative qualitative and quantitative risk (exposure) assessments to characterize occupational health hazards and associated risks.
- Determine the degree of control necessary to address occupational health hazards and apply the "hierarchy of control" accordingly.
- Ensure exposure assessment results are communicated to affected employees in a timely and understandable way.
- For 'over exposures, determine the need for temporary or permanent health monitoring and conduct using appropriate medical standards.
- Ensure accurate protection of employee medical confidentiality for non-occupational information, e.g., HIPPA.
- Provide a mechanism to assess employee general health risks that are relevant to the occupational setting, e.g., blood pressure, blood sugar, weight, flexibility, strength, etc.
- Provide wellness education for employees including mechanisms that can be pursued to improve general health risk factors both on and off the job.
- Document occupational health management data for compliance, analysis and verification purposes, and for future reference.

**Behavior Optimization:**

- Educate employees regarding the causes of safe and unsafe behavior, e.g., the ABC model, how to control their own behavior and when and how to intervene with co-workers.
- Develop a workplace observation and feedback process. The process should be confidential and voluntary, but collect observation data for analysis.

| Action needed: | ☐ Not doing this, but recognize the need | ☐ Not doing this, but working on it | ☑ Doing this, or something equivalent |
• Apply the ABC model beyond observation and feedback to include an emphasis on general safety and health activators and consequences.
• Ensure adequate focus on the quality of observations and feedback.

Action needed:

**Contractor Management and Purchasing:**

- Ensure all company-sponsored project proposals and/or requests for proposals include safety and health management criteria or requirements.
- Pre-screen all operational and project contractors for acceptable S&H management experience and qualifications.
- Ensure contractors notify the company of the introduction of tools, equipment, materials, chemicals or work processes that could be a risk to contractors and/or company personnel.
- Ensure all contractors and third parties are aware of S&H management requirements and expectations including emergency response plans and reporting obligations.

Action needed:

**Incident Reporting and Investigation:**

- Ensure all personnel are trained and understand the company’s and regulatory authority definition of a recordable/reportable incident and their obligation to comply.
- Investigate all incidents, including near misses, to a level of detail appropriate to their maximum likely outcome. All full investigations should reach root cause.
- Ensure that a sufficient percentage of company personnel, representing all company functions, are trained in effective incident investigation and root cause analysis.
- Develop or adopt a root cause analysis procedure that is integrated with the structure of the SHMS, i.e., root causes should relate to the SHMS, as a minimum.
- Capture the lessons learned and ensure they are communicated to all personnel with a need to know.
• Compile root cause data and forward to management for their review of the SHMS.

Action needed:

**Emergency Management:**

• Develop and maintain written, site-specific emergency response plans. Plans should be based on a critical assessment of potential emergencies scenarios and their impacts.

• Ensure plans are communicated, trained and drilled against at an appropriate interval. All potentially affected personnel should be aware of the role and responsibilities in an emergency.

• Plans should include an assessment and acquisition of adequate foreseeable emergency resources, e.g., warning devices, first aid supplies, rescue equipment, communication aids.

• Plans should be communicated to external stakeholders as appropriate.

• Emergency response drills should be conducted with sufficient frequency and intent to assure confidence in the event of a real emergency.

• Maintain adequate internal/external first responder capabilities in relation to operations’ size, risk and isolation.

Action needed:

**Notes:**

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________