MINING INDUSTRY
OCCUPATIONAL
SAFETY & HEALTH

MINERALS COUNCIL
SOUTH AFRICA

ACTIONABLE STRATEGIES FOR SENIOR MINING EXECUTIVES TO ACHIEVE THE 2024 NOISE MILESTONES

This document has been developed to provide Senior Mining Executives with a clear, actionable strategy designed to support the effective implementation of the new Occupational Health and Safety (OHS) Milestones. It outlines practical steps and approaches that executives can adopt to achieve the designated actions and interventions aligned with these milestones. By following this strategy, leaders will be equipped to drive measurable progress, foster industry-wide alignment, and enhance health and safety performance within their organizations.

The document has also been developed with a thorough consideration of the recently reviewed 2014 Noise Milestones, highlighting significant achievements and identifying key challenges encountered during their implementation.

DOCUMENT OUTLINE

BACKGROUND

The Mine Health and Safety Council (MHSC) was established as a tripartite organization to advise the Minister of Mineral and Petroleum Resources (DMPR) on occupational health and safety (OHS) matters. Every two years, the MHSC convenes OHS summits to assess progress in industry safety initiatives. Through this collaborative platform, tripartite stakeholders have established aspirational OHS targets, known as milestones, to drive industry OHS improvements. The first set of milestones were established in 2003, followed by a revision in 2014.

At the recent summit held in October 2024, stakeholders reviewed the progress made on the 2014 milestones and agreed on new, aspirational targets for 2034, referred to as the 2024 Milestones. These milestones, along with a set of supporting actions and interventions, were formally adopted by tripartite stakeholders and will be monitored by the MHSC to ensure industry-wide alignment and document progress made.

THE FOLLOWING ARE THE NEW AGREED 2024 MILESTONES FOR THE ELIMINATION OF NOISE INDUCED HEARING LOSS, THROUGH QUIETENING OF EQUIPMENT:

By December 2034, the noise emitted by individual pieces of equipment operated by employees and individual process equipment should not exceed a milestone sound pressure level of 104 dB(A).

Using current diagnostic methods, by December 2034, there should be no novice cases of noise induced hearing loss amongst previously unexposed individuals. ("Previously unexposed individual" are those unexposed to occupational noise prior to December 2024 i.e. Equivalent to a new person who entered the industry in January 2025)

NOISE EMISSION MILESTONES STRATEGIC OBJECTIVES

DRIVING THE IDENTIFICATION AND ADOPTION OF LEADING PRACTICES AND RESEARCH OUTCOMES

The MOSH Noise Team will spearhead the identification, documentation, and dissemination of risk-based, high-impact leading practices to address workplace noise. Both local and international best practices will be rigorously evaluated, with a specific focus on mitigating noise from identified Critical Noise Equipment.

To streamline implementation:

Industry Members will leverage tools developed under the **Industry-Wide Buy Quiet and Maintain Initiative (IBMQI)** to systematically prioritize equipment classified as "noisy."

Based on this prioritization, industry members will collaborate to develop leading practices tailored to noise reduction for critical equipment, ensuring scalable adoption across the sector.

Based on the Mine Health and Safety Council Research Project outcomes, the MOSH Noise Team will incorporate these findings into their noise risk management strategies and effectively disseminate them to industry members.

OEM ENGAGEMENT STRATEGY

The mining industry will internalize the established OEM engagement strategy to foster partnerships aimed at reducing noise from equipment. Industry members will use risk analysis findings to identify high-risk equipment operated by employees or process-critical machinery.

Key elements of this strategy include:

- Third-Party Noise Verification Certificates conforming to industry guidance note requirements.
- Research and development (R&D) efforts to retrofit or redesign existing equipment emitting noise levels above the milestone level of 104dBA.
- Implementation of noise reduction initiatives aimed at reducing the source of noise at its origin.
- Maintenance protocols to sustain equipment noise levels below 104dBA.

*All engagements with OEMs will comply with the **Competition Act, 89 of 1998**, ensuring fair and transparent collaboration.*

RESIDUAL NOISE RISK MANAGEMENT

Recognizing that not all equipment will immediately meet noise reduction milestones, the mining industry will adopt a comprehensive approach to managing residual noise risks.

This involves:

Administrative Controls:

Establishing workplans for ongoing noise monitoring and exposure reduction.

Continuous Real-Time Monitoring (CRTM):

Deploying CRTM technology to measure noise exposure in real-time, ensuring critical controls remain effective.

Hearing Protection Monitoring Programs:

Developing and standardizing practices for selecting, training, and proper use of hearing protection devices.

Integration of Risk-Based Workplans:

Aligning noise management efforts with broader occupational health and safety strategies to maintain continuous improvement.

ACOUSTIC ENGINEERING IN WORKPLACE DESIGN AND REDESIGN

Acoustic engineering will serve as a cornerstone in designing or redesigning workplaces to minimize noise risks. The application of **noise prediction technologies** will enable organizations to:

- Assess the impact of newly introduced equipment and processes on the overall noise risk profile.
- Inform decisions on suitable acoustic materials, sound-dampening techniques, and noise absorption solutions.

By combining **noise mapping and noise augmentation** tools, stakeholders will gain actionable insights to develop effective noise control methodologies. This will enable risk owners to adopt targeted strategies, ensuring the workplace is both compliant with noise milestones and conducive to employee health and productivity.

NIHL CASES MILESTONES STRATEGIC OBJECTIVES

Application of Audiometric Leading Indicator Techniques for Early Detection and Diagnosis of Noise-Induced Hearing Loss (NIHL)

IDENTIFICATION OF BEST PRACTICES

Leverage the MOSH Adoption System to identify and adopt leading practices within the industry.

Conduct a thorough review of expert risk models currently available for Noise-Induced Hearing Loss (NIHL) prevention and management.

Where gaps are identified, develop an industry-specific NIHL bowtie to enhance risk assessment and mitigation efforts.

BEST PRACTICE DOCUMENTATION

Compile and document a comprehensive best practice guidance note focused on early detection technologies for NIHL, tailored specifically for the South African Mining Industry (SAMI).

The guidance will include recommendations on available technologies, implementation strategies, and standards for effective early NIHL detection.

DISSEMINATION AND COLLABORATION

Establish regional focus groups or committees to facilitate knowledge sharing and promote collaboration.

These groups will comprise legally appointed medical practitioners, including audiologists, occupational health nurses, and medical doctors, to ensure a multidisciplinary approach to NIHL management.

CONTINUOUS REAL -TIME MONITORING (CRTM)

Deploy CRTM technology during audiometric testing to ensure enhanced quality assurance and data accuracy in real-time.

This approach will help identify anomalies promptly and improve the reliability of audiometric testing results.

Continuous monitoring will also provide actionable insights to improve testing protocols and ensure compliance with industry standards.

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CONCLUDING REMARKS

The new 2024 Occupational Health and Safety (OHS) Milestones reflect a shared commitment by the mining industry, to significantly advance health and safety standards. By establishing these aspirational milestone targets for the elimination of Noise-Induced Hearing Loss (NIHL), the industry has reinforced its dedication to fostering a safer and healthier working environment.

The outlined strategies spanning the adoption of leading practices, OEM engagement, comprehensive risk management, acoustic engineering, and advanced audiometric techniques offer a practical and systematic roadmap for achieving these milestones. By embracing collaboration, leveraging innovative technologies, and integrating robust risk management frameworks, stakeholders can ensure industry-wide alignment and sustained progress.

The successful implementation of these milestones will require unwavering commitment, transparent monitoring, and continuous improvement. Together, the tripartite stakeholders can create a mining industry that prioritizes occupational health and safety, ensuring a legacy of well-being for current and future generations of mine employees.

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