



## **GUIDANCE NOTE FOR NOISE MEASUREMENT OF EQUIPMENT TO ENSURE CONFORMANCE WITH MINE HEALTH AND SAFETY COUNCIL (MHSC) MILESTONES**



Kumba Iron Ore – Sishen

### **GUIDANCE NOTE FOR EQUIPMENT NOISE MEASUREMENT**

# **CASE STUDY**

#### **FULL DESCRIPTION OF THE RISK ADDRESSED**

The main purpose was to improve the noise measurement quality at the operation. To eliminate and control noise at the source by implementing an accepted, practical, and effective industry-wide “buy and maintain quiet” initiative. The guidance note for noise measurement of equipment that details the required noise measurement procedure to ensure the employment of uniform measurement procedures under realistic operating conditions was used. The guideline has been developed for use by persons who have been found competent by the occupational hygienist appointed under section 12.1 of Mine Health and Safety Act (Act 29 of 1996) to conduct noise measurements by virtue of their knowledge, training and experience.

The Sishen Ore’s (Sishen) occupation hygiene department received a significant amount of support from the heads of the department and the chief executive officer on the application of noise measurement guide. This internalisation of the noise measurement formed part of the company’s global Occupational Health and Safety (OHS) and safety benchmark initiative. The company is a firm believer in continuously being a “learning organisation” which includes the adoption of new leading practices that can enhance their overall OHS management and performance.



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#### **OVERVIEW**

##### **Mining company**

Kumba Iron Ore

##### **Commodity**

Iron Ore

##### **Operation/Mine**

Sishen Mine (Sishen)

##### **Health and safety case study**

The implementation and incorporation of the noise measurement guidance note

##### **Number of employees affected by the health and safety case study**

Approximately 5,000

##### **Stakeholders consulted**

Section managers, supervisors, safety health and environment representatives, and full-time health and safety structures

##### **Occupations affected/benefited**

Plant, maintenance, heavy mobile machinery and drill operators, drill assistants, artisans (boilermakers, fitters, millwrights, gougers etc.), general workers and cleaners

## BENEFITS AND IMPROVEMENTS REPORTED BY AFFECTED STAKEHOLDERS

Occupational hygiene personnel responsible for noise measurements indicated that the measurement guide workshop, conducted in facilitation with the MOSH noise team, in-house training, and planned task observation undertaken by management enabled them to have a better understanding of the functionality of the measuring instrument, various instrument settings and the interpretation of the outcomes. It was also highlighted that the guidance note was a good reminder of the basic principles behind the noise measurements and how the occupational hygiene teams can adjust and correct any inconsistencies.

Results should be recorded and documented to ensure uniform workplace operating conditions, measurement procedures and microphone positions, thereby allowing meaningful comparisons with future results. Implementation of the noise measurement guide assisted the operation to achieve consistency in the recorded data. The logarithmic average must be calculated for reporting purposes per quarter. Noise data reported quarterly, using rolling log averages, are reviewed by the occupational hygiene manager. The total number of equipment pieces must be reported quarterly.

The application of the guidance note has enabled the mine to elevate the team's noise focus. To include the development of noise zones of the mine lease areas according to Homogeneous Exposure Groups, prompt investigation into real-time noise measurement initiatives, and enhance the understanding of noise sensor/microphone behavior during the measuring of noise from various sources.



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