VULCAN MINE

Standard Operating Procedure

Noise

Contents

Tables

1. PURPOSE

The purpose of this procedure is to ensure the exposure of Coal Mine Workers to noise is managed to an acceptable level and less than the national standard for occupational noise.

This procedure has been developed to ensure compliance with section 91 of the CMSHR.

2. SCOPE

This procedure is applicable to all persons at the Vulcan Mine including employees, contractors and visitors. The controls within this procedure are mandatory.

3. DEFINITIONS

Authorised Person	A person who has the required competencies and who has been appointed by the Site Senior Executive to carry out a designated scope of duties.
CMSHA	Queensland Coal Mining Safety and Health Act (1999).
CMSHR	Queensland Coal Mining Safety and Health Regulation (2017).
CMW	Coal Mine Worker.
Competent Person	A person who has, through a combination of training, education and experience, acquired knowledge and skills enabling that person to perform correctly a specified task.
dB(A)	A-weighted decibels.
DNRME	Department of Natural Resources, Mines and Energy.
HME	Heavy Mining Equipment.
HPD	Hearing Protection Devices.
IMS	Integrated Management System.
JHA	Job Hazard Analysis.
LAeq	Level – A weighted equivalent.
MOP	Mine Operating Procedure.
PPE	Personal Protective Equipment.
ROM	Run of Mine
SHMS	Safety and Health Management System.
SSE	Site Senior Executive.
Take 5	Personal Risk assessment.

4. PROCEDURE

4.1. Mandatory Requirements

The core mandatory requirements and expectations of Vulcan Mine are that all workers (including internal employees, contractors and visitors) will follow the SHMS as it applies when working. Should a system gap be identified, a supervisor must be notified immediately, and a risk assessment conducted before the work can continue.

Further mandatory requirements identified include the following:

- all workers will comply with CMSHA s. 39 Obligations of persons generally;
- all workers shall be trained, competent and authorised to be on site and to carry out those tasks specific to their role;
- all workers must present themselves in a state fit for duty and unaffected by drugs, alcohol, fatigue and other physical or psychological impairment;
- all workers will conduct a personal risk assessment (i.e. Take 5) prior to undertaking tasks and in the event of a change to the conditions, process or environment;

- there are risk assessments (JHAs) in place under which tasks are being carried out. These risk assessments may indicate controls that go above and beyond the legislative or SHMS requirements and must be followed;
- errant behaviours are prevented through compliance to the training scheme, and managed appropriately through supervision and site discipline procedures;
- at any stage should a worker feel unsafe or at risk when undertaking a task, they are to stop work, make the area safe (if necessary and possible) and immediately report this to their supervisor; and
- if a worker sights another worker undertaking a task, which they feel is unsafe or at risk, that work may be stopped, and a supervisor immediately notified.

4.2. Hazards of Noise

Exposure to excessive levels of noise can lead to hearing impairment and industrial deafness. The prime sources of noise are:

- mobile plant operation;
- fixed plant operation;
- air arc gouging;
- working near equipment on the ROM pad (crusher, dry-scan, etc.);
- grinding, rattle-gun operation; and
- other work performed on site, e.g. workshop, pit.

There are three main activities needed for noise exposure to be adequately managed at the Vulcan Mine:

- control of excessive noise emissions from machinery and operations where practicable;
- monitoring of noise levels for typical tasks undertaken by personnel; and
- supply and use of PPE to control noise exposure where engineering controls are not practicable.

The national standard for exposure to noise in the occupational environment is an average daily exposure level of 85 dB(A) over an eight-hour working day. Exposure levels above 83 dB(A) represent an unacceptable risk to hearing for a 12-hour shift.

A CMW shall not be permitted or allowed to enter or remain in, any place where they are exposed to:

- an instantaneous noise level in excess of 110dB(A);
- a noise dose exceeding 85dB(A) over an eight-hour period, or
- an equivalent dose as shown in Table 1.

Table 1 : Noise Dose Limits

dB(A)	Time
83	12 hours
85	8 hours
88	4 hours
91	2 hours
94	1 hour
97	30 minutes
100	15 minutes
103	7 ½ minutes
106	4 minutes
109	2 minutes

4.3. Control and Management of Noise Exposure

All plant and equipment purchased shall be subject to noise emission specification. The specification shall be determined on time / sound level variations based on the distance from the source and location of persons normally working in the area. The compounding factor of multiple noise sources in a particular area, should also be taken into account.

Noise exposure to persons shall not exceed the 'daily noise dose', to persons on the basis of LAeq,8h of 85dB(A) **- LAeq**,**8h** is an averaged 8-hr equivalent continuous A-weighted sound pressure level, measured in dB(A).

As a means of ensuring this, the purchase of plant and equipment is LAeq,8h of 82dB(A) with a guarantee it will not exceed 85dB(A) once it is commissioned and in operating mode.

Where a noise hazard is identified, a risk management approach shall be used to ensure the health of CMWs is not adversely affected. In summary, the process shall be:

- identify the hazard (excessive noise);
- assess the risks which may result because of the hazard;
- decide on what control measures should be put in place to prevent or minimise the risks;
- implement the control measures; and
- monitor and review the effectiveness of the measures.

4.4. Identification of Noisy Areas and Signage

High noise areas shall be sign posted with mandatory HPD required on entry with signs compliant with AS 1319.

4.5. High Noise Work

Quiet rest areas shall be provided for food and rest breaks (crib rooms).

Personnel shall be rotated in tasks so they are not exposed to noise in excess of noise dose limits.

CMWs shall keep out of noisy areas if their job does not require them to be there.

4.6. Personal Protective Equipment

CMWs shall be trained in noise management principles and where they are required to work in areas of excessive, otherwise uncontrollable noise.

CMWs shall be provided with and shall wear personal hearing protection to limit exposure of noise to the daily exposure limits; refer to the VUL-SOP-065-Personal Protective Equipment.

Suitable HPDs for the task must be worn (dual hearing protection for arc air gouging >120dB).

4.7. Noise Survey and Monitoring

Instantaneous noise levels may be taken at the request of CMWs whenever equipment is brought onto site or circumstances of exposure change.

CMWs shall not be regularly exposed to noise levels in excess of 110db(A). CMWs may potentially be exposed to noise levels in excess of 110db(A) during maintenance, servicing or testing activities. These tasks shall be identified and stringent control measures put in place and documented in a JHA.

A Baseline Noise Survey shall be conducted by a competent person or organisation in accordance with the CMSHR. The results of the Baseline Noise Survey shall determine noise control actions. Records of Baseline Noise Surveys shall be retained and accessible by the workforce.

Warning signage shall be displayed identifying each location where there are excessive noise levels.

Noise level surveys of fixed plant and defined work areas (such as the workshop) are to be conducted at least every five years.

A Noise Level Measurement shall be conducted at least every two years for HME and heavy vehicles.

More frequent surveys shall be conducted where persons raise concerns about excessive noise levels, or when a change occurs to operations or new machinery is introduced.

Audiometric Testing shall be conducted at an interval of at least every five years, in accordance with the Queensland Coal Mine Employee's Health Assessment Scheme. Persons may undergo more frequent testing.

An ongoing Noise Monitoring Program shall be put in place to ensure the controls (e.g. silencers, enclosures etc.) are effective and being complied with.

Records shall be kept of noise surveys, testing of plant and personnel audiometric testing in the SHMS.

5. ROLES AND RESPONSIBILITIES

SSE	Shall review and approve this procedure.
HSET Superintendent	Shall ensure that all provisions of this procedure are implemented, and that compliance is achieved.
Managers/Superintendents	Shall be responsible for their area of operations and the implementation and application of this procedure; Provide adequate training, information, structure and supervision to ensure that this procedure is implemented; Carry-out a periodic review of activities to ensure the appropriate application and understanding of this procedure; and Ensure immediate and appropriate steps are taken to investigate and rectify any risks to health and safety arising from these activities.
Supervisors	Ensure all CMWs are familiar with, have access to and comply with the requirements set out in this procedure.
All CMWs (including visitors and contactor)	Shall comply with the requirements of this procedure.

6. REFERENCES

- AS 1319-1994 (R2018) Safety signs for the occupational environment
- Coal Mining Safety and Health Act 1999 (Qld)
- Coal Mining Safety and Health Regulation 2017 (Qld)
- DNRME Guidance Note 22 Management of Noise in Mines
- VUL-SOP-065-Personal Protective Equipment

7. REVIEW

This document shall be reviewed at a minimum two yearly, or as follows:

- when there is a change of method and/or technology and/or legal or other requirement that may affect the accuracy of this document;
- when operational changes occur that effect the currency of the document;
- when there has been a significant event to which this document was relevant; and
- as a result of relevant audit findings.

8. DOCUMENT CONTROL

Version	Date	Description	Document Controller
01	21/05/2020	Initial draft	Rachael Dacker
02	26/06/2020	Risk workshop	Shane Johnson
03	13/05/2021	Review and Formatting	Nicole Davey
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