



VULCAN MINE

Standard Operating Procedure Fatigue



Contents

1.	PURPOSE	3
2.	SCOPE	3
3.	DEFINITIONS.....	3
4.	PROCEDURE	3
4.1.	Fatigue.....	3
4.1.1.	Identifying and Assessing Fatigue	3
4.2.	Causes of Fatigue	4
4.3.	Effects of Fatigue	4
4.4.	Education and Training	4
4.5.	Risk Management.....	4
4.5.1.	Breaks within and between Shifts.....	5
4.5.2.	Consecutive Number of Shifts Worked	5
4.5.3.	Overtime	5
4.5.4.	Extending Work Hours	5
4.5.5.	Contractor Declaration.....	6
4.6.	Risk Controls	6
4.6.1.	If Fatigue is Suspected	6
4.6.2.	Unfit for Work.....	6
4.6.3.	Risks Associated with Commuting.....	7
4.7.	Reporting Fatigue.....	7
4.7.1.	Duty of Care	7
4.7.2.	Individuals Experiencing Fatigue	7
4.7.3.	Employee Health Screening	7
4.8.	Shared Responsibility.....	8
5.	ROLES AND RESPONSIBILITIES	8
6.	REFERENCES.....	8
7.	REVIEW.....	8
8.	DOCUMENT CONTROL.....	8

Tables

Table 1 : Roster Cycles	5
-------------------------------	---



1. PURPOSE

The purpose of this procedure is to ensure hazards and risks associated with fatigue, and physical and psychological impairment, are effectively managed at the Vulcan Mine.

This procedure has been developed to ensure compliance section 42(a) 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

AMA	Appointed Medical Adviser.
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	Competence for a task at a coal mine is the demonstrated skill and knowledge required to carry out the task to a standard necessary for the safety and health of persons.
EAP	Employee Assistance Program.
JHA	Job Hazard Analysis.
HSET	Health, Safety, Environment and Training.
SHMS	Safety and Health Management System.
SOP	Standard Operating Procedure.
SSE	Site Senior Executive.
Take 5	Personal Risk Assessment.

4. PROCEDURE

4.1. Fatigue

4.1.1. Identifying and Assessing Fatigue

Through experience, training and education, shift workers can learn to recognise the physical and psychological signs of fatigue. Some of the signs of fatigue include:

- involuntary napping (micro-sleeps);
- reduced vigilance;
- delayed reaction times;
- irritability or changes in behaviour; and
- poor hand-eye coordination.

Affected individuals may not necessarily be aware of these indicators, as fatigue may impair the ability to recognise the signs.

CMWs should proactively take action prior to becoming highly fatigued and all shift workers should monitor each other for any signs and symptoms of fatigue.



4.2. Causes of Fatigue

Fatigue can be caused by work or non-work factors. Examples of work-related causes and contributing factors include:

- maintaining concentration for extended periods;
- exposure to temperature extremes; and
- working in high-stress situations.

Examples of non-work-related causes and contributing factors include:

- sleep disorders;
- family and social responsibilities and commitments;
- physical activity and fitness;
- travelling long distances prior to commencing work; and
- emotional stressors.

Unplanned overtime, irregular work hours or long commutes to and from work can impact both work-related and non-work-related fatigue due to a reduction in the opportunity to achieve quality restorative sleep by:

- reducing the total time available for sleeping;
- scheduling work and sleep at inappropriate biological times (i.e. misaligned with the body's circadian rhythm) resulting in a negative effect on the quality and quantity of sleep; and
- increasing competition between sleep and other non-work activities.

In addition to roster arrangements, fatigue levels are dependent on the effectiveness of an individual's management and coping strategies, and general health and wellbeing.

4.3. Effects of Fatigue

The effects of insufficient sleep on an individual's wellbeing are profound and affect a variety of areas.

- Psychological: decreased ability to process information and make timely, appropriate decisions.
- Physiological: decreased ability to maintain alertness, and delayed reaction times.
- Social: mood changes such as increased irritability, decreased motivation and poor communication.

4.4. Education and Training

Training and awareness content for workers shall provide the skills and knowledge required to apply fatigue management strategies. This includes identifying and acting on signs of fatigue and implementing appropriate strategies to minimise fatigue during work activities in accordance with legislative, regulatory and organisational requirements.

All personnel shall participate in refresher training at least every five years.

4.5. Risk Management

The risks associated with shift schedules and fatigue shall be managed by:

- involving employees in decisions regarding changes or adjustments to their roster, e.g. overtime;
- examining rosters prior to their implementation;
- monitoring personal fatigue levels;
- adopting a risk management approach based on recommendations described in the Queensland Guidance Note 16 Fatigue Risk Management; and
- fatigue risk assessment, including consideration of conducted by Vulcan Mine, outlining roster cycles below.

All shift rosters for employees and contractors shall be approved by the SSE/SSE delegate and shall not exceed the hours of work prescribed in this SOP.



There are three approved rosters worked at the Vulcan Mine:

- Roster 1: 5 on – 2 off;
- Roster 2: 7 days on – 7 off; and
- Roster 3: 8 days on – 6 off

Table 1 : Roster Cycles

Item	Roster 1 (5/2)	Roster 2 (7/7)	Roster 3 (8/6)
Shift duration (normal)	8 – 12	12.5	12.5
Shift duration (max)	14	14	14
Max hours per 4-week period	224	224	224
Minimum break (hrs) duration between shifts	10 continuous	10 continuous	10 continuous
Breaks (number)	At least 2 x 30 min breaks within shift duration. No more than 5 hours between breaks.	At least 2 x 30 min breaks within shift duration. No more than 5 hours between breaks.	At least 2 x 30 min breaks within shift duration. No more than 5 hours between breaks.

Seasonal and campaign rosters (e.g. seismic or drilling campaigns) may be approved by the SSE and shall be subject to a risk assessment.

Workers not working on a Vulcan Mine roster shall comply with the minimum requirements of this SOP.

Only in special situations shall anyone be permitted to work more than 14 hours. Approval must be obtained in writing by the SSE/SSE delegate.

4.5.1. Breaks within and between Shifts

Workers shall take a break at intervals not exceeding five hours (from start of shift). The rest breaks shall be a minimum of 30 minutes duration. Breaks within shifts should be distributed to maximise both safety and efficiency of work.

If a person requires additional rest breaks, they should contact their immediate supervisor. No person should continue work if they feel that they are placing themselves or others at an unacceptable level of risk.

All personnel shall have a suitable absence (minimum of ten hours) from work to rest before commencing their next shift. If greater than 14 hours on site has been worked in the previous shift, a minimum 12-hour break is required.

4.5.2. Consecutive Number of Shifts Worked

Unless on an approved roster, the maximum number of consecutive days worked is as follows:

- Day Shifts – Ten-day shifts maximum followed by a minimum of a four -day absence from work.
- Night Shifts – Seven-night shifts followed by a minimum a of three-day absence from work.

4.5.3. Overtime

Overtime on an approved the Vulcan Mine roster shall only be granted where the consecutive day shift worked does not exceed ten days.

Three overtime shifts maximum are permitted in a 28-day cycle.

4.5.4. Extending Work Hours

Extending work hours beyond the prescribed maximum shift length of 14 hours is only permitted with the approval of the SSE/SSE delegate in exceptional circumstances. Extending work hours can only proceed on the basis of compliance with the express written approval of the SSE/SSE delegate.



4.5.5. Contractor Declaration

No employee of a contractor is to commence work unless the contracting company can demonstrate the employee has had suitable rest breaks for the work performed, or travel undertaken during the days prior to the proposed commencement at the Vulcan Mine.

4.6. Risk Controls

The control of fatigue requires the implementation of several management initiatives developed in consultation with employees.

Managers and supervisors are responsible for taking prompt, consistent and appropriate action whenever they believe a worker is not fit for Work. Assessment tools can assist supervisors, managers and/or team leaders to use a consistent approach when making decisions regarding how to manage potentially fatigued individuals.

Risk controls shall be implemented after consultation with the workforce. Possible control measures include but are not limited to:

At Work:

- encourage workers to self-disclose fatigue and take sick leave for the remainder of the shift;
- where practicable schedule high risk or complex tasks during day shift; and
- consider task rotation for repetitive or monotonous work.

At home or accommodation:

- maintain a healthy diet and limit alcohol intake;
- exercise regularly; and
- obtain adequate rest prior to starting shift.

4.6.1. If Fatigue is Suspected

Any worker who feels they may be at risk due to fatigue, shall immediately report to their supervisor.

A supervisor who suspects fatigue in a worker, shall remove the worker from the relevant job if there is immediate risk to the safety and health of the worker or any other person.

If the worker agrees fatigue is a problem and offers a practical reason for the fatigue, the supervisor may exercise discretion as to the circumstances and assign the worker tasks that are without unacceptable risk for the remainder of the shift (e.g. clerical duties). It is the responsibility of the supervisors to seek assistance where fatigue of an individual is ongoing.

4.6.2. Unfit for Work

Actions that could be considered when an individual is potentially unfit for work as determined by an assessment or their own admission, may include the following:

- Provide more regular supervision of the worker by peers, or supervisor.
- Place the worker on lower risk tasks or workplace.
- Provide the worker with an opportunity to rest and to be reassessed within a determined time frame.
- Discuss with the worker what, in their opinion, were the relevant factors in fitness for work potentially not being maintained and action plan devised.
- Determine if prescription medication, alcohol or drugs may be contributing factors.
- Assist the worker to access support and assistance where appropriate (e.g. EAP, medical assistances, etc.).

If the individual is unable to continue working safely, the individual shall be returned to their accommodation.



4.6.3. Risks Associated with Commuting

Commuting risk is minimised by the close proximity of the mine to Dysart and Moranbah, allowing ten hours of rest and recovery time for normal shift durations.

All CMWs are required to complete the VUL-FRM-08-02-Journey Management Plan as a component of the site induction. The VUL-FRM-08-02-Journey Management Plan must be updated when a CMW's circumstances change (e.g. if moving residence).

4.7. Reporting Fatigue

Employees shall be encouraged to use exemption reporting, i.e. on reporting to work, employees shall advise their supervisor if they are not fit for work.

4.7.1. Duty of Care

All employees have a duty of care to report to work fit for duty. This responsibility includes taking measures to ensure adequate recovery sleep is obtained between shifts and out of hours activities do not result in fatigue that impairs workplace performance during a rostered shift. Workers must arrive at work refreshed enough not to be likely to be fatigued before the end of a shift.

4.7.2. Individuals Experiencing Fatigue

It is recognised that circumstances can arise outside an individual's control that will result in inadequate recovery sleep and subsequently fatigue. When these circumstances arise and an individual recognises this, or a colleague advises they are exhibiting signs of fatigue, they should report to their supervisor in the first instance rather than put themselves or others at risk.

All instances of reported fatigue resulting in an individual being determined as unfit for duty, shall be documented as a fatigue event within the SHMS.

These reports will be entered into the SHMS as a fatigue event by the responsible supervisor.

If an individual accumulates an unacceptable level of non-work-related fatigue, performance management may be implemented. This approach will offer appropriate support and assistance to employees with difficulties in gaining recovery sleep.

In determining management of these individuals, the following issues must be considered:

- Personal circumstances such as sickness of self or family members, relationship difficulties, family tragedy or bereavement.
- Non-work-related activities such as excessive social activities, non-work commitments that limit sufficient rest prior to work.
- Behavioural inconsistencies demonstrating signs of fatigue such as delayed response time, irritability, reduced concentration.
- Recent sleep history.

In the event of an individual reporting fatigue to their supervisor, the supervisor shall assess and implement the most appropriate risk-mitigation and treatment options, as outlined in Section 4.6.2. Unfit for Work.

If reporting from home or accommodation facilities, allow the individual to obtain further sleep prior to attending for the shift.

The supervisor shall take necessary action to maintain the safe provision of services during the period for which an individual is unfit for duty due to fatigue.

4.7.3. Employee Health Screening

An employee may be requested to participate in a health assessment to identify whether further assessment or treatment is required to ensure the safety of the employee and others is not at risk, in the following circumstances:

- if an employee exhibits a consistent pattern of fatigue; or
- if an employee is involved in an incident in which fatigue is suspected to be a contributing factor.



4.8. Shared Responsibility

The Vulcan Mine and its employees have a shared responsibility for the management of fatigue:

- Vulcan Mine will ensure rosters allow adequate breaks for necessary recovery between shifts.
- All individuals have a duty of care to actively manage their time away from work to obtain adequate recovery sleep between shifts to ensure they report for work fit for duty for the scheduled duration of their entire shift.
- If a person reports to work and is not fit for duty, it is their responsibility to notify their supervisor.
- If an individual does not notify their supervisor, they are unfit for work, the supervisor shall interpret this as the individual is fit for work.

5. ROLES AND RESPONSIBILITIES

SSE	Shall review and approve this procedure.
HST Manager	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

- Coal Mining Safety and Health Act 1999 (Qld)
- Coal Mining Safety and Health Regulation 2017 (Qld)
- RSHQ Safety Bulletin 25 [Fitness for work](#)
- QGN 16 Guidance Note for [Fatigue Risk Management](#)
- VUL-FRM-08-02-Journey Management Plan

7. REVIEW

This document shall be reviewed at a minimum every two years, 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	25/06/2020	Risk workshop	Shane Johnson
03	13/05/2021	Review and formatting	Nicole Davey
04	30/08/2021	Review and formatting	Rachael Dacker
05	18/10/2023	Review and Update	Kelly Jensen