



Principal Hazard Management Plan Vehicle Interaction



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1. PURPOSE

The purpose of this PHMP is to identify principal hazards associated with vehicle interactions at the Vulcan Mine and to specify ways to reduce the identified risks to an acceptable level.

This PHMP has been developed to ensure compliance with the following section of the CMSHA:

- s40(2) (ii);
- s62(2), (3) (d);
- s63(1), (2); and
- s64(1), (2), (3).

2. DEFINITIONS

BBRA	Broad Brush Risk Assessment.
BMA	BHP Billiton Mitsubishi Alliance.
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.
JHA	Job Hazard Analysis.
MOP	Mine Operating Procedure.
OCE	Open Cut Examiner.
PHMP	Principal Hazard Management Plan.
HST	Health, Safety and Training.
SOP	Standard Operating Procedure.
SSE	Site Senior Executive.
SWP	Safe Work Procedure.
TARP	Trigger Action Response Plan.
WRAC	Workplace Risk Assessment and Control.



3. OPERATION OVERVIEW

The Vulcan Mining Project comprises a new small-scale coking coal mine located approximately 30 km north-west of Dysart and 35 km south-east of Moranbah in Queensland's Bowen Basin. The Project lies immediately west of BMA Peak Downs Mine. The project includes the Jupiter Pit with the excavation of an approximately annual production of 1.95M ROM tonnes of coal transported off-site for washing at a nearby facility. In summary, the mining method comprises the following stages:

- Topsoil removal and stockpiling;
- Drilling and blasting;
- Overburden, interburden and partings removal and dumping;
- Selective coal mining to maximise recovery and minimise dilution;
- Truck and shovel operation;
- Coal haulage to ROM stockpile;
- Crushing, dry-sorting and road haulage off-site;
- Maintain reject co-disposal system;
- Manage and maintain all site services;
- Mine planning and development; and
- Progressive re-contouring of waste dumps and re-spreading of topsoil.

4. SCOPE

This PHMP outlines responsibilities and guidelines for managing hazards associated with the movement of vehicles and mobile plant at the Vulcan Mine. This PHMP identifies potential hazards where multiple fatalities could occur as identified in the BBRA and WRAC:

- Inadequate use of mobile plant:
 - Vehicle collisions (HV/HV, LV/LV, HV/LV); and
 - Single vehicle incident (multiple passengers).

5. HAZARD MANAGEMENT

The minimum identified controls identified in the BBRA and WRACs consist of the development and implementation of Vulcan Mine SOPs, MOPs, SWPs, Forms and TARPs.

Documents directly relevant to this PHMP and form Vulcan Mine's Traffic Management System include:

- **CMW Authorisation process;**
 - VUL-PLN-082-Training Plan
- **Traffic Management;**
 - VUL-MOP-128-Design and Construction of Mine Roads
 - VUL-MOP-128(3)(g)-Signs and Demarcation
 - VUL-FRM-20-02- Mine Intersection Inspection
 - Intersection register
 - VUL-SOP-094-Check, Examine and Restrict Work Areas
 - Daily Supervisor Report
 - VUL-FRM-11-16-Pit Inspection (Weekly)
 - VUL-SOP-141-Safety Inspections
 - VUL-FRM-11-01-Open Cut Examiners Shift Report
 - Traffic Management Plan



- **Vehicle Operation**

- VUL-SOP-072g-Towing Mobile Plant
 - VUL-SOP-073-Checking Mobile Plant
 - VUL-SOP-076-Using Mobile Plant
 - Operating SWPs
 - VUL-SOP-078-Isolation and Tagging
 - VUL-SOP-117-Spoil Dumps and Excavated Faces
 - VUL-SOP-129-Maintain and Water Haul Roads
 - VUL-SOP-133-Discharging Loads from Fixed and Mobile Plant
 - VUL-SOP-138(a)(b)-Work on or Near Product Stockpiles and Coal Waste Dumps
 - VUL-FRM-11-07-ROM Inspection
 - VUL-SOP-140-Prohibited and Restricted Articles
 - VUL-FRM-06-06-Mobile Phone Authorisation
 - VUL-TAR-004-Weather

- **Vehicle Maintenance**

- VUL-MOP-066-Braking Systems
 - VUL-MOP-071-Introduction to Site – Plant and Equipment
 - VUL-FRM-10-02-Plant Compliance Inspection
 - VUL-SOP-068-Modifying Fixed & Mobile Plant
 - VUL-SOP-072a-Tyres, Wheels & Rims Mgmt
 - VUL-SOP-072b-Recovery of Equipment after Incident
 - VUL-SOP-072c-Assembling & Maintaining Plant
 - VUL-SOP-072h-Servicing, Lubricating & Refuelling
 - VUL-SOP-072i-Transporting Heavy Plant and Supplies
 - VUL-SOP-098-Reporting & Rectifying Defects

- **Fit For Duty**

- VUL-SOP-041-Alcohol
 - VUL-SOP-042-Fatigue and Physical and Psychological Impairment
 - VUL-SOP-042-Drugs

- **Emergency Response**

- VUL-PLN-035-Emergency Planning & Response
 - VUL-TAR-002-Emergency Response
 - VUL-SOP-037-Action to be Taken on Discovery of Fire

- **General**

- VUL-MOP-015-Incident Reporting and Investigation
 - VUL-FRM-05-02-Incident Report
 - VUL-MOP-144-Lighting
 - VUL-SOP-049-Risk and Hazard Management
 - Personal Take 5
 - VUL-REG-18-14-Hazard Identification Register
 - VUL-FRM-02-03-Job Hazard Analysis
 - VUL-FRM-11-19-Critical Task Observation



6. ROLES AND RESPONSIBILITY

Position	Responsibilities	Reporting To
Coal Mine Operator	- Ensure that a PHMP has been developed. - Conduct audits of the SHMS. - Provide adequate resources for ongoing implementation of the PHMP.	Board of Directors
Site Senior Executive	- Review the control monitoring and effectiveness requirements as defined by this PHMP. - Ensure adequate resources are available for the ongoing implementation of the PHMP. - Understand the intent and content of this PHMP. - Ensure the PHMP is audited and reviewed as required and audits are actioned in a timely manner. - Ensure statutory obligation are met.	Coal Mine Operator
Production Superintendent	- Ensure the control monitoring and effectiveness system is implemented and operational. - Ensure adequate resources are available for the ongoing implementation of the PHMP. - Ensure that the systems and procedures established as part of the PHMP are implemented and followed. - Oversee the mining operations and adherence to the PHMP.	Site Senior Executive
Maintenance Manager	- Ensure the site compliance of vehicles brought onto and operating on site. - Ensure correct processes are followed concerning reporting and rectifying of vehicle defects. - Ensure correct maintenance processes are being followed on the mine site.	Site Senior Executive
HST Superintendent	- Ensure the control monitoring and effectiveness system is implemented and operational. - Ensure adequate resources are available for the ongoing implementation of the PHMP. - Ensure surface mobile equipment is fit-for-purpose. - Verify that all persons with responsibilities under this PHMP, including external service providers, have the necessary competencies and resources available to them to comply with this PHMP.	Site Senior Executive
Technical Services Superintendent	To ensure that the mine is designed to comply with all the requirements of this PHMP.	Site Senior Executive
Open Cut Examiners	- Comply with the requirements of the PHMP and monitor that the systems and procedures established as part of the PHMP are being implemented and followed. - Ensure that all work areas and traffic flow areas are maintained in a satisfactory condition. - Ensure that all findings and actions are recorded and communicated to all coal mine workers. - Promptly highlight any hazards to all Coal Mine Workers.	Production Superintendent



Position	Responsibilities	Reporting To
Supervisors	- Comply with the requirements of the PHMP and monitor that the systems and procedures established as part of the PHMP are being implemented and followed in practice. - Ensure personnel under their direction remain aware of their responsibilities under the PHMP and carry them out. - Ensure that only competent and authorised personnel operate mobile equipment. - Promptly highlight to the OCE any increased risk of an incident related to operation of mobile equipment.	Production Superintendent
Coal Mine Workers	Observe and adhere to the requirements of this PHMP.	Supervisor

7. IMPLEMENTING AND MAINTAINING THE PLAN

7.1. Training

CMWs shall receive training during site inductions including VUL-PHMP-02-Vehicle Interaction and associated procedures.

Personnel who apply for an authority to operate equipment on site shall receive training and assessment in the current site traffic management processes, including relevant requirements of this PHMP and other procedures. Subsequent refresher training shall be provided as a minimum five yearly.

Except for the purpose of approved training, no person shall operate equipment at the Vulcan Mine unless they have been assessed as competent and authorised by the SSE or persons acting under the authority of the SSE.

Competencies required by equipment drivers and operators, including requirements from industry competency standards are specified within the VUL-MOP-082-Training Scheme.

7.2. Communicating the Plan

The SSE is accountable for ensuring the PHMP and an overview of its content is communicated to all affected people, including contractors and service providers.

The effectiveness of this PHMP relies on all employees playing an active role and notifying other people of any potentially hazardous areas.

Any potential hazards shall be communicated to workers at shift prestart meetings, OCE reports or toolbox meetings.

7.3. Document Control

All documents associated with this PHMP will be stored within the Vulcan Mine SHMS. The electronic version is the controlled copy and any hard copy document must be reviewed to ensure it is the most current version in the light of the controlled copy.

7.3.1. Records

Vulcan Mine will maintain records that demonstrate conformance with this PHMP. These records shall include but not be limited to:

- Training records;
- Results of risk assessments, audits and reviews;
- Monitoring data, including survey; and
- Pit designs and traffic management plans.
- Inspections and Observations



7.4. Inspections and Monitoring

7.4.1. Inspections

The OCE and supervisor inspection must be done:

- before the activities start in or around the excavation; and
- periodically, as required under the mine's SHMS.

CMWs are to inspect their work areas before and during their shifts as per VUL-SOP-094-Check, Examine and Restrict Work Areas

Department superintendents and managers must also conduct regular inspections, both structured and ad hoc.

7.4.2. Inspections of Active Circuits

Inspections that refer to vehicle movement should include:

- identification and communication of hazards;
- roadways minimum width;
- guideposts in place and clean;
- required signage in place;
- lighting set up for the hours of darkness;
- Bunding on the roadways at the correct height;
- park up area set up for the dump trucks if required; and
- intersections on the circuit are to site standards.

7.4.3. Monitoring

Vehicle Interaction risks are managed on an ongoing basis via the use of the risk assessment process and the monitoring and inspection activities performed by the OCE and supervisors on each shift.

Any changes to the safe operating process shall be communicated to all CWMs.

8. REVIEWS AND AUDITS

This PHMP shall be audited (internally) annually and reviewed at minimum every two years or if any of the following occur:

- a significant vehicle interaction incident;
- proposed changes that may impact on vehicle movement risks e.g., mining methods or road design;
- a change in relevant legislation, codes and standards; or
- evidence of vehicle interaction risks that are not satisfactorily managed by the PHMP.



9. REFERENCES

- Coal Mining Safety and Health Act 1999 (Qld)
- Coal Mining Safety and Health Regulation 2017 (Qld)
- Guidance Note 16 – [Fatigue Risk Management](#)
- Guidance Note 27 - [Collision prevention](#)
- Recognised Standard 11 – [Training in Coal Mines](#)
- Recognised Standard 19 – [Design and construction of mine roads](#)
- Recognised Standard 20 – [Dust control in surface mines](#)
- Vulcan Mine Broad Brush Risk Assessment (April 2020)
- Vulcan Mine Broad Brush Risk Assessment (February 2023)
- VUL-PLN-082-Training Plan
- VUL-MOP-128-Design and Construction of Mine Roads
- VUL-MOP-128(3)(g)-Signs and Demarcation
- VUL-FRM-20-02- Mine Intersection Inspection
- VUL-SOP-094-Check, Examine and Restrict Work Areas
- VUL-FRM-11-16-Pit Inspection (Weekly)
- VUL-SOP-141-Safety Inspections
- VUL-FRM-11-01-Open Cut Examiners Shift Report
- VUL-SOP-072g-Towing Mobile Plant
- VUL-SOP-073-Checking Mobile Plant
- VUL-SOP-076-Using Mobile Plant
- VUL-SOP-078-Isolation and Tagging
- VUL-SOP-117-Spoil Dumps and Excavated Faces
- VUL-SOP-129-Maintain and Water Haul Roads
- VUL-SOP-133_Discharging Loads from Fixed and Mobile Plant
- VUL-SOP-138(a)(b)-Work on or Near Product Stockpiles and Coal Waste Dumps
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- VUL-REG-18-14-Hazard Identification Register
- VUL-FRM-02-03-Job Hazard Analysis
- VUL-FRM-11-19-Critical Task Observation
- VUL-REG-18-14-Hazard Identification Register



10. DOCUMENT CONTROL

Version	Date	Description	Document Controller
01	03/03/2020	Initial Draft	Rachael Dacker
02	09/07/2020	Risk Workshop	Shane Johnson
03	20/04/2021	Review and formatting	Nicole Davey
04	16/11/2021	Formatting review	Rachael Dacker
05	31/08/2023	Review and Update	Kelly Jensen

