



VULCAN MINE

Mine Operating Procedure

Anchoring of Temporary Buildings & Structures



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1. PURPOSE

The purpose of this procedure is to describe the requirements and to effectively manage the hazards and risks associated with Severe Weather at the Vulcan Mine, and safe anchorage of habitable temporary/ demountable/ relocatable/ mobile buildings.

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	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.
RSHQ	Resources Safety & Health Queensland.
Fit for Duty	A condition in which an employee's physical, physiological and psychological state enables them to continuously perform assigned tasks safely.
JHA	Job Hazard Analysis.
MOP	Mine Operating Procedure.
Take 5	Personal Risk Assessment.

4. OBJECTIVE

The Bowen Basin is prone to severe storms and high winds that have previously caused injuries and equipment damage. Unsecured refuge structures during such events pose unacceptable safety risks.

This MOP sets the requirements for supplying and securing temporary buildings and structures at Vulcan Mine to ensure safe refuges and prevent injury or damage during severe weather.

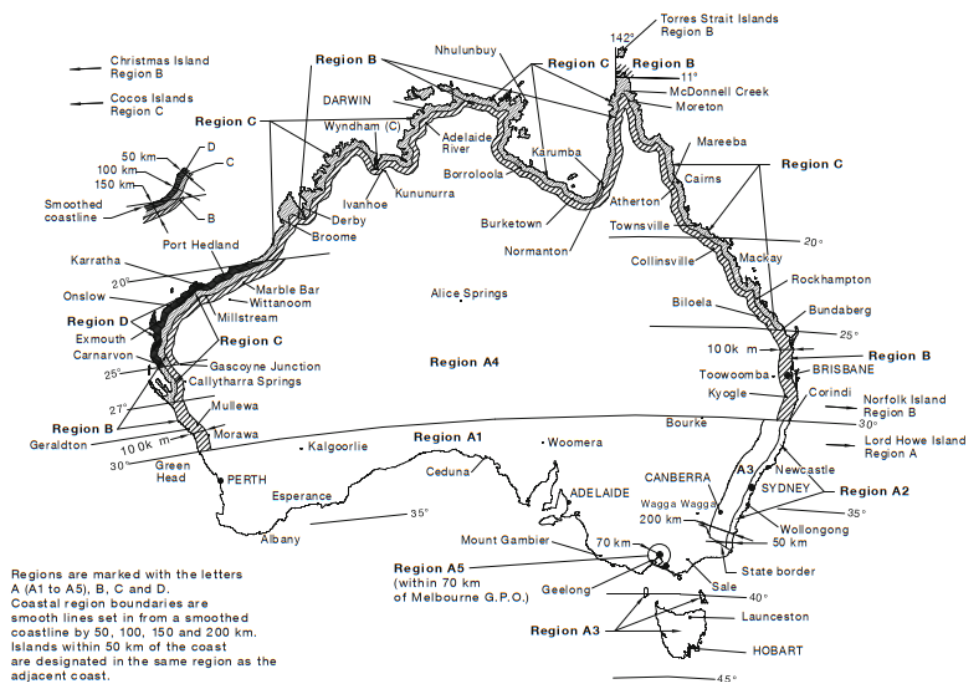


Figure 1 Australian Wind Speed Region Classifications

Vulcan mine lies in **Wind Region C (Cyclonic Zone)** according to AS/NZS 1170.2.



5. Requirements

- Approved anchoring methods are outlined in this MOP. Any alternative method must be designed and certified by an RPEQ engineer.
- Installations must follow the certified design, and any changes require RPEQ approval, and copies of certification to be kept in Asset Files.
- All Habitable temporary buildings must be anchored.
- All Habitable temporary buildings located within 50m of safe refuge location must be anchored.
- Relocatable structures must comply with NCC and relevant Australian Standards, with wind ratings of C1 or higher. (as per AS/NZS 1170.2:2021 Structural Design Actions – Wind Actions).

5.1. Safe Refuge

Safe-refuge structures must meet the structural design criteria for wind and earthquake loads, supported by certification by engineering assessment or certification.

5.2. Exemption

The following exemptions apply:

a. Temporary crib huts used for less than two shifts during in-pit down days do not require anchoring if:

- Signage clearly states “Not a safe refuge during severe weather”
- The hut remains attached to the towing vehicle.
- Suitable vehicles or equipment are available nearby for refuge or relocation.

Additional exemptions requested and approved by the Senior Site Executive or Mechanical Engineering Manager by completing VUL-FRM-10-42-Non-Compliant Equipment Exemption.

6. Approved Systems

The following methods are approved for anchoring temporary and demountable buildings at Vulcan Mine.

Other anchoring systems certified by an RPEQ or qualified engineer are also acceptable.

6.1. DuckBill Anchors

Adequately rated Duckbill can be used for securing of Building provided:

- Suitable load capacity Duckbill selected
- Installed as per OEM guidelines
- Inspected after rain event





6.2. Concrete Slab

A purpose-built or existing concrete slab of equal or larger size may be used.

Structures must be securely anchored to the slab or concrete piers using approved fixed connections, with alternative methods requiring RPEQ engineer approval.



6.3. Concrete Sleepers

Precast concrete sleepers may be used where suitable.

Access stairs may be required depending on site layout and elevation.



6.4. Concrete Blocks

Precast concrete blocks meeting minimum design requirements may be used.

Buildings must be rigidly fixed to the blocks using approved connection methods.



6.5. Mass Concrete Piers

In-ground mass concrete piers may be used where suitable.

The pier's stability relies solely on its own mass, not surrounding soil.

Buildings must be rigidly fixed to the pier using approved connections.

7. 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.

8. REFERENCES

Coal Mining Safety and Health Act 1999 (Qld)

Coal Mining Safety and Health Regulation 2017 (Qld)

Building Code of Australia (BCA) National Construction Code (Volume One)

AS/NZS 1170.2:2021 Structural Design Actions – Wind Actions

9. AMENDMENTS

Version	Date	Description	Document Controller
01	26/11/2025	Initial Draft	Vin Danesh