BHP

Public

Safety
Our Requirements

Why is this important?

Keeping our people safe is our most important priority.

We must understand, manage and, wherever possible, eliminate safety risks in our business to make sure we have no fatalities in line with Our Charter.

Who does this apply to?

- All employees and contractors.

Please note: Internal approval thresholds are in line with the level of risk.

This document has been prepared for external publication and may re-state or omit elements of the internal version for clarity or brevity.

Safety risk management

- Comply with BHP's mandatory minimum performance requirements for risk management to manage safety risks with a fatality potential.
- Implement safety risk controls, based on the assessment of the risks identified, using the hierarchy of controls (elimination, substitution, separation, engineering, administrative, personal protective equipment) in:
  - design and construction of new operations, facilities and equipment;
  - changes to existing operations, facilities and equipment;
  - design, planning, scheduling and execution of work.

Management of change (MOC)

Introducing change can create risks. We have the following minimum requirements to manage the safety risks associated with introducing change.

- Prepare an MOC process for personnel to follow that defines:
  - The criteria for identifying the types of change that require an MOC.
  - How to evaluate the impacts of a change, including requirements for risk assessments, which must involve people who understand the change and the risks associated with introducing the change.
  - Approval processes for different types of changes, including criteria to be considered before approving a change.
  - Documentation and record requirements, which must contain approval and rejection decisions.
  - Communication requirements.
  - Requirements for monitoring change from initiation to full implementation.
  - The MOC training requirements including how to identify, evaluate, approve, document, communicate and monitor changes.

Permit to work

- Identify work activities that require a permit (including confined space entry, hot work, breaking containment of process systems containing hazardous materials, work on high voltage (more than 1000 volts alternating current or as defined in local legislation) electrical equipment and simultaneous work activities that have the potential to cause fatalities) and implement a permit to work system.
- Identify, train and authorise permit issuers, permit authorisers and permit holders, while maintaining segregation of duties between the permit authoriser and permit holder.
- Authorise permits before commencing work and for suspension, handover, hand-back and changes to scope of work.
- Track permits including status and location and make open permits accessible to all affected personnel.

Isolation

- Identify sources of energy and hazardous materials that require isolation and implement an isolation system.
- Identify isolation points, the method of isolating these points and those that require independent verification and authorisation.
- Identify, train and authorise personnel who can authorise, perform and verify isolations.

- Establish and maintain unique, secure and personal control of the point of isolation for all personnel affected by the isolation.
- Authorise the application of overrides, bridges and bypasses to isolation or interlock systems.
- Test plant and equipment to establish that sources of energy are isolated. Complete independent verification for isolations that are required to be independently verified.
- Authorise suspension, handover, de-isolation and changes to scope of work.
- Return isolated plant and equipment to a safe operating condition before it is brought back into service.

Process Safety

We must prevent and mitigate loss of primary containment events involving flammable, explosive, toxic, corrosive or molten materials or other materials at high pressure or temperature. When operations identify the potential for a fatality from loss of primary containment of hazardous materials the following requirements must be applied.

Process safety implementation plan:

- Do a gap analysis against these process safety requirements and develop an implementation plan, including who is accountable for implementation and timeframes for completion.
- Monitor and verify execution of the implementation plan.

When designing, constructing or modifying process safety related operations, facilities, plant, equipment or systems:

- Apply inherent safety in design principles.
- Do a process hazard analysis (PHA) (including a technical assessment of consequence) with personnel who understand the process, equipment and the associated process safety risks.
- Use the PHA and the hierarchy of controls to identify and define controls to prevent and mitigate loss of primary containment of hazardous materials.
- Provide specification data for engineering controls and assign a unique identifier to each control.
- Define safe operating limits (SOLs).
- Define strategies for inspecting, maintaining and testing the integrity of process safety plant, equipment and systems.
- Create controlled documents (procedures, standards).
- Verify operational readiness (including effectiveness of controls) and integrity of new or modified process safety plant, equipment and systems before use.

When managing process safety risk:

- Identify critical roles and make sure there are competent personnel to manage process safety risks and activities.
- Develop, implement and monitor objectives and performance targets (including key performance indicators (KPIs)).
- Identify and communicate with stakeholders (internal and external to BHP) who could be impacted by a process safety event.
- Maintain controlled documents (procedures, standards).
- Implement, monitor and verify controls identified by the PHA to prevent and mitigate loss of primary containment of hazardous materials.
- Review the PHA at least every 5 years.
- Identify and implement the learnings from significant relevant process safety events.

When operating process safety plant, equipment and systems:

- Operate plant within SOLs.

- Monitor, investigate and respond to excursions outside of the SOLs.
- Authorise and monitor the application of inhibits and overrides to instrumented safety systems.
- Implement strategies for inspecting, maintaining and testing the integrity of process safety plant, equipment and systems.
- Define and implement shift operational handover processes including the review and status of process safety issues.

Company-wide safety risks

If you've identified one of the below risks through your assessment of safety risks (following Safety risk management above), you are required to apply these controls as a minimum:

Confined space

- Set criteria for a safe environment within the confined space and provide a rescue plan specific to the confined space conditions, before entry.
- Assess and use respiratory protective equipment where a safe atmosphere cannot be established.
- Monitor, for the duration of the work activity, atmospheric contaminants and oxygen (including pre-entry) and personnel.

Dropped and falling objects

- Inspect and maintain the integrity of overhead structures in the vicinity of walkways and working areas.
- Separate and protect personnel from objects that have the potential to be dropped or fall from height.

Geotechnical risks (including fall of ground)

- Comply with BHP's controlled document for geotechnical standards to manage all geotechnical risks.
- Separate and protect personnel from ground, excavations, waste dumps and stockpiles with the potential to:
  - slip, fall or collapse (e.g. open pits, shafts, stopes);
  - impact other excavations (e.g. stope close to a shaft);
  - impact civil facilities (e.g. pushback close to plant);
  - impact natural systems (e.g. open pit border close to a river);
  - be impacted by natural systems (e.g. shaft flooding due to groundwater flows).

Lifting

- Identify the activities that require a complex lift including lifting personnel, using multiple cranes and lifting over hazardous materials.
- Plan complex lifts and follow the plan.
- Install and operate lifting equipment on stable ground and use cranes with devices that detect the potential for overload.
- Separate and protect personnel from lifting equipment and loads.

Light vehicle

- Require all BHP and contractor light vehicles to meet the requirements in Appendix 1, except where they:

  - cannot be made available in the country of intended use or where it is not reasonably practicable (for example, infrequently used contractors);
  - cannot meet the requirements for the work activity (for example underground vehicles, emergency response vehicles and rail services vehicles).
- Prohibit installation of aftermarket modifications that would impact the safety features of the vehicle.

When the requirements in Appendix 1 are not met (including exceptions noted above) or if modifications are made:

- Do a risk assessment and determine if the light vehicle can be used to perform work for BHP.
- If the light vehicle will be used to perform work at BHP, get approval, implement appropriate controls and manage the risk.

High occupancy vehicles (HOV)

For all high occupancy vehicles (a vehicle that can carry 9 or more people) used by employees or contractors on any private or public road:

- Conduct a gap analysis against these HOV requirements and develop an implementation plan, including who is accountable for implementation and timeframes for completion.
- Monitor and verify execution of the implementation plan.
- Make sure drivers hold relevant local licences and are trained and verified as competent for the operating conditions.
- Do a journey risk assessment, choose an appropriate vehicle for the journey (for road conditions, environment and duration) and implement a journey management plan (that controls the identified risks) for all HOV journeys.
- Maintain HOV's to original equipment manufacturer (OEM) recommendations and prohibit installation of aftermarket modifications or equipment that could impact the safety features of the vehicle.
- Make sure HOV's have the following safety controls and where that is not possible, do a risk assessment, get approval, implement appropriate controls and manage the risk:
  - fire extinguishers and/or fire suppression systems;
  - means for monitoring driver behaviour including speed;
  - '3 point seat belts' for restraint of all occupants;
  - anti-lock braking system (ABS), electronic stability control (ESC) and correct selection, usage and maintenance of tyres.
- Facilitate continuous improvement by periodically monitoring HOV journeys and providing data to relevant stakeholders.
- Develop and implement a plan to verify that the above controls are in place and effective.

Mobile equipment and light vehicle collisions in open cut mining operations

- Minimise the number of four-way intersections.
- Identify and implement segregation areas for mobile equipment and light vehicles.
- Identify and control the impacts of environmental hazards including dust, fog and water.
- Implement an authorisation process for drivers and the number of light vehicles that can enter mining operations.
- Control access of light vehicles and personnel to active mining areas.

Personnel falling from height

- Provide a secure working area and maintain the structural integrity to bear the design load (including fixed walkways, platforms and mobile access platforms) where there is a potential to fall from one level to another.
- Use fall prevention or arrest systems if a secure working area cannot be established and provide a rescue plan specific to the activity, before using fall arrest systems.

Appendix 1
Light vehicle fleet safety requirements

Rating	Program
5 Star	Australasian New Car Assessment Program (ANCAP)
	European New Car Assessment Programme (Euro NCAP)
	Latin New Car Assessment Programme (Latin NCAP)
	Southeast Asia New Car Assessment Program (ASEAN NCAP)
	New Car Assessment Program, National Highway Traffic Safety Administration (NHTSA)
Good in both the frontal and side tests	Insurance Institute for Highway Safety (IIHS)