



Procedure

Principal Hazard Management

1 Purpose and Scope

The purpose of this document is to outline the components of the Principal Hazard Management Program for Roy Hill Holdings. This program applies to all Roy Hill Holdings (RHH) controlled activities and to RHH employees and contractors performing controlled activities.

The purpose of the Principal Hazard Management Program (PHMP) is to promote safe operations by focussing on events with catastrophic safety impacts (single fatality/multiple fatality and significant incidents) recognised as very low-frequency but high impact (large consequence) events. The means by which these events are prevented or mitigated are different to the other levels of safety impact (i.e. Lost Time injuries or Medical Treatment Cases). It is these fatality events that encompass “Principal Hazards” and these form the basis for implementing a program to prevent these events.

The PHMP provides mandatory requirements to support sustained conformance with the Roy Hill Holdings – Health, Safety, Emergency and Security (HSES) Management Standard 18 – Principal Hazard Management Program. The standard outlines the objective of the program, the guiding concept and the framework of application on the program across all Roy Hill work areas/sites/facilities and activities (including employees and contractors performing controlled activities).

2 General

The intent of the Principal Hazard Management Program for Roy Hill Holdings is to ensure:

- Principal Hazards are identified, risk assessed, understood, communicated and managed;
- Principal Hazards and the controls (including controls, critical controls and/or Trigger Action Response Plans) are defined, assessed for adequacy, implemented and monitored;
- Implemented controls (including Critical Controls) are maintained at a tolerable level; and
- Arrangements are in place to provide assurance that Principal Hazards are effectively managed.

We will be successful in Principal Hazard Management when:

- Leaders have absolute clarity on the Principal Hazards for their team/work area and work activities, along with the effectiveness of critical controls;
- Leaders are able to demonstrate that they understand their risk profile, the Principal Hazards and the critical controls (and are taking actions to reduce the risk of a fatality to as low as reasonably practicable);
- Supervisors have absolute clarity on the Principal Hazards and critical controls relevant to their team/work area and activities – and use this knowledge to plan and execute work to deliver a safe system of work in the field;

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Rev	Document Number	Author	Approver / BFO	Approver Signature	Issue Date	Page
2	OP-PRO-00021	J Day	GM HSE		15/08/2017	1 of 15

Principal Hazard Management

- Supervisors focus on Principal Hazard Management and concentrate their efforts to communicate, monitor and enforce compliance to critical controls;
- Our employees clearly understand what could kill them (the Principal Hazards);
- Our employees clearly understand the critical controls that need to be in place to protect them against the Principal Hazards; and
- Our employees know that the critical controls are in place and working as intended.

The concept framework of the Roy Hill Principal Hazard Management Program is captured in Figure 1: Lifecycle of a Principal Hazard (and Critical Controls) (outlined below).

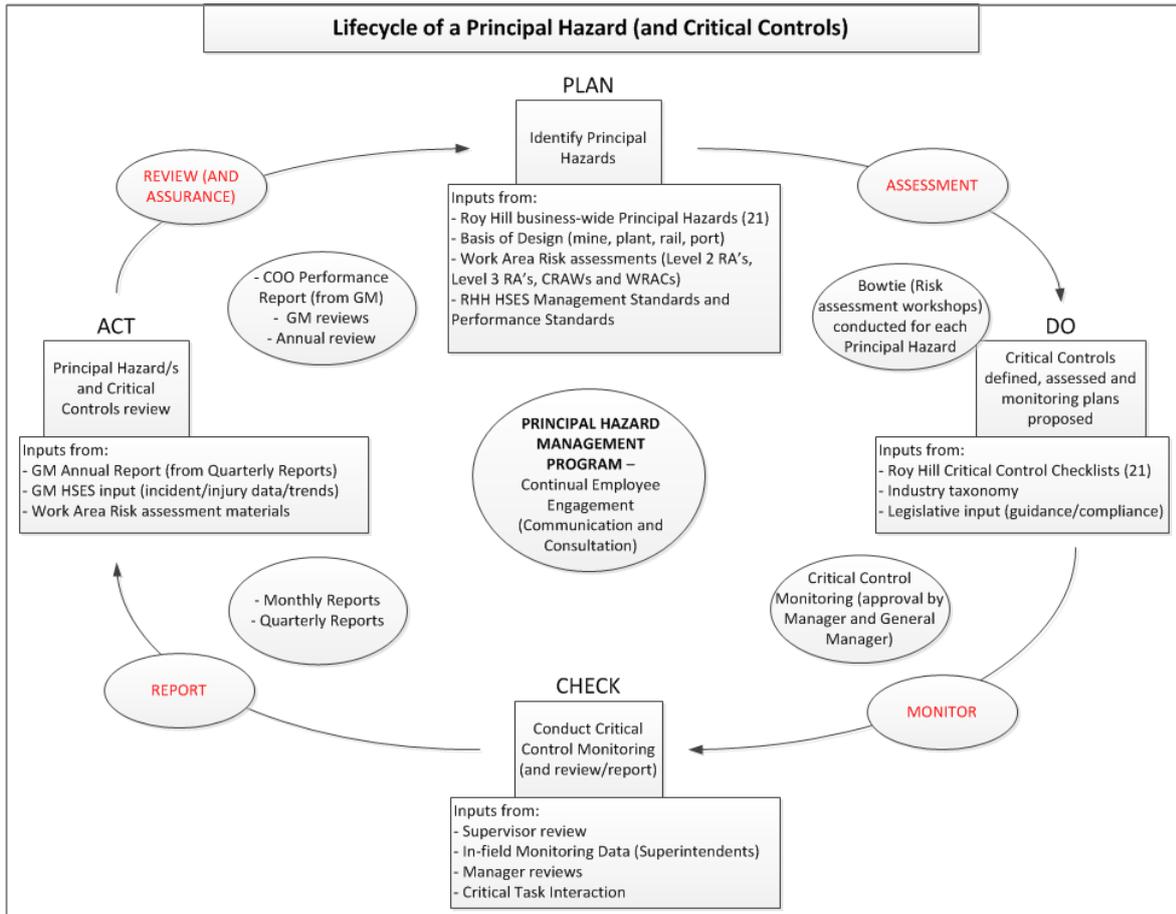


Figure 1 - Lifecycle of a Principal Hazard (and Critical Controls)

2.1 Background (Roy Hill Principal Hazards)

2013 Roy Hill conducted an analysis of Western Australian iron ore producer’s (mining) incidents/injuries (taxonomies) and high-level risk assessment material from various mining companies. This analysis included an overview of “major accident” (or principal hazard) events and identified thirty-six (36) standard Principal Hazards relevant to Iron Ore mining-rail-port operations activities.

In conjunction with early risk assessments conducted in planning within Roy Hill, this information was cross-referenced against the proposed operational activity planned for the Roy Hill work activities (mines, port, rail, processing). For a hazard/event or risk to be selected as a “Principal Hazard”, the various triggers include:

- The hazard or event may have been identified in the taxonomy (or industry data) as a credible fatality (or multiple fatality) event or scenario;

THIS DOCUMENT IS UNCONTROLLED IN HARD COPY FORMAT

Rev	Document Number	Author	Approver / BFO	Issue Date	Page
2	OP-PRO-00021	J Day	GM HSE	15/08/2017	2 of 15

Principal Hazard Management

- The hazard or event has a severity of Major, Severe, Critical or Catastrophic (in the RHIO Risk Evaluation 7x7 matrix descriptors); and
- The risk assessment process identifies the risk as “Critical” (i.e. coloured red in the RHIO Risk Evaluation 7x7 matrix) when considering the impact type, severity and likelihood values (this equates to a value of 250 or above on the matrix).

Twenty-one (21) Principal Hazards were selected as relevant for the business and formed the basis of those selected for Roy Hill Holdings. The initial Roy Hill Principal Hazards (in no particular order or ranking) are:

1. Explosives (Storage, Handling and Transport)
2. Explosives (Blasting)
3. Fire and Explosion (Non-explosives)
4. Electricity interactions
5. Dropped object during lifting
6. Dropped tools and equipment
7. Dropped product
8. Falling from heights
9. Crushed by moving equipment
10. Entanglement
11. High pressure fluids
12. Projectiles
13. Structural Failure
14. Ground Failure
15. Severe Weather
16. Confined Space and Asphyxiation
17. Drowning
18. Vehicle interactions
19. Rail versus Vehicle / Pedestrian interactions
20. Rail versus Rail interactions
21. Shipping incidents

For the initial Roy Hill Principal Hazards, Bowtie risk assessments were completed with various events identified, explored and captured (including causal pathways, barriers/controls, critical controls, along with outcomes and mitigation measures).

THIS DOCUMENT IS UNCONTROLLED IN HARD COPY FORMAT

Rev	Document Number	Author	Approver / BFO	Issue Date	Page
2	OP-PRO-00021	J Day	GM HSE	15/08/2017	3 of 15

3 Principal Hazard Management Program

3.1 Identification of Principal Hazards

It is imperative that the Principal Hazard process is risk-based and remains dynamic (i.e. it is regularly reviewed such that new hazards can be identified, risk assessed and treated appropriately) based on the initial scope of work and considering any work activity change, equipment, environment, business activities undertaken or other condition changes.

Prior to conducting any risk assessment workshop/s (and to ensure that the work area risk profile is determined) each General Manager should firstly consider the relevance of the twenty-one (21) Roy Hill Principal Hazards (for controlled activities across their team/site/work areas) and explore any existing risk assessment material based on the scope of work, activities and environment. Outcomes from this should be discussed with the Roy Hill General Manager HSES to identify and confirm the Principal Hazards relevant to the work area.

Once this is defined and the scope clearly identified, the team/site/work area are to conduct appropriate risk assessment (bowtie) workshop/s to:

- confirm the Principal Hazards relevant to their work activity (scope of work) and environment (pre-existing risk assessment material should be utilised for this purpose – such as Level 2 or Level 3 Risk Assessments).
- identify the hazard dynamics and scenarios by which the Principal Hazard could eventuate, including causal pathways, controls (preventative), selected critical controls, mitigation controls/measures and outcomes for the scenario/principal hazard;
- ensure that critical control adequacy assessments are conducted against their intended design and application against the principal hazard (to ensure the critical control is functional, achievable, reliable and survivable);
- outline parameters and tools for critical control monitoring to be conducted in-field (considering frequency of monitoring, metrics and task/activity); and
- identify risk control actions and treatment plans such as a Principal Hazard Management Plan (which may include Trigger Action Response Plan’s and other controls to address the Principal Hazard).

For all stages of the Principal Hazard and Critical Control process, relevant work area team members are to be engaged and involved - with suitable technical expertise to provide appropriate information and context.

Each General Manager is responsible for validating business wide bowties. The validation process includes;

- Relevance to GM’s area of accountability,
- Relevance to each causal pathway practicable to each Principal Hazard,
- Extent to which controls apply, and
- Identification of critical controls

Principal Hazard Assessment – Monitoring Plan [000RH-0000-HS-TEM-0020]

THIS DOCUMENT IS UNCONTROLLED IN HARD COPY FORMAT

Rev	Document Number	Author	Approver / BFO	Issue Date	Page
2	OP-PRO-00021	J Day	GM HSE	15/08/2017	4 of 15

Principal Hazard Management

3.2 Principal Hazard Management Plan

A Principal Hazard Management Plan is a plan developed through the process of risk assessment aimed at ensuring that indicators of principal hazards are identified, monitored and appropriately responded to in a coordinated and orderly manner. General Managers are to ensure that a Principal Hazard Management Plan is developed for each business functional area.

A Principal Hazard Management Plan must:

- Provide for the management of all aspects of risk control in relation to the identified principal mining hazard;
- Be structured in a way that is readily accessible and comprehensible to person who use it;
- State the nature of the principal mining hazard to which it relates;
- Describe how a risk assessment is conducted in relation to the principal mining hazard;
- Outline the results of the risk assessment; and
- Outline the specific control measures (including critical controls) to be implemented to control risks to health and safety associated with the principal mining hazard.

The Principal Hazard Management Plan:

- Is developed with content defined and developed within the risk assessment (bowties);
- Should be created with involvement and input of relevant (and experienced) personnel (including external/technical expertise if required);
- Is to be available to workers (prior to them undertaking any work to which the hazard management plan relates);
- Is to be set out and expressed in a way that is readily accessible and comprehensible to persons who use it;
- Is to be outlined in plain, simple and understandable language.

In developing a Principal Hazard Management Plan, consideration should be given to include:

- The purpose, scope, objectives and schedule of the plan (introduction and context);
- Accountabilities of key personnel and stakeholders (including but not limited to the Principal Hazard Owner, leadership, General Managers / Managers, Superintendents, HSES team members and work area personnel);
- Required resources (time, people, equipment, facilities) including the necessary line management and specialist expertise;
- Data gathering / recording for the principal hazard;
- Criteria and specific elements (outlining controls to manage the identified principal hazard, control monitoring, response, corrective action and audit/review – with clear role accountabilities for actions if required); and
- Reference to legal and other requirements.

Principal Hazard Management Plan (template) [000RH-0000-HS-PLN-0020]

THIS DOCUMENT IS UNCONTROLLED IN HARD COPY FORMAT

Rev	Document Number	Author	Approver / BFO	Issue Date	Page
2	OP-PRO-00021	J Day	GM HSE	15/08/2017	5 of 15

3.3 Critical Control Process

3.3.1 Critical Control – Selection and Adequacy Assessment

The Principal Hazard risk assessments (captured in Bowtie format) define causal pathways and individual controls (including critical controls). A critical control is defined as *“it is an essential control, point, step, process or procedure - at which a level of control or focus can be applied such that the principal hazard can be prevented (eliminated) or reduced to acceptable levels, or a control that spans multiple causal pathways”*. Identification and selection of critical controls should occur with input/involvement of relevant team members (and technical expertise/health and safety personnel).

Within the Principal Hazard (Bowtie risk assessment) workshop, critical controls are selected for each Principal Hazard to eliminate or mitigate events with a catastrophic safety impact (i.e. incidents with outcome of single fatality or multiple fatalities). When a critical control is identified and selected it must undergo an assessment to determine the control’s intended application against the principal hazard event. A nominated critical control must be reviewed by the functional area General Manager prior to the critical control been accepted.

3.3.2 Critical Control – Develop Monitoring Criteria / Reporting Structure

Whenever a critical control is approved there must be a monitoring plan (to enable in-field monitoring and leader verification/reporting) defined and implemented for the team/work area. The work area Manager is accountable to ensure that the monitoring plan is defined and implemented.

The in-field monitoring criteria (for the selected critical control/s) should be designed and structured with consultation from relevant team members (and with involvement from health and safety personnel) prior to seeking approval from the work area General Manager (for monitoring plan). Monitoring criteria and frequency can be defined with consideration given to:

- The defined scope of work (and work schedule) for the month;
- Each relevant principal hazard (and the critical controls for the work area);
- Leading metrics (based on risk and work scope or changes to work scope) – with a focus on high-risk work and the less-frequent tasks that are high-risk;
- Lagging performance metrics (based on previous performance data or outcomes from incident/injuries); and
- Frequency of monitoring (per criteria) determined by the above (with review by the work area Superintendent and Manager).

The Roy Hill Critical Control checklists (one for each Principal Hazard) provide guidance for establishing the monitoring criteria relevant to existing Principal Hazards (an example is outlined in Appendix 1). The Critical Control checklists were developed with controls (and outcomes) from the risk management processes, considering industry-recognised best practice and the regulatory requirements). The checklists can be used in the development of the in-field monitoring criteria for the selected critical control/s (and as a minimum the criteria for monitoring should provide):

- Clear definition or description to enable understanding (and intent of the critical control i.e. purpose);
- The metric/s or measurable outcome/s that could be applied to the critical control (this could include multiple criteria to provide “measurement” of the performance of the critical control);

THIS DOCUMENT IS UNCONTROLLED IN HARD COPY FORMAT

Rev	Document Number	Author	Approver / BFO	Issue Date	Page
2	OP-PRO-00021	J Day	GM HSE	15/08/2017	6 of 15

Principal Hazard Management

- The frequency for measurement (as a minimum this will occur monthly for the relevant Principal Hazards and critical controls);
- If applicable - a “target performance” range (this may provide a visual red/orange/green performance banding useful for data tracking and status boards on site);
- The trigger for capturing action/s to improve future performance (i.e. if performance is not at a defined “acceptable” level then action/s are required);
- The method by which the measurement data is captured and reviewed (and who it is sent to for processing and reporting); and
- Responsibility for direct measurement to occur (if appropriate or if not already detailed).

The work area Superintendent is accountable to ensure the critical control monitoring is conducted and the data (relevant to the Principal Hazards for the team/work area) is collated monthly and reported to the work area Manager.

The work area Manager is accountable to provide a formalised Quarterly Report of critical control performance (as part of Principal Hazard management) to the General Manager. It is expected that this report will include both leading and lagging indicators (but not limited to):

- A snapshot/outline of the critical control monitoring data for the site or work area;
- A review /analysis of the trends and improvement opportunities identified from the critical control in-field monitoring (including actions for future performance improvement);
- An overview of site/work area incidents/near-misses with linkage to Principal Hazards and critical controls for the team;
- An outline of line management involvement in “focussed effort to prevent principal hazards at the site/work area” (and this could include information on Critical Task Interactions, Observations, direct Supervision and employee/contractor engagement conducted on site/work area – along with actions identified from improvement opportunities);
- Any identified trends in Principal Hazard and critical control performance;
- Any identified positive outcomes (or leading practice) in terms of fatality prevention or critical control performance/implementation; and
- Verification of the site/work area monitoring data for Principal Hazards and critical controls performance.

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3.3.3 Critical Control – In-field Review and Supervision

Apart from the awareness and familiarisation (of the Principal Hazards and critical controls in the pre-task risk assessments), employees and contractors may have their risk assessments reviewed with input from Supervisors, Health and Safety personnel, technical experts and leaders at the site/work area.

A trigger from the review/approval of the JHA by the Supervisor is to determine the level of Supervision that will be provided and applied for the task. This can include:

- Review and approval/re-approval of permit/s; and

THIS DOCUMENT IS UNCONTROLLED IN HARD COPY FORMAT

Rev	Document Number	Author	Approver / BFO	Issue Date	Page
2	OP-PRO-00021	J Day	GM HSE	15/08/2017	7 of 15

Principal Hazard Management

- Frequency of Supervision - how often the Supervisor will directly observe the task and how many observations will be conducted.

In respect of practical application of Critical Controls (selected and implemented) the review/s by a Supervisor may be conducted:

- Prior to the task commencing (in risk assessment development/review);
- During the task including supervision/direct observation and/or via Critical Task Interaction process (Critical Task Interactions Procedure 000RH-000-HS-PRO-0049); and
- Post-task to evaluate effectiveness (individual or team-based) of the implemented critical controls.

3.3.4 Critical Control - In-field Monitoring / Observation and Reporting

For critical controls relevant to the team/site/work area, the work area Superintendent is accountable to ensure the critical control in-field monitoring/observations are conducted (to determine the critical control performance). The work area Manager is accountable to ensure that the critical control in-field monitoring plan is implemented with the data (monthly/quarterly/annually) collated and reported based on the metric timeframes. As per Section 3.3.2 Critical Control – develop monitoring criteria / reporting structure “monitoring criteria and frequency can be defined with consideration given to:

- The defined scope of work (and work schedule) for the month;
- Each relevant principal hazard (and the critical controls for the work area);
- Leading metrics (based on risk and work scope or changes to work scope) – with a focus on high-risk work and the less-frequent tasks that are high-risk;
- Lagging performance metrics (based on previous performance data or outcomes from incident/injuries); and
- Frequency of monitoring (per criteria) is determined by the above (with review by the work area Superintendent and Manager)”.

Principal Hazard Assessment – Monitoring Plan [000RH-0000-HS-TEM-0020]

3.3.5 Critical Control – Leader Verification (Review and Reporting)

The critical control monitoring data will be provided monthly from the work area Superintendent to the work area Manager (and collated into a formalised Quarterly Report – to be sent to the General Manager). The elements of the Quarterly Report may include the criteria outlined in Section 3.4.2 Critical Control – develop monitoring criteria / reporting structure.

The General Manager will collate the Quarterly Reports (for each team/site/work area submitted) and it is this information that will be used for reporting through to the Chief Operating Officer (COO).

The reported information to the COO should include both leading and lagging indicators to provide a snapshot (or scoreboard) of quarterly performance in critical control monitoring. This quarterly performance report could include:

- The performance (and trending) for the quarter in the critical control monitoring data;
- Linkage of the critical control monitoring with any incidents/injuries/near-misses;
- Any identified shortfalls in the critical control performance (and any identified actions implemented to enhance critical control performance); and

THIS DOCUMENT IS UNCONTROLLED IN HARD COPY FORMAT

Rev	Document Number	Author	Approver / BFO	Issue Date	Page
2	OP-PRO-00021	J Day	GM HSE	15/08/2017	8 of 15

Principal Hazard Management

- An outline of targeted focus for the coming quarter.

Principal Hazard Assessment – Monitoring Plan [000RH-0000-HS-TEM-0020]

3.4 Annual Reporting and Review

General Managers are required to develop an Annual Performance Report based on a review of the full-year performance. This would include the Principal Hazard (and critical control performance) overview for the year with clear reference to:

- An overview of significant or high-potential site/work area incidents (with linkage to Principal Hazards and critical controls);
- An outline of the critical control monitoring performance for the site or work area;
- A review of the trends, improvements and implemented actions from the critical control monitoring program;
- Leading practice (identified positive outcomes) in terms of principal hazard management or critical control performance/implementation;
- An outline of management involvement in “focussed effort to prevent principal hazards at the site/work area” (and this could include information on Critical Task Interactions, Observations, direct Supervision and employee/contractor engagement conducted within the work area);
- Verification of the site/work area monitoring data for Principal Hazards and critical controls performance; and
- Potential improvements to Principal Hazard management and Critical Control monitoring processes for the next year.

An annual review process (business-wide review of the risk profile including Principal Hazards, Critical Controls and performance) will be conducted by the Health and Safety committee/working group (work area General Managers along with General Manager HSES). The purpose of the review is to:

- Provide a basis for forward planning of Principal Hazard and critical control application (determining if the “right” Principal Hazards and critical controls have been identified and implemented);
- Provide collective insight into H&S plans (and proposed initiatives) for concentrated effort in Principal Hazard Management (and Critical Control monitoring); and
- Perform the continual improvement/review cycle.

Principal Hazard Assessment – Monitoring Plan [000RH-0000-HS-TEM-0020]

4 Communication and Consultation

The Principal Hazard Management Program must be a risk-based and consultative process. As per the Mines Safety and Inspection Act (1994) and Consultation at work - code of practice (Department of Mines and Petroleum (2009)) consultation between employers and employees is an essential part of effectively managing safety and health at work. It is the intention of Roy Hill to consult and communicate to:

- Achieve improved organisational performance (via clear initiatives);
- Achieve improved management performance and decision making (from making informed decisions);

THIS DOCUMENT IS UNCONTROLLED IN HARD COPY FORMAT

Rev	Document Number	Author	Approver / BFO	Issue Date	Page
2	OP-PRO-00021	J Day	GM HSE	15/08/2017	9 of 15

Principal Hazard Management

- Achieve improved performance and commitment from employees (detail how organisational performance links to personal contribution);
- Help develop greater trust (opportunity to express views and provide input); and
- Increase job satisfaction.

It is imperative that a cross-section of personnel are engaged and consulted in the various stages of the program including:

- Scoping and development of the framework/materials (level 2 / level 3 risk assessments);
- Risk assessment (bowties) (including causal pathways, controls and critical controls selection);
- Development of the critical control monitoring plans;
- Development of any Principal Hazard Management Plan;
- review stages (involving relevant team members, leaders and health and safety representatives); and
- The approval process.

To manage a risk (or Principal Hazard) successfully personnel must be made aware of the risk or hazard and be fully familiar with the controls to be implemented to prevent the hazard or risk from eventuating. All personnel shall be made aware of the Principal Hazards and Critical Controls relevant to their role, team and work area. All leaders must ensure that their team members are trained and aware of the Principal Hazards that could impact them (for their role or in their work area) along with the critical controls to prevent or mitigate the Principal Hazards.

THIS DOCUMENT IS UNCONTROLLED IN HARD COPY FORMAT

Rev	Document Number	Author	Approver / BFO	Issue Date	Page
2	OP-PRO-00021	J Day	GM HSE	15/08/2017	10 of 15

5 Accountabilities

Role	Responsibility
Chief Operating Officer	<ul style="list-style-type: none"> • ensure that a Principal Hazard Management Program is designed and implemented (including all sites/work areas/facilities/activities owned or operated by RHH and relating to all employees and contractors performing controlled activities). • ensure that a process is approved for validating and monitoring critical controls within the business – • ensure that an annual verification process is conducted - with consideration for either an internal (work area independent) verification (i.e. General Manager verifies another work area independent of their own) and/or an external (independent of the business) verification.
General Manager (Operations)	<ul style="list-style-type: none"> • ensure that the Principal Hazard Management Program (PHMP) is implemented at each of their work areas/sites/facilities and activities owned or operated by RHH; • ensure that a principal hazard profile is developed for each work area/site/operation and reviewed and endorsed by the relevant work area management team; • ensure that principal hazards associated with each RHH controlled activity are systematically identified, assessed, understood and documented (as a minimum the Roy Hill 21 Principal Hazards must be considered prior to determining any other Principal Hazards that exist for the team/site/work area based on the controlled activities); • Identify and recommend Principal Hazards (for their team/work area/sites/controlled activities) to be approved (by GM HSES) prior to conducting risk assessment workshops; • Ensure that Principal Hazard Management Plans are developed for each Principal Hazard approved for their work area; • ensure that suitable risk assessment workshop/s are conducted (with appropriate personnel involved) to identify, assess and document pathways and controls (including Critical Controls) within the Principal Hazard profile for the work area/site/facilities/controlled activities within their area accountability; • ensure that Lead KPIs to measure the effectiveness of the PHMP are developed for each work area/site/operation and be included in the annual HSES KPIs for that work area/site/operation. • ensure that a Principal Hazard Management Implementation and Improvement Plan (PHMIIP) is developed annually for each work area/site/operation under the control of RHH whereby: <ul style="list-style-type: none"> o the PHMIIP must be focused on the development, delivery and sustainability of the core knowledge required by all employees and contractors to prevent principal hazards from occurring; o a PHMP communication, consultation and involvement strategy (developed as a component of the PHMIIP); o the PHMIIP is endorsed by the work area/site/operations HSES committee and management team and submitted to RHH General Manager HSES. • ensure that the PHMP is developed in line with the RHH Risk Management Process and reported annually to the RHH Chief Operating Officer (COO); • manage the implementation of critical control monitoring/observations at the work area/site; • ensure an annual validation of the work area/site/operation PHMP is conducted including: <ul style="list-style-type: none"> o assurance of the accuracy and appropriateness of the principal hazard profile; o verification of the selected critical controls and the adequacy of their

THIS DOCUMENT IS UNCONTROLLED IN HARD COPY FORMAT

Rev	Document Number	Author	Approver / BFO	Issue Date	Page
2	OP-PRO-00021	J Day	GM HSE	15/08/2017	11 of 15

Procedure

Principal Hazard Management

Role	Responsibility
	<p>performance standards;</p> <ul style="list-style-type: none"> • ensure that a PHMP validation report is developed and forwarded to the RHH GM HSES and include: <ul style="list-style-type: none"> o trends in the PHMP KPI's; o any significant incidents with principal hazard potential; o effectiveness of the communication, consultation and involvement plan; and o status of the implementation of the RCAs.
General Manager (HSES)	<ul style="list-style-type: none"> • responsible for the development and maintenance of the RHH HSES Performance Standards (including the Principal Hazard Management Plan and associated procedures); • ensure that "critical controls" are identified, defined and justified to ensure that the principal hazards can be controlled in line with the RHH tolerability criteria (the adequacy of each critical control shall be assessed through consultative processes and via in-field monitoring) – and where critical controls are found to be inadequate, risk control actions (RCA) shall be defined, tracked and actioned. • ensure that performance metrics are developed that define the required performance criteria of critical controls - these critical control performance metrics shall be integrated into the work area/site/operations management systems (i.e. design, maintenance, training, auditing, etc.). • accountable to ensure that a Principal Hazard Management Program is developed and implemented for RHH; • approve Principal Hazards for Roy Hill Iron Ore (RHIO) - nominated from any of the work area General Manager's; and • Design a process/structure for monitoring and verification of critical controls for RHIO.
Manager (Work Area)	<ul style="list-style-type: none"> • Ensure that suitable personnel are involved in risk assessment workshop/s to identify, assess and document the causal pathways and controls (including Critical Controls and assessment of critical control design adequacy) within the Principal Hazard profile for the work areas/sites/facilities/controlled activities within their area accountability. • Ensure that work area/site leaders are aware of the relevant Principal Hazards (and applicable Critical Controls) for their team/site/work area. • Ensure that the critical control monitoring plan is defined and implemented for the work area. • Ensure that critical control monitoring is conducted on site (for their work area) and a quarterly report of critical control performance (as part of Principal Hazard management) is prepared and forwarded to the General Manager. • Ensure that all RHH controlled activities assess the effectiveness of each critical control via line management monitoring processes (3 questions) and annual 2nd party auditing processes. All deviations from the required performance must be documented and rectified. • Ensure that a system is implemented (for their work area) on site to ensure the adequacy/effectiveness of each critical control is monitored and assessed (through consultative processes and via in-field monitoring – and where improvements for critical control implementation are identified, risk control actions (RCA) shall be defined, tracked and actioned).

THIS DOCUMENT IS UNCONTROLLED IN HARD COPY FORMAT

Rev	Document Number	Author	Approver / BFO	Issue Date	Page
2	OP-PRO-00021	J Day	GM HSE	15/08/2017	12 of 15

Procedure

Principal Hazard Management

Role	Responsibility
Leader/Superintendent (Work Area)	<ul style="list-style-type: none"> Identify the work that is planned to be conducted on-site with relevance to the Principal Hazards for their team/site/work area. Ensure the Supervisors and team members understand the Principal Hazards relevant to their site/team/work areas and activity. Ensure the Supervisors and team members are aware of the Critical Controls relevant to their site/team/work areas and activity. Ensure the critical control monitoring is conducted on site (for their work area) and the data (relevant to the Principal Hazards for their team/site/work area) is collated monthly and reported to the work area Manager.
Supervisor (In-field application and Supervision)	<ul style="list-style-type: none"> In reviewing (and approving) a pre-task risk assessment, confirm the controls selected (and critical controls) are understood and implemented. Define the frequency of Supervision (how often the task will be directly observed – and how many observations will be conducted). From direct observations and review, identify improvements for critical control implementation (and capture and report on risk control actions)
All personnel (including employees/contractors)	<ul style="list-style-type: none"> Conduct pre-task risk assessments (Take 5 / Job Hazard Analysis) to identify the hazards, assess the risk and implement controls - including the identification of: <ul style="list-style-type: none"> What can kill me or harm me? (what are the applicable principal hazards); What are the critical controls in place to protect me? and Are the critical controls working?

6 Definitions

Term	Definition
ALARP (as low as reasonably practicable)	As Low As Reasonably Practicable- ALARP is often used for setting a value for acceptable risk. In essence, it says that if the cost of reducing a risk outweighs the benefit, then the risk may be considered tolerable. Alternatively, ALARP is the residual risk after all reasonable controls have been implemented so that the risk is as low as reasonably practicable.
Company Sponsor	A Roy Hill employee nominated to act as the site manager for any contractors working on a Roy Hill site and/or managed work area.
Consequence	Outcome or impact of an event expressed qualitatively or quantitatively.
Control	Any process, policy, device, practice or other action that acts to minimize negative risk or enhance positive opportunities.
Critical Control	It is an essential control, point, step, process or procedure - at which a level of control or focus can be applied such that the principal hazard can be prevented (eliminated) or reduced to acceptable levels, or a control that spans multiple causal pathways.
Damaging Energy	Any damage to people (injury or illness) is the result of an exchange of energy. (Damage to a person is a consequence of an energy exchange – where the exposure to energy exceeds tolerable limits of the person. There can be either too much or too little energy that causes damage e.g. over-exertion from lifting a very heavy weight (too much) or oxygen deprivation (too little). The energy exchange is classified using a time/intensity relationship (called “dose”).
Hazard	A hazard is a situation that poses a level of threat to life, health, property, environment, heritage or community. This can also be described as a “Potential Damaging Energy”.

THIS DOCUMENT IS UNCONTROLLED IN HARD COPY FORMAT

Rev	Document Number	Author	Approver / BFO	Issue Date	Page
2	OP-PRO-00021	J Day	GM HSE	15/08/2017	13 of 15

Procedure

Principal Hazard Management

Term	Definition
Hazard identification	Identifying hazards in order to plan for, avoid, or mitigate their impacts
Impact	<p>The harm that has or could occur if the controls are absent or fail.</p> <p>Environmental impact: Any planned or unplanned event that has, or has the potential to cause pollution or environmental harm that is not consistent with Roy Hill's environmental obligations and commitments, or Environmental Standards.</p> <p>Equipment damage or loss impact: Where there has been damage to plant, equipment or facilities either as a result of a known incident, from an unknown source or person or deliberate damage. Includes incidents of equipment damage, loss or theft.</p> <p>Fire: Any unplanned and/or uncontrolled combustion that requires extinguishing to prevent damage. Arises in the course of, or as a result of, work activities.</p> <p>Heritage impact: Where a heritage site has been disturbed or impacted in any way, or any activity that is not consistent with Roy Hill's Heritage obligations and commitments.</p> <p>Injury/Disease: Injury - Disease - Occupational health concern / illness that has occurred, or has the potential to occur, due to exposure over a period of time (e.g. noise induced hearing loss, musculoskeletal damage, respiratory reaction to inhalation of fumes, unexpected OEL exceedance, etc.)</p> <p>Near miss: Any situation that had the potential to cause harm but did not actually result in harm or adverse consequences. Note – these incidents can be sub-classified into their impact area (e.g. HSE)</p> <p>Non-work related: Relates to injuries that arise by accident which are not directly attributable to work activities or a specific workplace.</p> <p>Security impact: Includes the following types of incidents: assault, breach of confidentiality, burglary, civil disorder, damage, vandalism and sabotage, malicious code, unauthorised access, and possession of alcohol, drugs, or weapons.</p>
Interaction	A proactive or reactive engagement that requires discussion between two or more persons regarding safe and unsafe acts with the purpose of reinforcing desired behaviour and minimising undesired acts.
Incident	<p>A single event or continuous/repetitive series of events that result or have the potential to result in a negative impact on people (employees, contractors and visitors), the environment, operational integrity, assets, community, process, product, legal liability and or reputation.</p> <p>It is evaluated both by its actual consequence and its Maximum Reasonable Outcome (MRO) for each area of impact.</p>
Leader	Someone responsible for one or more persons.
Observer	A person who initiates the interaction and conducts the work observation. This may be more than one person per interaction.
Principal Hazard	A principal hazard is a hazard with the potential to cause single or multiple fatalities (also known as 'fatality risk', 'material safety risk' and 'major accident event'.
Principal Hazard Management Plan	A plan developed through the process of risk assessment aimed at ensuring that indicators of principal hazards are identified, monitored and appropriately responded to in a coordinated and orderly manner.
Principal Hazard Management Program	A program that provides a structured process to eliminate or mitigate events with a catastrophic safety impact (fatality/multiple fatality and significant incidents) recognised as very low-frequency but high impact (large consequence) events.
RHH controlled activities	
Risk	The chance of something happening that will have an impact
Risk Control Action (RCA)	
Task	A piece of work assigned to a person ideally with specificity – CPQQRT (context, purpose, quality, quantity, resources and time)
Work area	Part of a hierarchical structure that represents the physical location where work is conducted. The hierarchy breaks sites down further, into physical sections.
Work instruction (WIN)	A work instruction (WIN) is a written procedure outlining the preferred method of performing a task/activity, outlining potential hazards and associated controls measures to be applied

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Rev	Document Number	Author	Approver / BFO	Issue Date	Page
2	OP-PRO-00021	J Day	GM HSE	15/08/2017	14 of 15

7 References

Document Number	Document Name
OP-PLN-00010	Principal Hazard Management Plan (template)
OP-PRO-00985	Critical Task Interactions Procedure
OP-TEM-00070	Principal Hazard Assessment – Monitoring Plan

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Rev	Document Number	Author	Approver / BFO	Issue Date	Page
2	OP-PRO-00021	J Day	GM HSE	15/08/2017	15 of 15