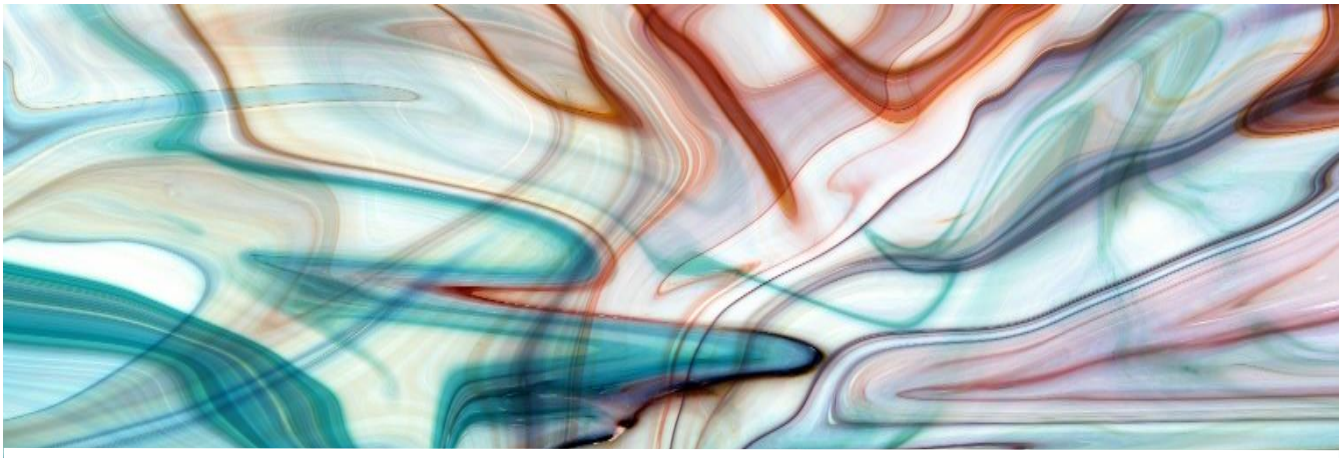
HARRADYNAMICS

PROJECT RISK MANAGEMENT PLAN



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1 PROJECT RISK

1.1 INTRODUCTION

This chapter presents the risk profile for typical mining projects and includes mitigation plans for critical risks that have been identified.

The strategies defined herein are generic and can be used to identify, mitigate, and manage risks in the development of a mining project in Australia, as well as globally. Harradynamics presents this Risk Management Plan as a working framework document and therefore examples presented are 'typical' and not intended to be definitive for all projects.

Risk Management Plans are often developed as part of a projects Feasibility Study, and are therefore living documents in the sense they evolve over time along with a broader understanding of the project, its design, capital and operating costs, development schedule, and ultimately its financial value. A properly developed Risk Management Plan therefore feeds into the projects Feasibility Study phase as it progressively considers risks and their potential impact on project outcomes.

Project risks that cannot be fully mitigated by design, engineering, or procedures shall need to be managed throughout the projects development phase and thereafter into operations. All project risks will have consequences, some of which will have a dollar value, but many of which may present safety, environmental, statutory (legal), and company reputational risks which also need to be quantified (and qualified) before proceeding with the project. In some cases those risks that have unacceptable risk consequences and/or probabilities may be reason enough not to proceed.

This chapter primarily focuses on the Risk Management process and strategies for mitigating key risks to a typical mining project. Other Harradynamics Project Standards address safety management, cost and schedule control, procurement and contracting, and the construction and commissioning management of major resource and mining projects.

1.2 PROCESS FRAMEWORK

While overall risk management accountability resides with the Project Owners Chief Executive Officer, every member of the project and all stakeholders, including the Project Owner ownership & management, contractor and supplier representatives, EPCM of EPC contractors and other stakeholders, share the responsibility to identify, assess and manage risks in accordance with the project risk management system.

The risk management process is to consider both discrete risks and inherent uncertainty. The identified discrete risks are captured in the project risk register, whereas inherent risk is captured in the probabilistic models associated with the capital cost estimate, delivery schedule, and financial model.

Throughout development of a Project, ownership of risk management is assigned to the consultants and teams tasked with developing and managing project designs. Harradynamics typically compiles risk registers on behalf of our Clients (Project Owners), from multiple sources, and updates that register as new data is received to ensure continuity and management of identified risks.

Upon completion of a Feasibility Study the management of the risk register is returned to the Project Owners team, or to the EPCM or EPC contractor, for ongoing reference during the projects implementation phase.

Through each stage of a projects development the recorded risks are to be progressively managed and with greater accuracy or definition around individual risks, consequences, and probabilities. During the projects concept, pre-feasibility, and then Feasibility Study phase the goal is to see risk scores trend downward, and with a gradual closure of some but not all risks.

In order to support reliable and consistent risk management activity, HARRADYNAMICS utilises ExTrack, a secure database tool for storing risk data. This approach allows a single source of the truth for all users. Data is stored in a consistently structured format that enables comparisons between risks as well as trends over time for individual risks as they are defined, mitigated, or removed.

1.2.1 ISO 31000

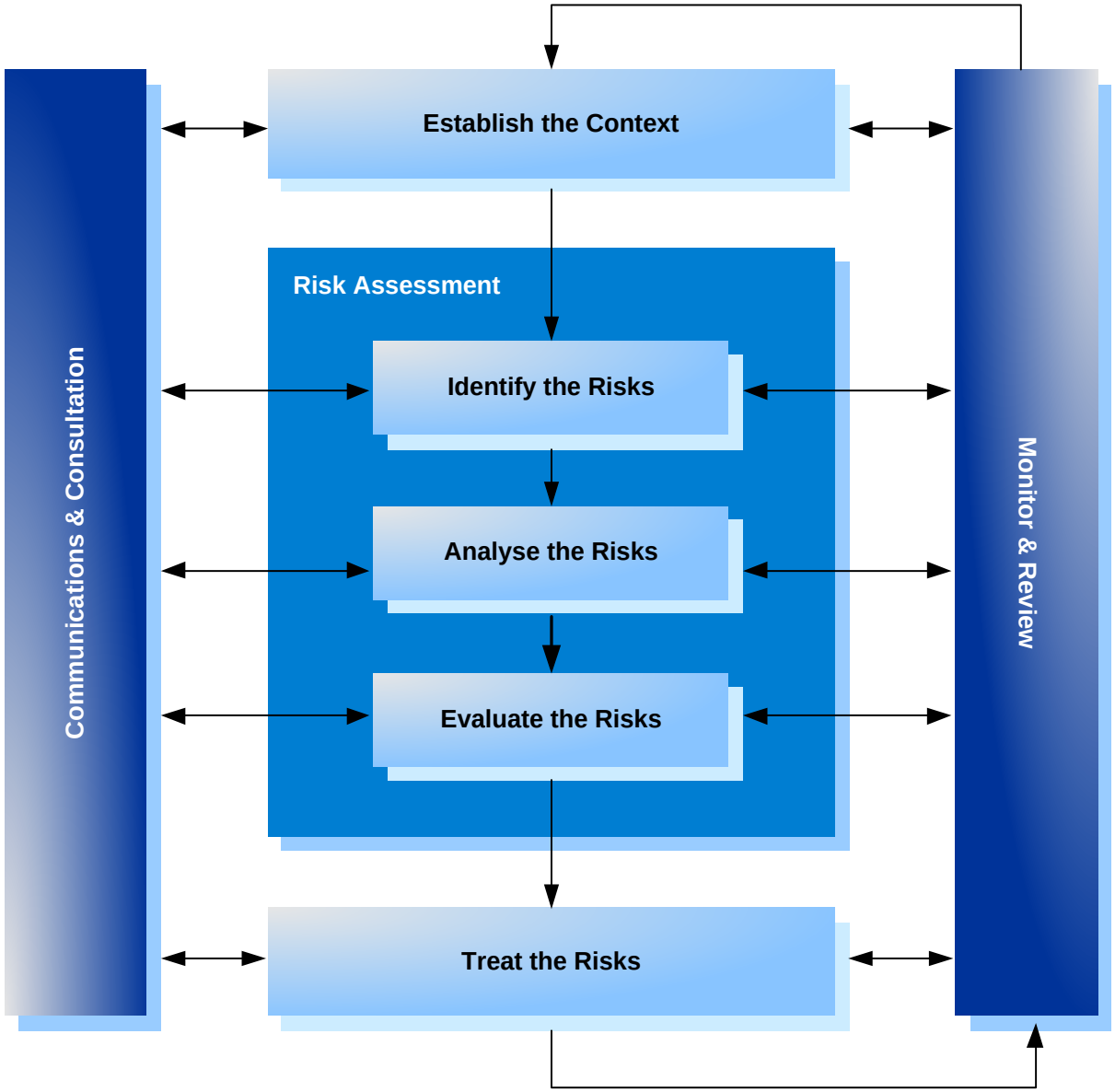
Risk assessments are to be carried out for key areas of the project, and controls that are critical to the achievement of the overall objectives, are to be implemented. The risk register is to be reviewed throughout the preparation of the Feasibility Study to ensure that it remains up to date and accurate throughout the study phase.

Risk management activities leading up to, and during Feasibility Study development are to be based on the framework established in ISO31000, with further detailing of the aligned processes located in the Project Execution Plan (PEP) from the Feasibility Study “Risk Management Report”.

HARRADYNAMICS ordinarily develops Project Execution Plans and Risk Management Reporting for major resource and mining projects in parallel with Feasibility Study Reporting to our Clients or Project Owners. Typical examples of such Plans and Reports can be obtained from HARRADYNAMICS upon request.

Figure 1.1 below depicts the core project risk management framework adopted for major resource or mining projects.

Figure 1.1 Risk Management Framework



1.2.2 Workshops

In addition to dynamic or spontaneous risk discussion, periodic risk workshops are to be conducted and records compiled to capture input from stakeholders, representatives of the various disciplines and hierarchy of a project. The risks recorded during the workshops are to be integrated into the risk register. The risk register is to be developed progressively in coordination between the Project Owner and their consultants.

In development of a Feasibility Study, risk registers developed by project teams are to be reviewed in strategic workshops, conducted to identify any gaps and ensure that high level project risks are identified and assessed. Excluding periodic update activity, typical workshops to be conducted are listed in Table 1.1 below.

Table 1.1 Specific Risk Workshops Contributing Toward the Preparation of a FS

Workshop	Attending Teams	Date
Surface Infrastructure Risk Workshop	Key Owners Team representatives	TBA
Mine Risk Workshop	Consultants, key Owners Team representatives	TBA
Strategic Risk Review Workshop	FS Coordinator, key representatives	TBA
Quantitative CAPEX Assessment	FS Coordinator, key representatives	TBA
Quantitative OPEX Assessment	FS Coordinator, key representatives	TBA
Quantitative Schedule Assessment	FS Coordinator, key representatives	TBA
Quantitative Statutory Assessment	FS Coordinator, key representatives	TBA
Quantitative Financial Assessment	FS Coordinator, key representatives	TBA

1.2.3 Qualitative Risk Evaluation Process

All risks recorded on the Project Risk Register are to be qualitatively scored. This involves an assessment of the risk against likelihood and consequence criteria to provide a qualitative evaluation. This then provides a common means to assess the severity, and prioritise risk mitigation activity. As shown in Table 1.2 an assessment is evaluated on a five by five matrix, determined by the identified likelihood and the maximum impact.

Table 1.2 Risk Evaluation Matrix

			Consequence				
Likelihood			Minor	Moderate	Serious	Major	Critical
			1	2	3	4	5
	Rare	1	1	3	6	10	15
	Unlikely	2	2	5	9	14	19
	Possible	3	4	8	13	18	22
	Likely	4	7	12	17	21	24
	Almost Certain	5	11	16	20	23	25

The resultant score (or position in the five by five matrix) indicates the severity of the risk, and allowed classification into bands. Based on the scores in Table 1.2, the bands identified in Table 1.3 guide the expediency and rigour spent in mitigation planning and activity.

Table 1.3 Risk Classification Levels

Risk Ranking	Description	
I	Low	No mitigation required
II	Moderate	Verify controls and safeguards in place
III	High	Risk reduction required with an appropriate period
IV	Extreme	Risk reduction required, < six months, or as required for the project

In order to assess each risk, qualitative criteria is to be used to ensure clear and consistent evaluation. This provides the scores against likelihood and consequence, between one and five, used in evaluating the risk as per Table 1.2. All risks are to be evaluated for likelihood on a one to five scale, and consequence against multiple consequence areas. The consequence areas are assessed for impact against:

- Health & Safety
- Environment
- Reputation
- Financial
- Project Schedule
- Existing Services Interruption
- Existing Operations Interruption
- Legal (Statutory)

The most severely impacted consequence area was also evaluated on a one to five scale and recorded.

The matrices used to evaluate the likelihood and consequence of each risk are to be included in Appendix A and Appendix B. Those registers to be kept up to date with at least monthly project team reviews.

1.3 RISK AND INHERENT UNCERTAINTY

In order to understand the level of certainty in a project schedule and project cost estimates, probabilistic models are to be developed. These probabilistic models consider the impacts of both discrete risks, and uncertainty in the forecast. Inherent uncertainty is present in all estimates or forecasts, and involves defining the level of confidence in the provided figures. For discrete risks, quantitative assessment requires definition of the events that, if they occur, impact the projects delivery cost or schedule. The discrete risks considered during the quantitative assessments are sourced from the project risk register.

Using these cost and schedule probabilistic models, anticipated contingency curves are developed to assist with, and provide transparency to cost and risk management over the lifecycle of a project.

1.3.1 Quantitative Cost Risk Assessment

HARRADYNAMICS uses Crystal Ball® as a statistical tool for modelling cost risks and uncertainty. Using Monte Carlo simulation, Crystal Ball® analyses discrete risks and base estimates and is used to establish levels of inherent variance in estimates and potential risk exposure. Cost outcomes and occurrence probabilities of key risks are to be modelled to project potential cost impacts.

The outcomes of the assessment are to be detailed in monthly project reporting along with regular issues of the Feasibility Study Report at Chapter 10; “Risk Management”.

1.3.2 Quantitative Schedule Risk Assessment

The master project schedule is modelled using PertMaster®. In an analysis similar to Crystal Ball®, levels of confidence in completion dates and milestones provide an examination of critical schedule areas. Risk outcomes and impacts on a project schedule are to be included in Feasibility Study Appendix G: “Project Schedule”.

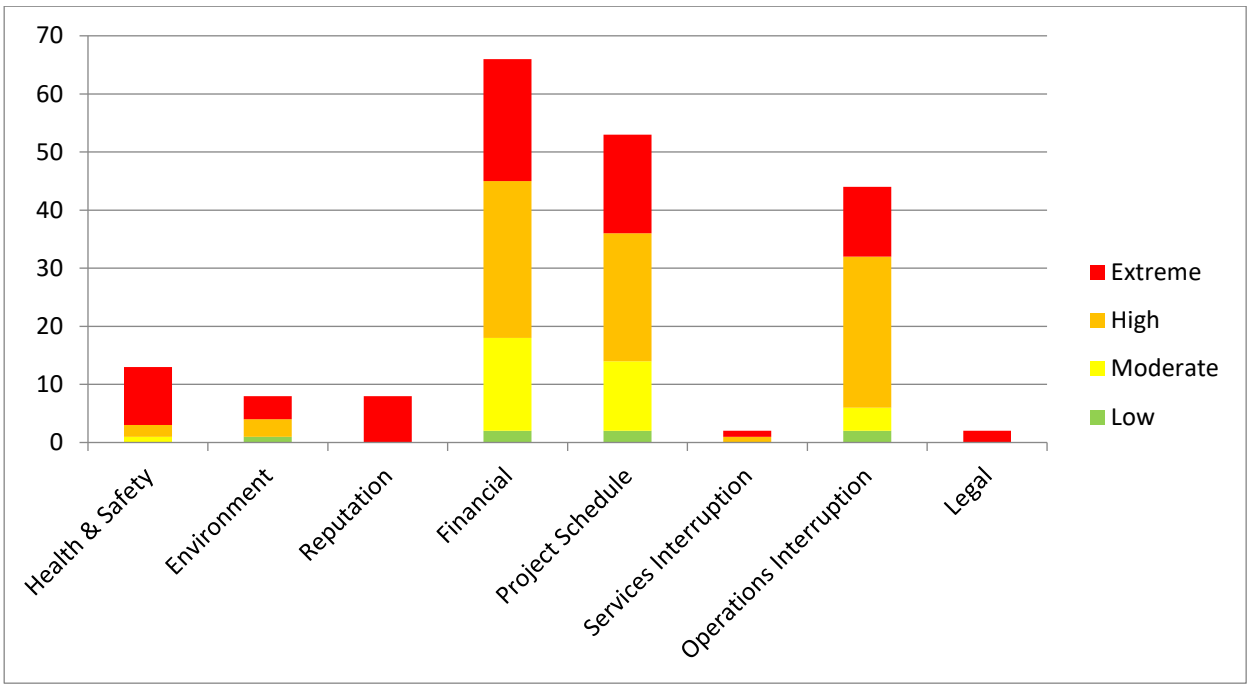
1.4 RISK PROFILE

The overall project risk profile considers the risks incurred from all scope, and is distributed across all consequence areas and phases of a project. The risk register considers both threats and opportunities, with four typical opportunities recorded in this Risk Management Plan below. These opportunities are focussed on the potential to increase operating production volumes and improved product qualities from the mine.

Of threats recorded, a majority of the ‘typical’ risk consequences defined below impact on a projects financial outcome, and/or project schedule, and/or interruptions to operations.

Figure 1.2 below is an example to show the quantity of risks by each consequence area, and highlights the distribution of High and Extreme risks across consequence areas (using the classifications identified in Table 1.3).

Figure 1.2 Current Risk Profile by Primary Consequence Area



The majority of risks by volume are expected to impact project capital cost, schedule, or operations. The relative levels of High and Extreme risks shown in Figure 1.2 is representative of the purpose of the Broad Brush Risk Assessment and its outcomes.

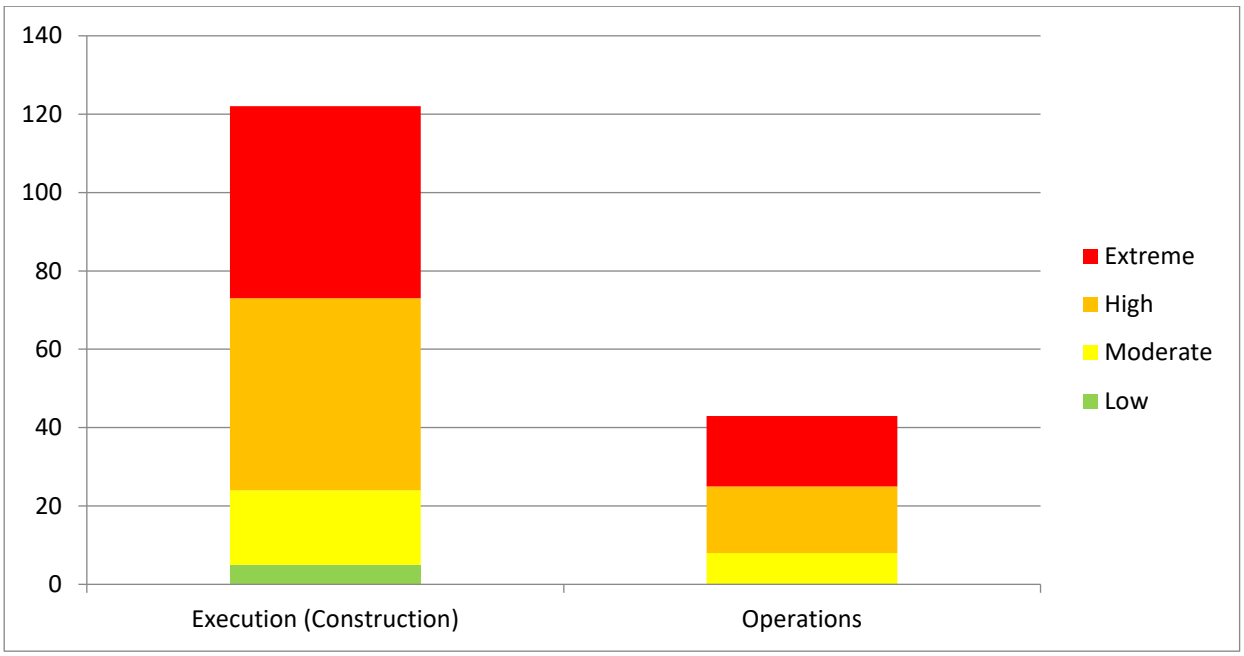
The relatively low number of risks in Safety, Environment and Reputation, with notable portion of Extreme risks is due to recording only key risks in the risk register. Safety risks have been assessed through a Broad Brush Risk Assessment, implemented to focus on extreme risks and identify the Principal Hazards. A list of Principal Hazards, in alignment with the relevant Mining Safety and Health Act, is to be documented in Feasibility Study Appendix N: “Construction Health Safety Management Plan”.

Safety in Design issues are to be identified and managed through design development, and are to be included in the risk register in Appendix D and Appendix E (not provided in this typical Plan).

The Project Owners representatives are to attend workshops, and work with their consultants to mitigate during the design process. For reputation and environmental risks, rigorous lists of environment and reputation risks are to be prepared during the development of an appropriate Environmental Impact Statement (EIS or equivalent), and key items are to be retained in ExTrack.

Figure 1.3 below provides an example of where the greatest period of exposure is during project execution, with the risk profile post-execution shifting to a focus on continuity of operations.

Figure 1.3 Initial Risk Profile by Phase of Impact



1.5 RISK MITIGATION

The Project Execution Plan (HARRADYNAMICS Standard) requires all High and Extreme risks to have an identified approach to mitigation documented in the risk register, while risks ranked Extreme must have dedicated Risk Action Plans (refer to Appendix F).

These actions are a realistic, appropriate and effective means to reduce the ranking of the risk. This may be by reduction of likelihood, impact, or both. An example of the initial Project risk profile is shown in Figure 1.4, while the forecast profile, following planned risk mitigation is shown as an example in Figure 1.5.

Figure 1.4 Initial Risk Profile for the Project Prior to Mitigation

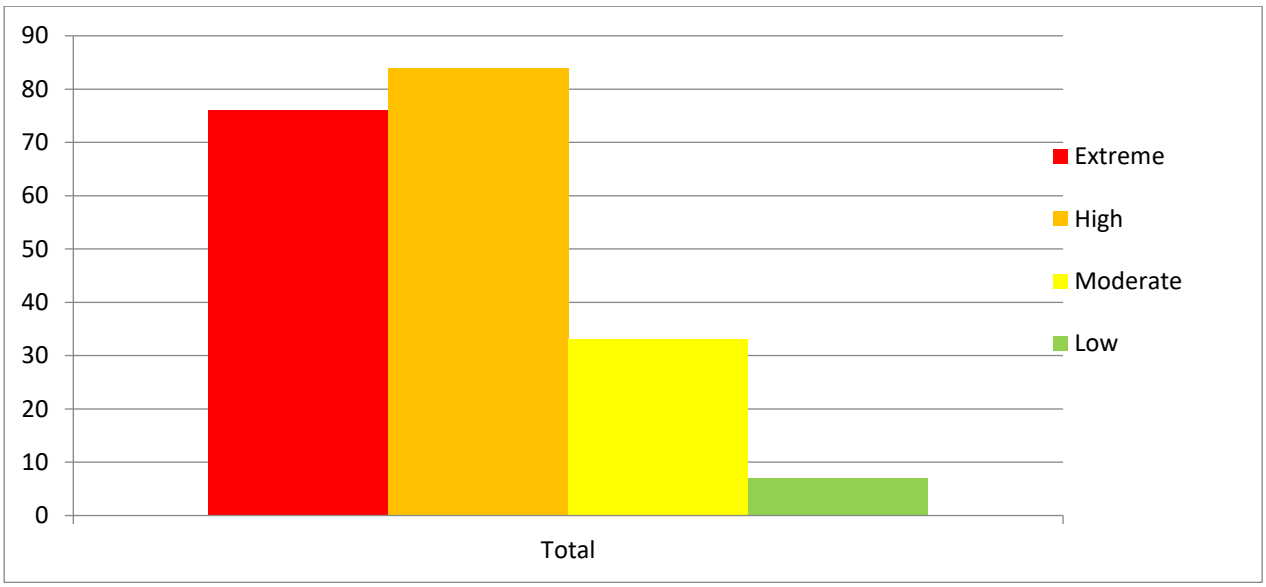
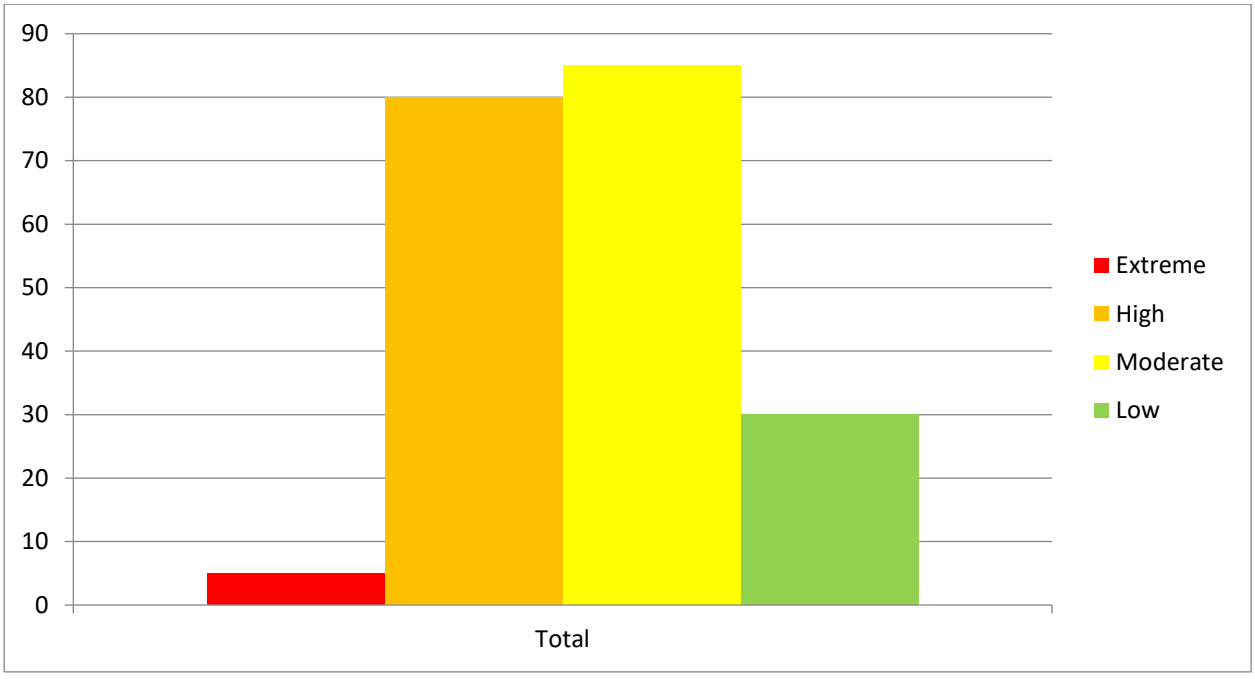


Figure 1.5 Residual Risk Profile for the Project Post Mitigation



The changes between Figure 1.4 and Figure 1.5 shows an overall reduction in risk exposure, with the forecast showing that mitigations identified typically reduce the profile by one classification.

As a result of the risk evaluation and prioritisation process, key risks are to be identified and ranked as Extreme. These risks are given the most attention, and proactively managed to minimise the potential impact on the success of a project.

The mitigation plans developed are forecast to reduce the number of Extreme risks. The forecast however is to show the quantity of risks that remain in the High and Moderate classifications.

1.5.1 Extreme Risks

Throughout the development of a Feasibility Study, Extreme risks are to be actively managed downward through the development and implementation of mitigation strategies. Extreme risks may have different forms of impact, or only apply during specific project phases. However, any identified Extreme risks generally impact the project in one of the following forms:

- Principal Hazards
- Breach of environmental requirements
- Denied approval to operate
- Lack of critical support infrastructure
- Unforeseen costs or reduction in efficiency
- Availability of funding
- Timely delivery of coal chain infrastructure

Table 1.4, Table 1.5, and Table 1.6 contain the risk details, status, and plans of the residual Extreme risks. Extreme safety risks are discussed in Feasibility Study Report Chapter 10: “Risk Management” and in Appendix N: “Construction Health & Safety Management Plan”. Those documents are also HARRADYNAMICS standards.

1.5.2 Risk Action Plans

Extreme risks are risks with the potential to impact project viability. The initial Extreme risks are to be summarised in Table format. An example is shown in Table 1.4 below, which includes the key risk details, current status and future mitigation actions. Each project risk identified requires a separate strategy to be prepared to manage the risk. These strategies are developed in the form of Risk Action Plans, and are a requirement for all Extreme ranked risks.

Key risks are to be identified early in the project, with efforts made to put controls in place. The Risk Action Plans developed for Extreme risks are listed below.

Risk Action Plans developed for safety risks include:

- Reliable management of workplace hazards.
- Management of fatigue.
- Control of hazardous chemicals.
- Emergency response planning.
- Inappropriate interaction with vehicles and machinery.
- Social and community unrest or industrial disputation.
- Safety impacts of uncertainty in coal/material properties.

Risk Action Plans have also been developed for the following delivery risks:

- Maximisation of the infrastructure to support the mining strategy.
- Event or incident induced government intervention.
- Environmental harm, requiring remediation and rectification.
- Breach of environmental approval requirements.

- Extensive land court (or equivalent court) appeals process.
- Delay of mining lease.
- Potential for extended commissioning.
- Severe weather or flooding events restricting access.
- Alignment of marketed coal specifications with realised product.
- Appropriateness of the contracting strategy in the Australian marketplace.
- Delayed receipt of Tier 2 and Tier 3 (subordinate) approvals.
- Capacity to balance progress of all necessary approvals.
- Mine fleet productivity assumptions.
- Mine Ramp up assumptions.
- Potential adverse impact to ground and surface water.
- Availability of water for offsite construction activity.
- Availability of water to support onsite construction activity.
- Confidence in coal property data.
- Changes in mine planning trigger EIS rework.
- Completion of the airport to support movement of the construction workforce.
- Challenges of the financial environment impacting finance options.
- Inadequate spoil stability design.
- Change in rail alignment impacting ability to transport product coal.
- Capacity to deal with crisis events.
- Level of definition and planning of transition to operations.
- Management of contractors competing for site access and space.
- Access to appropriately skilled labour.
- Vehicles sinking into the mine floor.
- Capacity to accurately assess contractors capabilities.
- Supply of consumables to support operations.

Risk Action Plans have also been developed for operation risks:

- Reliability of the operations water supply.
- Challenges induced by multi-seam underground mining.
- Commissioning delays impact production ramp up.
- Capacity to reliably achieve modelled production rates.
- Legacy issues from construction.
- Third party intervention through safety or industrial action.
- Inappropriate contractor incurs HR IR issues.
- Mining equipment doesn’t perform as planned.
- Damage to plant or equipment stops or impedes production.

- Water management practices cause environmental issues.

Risk Action Plans have also been developed for operation opportunities:

- Capability to produce a higher quality product from the mine.
- Refinement of major equipment specifications may increase production rates.

Risk Action Plans are in development for the following remaining Extreme risks:

- High wall or low wall collapse.
- Geotechnical conditions impacting mine safety.
- Sufficiency of the onsite IT platform to support resource exploration and mine planning.
- Procurement of long lead items.
- Government regulatory resource limitations delaying response to applications.
- Accidental sterilisation of mineral reserve.
- Continuous availability of construction supplies.
- Impacts of geological structures on underground mine planning.
- Ability to consistently mine the working section while maintaining coal quality.
- Potential for HR and IR disputes.

Discussion around the risk mitigating strategies for key supporting infrastructure can be found in Feasibility Study Report Chapter 10: “Risk Management”.

- Availability of permanent power to support commissioning and operations.
- Availability of quarry materials to meet the construction schedule.
- Delay in achieving capacity of the mine workers accommodation village.

All Risk Action Plans for Extreme risks are included in Appendix F. “Risk Actions Plans” also exist for risks of lower rankings, as these risks are to be managed down from an Extreme ranking.

Table 1.4 Residual Extreme Risks to the Project (Examples only)

Risk Description	Consequence	Mitigation	Actions Taken	Comments
Execution Risk 01				
Spontaneous Combustion	Major spontaneous combustion event in a longwall resulting in prolonged stoppage or loss of longwall. Active goaf - lose the face.	• Gas monitoring system. • Nitrogen plant installed to provide continuous inertisation and manage incidents. • Ripping of surface. • Active inertisation. • Ongoing maintenance of subsidence areas by ripping and sealing on the surface above the cracks. PHMP. • Provision for sealing the panel, and have a mine recovery plan.		

Risk Description	Consequence	Mitigation	Actions Taken	Comments
Execution Risk 02				
Due to competing projects, a high dollar, foreign exchange exposure, and the continued sluggish global debt market there is a risk of delays in Financial Close.	Increased holding costs of project delays of up to 18 months in execution.	Right execution strategy to make the project bankable; strong off-take contracts and appropriate foreign exchange hedging policy.	Right project execution is being discussed with financial advisors and our legal counsels. Work has started on offtake agreement.	
Execution Risk 03				
Delay of mining lease approval after full invested in infrastructure and equipment	Increased equity holding costs due to project delays of up to 6 months in execution impacting Financial Close.	Stakeholder management with regulators. Approvals team developing an approvals schedule. Delay longwall equipment purchase as much as possible		Commercial team to ensure that equipment order contracts contain the rights of the Project Owner to defer equipment delivery (and payment) by up to 12months to mitigate this risk.
Operational Risk 01				
Ability to consistently achieve modelled production rates year on year	Short fall in underground production that requires the open cut mine to produce additional mineral	Current production schedules are conservative based on best practice mines	Detailed productivity studies being undertaken as part of FEED. 3D seismic survey being conducted to prove the mining conditions	Production schedule and rates developed for BFS and signed off as JORC Reserve.

All risks identified here have an Extreme residual rating, as identified in ExTrack.

Table 1.5 Residual Extreme Safety Risks to the Project (Example only)

Risk Description	Consequence	Mitigation	Actions Taken	Comments
Operational Risk 02				
Personnel working an exorbitant number of hours resulting in less than adequate sleep.	Workers with acute sleep loss and impairment that may cause an incident that results in a fatality and/or serious injury or fatalities to multiple employees, contractors, members of the community of other third party.	• Conduct a thorough risk assessment to identify all foreseeable risks associated with fatigue. • Develop an Operations Fatigue Risk Management Plan that covers all parties, those who work on planned rosters and unplanned work, such as overtime call-outs and involvement in emergency response. Commuting times must also be considered. • Ensure the camp or residential accommodation is designed and constructed appropriately.		Operations Managers must ensure that an appropriate risk assessment is completed to ensure that fatigue risks are addressed and mitigated. Plans and Procedures are to be developed in accordance with: • Travel Safety, Health and Security • Work in Remote Locations • Workplace Amenities • Working Hours The Owners (Corporate) Team to assist Project Heads and Operations Managers to develop suitable plans to manage the foreseeable risks associated with fatigue.

Table 1.6 Residual Extreme Opportunities for the Project (Example only)

Risk Description	Consequence	Mitigation	Actions Taken	Comments
Operational Opportunity 01				
Mine can produce better quality product than anticipated	Opportunity for a higher mineral selling price to the Off-taker			
Operational Opportunity 02				
Opportunity to achieve higher production rates to those planned for. E.g. 20% chance of exceeding and achieving 5Mtpa from a longwall compared to 3Mtpa (design)	Higher production at lower cost than forecast	Currently extraction heights and widths are improved. Automation. General improved productivity of workforce. Current models use a moderate LW availability figure. Current schedules are de-rated to simulate known production ramp up phases.	Several mines in Australia and numerous mines in the US and China have consistently produced higher than what Client is budgeting	

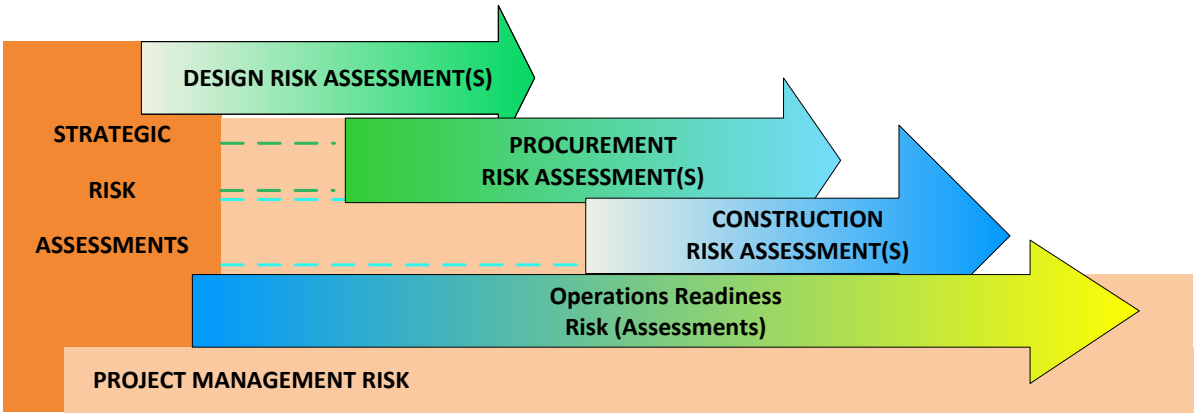
1.6 FORWARD WORK PLAN

1.6.1 Risk Management Through Execution

Communication and active management of risk does not end with the finalisation of the Feasibility Study. Rather, the risk register prepared to this point provides the basis for wider, more thorough risk awareness. Risk management activity post Feasibility Study will be guided by the Project Execution Plan (HARRADYNAMICS Standard) along with the Project contracting strategy. The Project Execution Plan (PEP) defines the people, process, activities, and criteria by which to manage risk.

The defined risk management approach (illustrated in Figure 1.6 below) will be used throughout design, procurement, construction, and achievement of operational readiness.

Figure 1.6 Risk Assessments Toward Operational Readiness

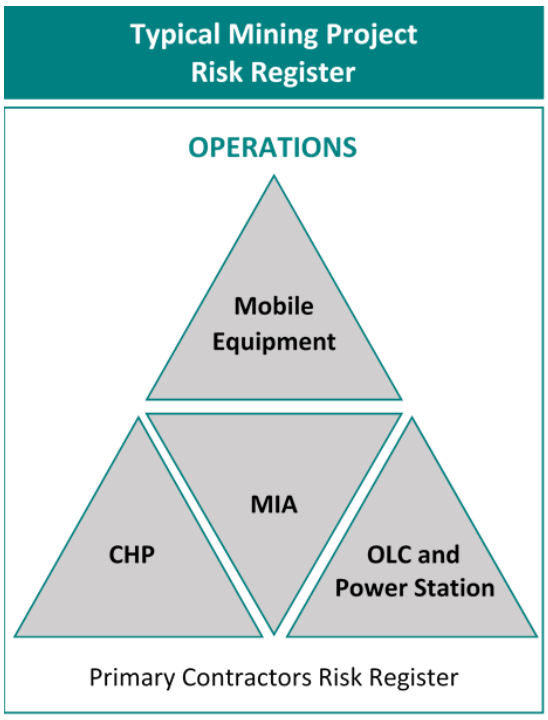


Within the current risk register, mitigation plans have been developed for all High and Extreme risks. These plans, as detailed in the Risk Register in Appendix C, will continue to be pursued to mitigate, or preferentially, close the risk.

1.6.2 Communication of Risk

Contractors, consultants, and the Owners teams alike, are responsible for communicating identified risks through the interface defined in the PEP. The assessment of risks is based on standard criteria, and managed through an integrated system. This enables all risks in the project risk register to be viewed and compared, regardless of origin. All contractors are expected to implement their own risk management systems capable of integrating with the project's risk reporting approaches. Figure 1.7 outlines the planned approach to interfacing with the risk registers of primary contractors.

Figure 1.7 Contractor Risk Register Interface



1.6.3 Risk Distribution and Allocation

Responsibility for managing project risk lies with all personnel within, or supporting, the project team and its contractors. Each party is responsible for the identification, assessment, monitoring and review of risks within their scope of work, and communication of any critical issues that may be identified.

During award of EPCM or EPC packages, a majority of execution risk will be transferred to the contractor, with a relatively minor portion of risk retained by the Project Owner. EPC contractor(s) are expected to manage their own execution risks in addition to those risks transferred during contract negotiation, through similar ISO31000 complaint processes. During execution, it is expected that some risks identified by the Project Owner are best managed by the contractor, and will be transferred. Similarly, out of scope risks identified by contractors will be communicated to the Project Owner for management at the Owner's Team level.

APPENDIX A LIKELIHOOD CRITERIA

	LIKELIHOOD			
RISK			**Historical**	**Probability**
	Almost Certain	**5**	Occurs more than once per year	Expected to occur in most circumstance 75% – 99%
	Likely	**4**	The event has occurred several times or more in your career	Will probably occur at some time 50% – 75%
	Possible	**3**	The event or similar has occurred elsewhere	Could occur at some time 25% – 50%
	Unlikely	**2**	The event might occur once in your career	May occur in exceptional circumstances 10% – 25%
	Rare	**1**	Have never heard of this happening	Not expected to occur in most circumstances 1% – 10%

	LIKELIHOOD			
OPPORTUNITY			**Historical**	**Probability**
	Rare	**1**	Have never heard of this happening	Not expected to occur in most circumstances 1% – 10%
	Unlikely	**2**	The event might occur once in your career	May occur in exceptional circumstances 10% – 25%
	Possible	**3**	The event or similar has occurred elsewhere	Could occur at some time 25% – 50%
	Likely	**4**	The event has occurred several times or more in your career	Will probably occur at some time 50% – 75%
	Almost Certain	**5**	Occurs more than once per year	Expected to occur in most circumstances 75% – 99%

APPENDIX B CONSEQUENCE CRITERIA

RISK		Health and Safety	Environment	Reputation	Financial	Project Schedule	Existing Services Interruption	Existing Operations interruption	Legal
Critical	**5**	Single or multiple fatalities	Significant, extensive detrimental long term impact	Negative international publicity. Very serious litigation. Reputation severely tarnished. Share price may be affected	Losses to the project >$500M US	Exceptional delays. Late achievement of major milestone > 12 months	Complete shutdown of site operations	Plant shutdown	Significant prosecution and fines. Very serious litigation including class action
Major	**4**	Major or multiple injuries - permanent injury or disability	Wide spread long to medium term damage to valued area	Significant negative attention, national publicity. Major breach of regulation. Reputation tarnished	Losses to the project $150-500M US	Substantial delays. Late achievement of critical path item 6-12 months	Critical path area shutdown	Temporary plant shutdown	Major breach of regulation. Major litigation
Serious	**3**	Serious Injury or Lost Time Injury	Localised medium term damage to an area of local value	Attention from media, negative regional publicity. Serious breach of regulations with fine.	Losses to the project $50-150M US	Marginal delays. Late achievement of key milestone or need date 3-6 months	Restricted area shutdown	Delays resulting in reduced throughput due to changes to existing practices	Serious breach of regulation with prosecution or moderate fine possible
Moderate	**2**	Minor Injury - Medical treatment case with/or restricted work case	Localised short to medium term damage to an area of minor local significance	Negative publicity and attention from local media. Moderate breach of regulations	Losses to the project $5-50M US	Minor delays. Late achievement of need date 1-3 months	Restricted area shutdown	Sustained minor change to existing practices	Minor legal issues, moderate non-compliances and breaches of regulations
Minor	1	First Aid Case	Limited damage to a localised area. No lasting effects	Local public concern / complaints. Minor technical non-compliance	Losses to the project < $5M US	Minimal schedule delays. A delay on key dates < 1 month	Minors repairs, no shutdown required	Temporary minimal change to existing practices	Minor non-compliances and breaches of regulations

OPPORTUNITY		Health and Safety	Environment	Reputation	Financial	Project Schedule	Existing Services Interruption	Existing Operations interruption	Legal
Minor	**1**	Prevention of low level symptoms requiring first aid treatment only	Limited enhancement to a localised area. No lasting effects	Local public praise. Prevention of minor technical non-compliances	Saving to the project < $5M US	Minimal schedule benefit. An improvement on key dates < 1 month	Prevention of minor repairs	Temporary minimal improvement to existing practices	Prevention of minor non-compliances and breaches of regulations
Moderate	**2**	Prevention of medical treatment injury or restricted work case	Localised short to medium term enhancement to an area of minor local significance	Positive publicity and attention from local media. Prevention of moderate breach of regulations	Saving to the project $5-50M US	Minor benefit leading to early achievement of need date 1-3 months	Prevention of restricted area shutdown <4hrs	Sustained minor improvement to existing practices	Prevention of minor legal issues, moderate non-compliances and breaches of regulations
Serious	**3**	Prevention of serious injury or Lost Time Injury	Localised medium term enhancement to an area of local value	Attention from media, positive regional publicity. Prevention of serious breach of regulations with fine.	Saving to the project $50-150M US	Marginal benefit leading to early achievement of key milestone or need date 3-6 months	Prevention of restricted area shutdown <1day	Schedule gains result in increased throughput due to improvements to existing practices	Prevention of a serious breach of regulation with prosecution or moderate fine possible
Major	**4**	Prevention of major or multiple injuries - permanent injury or disability	Wide spread long to medium term enhancement to valued area	Significant positive attention, national publicity. Prevention of major breach of regulation. Reputation greatly improved	Saving to the project $150-500M US	Substantial benefit leading to early achievement of critical path item 6-12 months	Prevention of critical path area shutdown >4hrs	Prevention of a temporary plant shutdown	Prevention of a major breach of regulation or major litigation
Critical	**5**	Prevention of single or multiple fatalities	Significant, extensive, and long term enhancement	Positive international publicity. Very serious litigation prevented. Reputation significantly enhanced. Share price may be positively affected	Saving to the project >$500M US	Exceptional benefit leading to early achievement of major milestone > 12 months	Prevention of complete shutdown of site operations >4hrs	Prevention of a plant shutdown	Prevention of significant prosecution and fines or very serious litigation including class action

APPENDIX C PROJECT RISK REGISTER

Typical not provided

APPENDIX D SURFACE FEED RISK REGISTER

Typical not provided

APPENDIX E UNDERGROUND FEED RISK REGISTER

Typical not provided

APPENDIX F RISK ACTION PLANS

Typical not provided