

Metallica Minerals Ltd



Risk Management Framework

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1. Introduction

Risk management is recognised as a key element of sound corporate governance practice in organisations and as a valuable tool for integrating all aspects of management planning and decision-making.

Metallica Minerals Ltd (MLM) believes that risk should be managed and monitored on a continuous basis. The MLM risk framework will allow the Company to identify material risks and assist management in meeting its business objectives.

MLM has applied risk management; however, the adoption of an organisation-wide and consistent framework based on the Australian/New Zealand Standard (AS/NZS 31000:2009) will provide benefits and build on what has already been achieved. There is also a requirement for compliance with the ASX Corporate Governance Principle 7.

- Risk is inherent in everything we do, such as determining work priorities, purchasing new systems or deciding not to take action at all. We manage risks continuously, sometimes consciously and sometimes without realising it, *but rarely systematically*.
- In Australia, a more formal approach to managing risk has evolved out of the manufacturing and insurance industries over the last 40 years. Risk management is being recognised as good business practice.
- Risk management is integral to a quality improvement process. Learning how to manage risks effectively enables managers to achieve higher levels of performance. It does this by:
 - providing a systematic way to make decisions rationally; and
 - allowing a broader analysis that opens up wider issues.

This enhances the focus on performance and encourages the search for opportunity and innovation.

2. Risk Management Approach

The MLM risk management system includes a Policy, and a Framework (this document). It is endorsed by the Management Team and the MLM Board. The Board's Audit and Risk Management Committee is set up specifically to oversee the implementation of the risk management policy and framework.

Key aspects of the risk management framework are:

- everyone is responsible for the management of risks;
- each operation is best placed to identify, evaluate and prioritise the treatment of risk within each segment of MLM;
- apply risk management practice in a systematic and effective manner;
- identify and manage all high and extreme risk exposures;
- material risks must be identified and appropriate controls implemented;
- fully integrate risk management practices with other existing processes such as operations, HSE and quality improvement;
- mitigating material risks through insurance where possible and appropriate;
- risk management practices should always lead to improved business outcomes;
- reporting periodically, including reporting on key risk indicators; and,

- assessing the effectiveness of the risk management framework.

While everyone is responsible for the identification and management of risks in their area, personnel within each operating area of MLM will be responsible for the identification, evaluation and treatment strategies applicable to their operating area.

3. Roles and Responsibilities

3.1. General

All staff and contractors at MLM are responsible for the effective management of risks. The risk management process should be integrated with other planning and management activities. Hazard and risk management will be included in staff inductions at each location.

3.2. Staff

All staff members are responsible for identifying potential workplace hazards and project risk exposures, and contributing to developing risk mitigation plans and implementing the plans for all high and extreme risks.

3.3. Managers

General Managers are responsible for:

- approving risk mitigation plans developed by staff, and,
- reporting high and extreme risks and strategies to minimise these risks to their relevant direct report being the MD or CEO or CFO.

3.4. Chief Financial Officer (CFO)

The CFO or his designate, and any General Managers, are responsible to monitor and update the risk policy, facilitate and coordinate the implementation of the risk policy and framework across the MLM group, and through internal review and audit;

- monitor the MLM risk management reporting processes;
- report risks and the status of implementation of risk management plans to the Managing Director and the Audit and Risk Management Committee;
- all investment decisions proposed to the Board will include an analysis of the risks, including the risk management strategies;
- will ensure identification of the material risks, analyse the possibility of the material risk occurring and evaluate the expected impact the material risk would have on the business should it occur; and,
- promote risk awareness throughout MLM.

3.5. Managing Director/CEO

The Managing Director (MD) or Chief Executive Officer (CEO) has the formal responsibility for risk management within MLM and is reliant on all staff and managers to identify and monitor risks and to implement effective risk management strategies. The MD or CEO is to report to the Board and the Audit and Risk Management Committee on the implementation of and compliance with policy and procedures.

The Managing Director/CEO and Chief Financial Officer (CFO) will state to the Board on an annual basis that:

- The management of Metallica's material business risks is effective; and,
- The declaration made in accordance with section 295A of the Corporations Act (in relation to the financial statements) is founded on a sound system of risk management and internal control and that the system is operating effectively in all material respects in relation to financial reporting risks.

3.6. Board and Audit and Risk Management Committee

The Board and through the Charter of its Audit and Risk Management Committee has the responsibility for ensuring that risk management policies are in place, risks are being monitored and mitigation actions are in place.

The Board is also responsible for reviewing and approving material insurances as part of risk management strategies and where appropriate obtaining external advice.

The Board has delegated certain functions to its Audit and Risk Management Committee and management. The overall governance framework for managing risk is as follows:

- The Board is to recognise and monitor all material risks of an operational nature relating to mineral exploration and leading to production which arise out of the activities of MLM;
- The Audit and Risk Management Committee assists the Board by ensuring MLM has established and is operating a financial risk management system which is designed to identify, assess, monitor and manage material financial risks;
- Executive Directors and Management implement policies, identify and manage risks (where practicable) in accordance with the Company policies and ensure their staff are informed and trained as required. This includes implementing business-specific controls, procedures, monitoring and reporting processes;
- Executive Directors and Management recommend insurance, where appropriate, as part of risk management strategies, and submit any material insurance policies to the Board for review and approval;
- Individuals manage risk within their sphere of control in accordance with the Company policies and business-specific processes; and,
- On at least two separate occasions during the year, the Board will meet in a dedicated session which may be prior to or following a Board meeting to discuss mitigated, current emerging and possible material risks.

4. Identifying, Measuring and Managing Risks

4.1. Risk Definition

Risk is any event that could prevent the operation, and ultimately MLM, from achieving its goals and objectives.

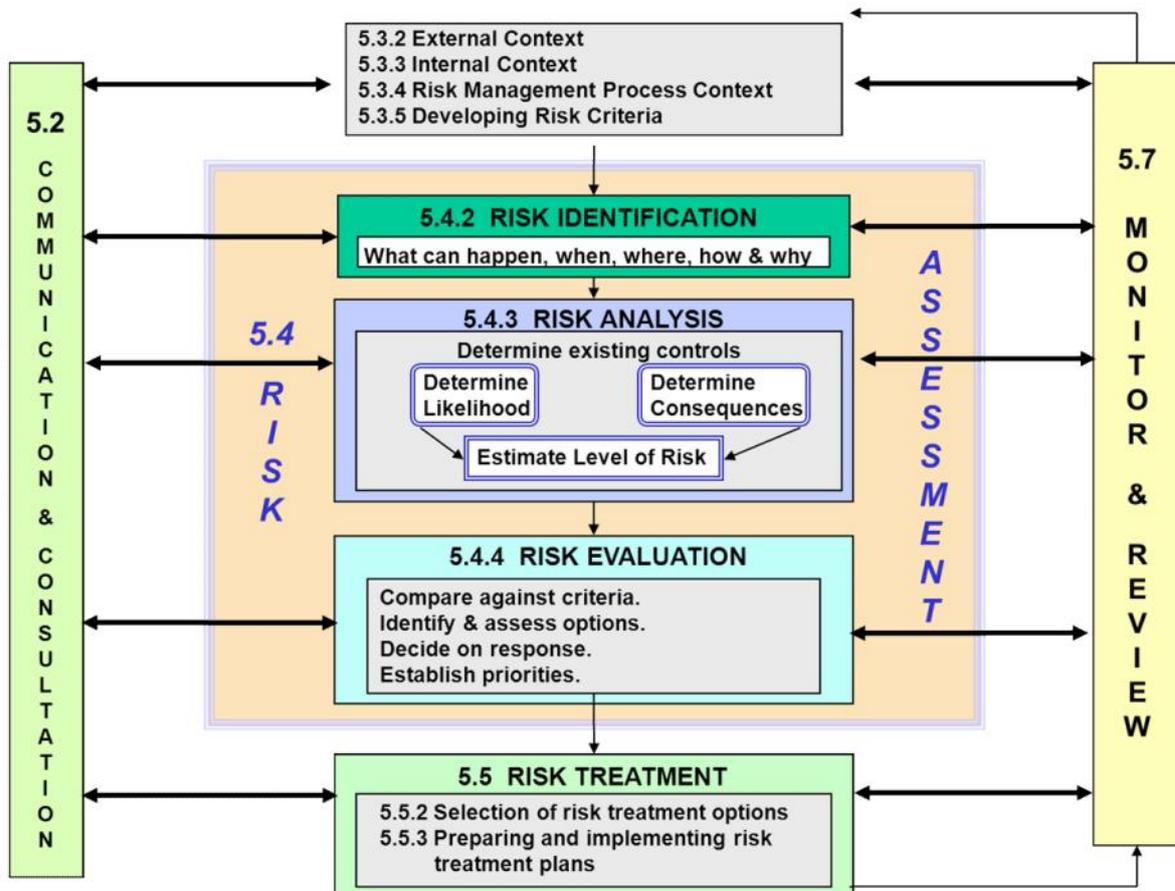
4.2. Why Risk Management?

Risk management is an integral part of good business practice. It involves the implementation of cost effective strategies to:

- increase the likelihood that MLM is successful in its business objectives by preventing potentially damaging events from occurring by implementing minimisation actions;
- transfer the impact of potentially damaging events to third parties (for example, insurance and contractual arrangements); and
- provide decision-makers with information to assess acceptable risks.

4.3. Risk Identification and Measurement

Risk identification can be achieved through organisation-wide, operations or project risk assessments. The following process (AS/NZ 31000:2010) has been adopted internationally and provides guidance for completing risk assessments.



MLM has developed a standard methodology for identifying and measuring risks throughout the organisation. The methodology assesses the consequences and likelihood of each risk event. The objective of the risk assessment process is to establish a prioritised list of risks for further consideration and treatment. All identified risks are recorded in the Risk Register.

4.4. Risk Assessment and Review Process

The following process steps should be followed in order to undertake a risk assessment or formal review of the Risk Register;

- The area/project/company activity of concern to be risk assessed should be clearly articulated and also time bounded. Both external and internal contexts are agreed and articulated,
- A person shall be nominated to facilitate and be accountable for the risk review,
- A team of knowledgeable persons be assembled to undertake the review in a workshop environment;
- The MLM Risk Likelihood, Consequence, Risk Score and Ranking and Matrix tables (6.1 to 6.4 below) are reviewed and updated as required to ensure they are appropriate for the review;
- Risk review is completed and results compiled into Excel worksheets for review and then updating of the risk register; and,
- Appropriate controls are developed to mitigate the risk (Section 4.5)

For risks that are ranked extreme or high, a further assessment using specific risk tools may be required. These risk tools include: SQRA (semi-quantitative risk assessment), PBA (principle based approach), BOWTIE (simple effective diagrams, causes and actions), and HAZOP (hazard and operability analysis), and should be conducted in consultation with persons or consultants trained in conducting the reviews.

4.5. Materiality

Material Financial Risks

Material financial risks are risks that impact directly on the balance sheet and through the profit and loss. The key components of Metallica's material financial risks are managed through:

- Financial and operational procedures and processes;
- Insurance procedures: and
- Funding and funding planning including budgets.

Material operational risks

Material operational risk is the risk that arises from inadequate or failed internal processes, people and system or from external events. Material operational risk has the potential to negatively impact the business by affecting financial performance, reputation or other damage to the business by the way the Company operates. These may include;

- Processes to ensure compliance with all safety and occupational health related legal and regulatory requirements;
- Processes to ensure high safety risks are identified and risk management processes in place for these;
- Processes to ensure environmental risk management processes are in place, including, contingency planning, reporting systems, investigations and remedial actions where required;
- An established Code of Conduct and Ethics are in place;
- Procedures to monitor changes in the environment that could impact Metallica's strategy; and,

- Procedures to ensure Metallica properly manages government and community relationships and the effects of Metallica’s activities on communities are recognised and where necessary remedial action is taken

Compliance Risk

Compliance risk is the risk of not complying with relevant regulatory requirements and our own ethical standards. The following framework is in place to manage compliance risk:

- Regularly reviewing changes in regulations;
- Ensuring staff/contractors are trained in new or changed regulations;
- Ensuring new staff/contractors are trained on the Company’s current expectations with respect to material risk management;,
- A Code of Conduct and Ethics is issued to all employees; and
- Legal advice when appropriate.

4.6. Risk Management Control Actions

Risk exposures may be:

- accepted
- reduced
- transferred
- avoided

For extreme or high risk exposures, it is necessary to identify appropriate options to treat these risks, evaluate these options and develop and document a risk management strategy or plan for implementation. This should be aligned to the company’s planning cycle. The risk management plan should identify what combination of these options is to be used for managing extreme or high risk exposures.

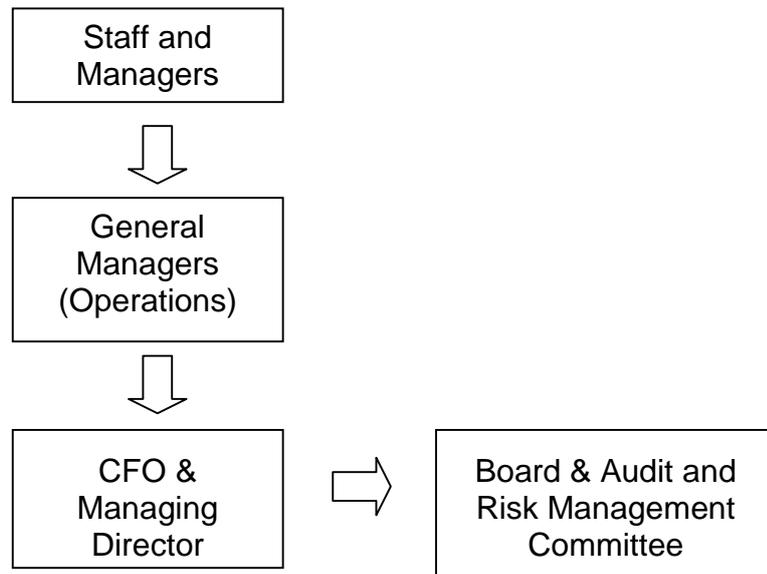
It is recommended that for each high/extreme risk a Bow Tie analysis is completed. The Bow Tie focuses on the event and suitable controls to reduce the likelihood of the event occurring. There will be critical controls, which must be identified, and an implementation plan developed, responsible person(s) allocated and a reporting schedule. Critical tasks may be incorporated into key performance indicators.

4.7. Business Planning and Risk Control

It is recommended that actions to mitigate the “material”, extreme and high risks are managed through the annual business planning processes. These usually include the strategic and tactical planning and budget processes. Through these planning processes appropriate management focus, accountability and funding can be applied to reduce the risks down to a tolerable level.

5. Reporting of Risks

All risks should be formally reported as follows:



High and extreme risks should be reported by the CFO and General Managers to the Managing Director.

The CFO and MD will report to the Board and the Audit and Risk Management Committee on high and extreme risk exposures identified through internal audit reviews. The level of materiality shall be determined as part of the review process.

In addition, the CFO and MD will arrange for quarterly reports to the Board and the Audit and Risk Management Committee on outstanding legal risk issues pertaining to MLM and annual reports on the status of MLM's insurance arrangements.

6. Risk Tables

The following risk tables have been developed as part of the MLM risk management system to provide guidance and provide consistency when undertaking reviews.

6.1. Likelihood Levels

Likelihood Score	Likelihood	Likelihood
5	High (>90%)	<ul style="list-style-type: none"> • May happen several times within the next year with the defined consequence. • Has occurred within the last two years within MLM • Typical of operations of this type due to many external influences.
4	Significant (90%)	<ul style="list-style-type: none"> • May occur once within the next 10 years with the defined consequence • Can be difficult to control due to some external influences • History of occurrences with the defined consequence level within MLM.
3	Moderate (50%)	<ul style="list-style-type: none"> • Has occurred in the industry worldwide with the defined consequence • Would not be surprising if it occurred within say next 10-20 years • Casual events have occurred in the country's industry but effects have been controlled so that the defined consequence has not resulted
2	Low (10%)	<ul style="list-style-type: none"> • Low probability that the situation resulting in the defined consequences will occur. Could occur but is considered unlikely. • Casual events have occurred in the industry worldwide but effects have been controlled so that the defined consequence has not resulted • No history in this industry of a risk situation which results in the possible consequence level defined.
1	Negligible (<10%)	<ul style="list-style-type: none"> • Possible but remote that the situation resulting in the defined consequence will occur • Casual events have occurred within the industry but risk is easy to control.

6.2. Consequence Levels

	Catastrophic (5)	Major (4)	Moderate (3)	Minor (2)	Negligible (1)
Occupational health and safety	Fatality Permanent incapacity, disability or chronic illness, unable to return to work.	Lost time injury (LTI) or potential for fatality; Serious irreversible disability, impairment or illness but able to return to work	Medical treatment injury (MTI) Moderate irreversible disability or impairment	First aid treatment injury (FAI) Reversible health impact	No injury, incapacity or disability
Environment	An offsite event that causes wide spread and long term harm and is not recoverable. An onsite event that is irreversible or has potential to migrate offsite.	An offsite event that can cause harm but is recoverable or can be mitigated; An onsite event that can cause severe harm and is not immediately recoverable	An onsite event causing harm that is immediately recoverable Onsite event with potential to migrate offsite	Single onsite event causing minor harm e.g. contained spill or minor contamination	No environment impact
Community And Government	Breakdown of social order and/or economy in affected community Action results in suspension or cessation of activities Irreparable damage to significant cultural or heritage item Existing processes unable to resolve, requires specific third party intervention	Major impact on social order and/or economy in affected community; Community or government dissatisfaction results in impact or delay to activities; Repairable damage to significant cultural or heritage item. Difficult to resolve requiring review and renegotiation of agreements	Moderate impact on social order and/or economy in affected community; High level of community or government concern or dissatisfaction; Numerous and repeated complaints (clustering); Perception that site or item of heritage or cultural significance impacted. Can be resolved using existing processes May require review of agreements	Minor impact on social order and/or economy in affected community Low level of community concern or dissatisfaction Small number of complaints Readily resolved using routine processes	No community impact
Production	> 2 months lost production	> 1 month to < 2 months lost production	> 1 week to < 1 month lost production	> 1 day to < 1 week lost production	< 1 day lost production
Financial	> US\$10,000,000	>\$1,000,000 to <\$10,000,000	>\$100,000 to <\$1,000,000	>\$10,000 to <\$100,000	<\$10,000
Corporate image and investor relations	Worldwide condemnation and publicity of significant indefensible adverse event; Sustained criticism and action from international NGO; Collapse in investor confidence	Host country publicity of significant defensible adverse event(s); Sustained criticism and action from national NGO; Major loss of investor and/or market confidence	Criticism and action from local national NGO Local adverse publicity Moderate loss of investor and/or market confidence	Local adverse publicity Minor loss of investor and/or market confidence	No corporate image impact
Legal and other obligations	Significant breach of regulation, legal, contract or other requirement; Licences or approval to operate withdrawn or revoked; Prosecution, penalties or other action expected. Officer	Major breach of regulation, legal, contract or other requirement; Licences or approval to operate could be suspended; Prosecution penalties or other action likely	Breach of regulation, legal, contract or other requirement. Continuing or multiple occurrence of technical breach of regulation, legal or other requirement Regulator notification required.	Technical breach of regulation, legal or other requirement. Requires reporting via routine mechanisms May attract response from the	No breach of regulation, legal or other requirement.

	gaoled.	including third party claims	Prosecution, penalties or other action not expected including third party claims	regulator	
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6.3. Risk Score and Ranking Criteria

Score	Priority	Action required
20 to 25	Extreme	<ul style="list-style-type: none"> • Immediate action required. • Determine whether activity or task should be stopped pending further investigation, studies or more detailed risk assessment • Highest level corporate and senior management attention required • A formal risk treatment control plan must be developed and implemented, which is regularly reviewed and audited for effectiveness
11 to 19	High	<ul style="list-style-type: none"> • Additional studies, investigations or more detailed risk assessment required if confidence is not high or certain • Responsibility requires to be assigned to senior management • A formal risk treatment control plan shall be implemented, which is periodically reviewed and audited for effectiveness
7 - 10	Moderate	<ul style="list-style-type: none"> • Additional studies or investigations required if confidence is not high or certain • Existing control measures shall be periodically reviewed and audited for effectiveness • Responsibility assigned to site management or supervisors
1 to 6	Low	<ul style="list-style-type: none"> • No further action required - accept • Manage and monitor using existing control measures or routine procedures

6.4. Risk Matrix

LIKELIHOOD	CONSEQUENCE				
	Catastrophic 5	Major 4	Moderate 3	Minor 2	Negligible 1
High 5	Extreme 25	Extreme 24	Extreme 22	High 19	High 15
Significant 4	Extreme 23	Extreme 21	High 18	High 14	Moderate 10
Moderate 3	Extreme 20	High 17	High 13	Moderate 9	Low 6
Low 2	High 16	High 12	Moderate 8	Low 5	Low 3
Negligible 1	High 11	Moderate 7	Low 4	Low 2	Low 1

7. References

ASIC - <http://www.asic.gov.au/asic/ASIC.NSF/byHeadline/Compliance>

AS 3806: 2006 Compliance Programs

AS 8000: 2003 Good Governance Principles

AS/NZS ISO 31000:2010 Risk Management

Metallica Minerals Limited, Risk Management Policy, March 2012