MANUAL ON INTERNAL AUDIT OF RISK MANAGEMENT IN THE MINING SECTOR

The Institute of Cost Accountants of India

(Statutory body under an Act of Parliament

Head Office: 12, Sudder Street, Kolkata – 700016

Delhi Office: CMA Bhawan, 3, Institutional Area, Lodhi Road, New Delhi – 110003

Website: www.icmai.in

Behind Every Successful Business Decision, there is always a CMA

MISSION STATEMENT

"The CMA Professionals would ethically drive enterprises globally by creang value to stakeholders in the socio-economic context through competencies drawn from the integraon of strategy, management and accounng."

VISION STATEMENT

"The Instute of Cost Accountants of India would be the preferred source of resources and professionals for the financial leadership of enterprises globally."

ABOUT THE INSTITUTE

The Institute of Cost Accountants of India is a Statutory body set up under an Act of Parliament in the year 1959. The Institute as a part of its obligation, regulates the profession of Cost and Management Accountancy, enrols students for its courses, provides coaching facilities to the students, organises professional development programmes for the members and undertakes research programmes in the field of Cost and Management Accountancy. The Institute pursues the vision of cost competitiveness, cost management, efficient use of resources and structured approach to cost accounting as the key drivers of the profession. In today's world, the profession of conventional accounting and auditing has taken a back seat and cost and management accountants are increasingly contributing towards the management of scarce resources and apply strategic decisions. This has opened up further scope and tremendous opportunities for cost accountants in India and abroad.

After an amendment passed by the Parliament of India, the Institute is now renamed as ''The Institute of Cost Accountants of India'' from ''The Institute of Cost and Works Accountants of India''. This step is aimed towards synergising with the global management accounting bodies, sharing the best practices which will be useful to large number of trans-national Indian companies operating from India and abroad to remain competitive. With the current emphasis on management of resources, the specialized knowledge of evaluating operating efficiency and strategic management the professionals are known as ''Cost and Management Accountants (CMAs)''. The Institute is the 2nd largest Cost & Management Accounting body in the world and the largest in Asia, having approximately 5,00,000 students and 85,000 members all over the globe. The Institution headquartered at Kolkata operates through four Regional Councils at Kolkata, Delhi, Mumbai and Chennai and 108 Chapters situated at important cities in the country as well as 11 Overseas Centres. It is under the administrative control of Ministry of Corporate Affairs, Government of India, New Delhi.

Internal Auditing and Assurance Standards Board (IAASB)

The Institute & eminent resource persons from our profession have felt the need for the constitution of board for Internal Audit. The Present Council for the first time has nurtured the Board to formulate and issue standards, guidelines and advisory for the Internal Audit Function. The Cost Accountants have been recognized by the Companies Act, 2013 and other regulatory bodies for appointment as Internal Auditors.

First Edition: June 2024

DISCLAIMER:

The views expressed in this publication are those of author(s) which have been reviewed by the Internal Auditing & Assurance Standards Board of the Institute of Cost Accountants of India after taking into account the suggestions, opinions and comments of members and non-members of Institute.

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FOREWORD OF THE PRESIDENT

It is my great pleasure to announce that the Internal Auditing & Assurance Standards Board (IAASB) of the Institute has come out with a document titled "Manual on Internal Audit of Risk Management in the Mining Sector". This Manual has been prepared taking into consideration the Statutory Provision of the Companies Act, 2013 wherein the Cost Accountants along with other professionals have been considered for taking up the assignment of Internal Audit, and the immense risks that prevail in the mining sector.

As per Section 138 (1) of the Companies Act, 2013, such class or classes of companies, as may be prescribed, shall be required to appoint an internal auditor, who shall either be a Chartered Accountant or a Cost Accountant, or such other professional as may be decided by the Board, to conduct internal audit of the functions and activities of the company. Keeping this in mind and in line with the regulatory recognition of practicing Cost Accountants to be appointed as Internal Auditors, the Council for the first time as a hall mark in the history of the Institute, constituted the Internal Auditing & Assurance Standards Board in 2019 to formulate and issue standards, guidance notes, guidelines and advisory for the Internal Audit activities. Since then, the Board has issued 18 Internal Audit & Assurance Standards and a large number of Guidance Notes covering internal audit in varied industries viz. commercial banking, life insurance, cement, education, pharmaceuticals, power, etc. The Board has also issued a Technical Guide on Performance Audit and Guidance Note on Risk Based Internal Audit. The present Manual on Internal Audit of Risk Management in the Mining Sector is the latest in the series.

This Manual focuses on risk based internal audit in the mining sector. It also provides an insight into the general framework of internal audit mechanism vis-à-vis sector specific issues which are prevalent in analyzing risk assessment of an organization engaged in the mining activities.

On behalf of the Institute, I acknowledge the contribution of CMA Ajay Deep Wadhwa, a practicing Cost Accountant, retired Chief Manager (Finance), Coal India Ltd and former Chairman of EIRC of the Institute who had been entrusted for preparation of this Manual and also extending sincere gratitude to CMA B.B. Goyal, Chief Adviser, ICMAI MARF for his enormous support and expertise who extensively reviewed this manual. This manual would not have been possible without the coordination of CMA Amal Kumar Das, Former President of the Institute and Former CMD of NCL.

I congratulate CMA Chittaranjan Chattopadhyay, Chairman of the Internal Audit Assurance & Standards Board (IAASB) for his untiring effort and zeal without which, smooth functioning of the Board would have been difficult.

I am quite sure that the readers of this Manual will find it very useful in their professional life and will benefit in enriching their knowledge in the field of Internal Audit in the mining sector.

CMA Ashwin Dalwadi
President

Place & Date: New Delhi, 25th June, 2024

FOREWORD OF THE VICE-PRESIDENT

It gives me immense pleasure to take this opportunity to present this "Manual on Internal Audit of Risk Management in the Mining Sector" prepared by the Internal Auditing and Assurance Standards Board (IAASB) of the Institute. I also extend my personal gratitude to the Council for continuous formation of Internal Auditing & Assurance Standard Board (IAASB), taking into consideration the Statutory Provision of the Companies Act, 2013 wherein the Cost Accountants along with other professionals have been considered for taking up the assignment of Internal Audit.

The constitution & regular functioning of the IAASB is felt necessary to provide an opportunity to the members of the Institute to enrich their skills and knowledge in the field of Internal Audit by way of imparting specific training and publishing standards and guidance notes for serving industries in both the Manufacturing as well as the Service sector.

Risk Management is a continuous process to assess, mitigate & report all risks in an organization. Internal auditors play a critical role in risk management. Risk management in the mining sector involves identification of internal & external hazards, assessment of the risks attached to each, and application of right risk mitigation measures. In this regard, this manual provides a comprehensive guide.

I am of the considered view that this Manual would go a long way in strengthening and updating the professional expertise of the Cost Accounting Professionals and all other stakeholders in the field of Internal Audit & in addressing Risk Management in the Mining Industry. This manual would enable them to deliver a far greater role in the years to come.

I would like to place my sincere gratitude to CMA Ajay Deep Wadhwa, former Chairman of EIRC of the Institute who has prepared this document under the able guidance of CMA Amal Kumar Das, Former President of the Institute and Ex- Director Finance & Ex- Chairman cum Managing Director of Northen Coalfields Ltd and also express my gratitude to CMA B.B. Goyal, Chief Adviser, ICMAI MARF for his enormous support and expertise who extensively reviewed this manual.

I would like to extend my sincere thanks to CMA Chittaranjan Chattopadhyay, Chairman of IAASB and also to all the members of the board for their relentless efforts in bringing out this Manual in the present form within a short span of time.

I wish all the success of the Board in its future endeavor.

CMA Bibhuti Bhusan Nayak
Vice President

Place & Date: Kolkata, 25th June, 2024

FOREWORD OF THE CHAIRMAN OF IAASB

The Council of the Institute, under the able guidance of CMA Ashwin Dalwadi, President and CMA Bibhuti Bhusan Nayak, Vice President had constituted the Internal Audit & Assurance Standards Board (IAASB) under my Chairmanship. The requirement of IAASB was the need of the hour considering the inclusion of "Cost Accountants" in the scope of Internal Audit as per provisions of Companies Act, 2013 and other legislations in force.

IAASB is entrusted with the responsibilities of promoting the role of Cost & Management Accountants in the domain area of internal audit. The objectives and functions of the Board include development & issue of standards, guidance notes, implementation guides, technical guides, practice manuals, information papers and case studies etc. and undertaking their revision, wherever necessary.

As the business activities and operations are undergoing continuous changes, auditing today, is not confined only to verification of documents and financial transactions but may also be suitably aligned with the developments in Artificial Intelligence and data mining. To assess the organization's performance, and to ensure the overall quality, credibility, consistency and comparability of the work performed by the Internal Auditors, it is necessary to follow the prescribed standards, policies, rules, and regulations covering various sectors.

To support & enable the Cost Accountants to qualitatively perform internal audit assignments, the Board felt the need for the preparation and development of Guidance Notes on Internal Audit for General requirement as well as for specific Industry /Service Sectors. Considering the same, the board took up the assignment of preparation of Manual on Internal Audit of Risk Management in the Mining Sector.

On behalf of the Institute, as a Council Member and as Chairman of IAASB, I convey my profuse thanks to CMA Amal Kumar Das, Former President of the Institute and Ex-Director Finance & Ex- Chairman cum Managing Director of Northen Coalfields Ltd expertise in nitty gritty of Mining Sector for coordinating the entire work dedicatedly. I sincerely thank CMA Ajay Deep Wadhwa, a practicing Cost Accountant and retired Chief Manager (Finance), Coal India Ltd and former Chairman of EIRC of the Institute who has dedicated his professional knowledge and expertise in preparing this Manual. I also extend my sincere appreciation to CMA B.B. Goyal, Chief Adviser, ICMAI MARF for his relentless support and guidance as a reviewer for compilation and finalization of this manual. I do also extend my sincere thanks and gratitude to Shri P.M.Prasad, Chairman-Cum-Managing Director of Coal India Limited , Shri Amitava Mukherjee, Chairman-Cum -Managing Director(Addl. Charge) & Director(Finance) of NMDC Limited and Shri G.V.Kiran , Chairman-Cum-Managing Director of KIOCL Limited for sharing their value added thoughts and ideas on this manual through their individual foreword which has enriched it immensely. I do also acknowledge the support, expertise and guidance of all the members of the board for the preparation and finalization of this manual.

I am sure that our members would find this manual a very useful document for enriching their knowledge in Risk Analysis of a business entity engaged in the mining activities while doing internal audit which will be beneficial to build a lucrative career in Internal Auditing to tap the fullest potential of Internal Auditing and Assurance services.

CMA Chittaranjan Chattopadhyay
Chairman of IAASB

Place & Date: Kolkata, 25th June, 2024

पी० एम० प्रसाद
अध्यक्ष–सह–प्रबंध निदेशक
P. M. Prasad
Chairman-Cum-Managing Director

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FOREWORD OF THE CHAIRMAN

For any corporate its internal controls, processes, financial reporting, accounting, operations and optimum use of resources are catalytic factors, among others, that accelerate a stable progress instilling shareholder and consumer confidence. Internal Audit evaluates and performs these important tasks. A big benefit of an audit is that it offers assurance to the owners, investors and shareholders alike. For the owners, it brings to the table accuracy and transparency in account books. Contrary to statutory audit which is an annual phenomenon, internal audit is a recurring process. Also, internal audit is a review not only of the books of accounts but of the management policies and practices prevalent in the organisation. It facilitates decision makers to weigh whether accepted practices in place are effective or need tweaking. In other words, internal audit helps point out the weak areas of the management. As a barometer on the progress of the company's management internal audits could be counted upon for best results.

Inherently mining industry is fraught with risks in many forms. Geo-political issues, technology disruptions, ESG matters, land acquisition and rehabilitation, climate change activism, supply chain concerns, risks of unviable mining, evolving business models, sporadic law and order issues, community health risks, resistance from local communities in the proximity of mining areas, subsidence, inundation, safety hazards are some of the external and internal risks that impede mining activity. In case of coal mining the rallying call to end the use of coal and make a transition towards renewable energy sources is also gaining traction globally. Abrupt ceasing of coal mining activities also brings risks of associated just transition to local populace. In India, we have not come to such a stage yet but the risk is still there. Investments have dried down in coal mining projects.

Internal Audit could focus on addressing a robust risk management system consisting of a mechanism for defining, prioritizing and formulating contingency strategies for risks. It could be done through a framework for functions, duties of various authorities, committees and the Board for executing risk management procedures, monitoring periodicity (Risk Management Calendar) and associated models.

In case of CIL, the company recognizes the importance of timely identification of risks and opportunities to ensure consistent organizational growth. In order to effectively manage the risks associated with the business, CIL has taken adequate measures to institutionalize risk management process in the company by implementing an elaborate Enterprise Risk Management (ERM) framework in line with Securities and Exchange Board of India, (SEBI) Listing Obligations and Disclosure Requirement (LODR) Regulations, 2015.

I appreciate the efforts taken in preparing the "Manual on Internal Audit of Risks Management in Mining Sector". I hope it would be useful as a handbook on the subject.

6th June' 2024

P.M. Prasad

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निदेशक (वित्त)
Chairman-cum-Managing Director (Addl. Charge) &
Director (Finance)

FOREWORD OF THE CHAIRMAN

It gives me immense pleasure to present the well-researched & impeccably documented manual on *'Internal Audit & Risk Management in Mining Sector'* prepared by the esteemed professional body *The Institute of Cost Accountants of India.*

This manual delves into the vast depths of the mining sector & captures the wide gamut of challenges faced by the various organizations, for navigating the hazardous landscapes in the industry, with an ultimate aim towards long-term development & sustainability. In today's dynamic scenario in the mining sector, where environment-friendly mining measures need to be prioritized on one hand, while rapid enhancement of scale of operations also need to be given equal credence on the other hand for catering to ever-increasing consumption demands, it is of paramount importance to evolve a balanced approach for mitigation of the risks, while implementing firm measures of internal control to regulate the operations.

While internal control mechanisms are mostly well-structured among the prominent players in the industry, it still leaves ample room for further growth & upgradation by factoring the latest practices being developed for better corporate governance across the globe. Internal audit is also a field which requires constant monitoring & perpetual upgradation, for facing the ever-evolving complexities of the mining sector. In this context, this manual encompasses the best industry practices, with customized guidance for the mining sector.

Risk management, on the other hand, is a largely informal & unorganized dimension, which requires constant vigilant overview & appropriate strategic planning, for the mitigation of the challenges. Without any specific structured evaluation mechanism for risk assessment, majority of corporations often tend to neglect this aspect while commencing of large-scale expansion endeavors or continuing with traditional mining methodologies. This manual strives to provide a definitive approach towards proper assessment & mitigation of risks in a formal & structured manner, for aiding the organizations in their perpetual growth & development.

The Institute of Cost Accountants of India has leveraged its extensive experience in the mining industry to identify and address the sector's critical challenges. This manual provides valuable guidance on implementing effective internal audit and risk management measures within our organizations. We deeply appreciate the expertise and insights shared through this comprehensive resource.

Amitava Mukherjee
CMD & Director (Finance)
NMDC Limited

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FOREWORD OF THE CHAIRMAN

I am happy to know that Internal Audit and Assurance Standards Board, The Institute of Cost Accountants of India is releasing Manual on Internal Audit of Risk Management in the Mining Sector.

India's mining sector is transforming continuously and contributing to the nation's economy and has the potential to position India as one of the world's biggest mining hubs. Indian economy is on the aspirational path of becoming a $5 trillion GDP economy by 2025. With India's abundance mineral resources, the mining industry is a critical to growth of India. The country ranks in the top five producer of minerals in the world and is significant producer of coal, bauxite, iron, and zinc ore. Mining industry is so significant that for every 1% incremental growth in mining sector results in approximately 1.3% incremental growth in industrial production and 0.3 percent incremental growth in India's GDP. Also, the mining sector contribution to overall Indian Gross Value Added [GVA] has remained around at 2%. The mining industry has the potential to create 6 million additional jobs by 2025.

Inherently, Mining Industry is an incident prone sector. A well-defined and robust internal audit practise is must to minimize the risk at each level of workings/operations of mining industry. With this intend this Manual on Internal Audit of Risk Management in the Mining Sector is prepared and is elaborative in nature.

Objective driven internal audit will add value and improve organization operational efficiency. Internal audits of an organization will improve internal controls and corporate governance. Internal audits is also ensuring compliance with laws and regulations.

This manual provides insight of identification of internal & external risk, its management and mitigation measures for mining sector. This manual will be helpful for Internal auditors for conducting audit for mining industry. I hope this manual will be updated regularly and cater to the need of mining Industry.

(G.V. Kiran)
Chairman-cum-Managing Director

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PREFACE

Due to globalization, changing business landscape, increasing risks, and more & more emphasis on ESG and green financing, managements are increasingly becoming risk focussed. As a result, their expectations from their KMPs and Internal Auditors has, over the years, shifted towards risk management areas. In this background, the internal auditors are expected to assure whether all risks are being managed within the acceptable limits.

There is a concomitant rise in the demand for good governance and the role played by the stakeholders entrusted with the responsibility of ensuring good governance. Being one of the stakeholders helping to strengthen and improve governance practices, the role of Internal Audit is assuming significance in the context of the changing environment.

The purpose of this Manual is to create an understanding of the mining industry. The manual will facilitate the professional members, auditors & auditees in conducting the internal audit of risk management in the mining industry. Wherever appropriate, references have been made to various studies, and internal auditing standards to corroborate the thought process and/or elucidate the subject matter.

The objective is to guide and enable the organizations in setting up and effectively carrying out the Internal Audit function. The governance remit of Internal Audit is being progressively expanded laying down standards around the same. Internal Audit steadily needs to move up the value chain to provide more dependable assurance to the Management and the Board.

An effective internal audit of risk management will provide assurance to the management and all other stakeholders on the efficacy & effectiveness of the systems, processes & governance; internal controls; risk management system; and compliance. To accomplish these objectives, the three E’s of audit viz. Efficiency, Effectiveness, & Economy, must be followed.

CONTENT

List of Acronyms/ Abbreviations used	
AI	Artificial Intelligence
ATR	Action Taken Report
BOD	Board of Directors
CG	Corporate Governance
CISO	Chief Information Security Officer
CMA	Cost & Management Accountant
CMD	Chairman & Managing Director
CPCB	Central Pollution Control Board
CPSE	Central Public Sector Enterprise
CRO	Chief Risk Officer
DGMS	Directorate General of Mines Safety
DMP	Disaster Management Plan
ECC	Emergency Control Centre
ERM	Enterprise Risk Management
ESG	Environmental, Social & Governance
FTA	Fault Tree Analysis
GHG	Green House Gas
HoD	Head of Department
HWM	Hazardous Waste Management
IA	Internal Audit
INR	Indian Rupee
LCG	Loss Control Group
LODR	Listing Obligations & Disclosure Requirements
LTO	License to Operate
OB	Overburden
PRAT	Proportional Risk Assessment Technique
RMC	Risk Management Committee
RMC	Risk Management Calendar
RMF	Risk Management Framework
RMT	Risk Management Team
ROI	Return on Investment
RTM	Risk That Matters
SEBI	Securities & Exchange Board of India
SMP	Site Management Plan
SMS	Safety Management System
SMT	Senior Management Team
TA	Task Analysis
TAC	Tariff Advisory Committee
TLV	Threshold Limit Values

INTRODUCTION 1

PRELUDE

There is a concomitant rise in the demand for good governance and the role played by the stakeholders entrusted with the responsibility of ensuring good governance. Being one of the stakeholders helping to strengthen and improve governance practices, the role of Internal Audit is assuming significance in the context of the changing environment.

This manual is solely intended for the use by the Internal Auditors executing their internal audit assignments in the mining sector. Wherever appropriate, references have been made to various articles, studies, and internal auditing Standards to corroborate the thought process and/or elucidate the subject matter.

The objective is to guide and enable the organizations in setting up and effectively carrying out the Internal Audit function. The governance remit of Internal Audit is being progressively expanded laying down standards around the same. Internal audit steadily needs to move up the value chain to provide more dependable assurance to the Management and the Board.

INTERNAL AUDIT STANDARDS

Internal Audit & Assurance Standards (IAAS) are a set of principle-based minimum requirements that are issued by and under the authority of a professional body. Internal audit standards have been devised by various institutes like the Institute of Cost Accountants of India, the Institute of Chartered Accountants of India and the Institute of Internal Auditors.

Internal auditing is conducted under diverse legal environments for entities that vary in size, complexity, nature, and structure. It may be performed by the entity's employees or by external firms. But conformance with these Standards is desirable in meeting the responsibilities of the Internal Auditor in performing the internal audit activities. Every Internal Auditor should comply and conform with the laid Standards, while performing internal audit functions or services in any entity, individually or as member of the team. These Standards also provide the basis to evaluate the responsibilities of the management in areas relating to internal audit and also the performance of internal auditors.

Internal Auditors must stay connected with the internal auditing Standards issued by the appropriate authority(s) while rendering their services. The Internal Auditors should not constrain or restrict their thought process but rather exercise prudence in elevating the maturity level of this critical function over time to ensure its relevance for sustenance.

It is recommended that Internal Auditors should continuously refer to the Standards, Guidance Notes and Manuals issued by the professional bodies/ institutes to stay abreast of the developments in detail and enhance their knowledge.

UNDERSTANDING INTERNAL AUDIT

2

DEFINITION

"Internal auditing is an **independent**, **objective assurance** and **consulting activity** designed to **add value** and **improve an organization's operations**. It helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of **risk management, control, and governance processes**." – *As per Institute of Internal Auditors, Inc.*

Internal audit has also been defined by other recognized institutes and organizations. However, all the definitions visualize the Internal Audit activity harmoniously with the aforementioned definition.

WHAT IS AN INTERNAL AUDIT?

Internal audits evaluate a company's internal controls, including its corporate governance and accounting processes. These types of audits ensure compliance with laws and regulations and help to maintain accurate and timely financial reporting and data collection. These audits also provide the management with the tools necessary to attain operational efficiency by identifying problems and correcting lapses before they are discovered in an external audit.

Internal Auditors may be appointed from available resources or hired by the companies who work on behalf of their management teams.

KEY CONCEPTS

- **Governance**: The processes and structures implemented by the Board to inform, direct, monitor and manage the activities of the organization towards the achievement of its objectives.

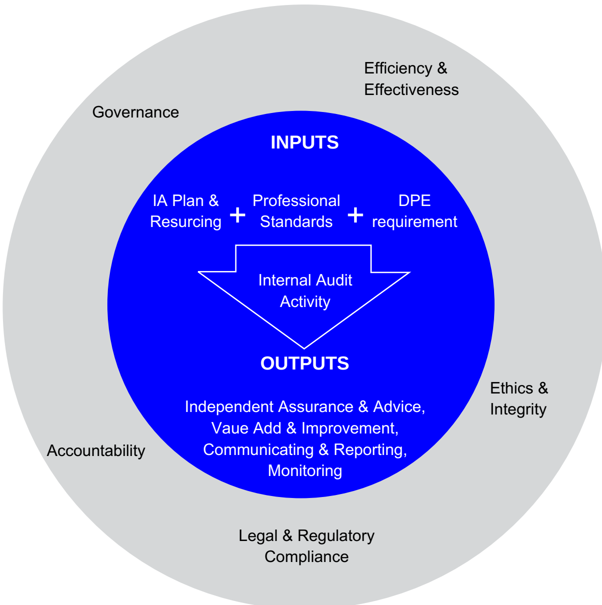
  Examples: Code of Conduct; Whistle-blower Policy

- **Risk Management**: A process to identify, assess, manage, and control potential events or situations to provide reasonable assurance regarding the achievement of organizational objectives. *Examples:* Risk Identification, Risk Assessment, Risk Treatment

- **Control**: The steps undertaken by the organization to manage risk and increase the likelihood of achieving objectives. *Examples*: Standard Operating Procedures; Segregation of Duties

Internal Auditors must remember that the Board and top Management rely on the internal audit function for an 'objective assurance' and "insight' into the effectiveness and efficiency of governance, risk management, and control processes. Therefore, it is necessary for the Internal Audit to ensure that the practice followed in the organization meets the widely accepted norms. The ultimate goal should be to enhance and protect the organizational value.

OVERALL FRAMEWORK – INTERNAL AUDIT



The above depiction illustrates the essential elements of the Internal Audit activity in the context of the organization.

- **Governance:** Internal audit is an integral component of effective governance. A strong and mature governance process helps internal audit activity to be effective in the organization.
- **Accountability:** Accountability for funding lies with the governing body and the finance function. Internal audit must consider the effective use of the funds as part of the audit plan and should consider controls in all the organizational processes to protect the reliability and integrity of the financial information.
- **Ethics & Integrity:** The internal auditors must display the highest level of ethics and integrity in their work to establish and maintain credibility with their internal and external stakeholders.
- **Legal & Regulatory:** The Internal Auditors must be familiar with the laws, rules, and regulations that govern the organization and consider all legal aspects while carrying out their work.

- **Efficiency & Effectiveness:** The Internal Auditors must ensure that the results of their work add value to the organization and all stakeholders.

PROVISIONS UNDER THE COMPANIES ACT, 2013

According to the Companies Act, 2013, "The Internal Audit is an independent management function, which involves a continuous and critical appraisal of the functioning of an entity with a view to suggest improvements thereto and add value to and strengthen the overall governance mechanism of the entity including entity's strategic risk management and internal control system."

It is further mentioned that internal controls are systematic measures (such as reviews, checks and balances, methods and procedures) instituted by an organization to -

- conduct its business in an orderly and efficient manner,
- safeguard its assets and resources,
- deter and detect errors, fraud, and theft,
- ensure accuracy and completeness of its accounting data,
- produce reliable and timely financial and management information, and
- ensure adherence to its policies and plans.

Section – 138 of the Companies Act, 2013 deals with the appointment of Internal Auditors as follows -

(1) Such class or classes of companies as may be prescribed, shall be required to appoint an internal auditor, who shall, either be a chartered accountant or a Cost Accountant, or such other professional as may be decided by the Board to conduct internal audit of the functions and activities of the company.

(2) The Central Government may, by rules prescribe the manner and the intervals in which the internal audit shall be conducted and reported to the Board. The Act has not provided anything regarding removal of an Internal Auditor.

The provisions of section 138 of the Companies Act, 2013 read with rule 13 of the Companies (Accounts) Rules, 2014 require the following companies to undertake internal audit: –

- Every listed company;
- Every unlisted public company having,
  - o Turnover of two hundred crore rupees or more *during the preceding financial year; or*
  - o *paid-up share capital of fifty crore rupees or more during the preceding financial year; or*

- o *outstanding loans or borrowings from banks or public financial institutions exceeding one hundred crore rupees or more at any point in time during the preceding financial year; or*
- o *outstanding deposits of twenty-five crore rupees or more at any point of time during the preceding financial year; and*

- Every private company having,
  - o *turnover of two hundred crore rupees or more during the preceding financial year; or*
  - o *outstanding loans or borrowings from banks or public financial institutions exceeding one hundred crore rupees or more at any point in time during the preceding financial year:*

Provided that an existing company covered under any of the above criteria shall comply with the requirements of section 138 and this rule within six months of the commencement of the section.

Section 134(5)(f), also require the Directors' Responsibility Statement to state that the directors had devised proper systems to ensure compliance with the provisions of all applicable laws and that such systems were adequate and operating effectively.

The Companies (Auditor's Report) Order, 2020 requires that the auditor's report shall include a statement as to whether the company has an internal audit system commensurate with the size and nature of its business; and whether the reports of the Internal Auditors for the period under audit were considered by the statutory auditor.

In addition, the Companies (Cost Records and Audit) Rules, 2014 require the Cost Auditor to certify whether the company has an adequate system of internal audit of cost records which is commensurate with the nature and size of its business.

TYPES OF INTERNAL AUDITS

Compliance Audit

A company may be required to adhere to the local laws, compliance needs, Government regulations, external policies, or other restrictions. To demonstrate compliance with these rules, a company may task an internal auditor to review, compile appropriate information, and provide an overall opinion on the status of the compliance requirement.

Internal Financial Audit

Public companies are required to undergo certain levels of external financial auditing where a completely independent third party provides an opinion on the company's financial records. Companies may want to dive further into audit findings or resort to an internal financial audit in preparation for an external audit. Many of the tests conducted by the internal or external auditor may be similar; the nature of independence separates the two types of audits in financial audits.

Environmental Audit

As companies are becoming more environmentally conscious, some take the steps of reviewing the business' impact on the planet. This results in an internal audit covering how a company safely sources raw materials, minimizes greenhouse gas emissions during production, utilizes eco-friendly distribution methods, and reduces energy consumption. Companies leveraging triple bottom line reporting may perform internal environmental audits as part of annual reporting.

Technology/IT Audit

An IT audit may have different objectives. The internal audit may be the result of an external lawsuit, a complaint, or a target to become more efficient. An internal audit focused on technology reviews the controls, hardware, software, security, documentation, and backup/recovery of systems. The objective is likely to assess general IT accuracy and processing capabilities.

Performance Audit

An internal audit focused on performance pays less attention to the processes and more on the final result. The company will have set performance objectives/ goals or metrics that may be tied to performance bonuses or other incentives. As a result, an Internal Auditor assesses the outcome of an objective that may not be easily quantifiable.

For example, a company may wish to expand its use of diverse suppliers; the internal auditor, independent of any purchasing process, will be tasked with analysing how the company's spending patterns have changed since this goal was set.

Operational Audit

An operational audit is most likely to occur when key personnel leaves or when new management takes over an entity. The company may want to assess how things are done and whether the resources are being used more efficiently. During an operational internal audit, the auditor will review whether current staff and processes are in line with the mission statement, value, and objectives of the company.

Construction Audit

Real estate development companies, or construction companies may perform construction audits to ensure not only appropriate physical development of a building but appropriate project billing along the life of the project. This mostly includes adherence to contract terms with the general contractor, sub-contractors, or standalone vendors as necessary.

This may also include ensuring that the company has remitted the appropriate payments, collected the appropriate payments, and that the internal project reports regarding project completion are correct.

Risk Audit

In addition to ensuring that a company complies with laws and regulations, internal audits also provide a degree of risk management and safeguard against potential fraud, waste, or abuse. The results of internal audits provide management with suggestions for improvements to current processes which not functioning as intended, which may include information technology systems as well as supply-chain management

OBJECTIVES OF INTERNAL AUDIT

Proper Control: One of the main objectives of an internal audit is to keep stringent control over all the activities of an organization. The management needs assurance of the authenticity of the financial records and the efficiency of the operations of the firm. An internal audit helps to establish both.

Perfect Accounting System: An internal audit keeps a very close check on the accounting system of an organization. It checks everything from the vouchers to the authority of transactions to mathematical accuracy. All entries are verified against documents and other proof. Possibilities of mistakes or frauds are greatly reduced.

Review of Business: The purpose of an internal audit is to keep a check on the financial and operational aspects of a business. The internal audit can point out the mistakes, weak points, and strengths of the business during the current financial year. This will allow an ongoing review, instead of waiting till the year-end.

Asset Protection: In the process of internal audit, there is always a valuation and verification of an asset. There is also a physical verification of the ownership and possession of the asset.

And in case of special transactions like sale, purchase or revaluation of the asset, the authorization of this is also checked in an internal audit. Hence, the assets enjoy complete protection.

Keeps a Check on Errors: In a financial audit, the auditor will be able to determine if any mistakes were made in the financial records. But this happens only at the end of the financial year and the mistakes are corrected thereafter. In case of an internal audit, the mistakes are unearthed as soon as they are made and corrected immediately.

Detection of Fraud: In case the company has an internal audit in place, the detection of fraud becomes much easier. This is because there is a year-round check on the employees.

Understanding the risks and its mitigation: All companies / commercial organisations are facing different types of risks which threaten their operation, profit, production and even existence. Theses organisations, therefore, take necessary steps to understand the risks and take measures to mitigate them. Regular internal audit ensures that this aspect is being taken care by the concerned officials seriously to avoid any complications in future.

INTERNAL AUDIT VS. EXTERNAL AUDIT

Internal and external audits have the same objective. Both types of audits analyse an aspect of a company to arrive at a specific opinion. However, there are many differences between the two types of audits.

In an internal audit, the company is often able to select its own audit team. As such, the team represents the interests of the company's management team. This may be advantageous to specifically place certain employees with niche experience on the team. In an external audit, the company can often select the external audit firm; however, the company does not have a say in the specific employees put on their external audit.

There may be some requirements regarding the external auditor depending on the internal audit. For example, an external statutory cost auditor should be a member of The Institute of Cost Accountants of India holding a certificate of practice. On the other hand, in an internal audit, there may be no such requirement and any qualified and knowledgeable person can perform the internal audit, though preferences are given to qualifications like CMA (Cost and Management Accountancy) due to their efficiency, experience and audit related knowledge.

The end goal of either audit is an audit report; however, audit reports are used for different reasons. An internal audit report is usually used by management to improve the operations, processes, or policies of the company. An external audit report is often required for an extraneous reason and is more often used by outside stakeholders of the company.

Finally, the nature of the engagement will be different. During an internal audit, the employees of a company may often freely give advice, discuss unrelated matters with the company, or may have a very fluid consulting agreement. During an external audit, a well defined scope is often set and the external auditor will often take great care to ensure that they do not exceed their audit boundaries.

INTERNAL AUDIT PROCEDURE

Normal Internal Audit procedure is as follows –

- Proposal/offer from the company and acceptance by the Internal Auditor.
- Fixation of area/ scope of the Internal Audit assignment and remuneration duly approved by the Board / Audit Committee.
- Preparation of internal audit plan and strategy.
- Execution of internal audit plan and strategy.
- Escalate the matter in case of unnecessary interference in the Internal Audit work and non-cooperation by the auditee's staff.
- Preparation of preliminary report with observations, findings and recommendations of the Internal Auditor.
- Internal Auditor should report significant observations, suggestions/ recommendations based on the policies, processes, risk, control and transactions processing.
- Management's comments and action taken report.
- Submission of final report for the consideration of the Audit Committee/ Board of Director/ Managing Director.

INTERNAL AUDIT PROCESS

The internal audit process entails planning the audit, performing the audit procedures, compiling the audit report, and monitoring post-audit changes. The management may choose to expand the scope of an audit at any point of the audit if findings during the audit warrant such shift.

Step wise Internal Audit Process

Step 1: Planning

Before commencing any audit procedure, the Internal Auditors develope an audit plan. This sets the audit requirements, objectives, timeline, schedule, and responsibilities across audit team members. The audits may review prior audits to understand management expectations for presentation and data collection.

The audit plan often has a checklist to ensure that the members of the team adhere to broad expectations. The internal audit team may also pre-emptively plan to meet the management throughout the audit to communicate the status and any difficulty in the audit. The planning stage often ends with a kick-off meeting that launches the audit and communicates the initial information needed.

Step 2: Auditing

Many of the auditing procedures followed by the Internal Auditors are the same as followed by the external auditors. Some companies might resort to continuous audits to ensure ongoing oversight of company practices. Assessment techniques ensure an Internal Auditor obtain a complete understanding of the internal control procedures and whether employees are complying with internal control directives.

To avoid disrupting the daily workflow, the auditors begin with indirect assessment techniques, such as reviewing flowcharts, manuals, departmental control policies, or other existing documentation.

Auditing fieldwork procedures can include transaction matching, physical inventory count, audit trail calculations and account reconciliation as required by law. Analysis techniques may test random data or target specific data if an auditor believes that the internal control process needs to be improved.

The internal audit may have started with a defined scope, but as the audit team gathers information and analyse the same, it may become necessary to redefine the purpose and extent of the audit. This includes re-evaluating the original timeline or resources allocated to the audit.

Step 3: Reporting

Internal audit reporting includes a formal report and may include a preliminary or memo-style interim report. An interim report typically includes sensitive or significant results which, the auditor thinks the Board of Directors needs to know right away. Like an interim financial statement, an Internal Auditor communicates a partial set of information useful for laying the road for the remaining portion.

Often, the Internal Auditor may deliver a draft copy of the final audit report and host a pre-close internal audit meeting with the management. This may allow the management to provide rebuttals, additional information that may change the findings, or provide comments on their feedback regarding the audit findings.

The final report includes a summary of the procedures and techniques used for completing the audit, a description of audit findings, and suggestions for improvements to internal controls and control procedures. The final report may also contain recommendations and suggestions in terms of changes to be implemented, future monitoring processes, and what future reviews will entail.

Step 4: Monitoring

After a specified period of time, an internal audit may call for follow-up steps to make sure that the appropriate post-close audit changes were implemented. The details and process for these monitoring and review are often agreed to at the time of delivery of the final audit report.

For example, an internal financial audit may reveal severe internal control deficiencies that an internal auditor believes will not pass an external financial audit. The management agrees to implement the changes within the next six weeks. After six weeks, the internal auditor may be tasked with undertaing a limited review of the deficiency to see if the issue still persists.

INTERNAL AUDIT REPORTS: THE FIVE C's

Internal audit reports are often known for adhering to the Five C's reporting requirement. A complete, sufficient internal audit often ends with a summary report that communicates answers to the following questions:

- **Criteria**: What particular issue was identified, and why was the internal audit necessary? Is the internal audit undertaken in preparation for a future external audit? Who requested the audit, and why such request for the audit?
- **Condition:** How as the issue in relation to a company's target or expectation? Does the company have a policy that was contravened, a benchmark that was not met, or other condition that was not satisfied? Is the company confident that no issue was existing, or do they believe an issue is at hand?
- **Cause:** Why did the issue arise? Who was involved, what processes were not followed and how the issue could have been avoided?
- **Consequence:** What is the outcome of the problem? Are the issues limited to internal matters, or are there risks of external consequences? What are the financial implications of the issue?
- **Corrective Action**: What can the company do to fix the problem? What specific steps will the management take to resolve the issue and what type of monitoring or review will be required after the issue is solved.

IMPORTANCE OF INTERNAL AUDIT

Some may hold the view that internal audits are not as valuable as external audits. After all, a company may hand-pick the members of the internal audit team who may not be fully independent of the company. However, there are many ways like the following, by which internal audits could provide value addition to the company and external parties:

- Management can be more efficient about what to explore. For example, while external financial audits must test an entire financial system, a company may be concerned whether the cash management process is being fraudulently managed; therefore, management can choose to have an audit to analyse the cash processes.

- Internal audits may help to save the company's financial resources. If a company's processes are very strong, the external audit process may not be extensive thereby reducing the audit cost and time spent in supporting external auditors.

- The company enhances its control environment. Even if the internal audit reveals no shortcomings, employees may become aware that their work gets analysed and reported, thereby motivating them to adhere to company policies.

- Internal audits may make companies more efficient. External audits often are not intended to make the processes better; they are meant to review whether the processes are accurate. This distinction is important because a company may be "just getting on" with inefficient processes that meet very minimum requirements.

- Internal audit reports give the management a head start to make corrections. Instead of having to scramble when an external audit reports a deficiency, the management can look for solutions, implement the same with care, and review whether the solution worked.

- Certain departments may need enhanced oversight. Whether it is lack of expertise, staffing shortages, or problem with current personnel, a company may benefit from targeting a specific area and formally reviewing its workflow and processes.

CONTENT OF INTERNAL AUDIT REPORT

The Internal Audit Report should be structured as under:

- Title
- Addressee
- Period of coverage of the Report
- Opening or introductory paragraph
- Objective paragraph
- Scope paragraph
- Documents / Records checked during internal audit
- Executive summary, highlighting the key material issues, observations, control, weaknesses and exceptions

- Significant observations, findings and recommendations
- Management's comments on observations, findings and recommendations
- Action Taken Report
- Date of Report
- Place of signature
- Internal Auditor's signature with Membership No.

UNDERSTANDING RISK MANAGEMENT

3

DEFINITION OF 'RISK'

Risk is any event/non-event, the occurrence/non-occurrence of which can adversely affect the objectives of an entity. These threats may be internal/ external to the entity, may/may not be directly influenced by the entity and may arise out of routine/ non-routine actions of the entity.

UNDERSTANDING RISK MANAGEMENT

Risk management is a structured, consistent and continuous process across the whole organization for identifying, assessing, deciding on responses to and reporting on the opportunities and threats that may affect the achievement of its objectives.

In recent years, all sectors of the economy have focused on risk management as the key to making organizations successful in achieving their objectives, whilst protecting the interests of their stakeholders. Risk may be defined as an event, action or inaction, the outcome of which is uncertain and may have a bearing on the achievement of desired goals and objectives.

The business entities should realize the need to better understand, anticipate and mitigate business risks in order to minimize the frequency and impact of risks and should look for greater assurance that there is a system in place, with well-documented, effective mitigation plans and accountability, which provides relevant information for decision making to the appropriate personnel in a timely manner.

Risk management is a holistic, integrated, structured and disciplined approach for managing risks with the objective of maximizing shareholder value. It aligns strategy, processes, people and culture, technology and governance with the purpose of evaluating and managing the uncertainties faced by the organization while creating value.

Effective risk management allows an organization to –

- have increased confidence in achieving its desired goals and objectives;
- effectively limit threats to acceptable levels; and
- make informed decisions about exploiting opportunities.

Never before has effective management of business risks been so critical to achieve positive results and to enhance its reputation, as it is today. It has been observed that though significant risks are often known to some personnel in the organisation, those risks may not have come to the attention of the right personnel at the right time.

A robust risk management framework has therefore been developed which is benchmarked with the leading global risk management standards and guidance available. In doing so the focus has been to have a framework that is simple and practical, which:

- allows a clear and concise view of risks;
- prioritise risks that matter ('RTM') i.e. the 'Top 15' risks; and
- put in place appropriate mitigation plans to manage the RTMs.

This framework will continue to evolve and mature as risk management is implemented in the organization and experience is gained. It is expected to be reviewed and amended on a regular basis to ensure its ongoing relevance and viability. The Board of Directors / Risk Management Committee shall have the discretion to modify the risk management framework as per the entity's needs as this framework is dynamic in nature and evolves with time.

Risk management is everyone's responsibility and needs to form part of every decision making and monitoring process. Risk management and risk mitigation strategy (risk management policy) thus aims at outlining the framework adopted to assess and mitigate the impact of risks and report to the top management and the Board of Directors on the risk assessment and minimization procedures.

Risk management is the process of identifying, assessing and controlling threats to an organization's capital, earnings and operations. These risks stem from a variety of sources, including financial uncertainties, legal liabilities, technology issues, strategic management errors, accidents and natural disasters.

A successful risk management program helps an organization to consider the full range of risks it faces. Risk management also examines the relationship between different types of business risks and the cascading impact they could have on an organization's strategic goals.

This holistic approach to managing risk is sometimes described as enterprise risk management (ERM) because of its emphasis on anticipating and understanding risk across an organization. In addition to a focus on internal and external risk threats, ERM emphasizes the importance of managing positive risk. Positive risks are opportunities that could increase business value.

Indeed, the aim of any risk management program is not to eliminate all risks but to preserve and add to overall enterprise value by making smart risk mitigating decisions. It is also a fact that all risks can never be eliminated, they can be brushed aside for a limited period and this process of brushing aside continues alongside the normal business process. Any delay or casual approach in such brushing aside exercise can be dangerous and fatal for the organisation/entity.

Thus, a risk management program should be intertwined with organizational strategy. To link them, risk management leaders must first define the organization's risk appetite, i.e., the extent of risk it is willing to accept to realize its objectives. Some risks will fit within the risk appetite and be accepted with no further action necessary. Others will be mitigated to reduce the potential negative effects, shared with or transferred to another party, or avoided altogether.

Every organization faces the risk of unexpected, harmful events that can cause monetary loss or loss of human life or, in the worst case, cause closure of the einty.

OBJECTIVES OF RISK MANAGEMENT

The components of risk management are different for different companies (the term company/ companies used throughout the discussion includes all business entities and organisations) and are defined by the company's business model and strategies, organizational structure, culture, risk appetite and dedicated resources. It is not a standard "fit-all" solution. An effective risk management framework requires consistent processes for assessment, mitigation, monitoring and communication of risk issues across the organization. Essential to this process is its alignment with corporate direction and objectives, specifically strategic planning and annual business planning processes.

Risk management is a continuous and evolving process, which has to be integrated with the culture of the organization over a period of time. It would then get embedded in the strategy for attaining tactical and operational objectives such that each manager and employee in the system is assigned with the responsibility for management of risks as a part of their job description. It would then support accountability, performance measurement and reward, and thus promote the overall efficiency at all levels.

The framework will help in creating an environment in which risk management is consistently practiced across the company and where management can take informed decisions to reduce the possibility of surprises.

The objectives of risk management are to:

- Better understanding of the company's risk profile;

- Ensure that the Senior Management is in a position to make informed business decisions based on risk assessment;
- Sound business opportunities are identified and pursued without exposing the business to an unacceptable level of risk;
- Helps to safeguard the company's value and interests of its shareholders;
- Improve compliance with good corporate governance guidelines and practices as well as laws and regulations.

The Risk Management Policy aims at formalizing a process to deal with the most relevant risks, building on existing management practices, knowledge and structures.

IMPORTANCE OF RISK MANAGEMENT

Risk management has never been more important than it is now. The risks that modern organizations face have grown more complex, fuelled by the rapid pace of globalization. New risks are constantly emerging, often related to and generated by the now-pervasive use of digital technology or due to climate change which has been dubbed a "threat multiplier" by risk experts.

A recent external risk that initially manifested itself as a supply chain issue at many companies — the COVID-19 pandemic — quickly evolved into an existential threat, affecting the health and safety of employees, the means of doing business, the ability to interact with customers and corporate reputations. Businesses made rapid adjustments to the threats posed by the pandemic. But, going forward, they started grappling with novel risks, including the issue of how or whether to bring employees back to the office.

Similarly, after covid commercial organisations started facing the critical questions like what can be done to make supply chains less vulnerable or how to tackle the inflation and the business and economic effects of the war in Ukraine etc.

In many companies, business executives and the Board of Directors are now taking a fresh look at their risk management strategies. Organizations are reassessing their risk exposure, examining risk processes and reconsidering who should be involved in risk management. Companies that currently take a reactive approach to risk management -- guarding against past risks and changing practices after a new risk causes harm -- are considering the competitive advantages of a more proactive approach. There is heightened interest in supporting business sustainability, resiliency and agility. Companies are also exploring how AI (Artificial Intelligence) technologies and sophisticated GRC platforms can improve risk management.

REGULATORY FRAMEWORK SURROUNDING RISK MANAGEMENT

The SEBI (Listing Obligations & Disclosure Requirements) Regulations, 2015

In India, from a regulatory perspective, the SEBI (Listing Obligations & Disclosure Requirements) Regulations, 2015 (**SEBI LODR**) had elaborately prescribed the role and functions of the Board of Directors and Risk Management Committee with respect to the domain of risk management. Relevant extracts are given below.

- The Board of Directors shall constitute a Risk Management Committee. The Chairperson of the Risk Management Committee shall be a member of the board of directors and senior executives of the listed entity may be members of the committee. The risk management committee shall meet at least twice in a year.
- The Board of Directors shall define the role and responsibility of the Risk Management Committee and may delegate monitoring and reviewing of the risk management plan to the Committee and such other functions as it may deem fit. Such functions shall specifically cover cyber security.
- The Risk Management Committee shall have powers to seek information from any employee, obtain outside legal or other professional advice and secure attendance of outsiders with relevant expertise, if it considers necessary.
- The role of the Risk Management Committee shall, *inter alia,* include the following:
  - To formulate a detailed risk management policy which shall include:
    - A framework for identification of internal and external risks specifically faced by the listed entity, in particular including financial, operational, sectoral, sustainability (particularly, ESG related risks), information, cyber security risks or any other risk as may be determined by the Committee.
    - Measures for risk mitigation including systems and processes for internal control of identified risks.
    - Business continuity plan.
  - To ensure that appropriate methodology, processes and systems are in place to monitor and evaluate risks associated with the business of the Company;
  - To monitor and oversee implementation of the risk management policy, including evaluating the adequacy of risk management systems;

- To periodically review the risk management policy, at least once in two years, by considering amount other things the changing industry dynamics and evolving complexity;
- To keep the Board of Directors informed about the nature and content of its discussions, recommendations and actions to be taken;
- The appointment, removal and terms of remuneration of the Chief Risk Officer (if any) shall be subject to review by the Risk Management Committee.

♦ Besides, the role of the audit committee shall include evaluation of internal financial controls and risk management systems.

♦ Further, the SEBI LODR, *inter alia*, requires the listed entity to lay down procedures to inform members of Board of Directors about risk management and minimization procedures [Regulation 17(9)(a)]. The Board of Directors shall be responsible for framing, implementing and monitoring the risk management plan for the listed entity [Regulation 17(9)(b)].

♦ Regulation 24(4) of SEBI LODR requires that the management of the unlisted subsidiary shall periodically bring to the notice of the Board of Directors of the listed entity, a statement of all significant transactions and arrangements entered into by the unlisted subsidiary.

♦ Regulation 30(9) of SEBI LODR requires the listed entity to disclose all events or information with respect to subsidiaries which are material for the listed entity.

♦ Regulation 16(1)(c) of SEBI LODR defines 'material subsidiary' to mean a "subsidiary, whose income or net worth exceeds ten percent of the consolidated income or net worth respectively, of the listed entity and its subsidiaries in the immediately preceding accounting year." Further, the Explanation to Regulation 16 (1)(c) states that the listed entity shall formulate a policy for determining material subsidiary.

The Companies Act, 2013

♦ The Companies Act, 2013, requires the Boards of Directors to present a statement indicating development and implementation of a Risk Management Policy for the company, including identification therein of elements of risk, if any, which in the opinion of the Board may threaten the existence of the company [Section 134(3)(n)].

♦ The Audit Committee is also required, *inter alia*, to evaluate the risk management systems of the company [Section 177 (4) (vii)].

CPSE Guidelines on Corporate Governance

The **Guidelines on Corporate Governance for Central Public Sector Enterprises (CPSEs CG Guidelines)**, have been made mandatory for all CPSEs vide Office Memorandum No. 18(8)/2005-GM dated 14th May 2010. Para 3.6 of the said Guidelines provides that **Enterprise risk management** helps the management in achieving CPSE's performance and profitability targets. It helps to ensure effective reporting and compliance with laws and regulations and avoid damage to the entity's reputation and associated consequences. Considering the significance of risk management in the scheme of corporate management strategies, its oversight should be one of the main responsibilities of the Board/ Management. The Board should ensure the integration and alignment of the risk management system with the corporate and operational objectives and also that risk management is undertaken as a part of normal business practice and not as a separate task at set times.

Further, para 7.3 (Board Disclosures–Risk management) provides that the company shall lay down procedures to inform Board members about the **risk assessment and minimization procedures,** which shall be periodically reviewed to ensure that executive management controls risks through a properly defined framework. Procedure will be laid down for internal risk management also. It further says that **Board should implement policies and procedures** which should include:

(a) Staff responsibilities in relation to fraud prevention and identification.

(b) Responsibility of fraud investigation once a fraud has been identified.

(c) Process of reporting on fraud related matters to management.

(d) Reporting and recording processes to be followed to record allegations of fraud.

(e) Requirements of training to be conducted on fraud prevention and identification.

INTERNAL AUDIT OF RISK MANAGEMENT

4

BACKGROUND

Internal Auditors play a critical role in risk management without taking over the responsibilities of risk management and compromising their objectivity and independence. They understand the potential risks that may impact the organization and analyse the modality, framed by the company to mitigate these risks. They ensure that the organisation is following the pre-decided risk mitigation policy holistically and any deviation is highlighted. They also help the organization to implement these measures seriously. Internal Auditors help the organization proactively manage its risks and reduce the likelihood of negative outcomes. Internal Auditors can reduce duplicate efforts and increase the effectiveness of overall risk management by coordinating the internal audit reports with risk management team.

IMPLEMENTATION

Internal Auditors can help the management in the implementation of the system of risk management, by taking following steps -

Step 1: Understanding the Risks: The first step in the risk management process is to identify potential risks that may impact the organization. Internal Auditors use various methods, such as interviews, surveys, and analysis of historical data, to understand these risks.

Step 2: Assessing Risks: Once the risks have been identified and understood, the next step is to assess their likelihood of materialising and its impact. The Internal Auditors use a risk matrix to evaluate the potential impact of each risk and prioritize them based on their likelihood and impact.

Step 3: Recommend Mitigation Measures: Based on the assessment of the risks, the Internal Auditors then help in recommending measures how to mitigate these risks. For example, they may recommend the implementation of controls, such as policies and procedures, to minimize the likelihood of a risk occurring.

Step 4: Implement Mitigation Measures: After the recommendations have been made, the Internal Auditors help the organization to implement these measures. They also monitor the implementation process and provide feedback to the management on the effectiveness of the measures.

COMPLIANCE

The Internal Auditors are also helpful for assuring that the organization complies with laws and regulations. They review the policies and procedures of the company and assess their effectiveness. They also monitor the company's compliance with regulations and provide recommendations as to how to improve compliance. They can help by taking the following steps:-

Step 1: Review Policies and Procedures: The first step in ensuring compliance is to review the policies and procedures of the organization. Internal Auditors assess these policies and procedures to ensure that they are effective in achieving compliance.

Step 2: Monitor Compliance: Once the policies and procedures have been reviewed, the internal auditors monitor the organization's compliance with laws and regulations. They use various methods, such as testing and documentation review, to assess the organization's compliance.

Step 3: Provide Recommendations: Based on their assessment of the organization's compliance, the Internal Auditors then provide recommendations as to how to improve compliance. For example, they may recommend changes to policies and procedures, or the implementation of additional controls, to ensure compliance.

Step 4: Implement Recommendations: The Internal Auditors then help the organization to implement these recommendations and monitor the effectiveness of the changes. They also provide ongoing support to the management in ensuring compliance with the laws and regulations.

INTERNAL CONTROL

The Internal Auditors are also quite helpful for evaluating the internal controls of the organization. They examine the processes and procedures that are in place to ensure accuracy and reliability of financial and operational information. They then provide recommendations as to how to improve these controls and help the organization maintain a strong internal control environment-

Step 1: Evaluate Controls: The first step in evaluating internal controls is to examine the processes and procedures that are in place to ensure accuracy and reliability of financial and operational information. The Internal Auditors use various methods, such as testing and documentation review, to evaluate the internal controls of the organization.

Step 2: Provide Recommendations: Based on their evaluation of the internal controls, the Internal Auditors then provide recommendations as to how to improve these controls. For example, they may recommend changes to policies and procedures or the implementation of additional controls to ensure the accuracy and reliability of information.

Step 3: Implement Recommendations: The Internal Auditors then help the organization to implement these recommendations and monitor the effectiveness of the changes. They also provide continuous support to the management in maintaining a strong internal control environment.

Step 4: Continuous Monitoring: The Internal Auditors also engage in continuous monitoring of the internal control environment. They review changes in the organization and assess the impact on internal controls. They also assess the effectiveness of existing controls and provide recommendations for improvement, as needed.

ADVISING THE MANAGEMENT

The Internal Auditors also act as advisors to the management. They provide insights and perspectives on various business processes and help management make informed decisions. They also help the management to identify areas for improvement and provide recommendations as to how to optimize these processes. Following steps are important in this regard:

Step 1: Provide Insights and Perspectives: The Internal Auditors provide valuable insights and perspectives to the management. They use their expertise to provide recommendations on various business processes and help the management to make informed decisions.

Step 2: Identify Areas for Improvement: The Internal Auditors also help the management to identify areas for improvement in the organization. They use their knowledge of best practices and industry standards to provide recommendations to optimize processes.

Step 3: Provide Recommendations: Based on their analysis, the Internal Auditors provide recommendations to improve processes and optimize performance. They also assist the management in implementing these changes and monitor the results.

Step 4: Ongoing Support: The Internal Auditors provide ongoing support to the management, helping them to navigate challenges and achieve their goals. They are a valuable resource for management, providing expertise, guidance, and support.

PROCESS IMPROVEMENT

The Internal Auditors are experts in process improvement. They identify areas for improvement in the organization and provide recommendations to streamline processes. They also assist in implementing these changes and monitor the results to ensure they are effective. Following steps are important -

Step 1: Identify Areas for Improvement: The first step in process improvement is to identify areas for improvement in the organization. The Internal Auditors use various methods, such as process mapping, to identify these areas.

Step 2: Provide Recommendations: Based on their analysis, the Internal Auditors provide recommendations to streamline the processes and optimize performance. They use their expertise in process improvement to provide practical and effective recommendations.

Step 3: Implement Recommendations: The internal auditors then help the organization implement these recommendations and monitor the results. They engage in continuous monitoring of the process to ensure that the changes are effective and provide feedback to the management.

Step 4: Continuous Improvement: The Internal Auditors also engage in continuous improvement, identifying new areas for improvement and providing recommendations for optimization. They help the organization maintain a culture of continuous improvement, ensuring that processes are optimized and performance is improved over time.

In fact, the role of internal auditors goes far beyond just providing assurance services. They play a critical role in risk management, compliance, internal control, advising management, and process improvement. Their expertise and insights help organizations achieve their goals and succeed in an ever-changing business scenario.

RISK MANAGEMENT AND RISK MITIGATION IN MINING SECTOR

5

INTRODUCTION

The heart of risk management in mining is the identification of internal and external hazards, assessment of their risk, and application of appropriate controls. Regardless of whether the hazard is geological, environmental, process or human, they should all be addressed through effective risk management.

While defining and developing a formalized risk assessment and mitigation process, leading risk management standards and practices shall be considered. However, the focus shall be to make the process relevant to business reality and to keep it pragmatic and simple from an implementation and use perspective.

RISK MANAGEMENT FRAMEWORK

Mining companies should establish a robust risk management framework to effectively address and mitigate potential risks. The framework will encompass various mechanisms for defining, prioritising, and formulating contingency strategies to tackle risks. It will outline the roles, responsibilities, and duties of different authorities, committees, and the Board in executing risk management procedures. A comprehensive Risk Management Calendar (RMC) may be followed to ensure periodic monitoring and evaluation of risks.

GUIDING PRINCIPLES FOR RISK MANAGEMENT FRAMEWORK

The company's attitude to risk shall be based on the following key principles:

(i) **Shareholder value based:** Risk management will be focused on sustaining the creation of shareholder value and protecting the same against erosion.

(ii) **Embedded:** Risk management will be embedded in existing business processes to help manage the risks across processes on an ongoing basis.

(iii) **Support and Assurance:** Risk management will provide support in setting up appropriate processes to ensure that current risks are being managed appropriately and assurance is provided to the relevant stakeholders over the effectiveness of these processes.

(iv) **Review:** The effectiveness of the risk management program will be reviewed on a regular basis to ensure its relevancy in a dynamic and changing business environment.

The risk management framework outlines the series of activities and their enablers that the company proposes to deploy to assess mitigate and monitor risks across the organization. The objective of risk management framework shall be to formalize and communicate the approach to the management of the risk. It will have the following attributes:

- Responds to the Executive management's need for enhanced risk information and improved governance.
- Provides the ability to prioritize, manage and monitor the increasingly complex risks in the business.
- Provides an explicit, comprehensive process to satisfy the regulators and other stakeholders, that significant risks are being effectively managed.

The Risk Management Framework shall comprise essentially of following two elements:

- Risk management structure
- Risk Management Process

RISK MANAGEMENT STRUCTURE AND TEAM

The risk management process has to be supported by a risk management structure which shall primarily comprise of the following:

- Risk Management and Oversight Structure
- Risk Policies and Procedures
- Risk Management Activity Calendar

A specialised subcommittee of the Board of Directors called the Risk Management Committee (RMC) should be formed first. The Chief Risk Officer (CRO), supported by a competent team, should operate under the guidance of the RMC.

The RMC will provide strategic direction and evaluate the effectiveness of the Risk Management Framework. Risk assessment, identification, and mitigation measures should be thoroughly discussed during the bi-annual meetings of the RMC.

Review of the effectiveness of Risk Management Framework is essential as an integral part of the strategic planning process. By adhering to a comprehensive risk management framework, the aim is to proactively address potential risks, safeguard the operations, ensure sustainable growth and formulate prioritised risk mitigation plans for overseeing its implementation across the organisation. The RMC provides strategic direction and evaluates the effectiveness of the Risk Management Framework

RISK MANAGEMENT CULTURE

Significant steps should be taken to foster a strong risk management culture in the company. The Board should approve a Risk Management Charter and Risk Register to effectively address risks and align it with the internal goals and objectives. The identification of 'Risk That Matters' (RTM), should be carried out and dedicated Risk Owners and Risk Mitigation Plan Owners should be appointed to ensure continuous monitoring and mitigation efforts. Risk assessment, identification, and mitigation measures should be thoroughly discussed during the bi-annual meetings of the RMC. Consistent review of the effectiveness of the Risk Management Framework as an integral part of the strategic planning process is very much essential. By adhering to a comprehensive risk management framework, the aim should be to proactively address potential risks, safeguard the operations, and ensure sustainable growth.

RISKS IDENTIFICATION

In order to manage risks an organization needs to know what risks it faces. Risk identification captures the significant risks that may have an adverse impact on the organization's objectives and that is the first step in building the organization's risk profile. In this regard, the focus should be on strategic / business risks that may have an impact on the ability of the company to achieve its planned targets. In stating risks, care should be taken:

- To avoid stating impacts which may arise as being the risks themselves;
- To avoid stating risks which do not have an impact on the objectives.

Equal care should be taken to avoid defining risks with statements, which are simply the converse of the objectives. A statement of a risk should encompass the cause of the impact, and the impact to the objective, which might arise.

APPROACH FOR IMPLEMENTATION

Risk identification will be done by involving personnel at the senior and middle management level of all the key functions to obtain a holistic view of risks. The entire activity of risk identification shall be managed by the respective functional departments.

The frequency for conducting risk identification will be as follows:

Annual risk identification

On an annual basis, a risk profile for the business/functional department is prepared based on discussions with key management personnel. Existing risk libraries and management reports serve as a baseline for this exercise. This risk profile/library is revisited on a quarterly basis by the functional Directors for their respective functions, to identify any new risk event that can adversely impact the business objectives.

Risks that are identified are documented in a standard template. The risk library details the risk, its classification, its potential area of impact and functions that may play a role in managing it. The company shall use a 'Risk Classification Framework' to create a common understanding of the risks and to differentiate between the risks, their causes and eventual effects.

The quality and completeness of the risk identification is the responsibility of the functional Director for the respective department. While the Risk Management Committee plays an active role in facilitating the ***annual*** risk exercise, the functional Director / Risk Management Coordinator (delegated by functional Director) for the functional department plays a predominant role in coordinating the quarterly risk assessment and reporting.

Concurrent risk identification

The occurrence of risks can never be predicted. However, it is imperative for the success of risk management that any risk which has emerged post the annual risk identification exercise, is flagged off to the Risk Management Committee and senior management team for deliberation and initiation of action in line with the risk management process. This risk can be identified across the organization through the emerging 'risk log' feature and this activity may be carried out once a quarter. The identified risks shall be mapped to the appropriate risk category in the risk classification framework.

Under the leadership of the Chief Risk Officer (CRO) and with the involvement of the concerned Heads of Departments (HoDs), a dedicated Risk Management team should implement the governance processes outlined in the Risk Management Framework. This includes formulating risk mitigation plans for the prioritised risks and addressing the risk that matters. The potential impacts of each identified risk on operations are required to be carefully assessed. Subsequently, a comprehensive mitigation plan should be devised to manage and minimise the potential adverse effects of these risks. Through this systematic approach, the aim is to enhance the risk management practices and ensure smooth functioning of the operations.

RISK MANAGEMENT PROCESS

An effective risk management process shall consist of four broad level steps:

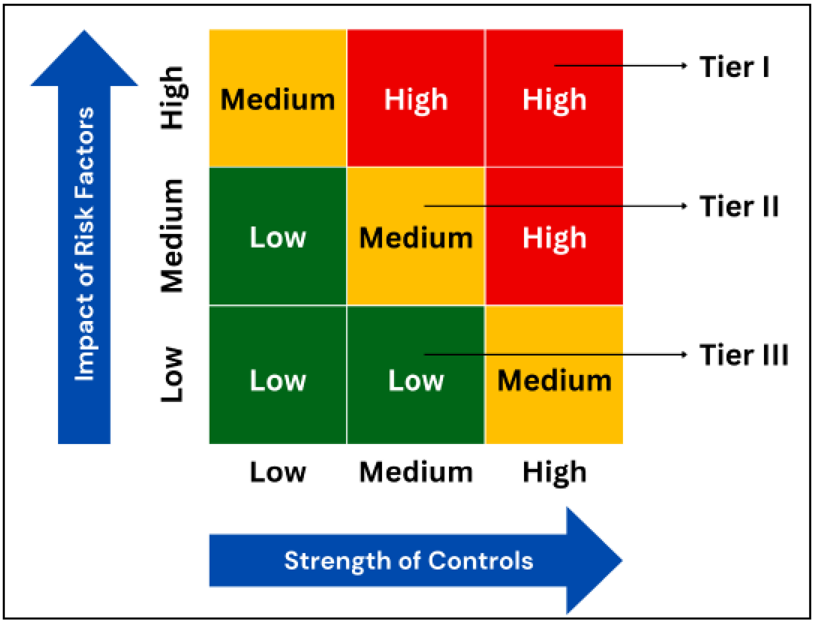
- **Establish Context:** Essential for defining the objectives.
- **Assess:** Risk identification and prioritization.
- **Risk Management Competence Scan:** Assessment of the existing organizational capabilities in managing and mitigating the risks.

- **Mitigate and Monitor:** Developing the mitigation plans for identified risks that matters and monitoring the effectiveness on a periodic basis.

Whether risks are external or internal to the company, or can be directly influenced/ managed or not, these all shall be managed through a common set of processes.

This process shall be scheduled to be performed ***annually*** along with the business planning exercise or at any point of time on account of significant changes in internal business conduct or external business environment. Where the business seeks to undertake a non-routine transaction (such as an acquisition, entering into a new line of business etc.), the risk management process is activated as a part of the proposal for undertaking such a transaction.

The overall risk management process covers:



- Risk assessment and reporting
- Risk mitigation
- Risk monitoring and assurance

RISK ASSESSMENT

Risk assessment is defined as the process of identification, prioritization and analysis of risks. An effective risk assessment requires a common risk language and a continuous process for identifying and measuring risks. These elements need to be applied consistently across the organization to understand the nature of the prioritized risks and their impact on business objectives, strategies and performance.

While assessing risk consider the potential 'impact of risks' and 'strength of the control environment'. Thereafter, a residual risk matrix could be prepared with the strength of controls on the x-axis and the impact of risk factors on the y-axis. Based on residual risk rating, the processes could be categorized into Tier 1, Tier 2, and Tier 3 as given in the figure below.

Tier I (Processes) – Review once in a year

Tier II (Processes) – Review once in 2 years

Tier III (Processes) – Review once in 3 years

Risk assessment is an on-going systematic process to be carried out at periodic intervals. It consists of the following activities:

Setting the context: This step is focused on laying down the objectives that the company seeks to achieve and safeguard. Risks are identified and prioritized in the context of these objectives.

Identifying and prioritising risks: Risk identification and prioritization comprises of the following:

- **Risk identification and definition** – Focused on identifying relevant risks that can adversely affect the achievement of the objectives. It seeks at creating/ updating risk definitions to ensure undisputed understanding of the potential threat.
- **Risk classification** – Focused at understanding the various impacts of risks and the level of influence that the company has on their root causes.
- **Risk prioritisation** – Focused at determining risk priority. This involves assessment of the various impacts taking into consideration the risk appetite of the company.

Managing risks: It comprises of the following:-

- **Risk mitigation** – Focused at addressing critical risks to restrict their impact(s) to an acceptable level (i.e. – within the defined risk appetite). This involves performing a risk competence scan to identify ongoing mitigation actions and any improvements required. This involves definition of ownership, responsibilities and milestones for the risk response plan of the company.
- **Risk reporting and monitoring** – Focused at providing to the Board of Directors, CMD, Risk Management Committee, and Line Management periodic information on the risk profile and effectiveness of implementation of the mitigation plans.

RISK PRIORITIZATION

Risk prioritization is the process of rating the risks in order to identify those risks which may have the most significant impact on the achievement of the stated goals and objectives of the business. The identified risks shall be prioritized based on the following parameters:

- **Inherent risk rating** – It highlights the intrinsic nature of the risk to the business in the current environment irrespective of the existence or effectiveness of plans to mitigate it. Inherent risk is derived based on the rating of the impact the risk can have on the stated business objectives and the probability of its occurrence.
- **Mitigation plan effectiveness rating** – It is the rating assigned to the existing mitigation plans based on their operational efficiency in reducing either the impact of the risk or the probability of its occurrence.
- **Approach for implementation** – Risk prioritization shall be done by involving personnel at the senior and middle management level of all key functions, to get an overall view of the criticality of the risk as well as the effectiveness of the existing plans to mitigate the risk. The entire activity of risk prioritization shall be managed by the RMC.

The frequency for prioritizing risks will be as follows and this step involves identifying and selecting critical risks from the risk library:

Annual risk prioritization

In this process the finalized list of risks will be voted on by the identified personnel to determine their inherent risk rating and the effectiveness of the current mitigation plans. This activity shall be carried out after the annual risk identification exercise. Annual prioritization of the entity level risks would be done by the Risk Management Coordinator. Post compilation and analysis of the voting results the Risk Management Committee shall compile the list of risk in order of priority, clearly identifying the RTMs.

Concurrent risk prioritization

If new risks are identified as part of the quarterly risk review meetings, the participants shall vote on the risks to determine their inherent risk and the current effectiveness of the mitigation plans. The activity related to the compilation and analysis of voting result will be done by individual functional department, which shall then seek the approval of the Risk Management Committee before including the new risk in the existing list of RTMs.

RISK REPORTING

Reporting is an integral part of any process and critical from a monitoring perspective. Results of risk assessment need to be reported to all relevant stake holders for review, input and monitoring.

The Risk Management Committee may be required to prepare on a quarterly basis a report detailing the following:

- List of applicable risks for the business.
- Highlighting the new risks identified, if any and the action taken w.r.t the new risks.
- Prioritized list of risks highlighting the 'Risk That Matter'' (RTM).
- Root causes and mitigation plans for the RTMs.
- Status of effectiveness of implementation of mitigation plans for the RTMs for all the risks till date through the self-assessment process (see below).

The Risk Management Committee may be required to report the following to the Board of Directors on a quarterly basis:

- An overview of the risk management process in place.
- Key observations on the status of risk management activities in the quarter, including new risks identified and action taken w.r.t these risks.
- Status of effectiveness of implementation of the mitigation plan for RTMs.

RISK MITIGATION

The process of risk mitigation involves preparing the risk response plan for managing the RTMs and restricting the impact to a tolerable level. The entire process shall be broken down into the following activities:

- Root cause analysis to identify the reasons/drivers for existence of the risk;
- Development of mitigation plans with defined ownership and implementation timelines;
- Assessing the existing processes and activities presently undertaken to address the risks;
- In view of the root causes, identifying any gaps in the existing controls environment;
- Designing additional mitigation strategies to address the risk;
- Documenting a mitigation plan with timelines and responsibilities (including existing and proposed activities).

RISK MONITORING & REPORTING

This step involves reviewing the results of the risk management framework to assess if risks are well controlled. The risk monitoring and reporting process helps in evaluating any new risk that matters which can adversely impact the business.

Risk Monitoring

On a ***quarterly*** basis, the status of risk management shall be reviewed. While assessing the risk, the following aspects shall be taken care:

- Assess if any additional risk has emerged that is already not considered in the risk profile;
- Assess if a new risk/another risk that is already documented in the risk profiled should be considered as a RTM;
- Nominates a risk owner for a new RTM and oversees the development of mitigation plans;
- For the RTM, assess the performance of the business in managing the risk;
- Reviews the extent to which the mitigation plans have been implemented;
- Based on quantifiable data (where possible), assess if the mitigation plans have delivered the right results in terms of risk management. To facilitate the above exercise, the following personnel shall provide the information.
    - ***Risk Owner:*** The designated Risk Owner provides a self-assessment on the extent of risk mitigation. This assessment is based on feedback on implementation of the mitigation plans and review of data (where applicable) with respect to risk performance.
    - ***Mitigation Plan Owner:*** The mitigation plan owner indicates to the risk owners, the extent to which they have been able to implement the mitigation strategies. They also provide a qualitative assessment of the efficacy of the mitigation plans.

Risk Reporting

The results of the risk assessment are compiled in a risk reporting pack for each functional department by the respective Risk Management Coordinator for the functional department. These risk reporting packs shall be presented to the Risk Management Committee for its review and appraisal.

On an ***annual*** basis, the Risk Management Committee makes a formal presentation on the Risk Management Activities to the Board of Directors. This shall include:

- An overview of the risk management process in place;
- Summary of the Risks That Matter across the company;
- Results of Risk Management.

EXTERNAL RISKS IN MINING SECTOR

6

WHY MINING SECTOR

Mining is always considered a risky business. External risks, which are beyond the control of mining companies, play a crucial rule in the smooth operation of mining sectors. Generally, these risks cannot be mitigated at the company level and support of the Government and its agencies is very much required.

Mining companies should identify the external risks, associated with them and make strategies to reduce its impact upon them. Usually, external risks are not within the controlling capabilities of the companies. These risks arise due to change in the economic, legal, political, social, environmental environments. Companies can reduce the impact of these risks by maintaining good relations with the Government, bureaucrats, law enforcing agencies etc and by taking the help of strategists.

Strategists of the companies shall keep close eye on the external factors of risks and advice the management to mitigate them with strategic management and strategic planning. Companies should hire experts like Cost and Management Accountants (CMAs) or MBAs from top-grade B-schools as Strategic Managers for the purpose.

Strategic planning is the art of creating specific business strategies, implementing them, and evaluating the results of executing the plan, in regard to a company's overall long-term goals or desires. The strategic planning process requires considerable thought and planning on the part of a company's upper-level management. Before settling on a plan of action and then determining how to strategically implement it, executives may consider many possible options. In the end, a company's management will, hopefully, settle on a strategy that is most likely to produce positive results (usually defined as improving the company's bottom line) and that can be executed in a cost-efficient manner with a high probability of success, while avoiding undue financial risk.

The external risks that are generally being faced by the mining sector and mining companies now-a-days are briefly outlines in the ensuing paragraphs. (The list is indicative and not exhaustive).

ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) ISSUES

ESG remains at the top of the risk list for the mining in recent years. The issue is now firmly integrated within corporate strategies due to its impact on almost every aspect of operations. Although some of the important areas for ESG improvement are not new — improving diversity, equity and inclusion is still a major challenge, and mine closures and rehabilitation require a longer-term, strategic view.

But ESG is evolving, requiring miners to consider different issues and broaden their capabilities to manage them effectively.

For example, water stewardship and biodiversity are fast becoming urgent priorities amid a changing climate. Stakeholders expect miners to better assess risks and opportunities, and articulate these through transparent, outcome-based measurement and assurance. In fact, more rigorous reporting will become critical if companies are to meet growing stakeholder expectations and avoid accusations of "green washing." Miners that achieve this can get an edge over competitors in many ways, from accessing capital to securing license to operate and attracting talent.

GEOPOLITICS

War among many nations, terrorist attacks and many other geopolitical factors, beyond the control of mining companies, are increasing day by day and these factors are very difficult to mitigate. Forging closer ties with government, increasing collaboration with stakeholders, including trade and sector groups, and exploring the potential of government incentives and co-investments may be the options of risk mitigation.

CLIMATE CHANGE

The whole world is talking about net zero situation, which refers to the balance between the amount of greenhouse gas (GHG) that's produced and the amount that's removed from the atmosphere. It can be achieved through a combination of emission reduction and emission removal. Net-zero pathways are set, but achieving the set ambition will require a realistic and balanced strategy.

India is talking about 'carbon neutral' situation, which is used when referring to the ambition to limit any increase in future carbon emissions, while using offsets to neutralise existing emissions. An accelerated decarbonization agenda, and sharper focus on reporting emissions, creates a new urgency around better mitigating climate change risk.

This is a challenge and mining companies have become progressively better at managing this, but there are still opportunities to improve. For example, not enough miners are taking action to minimize the physical risks of climate change, such as wildfires and flooding, which may threaten their operations.

Companies can explore a mix of options, including carbon offsets, partnering up and down the value chain and collaborating with suppliers and vendors to monitor Scope 3 emissions and can build a proactive strategy to address a risk that is likely to become even more complex.

LICENSE TO OPERATE (LTO)

The process of obtaining LTO is increasingly becoming a complex issue. National and local politics, corruption in some segments of bureaucracy, threat from anti-social elements, legal activism, pressure from peer groups, issues of localisation, opposition from local ethnic groups etc are making the process of obtaining LTO very cumbersome.

PRODUCTIVITY AND COSTS

Soaring inflation and talent costs are significantly increasing mining costs, squeezing productivity and delaying expansion plans. But an existing focus on cost management and productivity can pay off. There are empirical evidences that companies which take the help of Cost and Management Accountants (CMAs) and use different tools of Cost and Management Accounting, can effectively control or manage the cost to remain competitive in the business.

CMAs manage the cost of any business and commercial organisation with an eye on long-term value, as well as short-term gains. Sustainable cost reduction measures include, for example, switching to renewable energy, encouraging innovation to reduce costs in the longer term and creating strategic joint ventures to optimize economies of scale.

SUPPLY CHAIN

Recent disruptions have createds a fresh urgency to accelerate supply chain transformation. Supply chain disruption is new to the ranking, amid recent pressures, but it's an issue which the mining and metals companies have for long grappled with. Now organizations are intensifying efforts to transform supply chains, to better weather volatility and find new opportunities to boost efficiency, resiliency and transparency.

Miners are considering more innovative, sophisticated approaches to mitigating supply chain risk, including through stronger relationships with suppliers and collaborative contracting. With the pandemic exposing weaknesses in the "just-in-time" model, we expect to see a mix of "just-in-case" and "just-in-time" supply strategies as miners find a way to balance supply chain resilience with costs.

WORKFORCE

Building a purposeful brand and a greater focus on re-skilling can help to overcome talent shortages. Mining companies usually face talent shortage following a massive wave of retirements and resignations. Replacing these workers and finding talent with critical skills will require a radical rethink of the sector's approach to attracting, retaining and nurturing talent. With younger workers deterred by miners' image, companies must intensify their efforts to build a purposeful brand that aligns with today's values.

Usual mining leaders recognize the need to re-skill and up skill workers, but few are embracing this opportunity. A greater focus on training existing workers and sector newcomers in different skills can fill talent gaps and build a more flexible, agile workforce

CAPITAL

Changing demand and investor expectations are shifting capital allocation strategies. Miners are maintaining their focus on capital discipline and, also exploring how to invest in growth and transformation. The energy transition is shifting demand and companies are responding through more investments in "future-facing" commodities, including copper and lithium, and divesting coal assets.

Such decisions are not only motivated by a desire to adapt to an evolving market, but also to meet investors' expectations around ESG performance. Organizations' access to capital is increasingly linked to their ability to show how they create value beyond the bottom line. Cost and Management Accountants (CMAs) can also help the companies to take holistic decisions in this regard.

DIGITAL INNOVATION

Investment in data capabilities will guide better and faster decisions. Digital innovation has dropped down the ranking as miners build confidence and capabilities in this area. Companies are reaping significant cost, productivity and safety gains from the implementation of new technologies, including drones, remote operating centres and autonomous trucks.

Despite encouraging progress, across the sector we still see a largely siloed approach to digital innovations. A more integrated strategy across the value chain would increase ROI and help miners to tackle their complex challenges, including ESG and productivity.

NEW BUSINESS MODELS

Rationalize, grow, transform - miners are exploring potential future strategies to capture value. With demand for certain commodities set to increase and sustainability becoming a bigger focus, now is the time for organizations to rethink business models. We see miners analysing where optimal value can be found, then designing their business models to capture this. Whether companies decide to reshape models to rationalize, grow and transform or consider a strategic blend of all three - those that act now to future-proof their business will best withstand disruption, navigate changing commercial relationships and ultimately win competitive advantage.

RISKS OF UNVIABLE MINING

The viability of mining operations is crucial for financial stability, operational efficiency, and environmental sustainability. Unviable operations can lead to significant financial losses, hinder long term growth, compromise safety standards, and result in wastage of valuable resource.

To tackle and mitigate this risk, following steps may be taken –

- Identify unviable coal mines on the basis of cost-benefit analysis, which is the most essential step and only CMAs (Cost and Management Accountants) are qualified enough to undertake this exercise.
- Calculate balance mineable reserves.
- Do technical assessments including safety and environmental concerns.
- Make strategies for revival of unviable mines through loss reduction measures by implementing new technology, re-orienting mining method and enhancing safety standards. CMAs are the only qualified professionals in our country to do this work efficiently.

COMPETITION RISKS

Competition in the market and emphasis on renewable resources of energy pose a threat to many mining industries. The demand for minerals as a feedstock for synthetic fuel production, such as petrochemicals, coal gasification and coal bed methanol should be emphasised upon.

CYBER SECURITY RISKS

Cyber security risks pose potential threats to the information systems, data, and operations. Mining companies handle sensitive and confidential information related to the operations, employees, customers, and stakeholders. A cyber-attack or breach could lead to significant financial losses, reputational damage, disruption of operations, and compromise critical data. Different cyber security measures must be implemented. A dedicated Cyber Crisis Management Group should be formed to oversee and coordinate information security practices; a senior official should be designated as the Chief Information Security Officer (CISO). The CISO should be responsible for implementing and monitoring information security measures. He can conduct regular security awareness programmes for end-users to enhance their understanding of cyber threats and promote best practices. These programmes include expert talks, email campaigns, and display boards to educate employees about potential risks and ways to mitigate them.

CREDIT RISKS

The credit risks of receivables from customers directly impact the financial health and liquidity of the organisation. Disputed and undisputed receivables from customers can pose challenges in terms of delayed payments, potential write-offs, and cash flow constraints. Companies should prioritise addressing credit risks in order to maintain the cash flow and the overall financial health of the organisation. In cases where commercial disputes cannot be resolved bilaterally, resort can be had to Arbitration. Conciliation, mediation etc.

OPERATIONAL SAFETY RISKS

Operational safety risks may have a potential impact on the well-being of workers and the overall operational efficiency. Failure to comply with safety regulations and implementation of safety measures may lead to unsustainable and irresponsible functioning of the mining industry. To ensure operational safety and generate a safe working environment Site Management Plans (SMP) for each mine may be created. These plans should clearly outline the roles and responsibilities of officials involved in mining operations, ensuring accountability and adherence to regulations. The SMPs have been diligently prepared in accordance with the guidelines set by the Directorate General of Mines Safety (DGMS) and have been submitted for review and approval.

EVACUATION RISKS

Efficient extraction of minerals is crucial for the smooth off-take of production. Limitations or bottlenecks in the extraction infrastructure, can result in delays, congestion, and increased costs of moving minerals. To address extraction risks for off-take, rail and road infrastructure is required to be strengthened. Usually, without the help of the Government, it is not possible. The irony of fate is that the rail and road projects involve a huge cash outflow and long time to develop. Companies should not leave any stone unturned to convince the Government and Government authorities to improve infrastructure. Joint ventures with state governments and the railways may be a way out.

TECHNOLOGY RISKS

Upgrading technology and ensuring optimal utilisation of Heavy Mining Machinery can help in remaining competitive, maximise resource extraction, and meet market demands. Failure to address these risks could result in reduced operational efficiency, increased costs, and lower profitability.

Revision of equipment specifications to incorporate latest technologies such as electrical drive, fuel-efficient engines, and health/productivity monitoring systems is essential. Procurement of high-capacity machines, guaranteed availability of spares and consumables and regular review and early recommissioning of long breakdown are key factors to mitigate this risk. Premature survey of obsolete and irreparable equipment, monitoring and follow-up for survey of/grounding of equipment that has completed its lifecycle etc are also important.

RISKS ASSOCIATED WITH LAW & ORDER

Starting a greenfield project is not an easy task in our country. External factors like, bureaucracy, politics, legal environment, safety and security etc affect the prospects. Moreover, it is also a very difficult task to run a brownfield project in our country due to many issues related with law and order. We have to always keep in our mind that mining is a typical business. Usually in any other industry, the companies are to work hard to obtain the land clearance, pollution clearance, environment clearance etc only once, twice or thrice in their life time to establish manufacturing facilities like factories; but mining companies have to do all these activities again and again i.e. every year because their mines (i.e. factories) have limited mineral reserves and lives and regular exercise has to be undertaken to find out and start new mines for sustainability.

COMMUNITY HEALTH RISK

Community health is another major priority. Mining of many minerals, like opencast mining of coal etc create health issues in nearby area. Mines are typically the prime employer – in many cases, the only employer in their region – and have a duty to nurture a healthy community. From a pure business perspective, a local workforce suffering from conditions such as AIDS, tuberculosis, and malaria is also less productive, with the added threat of legal and regulatory action for low standards of healthcare. If mining companies don’t address the issue, not only community health risk increases, but it also increases political risks as local politicians may make unnecessary negative hue and cry in national and international media against the company.

INTERNAL RISKS IN MINING SECTOR

7

Apart from the above, mining companies face many internal risks. These risks may vary from the company to company or from mineral to mineral, but their mitigation is very important. Any lacuna in the mitigation of internal risks would make the management responsible and attract the ire of different agencies of the Government. Any failure to mitigate these internal risks may be harmful not only for the property of the mining company but force the companies to face the wrath of politicians and courts also.

This Chapter deals with those risks with their suggested mitigation plan also.

SAFETY RELATED RISKS

Safety related risks are the core risks of mining sector. A worker in a mine should be able to work under conditions which are adequately safe and healthy. At the same time, the environmental conditions should be such as not to impair his working efficiency. This is possible only when there is adequate safety in mines.

A Safety Management System (SMS) consists of comprehensive sets of policies, procedures and practices designed to ensure that barriers to unwanted incidents are in place, in use and are effective.

SMS minimize adverse effects of the risk, to which the workers are exposed in execution of different activities. Risk management involves the entire staff in the realization of safety improvement programme with responsibility and accountability sharing proportionately with the decision-making authority. System study and safety audit for the purpose of eliminating the risk of accidents and Dangerous Occurrences are also undertaken.

The major characteristics of SMS are:

- It is the principal vehicle for day-to-day management of all aspects of safety in the operations.
- Its focus is not only on personnel safety, but also ensuring operational integrity
- It lists a set of performance indicators to monitor the integrity of the safety of critical activities being undertaken correctly and according to schedule.
- It outlines an auditing and feedback regime for management control of hazards. It should be recognized that without a formal well-defined SMS, followed by adequate training, implementation and monitoring, it is impossible to manage the majore hazards in a PE system.

The Safety Management System (SMS) includes the following activities -

- Identify the hazard
- Dissect each activity to the smallest node as possible,
- Assess risk by considering the exposure, probability and consequence
- Prioritise and implement control measures
- Find out the residual risk, if any and procedures for handling of situations
- Continual improvement by adopting new methods and procedures

SIGNIFICANT HAZARDS IN UNDERGROUND MINING

Underground mining of any mineral, specially of coal, is very difficult and is full of risks which needs special discussion. Some significant hazards in underground mining are the followings -

- Mine gases
- Mine fires and spontaneous heating
- Explosions in the Mine
- Rock burst
- Subsidence
- Inundation
- Roof fall/landslides

Mine Gases

Mines gases are common in many mines, especially in coal mines. The following gases are found in underground coal mines:

- Carbon monoxide (CO)
- Carbon-dioxide (CO_2)
- Methane (CH_4)
- Hydrogen Sulphide (H_2S)
- Sulphur dioxide (SO_2)

The production of these noxious and inflammable gases beyond tolerable limits in underground mines creates environmental hazards. The factors, which are responsible for the production of these noxious and inflammable gases, are as follows:

- Exhalation by men
- Blasting and explosion
- Underground fire
- Spontaneous combustion
- Coal dust explosion
- Decay of timber
- Bacterial action
- Slow oxidation of coal
- Distillation of coal

Mine Fires and Spontaneous Heating

Various factors governing mine fire and spontaneous heating in underground mines are as follows-

- Chemical composition of minerals
- Friability
- Presence of Iron Pyrite
- Nature of adjoining strata
- Depth of the seam
- Thickness of the seam
- Geological disturbances

Explosives and Shot firing

The main danger from explosives in underground mine is the ignition of firedamp. It may take place in the following ways:

- By incompletely detonated explosive: Such explosive may continue, to burn like an ordinary combustible material.
- By incandescent particles coming out of the shot hole after blasting and contact with coal dust or gas.
- By the flame and hot gases.
- By the compression wave of the blast, this may compress the gases in the cracks connected with the shot hole and raise the temperature of the compressed gas to such an extent as to ignite it.

An explosion is a sudden process of combustion of great intensity accompanied by spontaneous release of large amount of heat energy in which the original gas or solid substance like coal dust in case of coal mining is instantaneously converted into gaseous products. An explosion is invariably accompanied by violence on a large scale.

Firedamp has been the cause of explosion in mines, especially coal mines due to moisture in dangerous proportion with the result that in every mine adequate measures are taken to prevent a firedamp explosion. Possible causes of explosion can be attributed to the following factors -

(1) Flames naked lights, damaged flame safety lamps and contrabands.

(2) *Heated surface* – overheated lamp gauges, electrically heated wires, heated rock surface, incandescent coal, overheated broken blocks, un-lubricated haulage rollers, rope friction, conveyor troughs rubbing against its support.

(3) *Sparks* – Electric sparks and arcs, static sparks from compressed air pipes, friction sparks from iron pyrites, friction spark from light metal alloys.

(4) *Explosives* – Resulting into flame and hot gases, compressive wage set up by explosives, especially in a break adjacent to the shot hole, incandescent particles ejecting from the shot hole, incompletely detonated explosives, etc.

Rock Burst

A rock burst or bump in a mine is a sudden and violent failure or collapse of the rock *in situ* under stresses greater than it can normally withstand and on a scale sufficient to cause material damage to endanger the safety of the workers.

Subsidence

Subsidence is an important aspect of underground mining activity. Underground mining operations can give rise to undesirable effects, such as –

(1) Damage to surface installations like buildings, railways, roads, pipelines for water supply, power line, etc.,

(2) Produce fractures in another coal seam, immediately above the one being currently exploited,

(3) Cause fractures, on the surface, which may in turn cause flooding of the underground working by drawing water from the sources on the surface.

(4) Cause damage to other mining installations and affect the roots of the vegetation.

Inundation

An inundation is an eruption of water or other liquid matter or any wet material that is likely to flow from workings of the same mine or of an adjoining mine. Many accidents and loss of lives have been recorded in many countries, including India due to inundation.

Health Hazards

Occupational safety and health are very closely related to productivity and good employer – employee relationship.

Some of the measures, proposed for occupational safety and health from time to time, have been listed below –

- Effective dust removal system in the crusher house
- Provision of wet drilling
- Provision of rest shelters for mine workers with amenities like drinking water, fans, toilets etc.
- Provision of personal protection devices to the workers.
- Rotation of workers, if necessary, exposed to noise to reduce exposure time
- Closed control room in crusher house with proper ventilation.
- Dust suppression of haul road and dumps.
- First - Aid facilities in the mining area.
- Provision of communication network between pit working areas and the manager.
- Provision of alarm system at working areas.
- Training of personnel including contract workmen in Mines Vocational Training Centres to inculcate safety consciousness through modules, video clippings, slogans and posters and introduction of safety awards.
- Safe design of height, width and slope of working benches of OB & coal, overall pit slope kept less than 33°.
- Safe design for formation of overburden, over all dump slopes kept at 26 degrees.
- Safe design of haul roads.
- Provision of firefighting equipment.
- Safe storage of explosives and other inflammable substances.
- Regular / periodical monitoring of mine environment to ensure the efficacy of various protective measures.
- Initial and periodical medical examination for the employees.

Storage, Handling and Disposal of Hazardous Waste

Hazardous waste generated in mining operations such as used oil, waste oil, empty oil drums, batteries, nonferrous scrap, explosives, HSD oil, hydraulic oils should be handled, stored, disposed, transported as per Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2016 and CPCB guidelines, like the following: -

- The waste generated shall be disposed as per HWM rules within 90 days from the date of generation to authorized recycler.
- The handling, transport and storage of explosives shall be as per Indian Explosive Act.
- Transportation and storage of explosive shall be as per the approved code of practice.
- Flammable, ignitable, reactive and non-compatible wastes shall be stored separately and never stored in the same storage shed.
- Adequate storage capacity (i.e. 50 per cent of the annual capacity of the hazardous waste incinerator) shall be provided in the premises.
- Storage area shall be provided with the flameproof electrical fittings and strictly adhered to.
- Adequate firefighting systems shall be provided for the storage area, along with the areas in the facility.
- There should be at least 15-meter distance between the storage sheds.
- Loading and unloading of wastes in storage sheds shall only be done under the supervision of well trained and experienced staff.
- Fire break of at least 4 meters between two blocks of stacked drums shall be provided in the storage shed. One block of drum should not exceed 300 MT of waste.
- Minimum of 1-meter clear space shall be left between two adjacent rows of pallets in pair for inspection.
- The storage and handling shall have at least two routes to escape in the event of any fire in the area.
- In order to have appropriate measures to prevent percolation of spills, leaks etc. to the soil and ground water, the storage area should be provided with concrete floor.
- Measures shall be taken to prevent entry of runoff into the storage area. The storage area shall be designed in such a way that the floor level is at least 150 mm above the maximum flood level.

- The storage area floor should be provided with secondary containment such as proper slopes as well as collection pit so as to collect leakages / spills etc.
- All the storage yards should be provided with proper peripheral drainage system connected with the sump so as to collect any accidental spills in roads or within the storage yards as well as accidental flow due to firefighting.
- The stacking of drums in the storage area should be restricted to three heights on pallets (wooden frames). Necessary precautionary measures should be taken so as to avoid stack collapse. However, for waste having flash point less than 65.5°C, the drums shall not be stacked more than one height.
- Drums containing wastes stored in the storage area shall be labelled properly indicating type, characteristics, source and date of storing etc.
- The storage areas shall be inspected daily for detecting any signs of leaks or deterioration if any. Leaking or deteriorated containers should be removed and ensured that such contents are transferred to a sound container.
- In case of spills / leaks / dry adsorbents / cotton should be used for cleaning instead of water.
- Proper slope with collection pits shall be provided in the storage area so as to collect the spills / leakages.
- Proper records with type of waste received, characteristics as well as the location of the wastes that have been stored in the facility need to be maintained.

MANPOWER RELATED RISKS

Mining is a specialised job. Key manpower issues faced are rising labour costs, manpower rules and regulations, as well as attracting and retaining younger workers.

Mining is a risky business. Moreover, mining activities are undertaken in remote areas where basic facilities, like proper residence, shopping, schooling, entertainment etc, are not available. Therefore, it always remains a challenge for mining companies to retain their manpower in remote places. Given an opportunity, the qualified personnel do not hesitate in switching the jobs. Retaining such manpower, providing them all basic amenities and keep them motivated is a tough job and therefore labour turnover is very high.

In their quest to extract ever-larger volumes, many mining companies have put enormous pressure on their capital equipment and geological assets, which have consequently experienced excessive wear and tear. This 'sweating of assets' means that mining equipment (drills, dozers, motor-graders, dumper trucks, shovels, excavators, water sprinklers, mobile cranes, mobile light towers, explosive vans, mobile crushers and weighbridges) needs constant repair and maintenance to remain productive and avoid accidents. High-level, engineering skills are required to keep such equipment running, yet the demand for such resources coincides with the depletion of workforce due to retirement ect. The newer, younger recruits do not possess sufficient understanding, experience or judgment to bring assets back into use quickly, or to predict future technical problems. This leaves mines with a significant knowledge gap that could impair its ability to achieve planned output quotas. The traditional, production-driven culture has also reduced the influence of the technical services function responsible for getting the most out of geology and capital equipment. In some cases, technical services are actually part of the wider production team, and therefore, lack an independent perspective to challenge decisions at the executive committee level. In such an environment, where output is everything, the longer- term management of assets takes second place, which could make the mine vulnerable to shutdowns, failures and safety incidents.

This manpower related risk results in increased cost of production.

FINANCING RELATED RISKS

Financial risks, that mining companies are exposed to are –

- Financing risks
- Commodity price risk
- Currency risk

Financing risks

The ability to raise finance and decisions as to how that fresh or additional finance should be sourced is critical to the success of any mining project. Funding is needed not only to construct the mine and build up the associated infrastructure; but also to undertake the agreed exploration and development programmes.

Depending on the risk profile of the mining company and the prevailing economic or market conditions, the finance required may not be available to the company on reasonable or viable commercial terms.

For example, in order to bring in new investors, additional equity financing may only be available at a lower price than the current share price. This means that the ownership stake of existing shareholders in the company will be diluted and it will reduce the overall value of their investment.

Debt financing brings its own risks: these include restrictive covenants being imposed on the company by the lender which could impact operating activities. Or the funds may only be released once certain (possibly onerous), conditions are satisfied.

In the event that the company is unable to raise additional finance, the scope of its operational activity may get reduced and production could slow or stop. This could potentially result in its interest in the licence or project being diluted or even get terminated.

Consequently, the company may be unable to deliver the exploration and development programme within the time schedule prescribed. Ultimately, the lack of suitable financing options will drive down the share price of the company.

Commodity price risk

Significant changes in the market prices for commodities will have an impact on the cash flows generated by a mine. This is arguably the single biggest factor affecting the profitability of mining companies.

Market prices for commodities are sensitive to changes due to political, environmental and macro-economic factors. Any of these can impact the supply and demand of the resource and as a consequence can lead to substantial price fluctuations.

For example, changes in demand caused by changes in fashion can impact the use of gold, silver or platinum jewellery. Strategic decisions by central banks to increase or decrease their holdings in gold reserves can also impact the price of gold and other precious metals.

War or adverse weather can cause disruption to supply chains; technological innovation in the motor industry, particularly demand for electric cars, means an increase in the need for lithium used in the batteries that power those cars. All of these factors can lead to unexpected movements in commodity prices.

Where the market price of a commodity falls below the expected cost of production over an extended period of time, then the producer will need to consider suspending (or abandoning) its mining operations.

Alternatively, it will be required to issue further cash calls on investors to sustain ongoing losses. Either way, the effect on the company’s share price could be quite detrimental.

Currency risk

Currency fluctuations can affect the financial performance of any company but particularly mining companies where revenue is derived from commodity sales; as many commodities are denominated or priced in US dollars (gold in particular) and an increase in the value of the US dollar can lead to a fall in demand of the associated commodity.

MANAGEMENT OF THE INTERNAL RISKS

Managements of the mining companies are supposed to take concrete measure on regular basis to check the internal risks. Some of the measures, for the example, are summarised hereunder.

Measures to be taken to avoid the mine gases

- The quantity of inflammable gas coming out in each ventilation district is determined at least once in a month and similarly borehole samples once in a quarter.
- The quantity of air sent into each district is such as to keep the percentage of inflammable gases in the district return airway below a percentage of 0.75 to 1.25 at any place in the mine.
- Flameproof apparatus has to be installed at each and every working face to monitor the weather in the area of development or depillaring in each and every discontinued gallery as also in all other places, where the percentage of CH_4 in the general body exceeds 0.2 per cent.
- Flame safety lamps; air sampling and analysis should continuously monitor the state of atmosphere near the stopping.
- There should be strict adherence to safety manuals and statutory laws.
- A suitable mechanical ventilator should be installed on the surface to ventilate the working face.
- Approved types of stone dust barriers are to be provided at specified places.
- A ventilation officer in each and every operative area should assist the Manager.
- Adequate quantity of air is coursed to well within meters of the working face,
- Air samples are frequently collected from the roof of the working face and analysed timely for the presence of CH_4.

Measures against mine fires / spontaneous heating

- Adequate number of coal pillars are being maintained in trunk roads.
- Panels are planned to extract within the incubation period.
- Continuous monitoring of CH_4, CO_2, CO at goaf edge and other strategic points.
- Flushing of Nitrogen / CO_2 in the goaf, if needed.
- Filling of subsidence cracks on the surface by soil etc.

Measures against Fire damp explosion

- For avoiding dangerous accumulation of firedamp, it should be ensured to keep it below its lower limit of explosibility.
- Avoiding sources of ignition, which may cause the firedamp to explode.
- Proper ventilation of the mine is required to prevent dangerous build-up of firedamp.
- Besides this, regular inspection of places where firedamp may accumulate is essential in addition to making provision for proper ventilation.
- Motors, switch gears and transformers should be provided with flameproof enclosures.

Measures against coal dust explosion in the coal mining

- Reducing the formation of coal dust in the working faces, haulage roads etc. and preventing its spread.
- Rendering the coal dust harmless by wetting it with water or mixing the same with inert stone dust.
- Making provision of stone dust barriers or water barriers.
- Water spraying at loading points, transfer points as also over the loaded coal tubs help in reducing the dissemination of coal dust. Dust at the transfer points is being collected with use of dust extractor.

In addition, by providing proper ventilation system, especially in underground mines, risks that may arise due to mine gases, fires, explosions may be minimised. The working environment in underground mines is one of the important aspects associated with mining operations. Every mine ventilation system will be planned, established and maintained for creating safe and comfortable environment in mine workings for all work persons during all stages of mining operations. Ventilation system of a mine is required to satisfy the following basic needs in addition to complying with the statutory requirements:-

- To ensure at least 19 per cent of O_2 and below 0.5 per cent of CO_2 in the air circulated at the workplace.
- To dilute noxious and inflammable gases so as to render it harmless.
- To remove or dissipate the coal or rock dust produced in the mine.
- To prevent excessive rise of temperature and humidity.
- In addition to the basic requirements, ventilation system of every underground mine should be designed and planned by considering the following important parameters for an optimum and efficient ventilation system:

- Circulating sufficient quantity of fresh air to all mine workings including plant and machinery.
- Air power requirements of the mine should be as minimum as possible.
- System should have optimum energy efficiency.

For extraction of minerals by underground operations, entries to the coal seams will be made from surface in the form of Tunnels and Shafts. Ventilation system is established through these entries by continuously circulating fresh air through some of the entries called as downcast and taken to surface through other entries called upcast. This intake air is circulated through all the required workplaces to take care of the basic requirements for maintaining safe and comfortable working environment.

This system is established by operating a fan called main mechanical ventilator installed at the surface over one (or multiples) of entries and operated continuously as long as the mine is in operation. Capacity of the said fan in respect of air flow rate, pressure and power are pre-determined as per the ventilation requirements at various stages of mining activity and installed accordingly.

For mines having deep workings with heavy mechanisation and in needy mines, air cooling systems are also being installed for improving the comfort at workplaces. Consultancy services and guidance is also taken from reputed scientific institutions of India and abroad for the mines for introduction of advanced systems in respect of underground mining environment. Various modelling software are being procured and used for different applications related to mine ventilation and underground environment.

Other Protection Measures

- Float alarm system should be provided and maintained in proper working condition.
- River guards may be engaged for monitoring of water level of adjoining rives during monsoon period, in three shifts.
- River Guards should be provided with cell phone to know the water levels and to inform the mine authorities.
- Mock rehearsals may be conducted periodically and records should be maintained at the mine.
- Escape routes must be displayed in underground at conspicuous places and duty card is issued to all concerned for easy withdrawal of persons from underground, in case of emergency.

Precautions at the surface of mines

- All entries should be planned above the HFL zone to avoid danger of inundation.
- Filling up of the subsidence cracks, if any, with overburden or any other material is being practiced.

Underground Precautions

- The galleries in the panels may be designed, rising towards the boundary of property so as to have self-drainage of water.
- The panels may be planned to be extracted from boundary of mine. This ensures the water to flow through drains into the sump avoiding the risk of water entering other panels. Adequate capacity of main sump and auxiliary sumps with pumps should be provided.

EMERGENCY PLAN

Manager must have in hand a plan of action for use in case of fire, explosion or other emergency. The plan should outline the duties and responsibilities of each mine official and key men including telephone operators. All officials and key men should be thoroughly instructed in their duties to avoid contradictory orders and confusion. The emergency plan may provide for mock rehearsals at regular intervals.

DISASTER MANAGEMENT PLAN

Disaster Management Plan (DMP) is a general plan of action for use in the event of inundation, fire, high wall failure, dump failure or any other dangerous occurrence or in the time of emergency. The DMP will have three stages: -

1. Information stage
2. Assessment stage
3. Action stage

SUPPORTING COMMITTEES

The management should form some supporting committees which will assist the mining officials of the company during emergency. Some of the important committees may be the following:-

1. Public Relations Committee
    i. Catering Committee
    ii. Medical Committee

iii. Men Management Committee

iv. Material Management Committee

v. Transport Committee

vi. Survey Committee

vii. Casualty Committee

viii. Security Committee

ix. Cash Committee

x. Accommodation Committee

OCCUPATIONAL HEALTH AND SAFETY

Occupational health needs attention both during construction & erection and operation & maintenance phases. However, the problem varies both in magnitude and variety in the above phases. The occupational health problems envisaged at this stage can mainly be due to constructional accidents and noise.

The problem of occupational health, in the operation and maintenance phase is due to respirable dust and noise. With suitable engineering controls the exposures can be reduced to less than TLV limits and proper personal protective devices should be given to employees.

The working personnel should be given the following appropriate personal protective devices, like -

- Crash Helmets
- Zero power goggles with cut type filters on both sides and blue colour glasses
- Chemical goggles
- Welders' protective equipment for eye & face protection
- Cylindrical type earplug
- Earmuffs
- Dust masks
- Canister Gas mask
- Self-contained breathing apparatus
- Leather apron
- Aluminized fibre glass fix proximity suit with hood and gloves

- Leather hand gloves
- Asbestos hand gloves
- Acid/Alkali proof rubberized hand gloves
- Canvas cum leather hand gloves with leather palm
- Electrically tested electrical resistance hand gloves
- Industrial safety shoes with steel toe
- Rubber boots (alkali resistant)
- Electrical safety shoes without steel toe and gum boots

Full-fledged hospital facilities should be made available round the clock for attending emergency arising out of accidents, if any.

All the working personnel shall be medically examined as per relevant statutes, Mining Rules, regulations and related circulars.

GENERAL PRECAUTIONS TO BE TAKEN

Based on the risk management process, the recommended controls and precautions to be taken at the mine for the identified hazards to prevent accidents may be as follows:

- To allocate sufficient resources to maintain safe and healthy conditions at work.
- To take steps to ensure that all known safety factors are taken into account in the design, construction, operation and maintenance of plants, machinery and equipment.
- To ensure that adequate safety instructions are given to all employees.
- To provide wherever necessary protective equipment, safety appliances and clothing, and to ensure their proper use.
- To inform employees about materials, equipment or processes used in their work which are known to be potentially hazardous to health or safety.
- To keep all operations and methods of work under regular review for making necessary changes from the point of view of safety in the light of experience and up to date knowledge.
- To provide appropriate facilities for first aid and prompt treatment of injuries and illness at work.
- To provide appropriate instructions, training, refresher programmes and supervision to employees in health and safety, first aid and to ensure that adequate publicity is given to these matters.

- To ensure proper implementation of fire prevention methods and appropriate firefighting service together with training facilities for personnel involved in this service.
- Ensure fire pumps in operating conditions and instructs pump house operator to be ready for any emergency with standby arrangement, like guiding the firefighting crew i.e. firemen, trained plant personnel and security staff, shifting the firefighting facilities to the emergency site, if required and to directs the security staff to the incident site to take part in the emergency operations under his guidance and supervision.
- Emergency Coordinator-Medical, Mutual Aid should be there so that in the event of failure of electric supply and internal telephones, he sets up communication points and establishes contact with the Emergency Control Centre (ECC), to organizes medical treatment to the injured and if necessary, shift the injured to nearby hospitals and to make sure that all safety equipment's are made available to the emergency team.
- Locations of assembly points, depending upon the plant layout and location would be identified wherein employees who are not directly connected with the disaster management would assemble for safety and rescue. Emergency breathing apparatus, first aid and minimum facilities like water etc. should be organized.
- Plant facilities should be connected to Diesel Generator and be placed in auto mode. Thus, water pumps, plants lighting and emergency control centre, administrative building and other auxiliary services need to be connected to emergency power supply. In all the blocks flame proof type emergency lamps should be provided.
- First Aid, Firefighting equipment's suitable for emergency should be maintained in coal storage and reject area. This would be as per statutory requirements/TAC Regulations. Fire hydrant line covering major areas should be laid. Fire alarms should be located in the bulk storage areas.
- An ambulance with driver shall be available in all the shifts. Emergency shift vehicle should be ensured and maintained to transport the injured or affected persons. A number of persons should be trained in first aid so that, in every shift first aid personnel would be available.
- At the end of an emergency, after discussing with Incident Controllers and Emergency Co-ordinators, the Incident Controller orders an all-clear signal. When it becomes essential, the Incident Controller communicates to the District Emergency Authority, Police, and Fire Service personnel regarding help required or development of the situation into an Off-Site Emergency.

It may be mentioned here that all the above mentioned are indicative, not exhaustive. Each Mining Company is required to identify its own risks and make a plan to mitigate them. The Internal Auditor will ensure that risk mitigation plan is working, and deviation will be reported to the higher management.

MITIGATION OF FINANCIAL RISKS

An effective project management controls framework enables frequent monitoring of the main risk indicators – in particular, time and cost overruns – and spot any unfavourable trends early enough to respond. Periodic project reviews can assess that staff are complying with policies and procedures and ensure that suppliers are adhering to the contract terms. This should create a flow of reliable information to the individuals and committees that oversee the project, with the following five principal areas of focus:

1 **Strategy, organization and administration -** Projects should have a clear strategy, with a formal approval process prior to entering into contracts and committing company funds. Policies and procedures for all associated processes need to be regularly reviewed and updated, with the right people put in place, with defined roles and responsibilities.

2 **Cost management -** A standard budgeting process ensures that all expenditures are subject to a consistent level of scrutiny, and makes it easier to monitor spending. Similarly, formalized reviews of payments and approvals help to control costs throughout the project, with all authorizations documented. Taking help of a Cost and Management Accountant may be extremely fruitful to the business.

3 **Procurement management -** A single, organization-wide sourcing process fosters strong business relationships with reputable firms and encourages a reputation for fairness. Contracts can be open to radically differing interpretations, and a standard contract template – created with the help of legal specialists – avoids ambiguity, with common, clear language.

4 **Project controls -** Mining projects change constantly, and owners need a formal, documented process for agreeing and approving any variations. A robust risk management framework does not just consider immediate project risks, but also encompasses wider business, regulatory and political risks, such as resource nationalism or environmental opposition. Many mining companies have multiple regions and business units and need to aggregate all the risks to gain a overall view.

5 **Schedule management -** By agreeing on schedule development standards, project managers can take a broad view of every major activity, compare the progress of different projects, and make informed decisions on schedule

changes caused by factors such as weather, materials delivery, staff availability and budget limitations. Despite the best efforts, problems can occur and hence, organizations should be prepared to take urgent action, including more frequent status reporting, closer observation of contractors in the field and a detailed study of supplier performance against contract. When contemplating any remedies, it is wise to seek legal advice. Ultimately, controls are only as good as the people who use them and every effort should be made to establish a risk-aware culture, with risk performance integrated into appraisals and incentives.

MANAGEMENT OF SKILLED MANPOWER RELATED RISKS

By placing a higher priority on skilled manpower, mining company Boards can help shift the culture from mere volume to longer-term value. An independent, executive-level technical services committee could aid this process, giving technical personnel a bigger voice with senior management, as a counterpoint to the production agenda. Learning and knowledge transfer should be an integral part of resource planning, so that essential skills are not lost when individuals leave or retire. All staff should receive training in technical and diagnostic problem-solving, while retiring workers could be incentivized to remain on a part-time basis or be employed as advisors. Geological complexity is one of the biggest challenges facing the industry, and requires a joint effort by management, workers and unions to agree on the necessary technical, information technology (IT) and telecommunications infrastructure, as well as training and health and safety measures. Technical services, Human Resources (HR), health and safety and production functions have to coordinate closely, to ensure that the organization can maintain agreed output levels without sacrificing safety or overstretching the capacity of equipment or individuals.

QUESTIONARIE 8

PREPARATION OF QUESTIONNAIRE

An Internal Auditor has to first understand the risks of a mining company. Since he/ she may not be an expert in mining industry, he / she has to prepare a questionnaire to understand the nitty gritty of the risk management process of the company. Answers to these questionnaire need be obtained from the management of the company / unit at the time of the audit.

After obtaining the answers to these questions, the Internal Auditor will verify its genuineness and then make necessary comments for improvement. It is to be kept in the mind that since the Internal Auditor may be an outsider, the answers of these questions is very crucial for further audit and ultimately for the final audit report.

Many companies discuss about their risk management in their annual report. The Auditor should obtain one copy of that report also. Answers to many questions may be available from that report itself.

A list of probable questions of the questionnaire have been given below. This list is indicative, not exhaustive and Auditors can add / reduce the questions to understand the system -

1. What internal and external risks have been identified by the management in relation to the auditee company? Please explain with some brief.

   a.

   b.

   c.

   d.

   (More points may be added)

2. Please submit previous internal audit report on the risk management of the company.

3. Does the company have any Manual or discussion paper or document on risk management? If yes, provide a copy.

4. Does the company / unit have a Risk Management Framework? If yes, explain it in brief.

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____

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5. Does the company / unit have a Risk Management Team (RMT)? If yes, explain in brief with names of the members with contact number and email ids, including that of Chief Risk Officer.

____

____

____

6. Do the meetings of RMT take place regularly? If yes, give the dates and issues discussed during the last three meetings.

____

____

____

7. Please enclose or discuss Action taken Report (ATR) on the issues discussed in the last three meetings of RMT.

____

____

____

8. Has RMT presented any report to the higher management / Board of Directors (BOD) recently? If yes, explain the brief the last report with dates of the submission of the report. If possible, provide a copy.

____

____

____

9. What is the communication system to explain the Risks and Risk Mitigation System to the middle and lower-level management of the company? Explain in brief.

____

____

____

10. Please comment on the "risk management culture" of the organisation.

____

____

____

11. Is the company guided by any statutory risk mitigation plan, like Mines Act etc. If yes, give details with steps taken –

(i) ____

(ii) ____

(iii) ____

(More points may be added)

12. Please give details of the programmes organised to communicate the Risk Management Framework to the each and every level of the hierarchy -

(i) ____

(ii) ____

(iii) ____

(More points may be added)

13. Details of literature distributed among all levels of the management and workers to make them aware of the Risk Management Framework. Samples of literature may be attached.

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____

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14. Has the risk management framework been discussed in detail in the Annual Report of the Company? If yes, copy of the report may be enclosed.

15. Has the company suffered any financial, commercial or human loss due to risks during the past ten years? If yes, details may be provided in separate sheets.

16. Who is accountable to the Boards for quality, risk and assurance disclosures.

    ____

17. Who is aligning strategy with regulatory requirements and obligations.

    ____

    ____

18. Provide a brief as separate sheet(s) on managing stakeholder relationships and meeting multiple demands.
19. Do the project teams have sufficient and appropriate skills and expertise to manage the project?
20. Are project risks fully understood or vetted prior to project approval?
21. Comment if the project delays during planning and approval resulted in compressed schedule milestones and unrealistic completion targets set by management.
22. Was there any major business interruption or inefficiency, due to ineffective asset management? Provide the details.
23. Comment on escalating cost of resources of major projects in separate sheet(s).
24. Comment on lack of key labor-skills and industrial relations.
25. Comment on impact of evolving environmental laws and regulations.
26. Comment on the relationships with regulators.
27. Comment on the increasingly complex regulatory environment.
28. Provide the status of health and safety of employees, especially those who are engaged in mining activities.
29. Provide the figures of last three years in case of any fraudulent financial reporting, payment fraud, bribery and corruption, theft, anti-competitive behaviour, market rigging etc.
30. Is there any system of hedging against potential royalty rate rises.
31. Steps taken to avoid disputes over transfer pricing.
32. Do Board sub-committees monitor risk and assurance activities effectively?
33. Is the management safeguarding the key drivers of value?

34. Is risk and assurance simplified – and aligned with the way the business operates?

35. Is assurance coverage optimal and cost efficient and directed where the business needs it most?

36. Explain the HR policy of the company. What is the labour turnover ratio of the company and its cost during last three years? Has it been compared with similar types of the companies?

37. A brief is required on the financing and financial resources of the company.

38. Is the company covered under the mandatory maintenance of cost records and cost audit? If yes, was it complied?

39. What are the major observation of lead Financial Auditors, Cost Auditors and Secretarial Auditors of the company during the last three years?

40. Brief of any other point which the management desires to share with the Internal Auditor.

INTERNAL AUDIT CHARTER 9

INTERNAL AUDIT CHARTER

A formal, documented, and approved charter should be prepared and put in place considering it as a foundational element of internal audit activity.

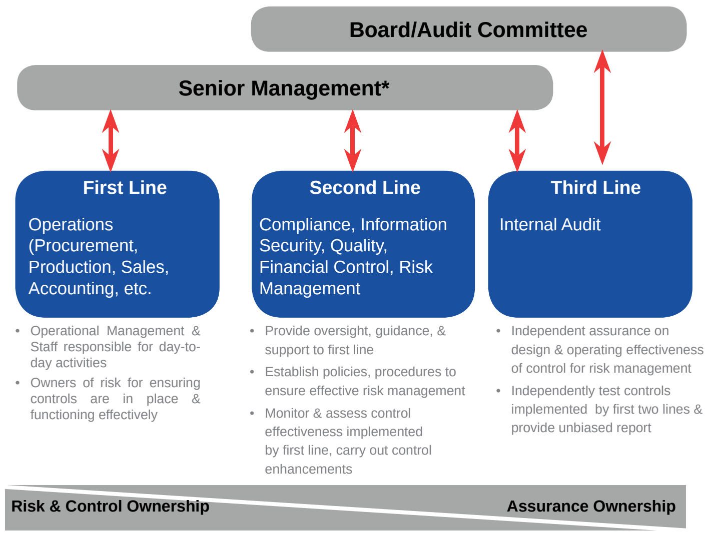
The purpose, authority, and responsibility of internal activity must be defined in the charter. The Internal Auditor (Head of Internal Audit) must review the charter periodically and present it to the senior management and the Board Committee for approval. In case of CPSEs. the charter should also be aligned with any requirements laid out by the Department of Public Enterprise (DPE).

It should,

- Establish and define the position and its status within the organization so as to improve the chances of contributing effectively to achieve the organization's objectives.
- Establish a functional reporting relationship with the Board.
- Empower the function with unlimited access to records, personnel, and equipment relevant to performing the engagements.
- Define the scope of internal audit activities that should cover every part of the organization's operations and functions.

STRUCTURE: THREE LINES MODEL

The organization should adopt the model (presented below) so as to facilitate and identify the distinct responsibilities of the Board, Management, and Internal Audit to best achieve the organization's objectives.



Internal audit, in its third-line role, will provide independent and objective assurance and advice on all matters or responsibilities assigned. Internal audits may coordinate with the activities of the second line but should not be performing or making management decisions around the role of the second line. The Internal auditor will ensure that the charter is aligned with the model.

** A committee comprising of senior personnel representing Finance, Operations, IT, HR, and Legal/Compliance is recommended.*

The roles and responsibilities of each line should be established, documented, understood, and communicated across all levels of the organization to ensure alignment.

DELIVERY

Considering the fact that the scope of Internal Audit today extends beyond the financial audit and requires skillsets beyond financial discipline, the delivery model chosen must have multi-disciplinary skills and should be aligned to the audit plan so as to meet the audit objectives.

There are several types of internal audit. For example, Financial Audit; Operational Audit; Information Systems Audit; Environmental Audit, Compliance Audit, etc.

Three options are provided for the delivery of the internal audit services. The Board and management, after carefully assessing the needs of the organization, should decide on the model that will serve the purpose of the organization. The indicative factors that may be considered for evaluation are Budget, Resource availability, Maturity, Operating environment, and Competency.

- **In-House:** Establishing and resourcing in-house function within the organization.
- **Co-sourcing:** Establishing in-house function and supplementing it with internal audit services if there is a need for specialized or additional resources.
- **Outsourcing:** Contracting the internal audit activity to an external service provider. The service provider must be accountable to senior management personnel in the organization having adequate knowledge of the subject.

Individuals transferred from other functions to carry out internal audits should refrain from auditing the areas for which the individual was previously responsible.

REPORTING RELATIONSHIP

The reporting must be to an appropriate level within the organization for the internal audit to fulfil its responsibilities.

Functionally, Internal Audit should be reporting to the Board/Board Committee. In the absence of a Board/Board Committee, the reporting should be to the head of the organization.

Administratively, the reporting should be to senior management personnel (maybe to the Director of Finance/ General Manager of Finance).

The primary responsibility and accountability for the internal audit activities, including that of the external service providers, shall rest with the head of the internal audit function.

The Internal Auditors must conform to the Board/Board Committee about the independence of the function, at least, annually.

RESOURCING

The function should have people from diverse backgrounds and with different levels of experience. The function should also consider the budget allocated for the function.

The function should collectively possess the knowledge, skill, and other competencies to fulfill its responsibilities and range of services that are approved for delivery.

The function should consult the Board/Board Committee and senior management about the adequacy of the resources for rendering the services.

(*Recommended that a co-sourced model be put in place. In-house team may comprise of a Chief Internal Auditor having around 10 to 12 years of experience supported by two junior resources having 2 to 4 years of experience. Preferably, with financial background and knowledge in IT systems*)

INVESTMENT (COST)

Internal audit has to be cost-efficient but that should not be the "end-all, be-all" when it comes to good governance.

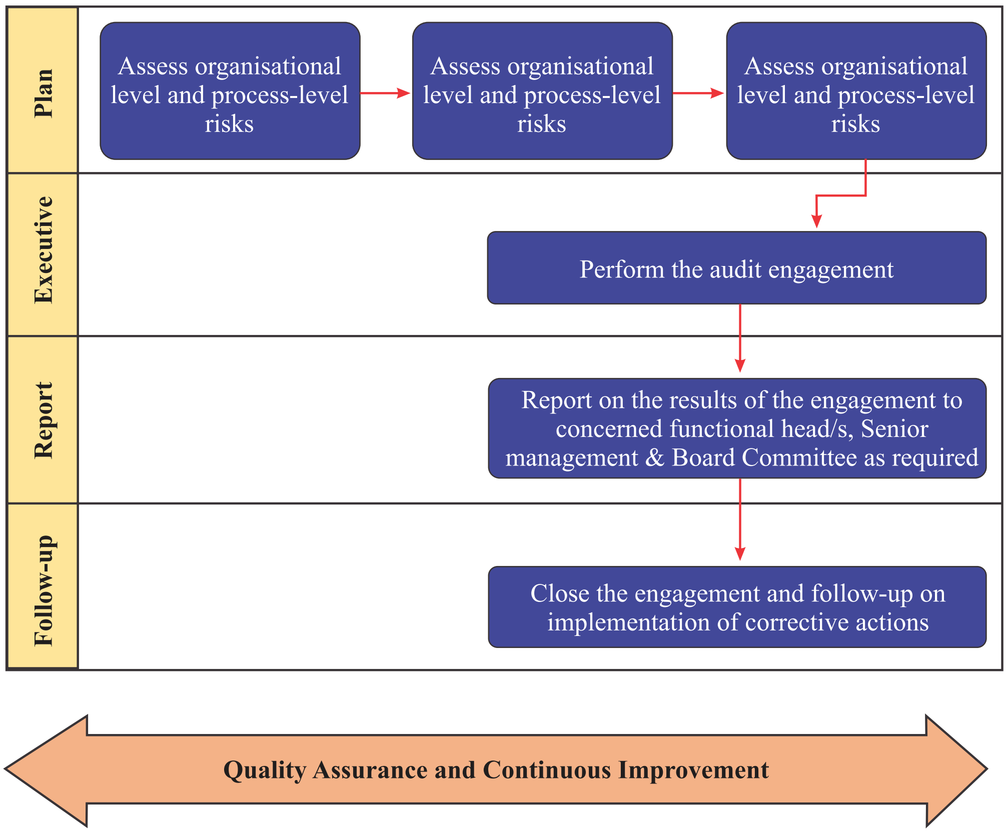
Nevertheless, with the increasing complexity of the function and the digital capability required to generate value, the organization should think and recalibrate its existing approach.

The organization should not dither to invest in building the requisite capability. An objective evaluation of the budget requirement, every year, should form the basis for addressing the need.

INTERNAL AUDIT PROCESS 10

OVERVIEW OF INTERNAL AUDIT PROCESS

A diagrammatic representation of the overall process has been given below for visualization of the internal audit activity.



STEPS OF INTERNAL AUDIT PROCESS

General steps of the internal audit process have been discussed in Chapter-1 of this Manual. Based on that, the internal audit will take the following steps during the audit work (*This list is indicative and, not exhaustive*).

Step 1: Planning

The Internal Auditor (IA), after receiving the audit order, will plan the whole audit process. This will include the following -

- IA should go through the Annual Report of the company to understand the internal / external risks of the concerned company and/or the units.
- IA will make a plan and programme to visit the sight.
- IA programme will be conveyed to the auditee for receiving the confirmation and making all arrangements for the visit like accommodation, conveyance etc.
- The auditor will review such audits of prior period, if any and related professional literature.

Step 2: Opening Meeting

- The Internal Auditor will visit the site / office and will have an opening meeting with the auditee.
- In this meeting, the auditor will also give the questionnaire, as mentioned in Chapter 7 with a request to submit it with the answers within next 15 days.
- All officials, related with risk assessment and mitigation in the company / unit will also be invited to the meeting.

Step 3: Fieldwork

After this the IA will start the field- work of audit with his team –

- He will visit the site and try to understand the internal and external risks.
- He will try to understand the risk mitigation plan of the company
- The replies of the questionnaire by the management will be compared with the actual ground reality and deviation will be noted down.
- IA will talk to workers and other officials, working at the site to know their understanding about the risks.
- Test checking of the internal risk mitigation plan may be done.
- For external risk assessment and mitigation, the IA ill talk to all concerned senior officials to understand their preparations and steps taken.
- Special meeting will be arranged between Internal Auditor and Chief Risk Officer (CRO) along with other members of the Risk Management Committee (RMC) to assess the Risk Management Framework
- Related portion of the minutes of meeting of BOD / Risk Management Committee should be shared with the Internal Auditor. It is the duty of the management.

- Action Taken Report (ATR) on the decisions of the management on risks and mitigation.
- IA will also obtain the related rules and regulations of regulatory body, if any, and its guidelines for risk assessment and measures to be taken.
- IA may use following techniques for risk assessment

(a) Qualitative Techniques

- Checklists
- Safety Audits
- Task Analysis (TA)

(b) Quantitative Techniques

Proportional risk-assessment (PRAT) technique: This technique uses a proportional formula for calculating the quantified risk due to hazard. The risk is calculated considering the potential consequences of an accident, the exposure factor and the probability factor.

R = P*S*F

Where,

R: the Risk;

P: the Probability Factor;

S: the Severity of Harm Factor;

F: the Frequency (or the Exposure) Factor

(c) Hybrid Techniques

Fault-tree analysis (FTA): It is a deductive technique focusing on one particular accident event and providing a method for determining causes of that event. In other words, FTA is an analytical technique that visually models how logical relationships between equipment failures, human errors, and external events can combine to cause specific accidents.

- Internal Auditor should go through this Manual carefully, which will help in understanding the general external and internal risks, being faced by the company / unit. It will also help in ensuring that the management has not missed any type risk which needs to be discussed with the IA.
- Sometimes, the middle and junior level employees of the company adopt casual approach and they undermine the impact of any risk, resulting in

not following the suggested guidelines and not developing any sort of its mitigation plan. But when that risk takes place, the management finds itself in unguarded position and the company suffers huge loss of human beings, resources, production and finance. IA should, therefore, try to find and highlight any such risk to force the management to develop a mitigation plan of that risk also.

Step 4: Draft Report

IA will prepare a draft report within one month of the start of the work which will cover the following points / comments on –

- Main external and internal risk being faced by the company / unit
- Any other potential risk(s) which have not been estimated by the concerned company / unit
- Risk Management Framework of the company / unit
- Working of Risk Management Committee
- Communication from top management about risks and risk mitigation to lower levels.
- Frequency of this communication
- Sensitivity of the management and employees about risk management framework
- Comments on the rules and regulations of the regulatory body, if any, and its guidelines for risk assessment and measures taken by the company / unit.
- Training programmes of the company on risks involved and steps taken for the employees and all concerned at different levels.
- Comments on the decisions of the BOD / higher management on Risk Management Framework and action taken by the concerned officials. If deviation is found, that should be highlighted specifically.
- Comments on adequacy or inadequacy of the Risk Management Framework of the company/ unit
- The risk / risks which have been undermined or missed by the management.
- Comments on the replies of the Management of the questions of the Questionnaire, as advised in this manual.
- Suggestions for the further improvements.

Step 5: Management Response

The above draft report will be submitted to the management and its comments will be invited within next fifteen days.

Step 6: Closing Meeting

After receiving comments from the management, the Internal Auditor may have final meeting with the management and other concerned officials.

Step 7: Final Audit Report Preparation

The Internal Auditor will submit the final Audit Report within three months of the start of the work.

Annexure – A

DRAFT REPORT

This Internal Audit report on risk management is only indicative. The actual report may vary in points, figures, facts, contents, annexures and details.

Internal Audit Report

Department: ______________________

Review of the Risk Management Framework

Index		
S.L. No.	**Headings**	**Page**
1	Background	
2	Audit Scope & Objectives	
3	Audit Approach	
4	Summary of main findings	
5	Action Plan	
6	Conclusion	
7	Acknowledgments	

BACKGROUND

This report has been prepared as a result of the Internal Audit review of Risk Management as part of the _____ (year) Internal Audit Plan.

A review was carried out in ------- (year) covering the management's approach to Risk Management and the establishment of a framework. A report was prepared that recommended certain actions be taken by the management that would embed a framework for Risk Management within the departments of the company. Given the importance of ensuring that there is ongoing progress of the framework, it is considered prudent to establish whether agreed actions by management are being progressed and where possible to further assist with framework development. In order to establish the progress made by management to date, following three areas were included for this review –

- To establish whether the recommendations from the ---------- (year) report have been implemented.
- Risk management arrangements are sufficiently developed to provide an effective operational management tool.
- Whether departmental loss control groups have set up operational and strategic risk registers within a set timescale.

As a result of our audit work, findings were generated. These findings were subsequently discussed with the management and where appropriate included in the action plan for future implementation.

AUDIT SCOPE AND OBJECTIVES

The broad objective of the audit is to evaluate whether there is a Risk Management Framework (RMF) in place which can enable the risk management process to be carried out and developed in a comprehensive manner, whereby all significant risks are identified, evaluated, controlled, monitored and reported in accordance with best practice.

The adequacy of the arrangements to meet the objective has been assessed using a grading of one to 5 points. Five points indicate "good arrangements" and one-point "inadequate arrangements". The assessment is set out in figure 1. The assessment has been made by considering the value and significance of the findings and recommendations.

AUDIT APPROACH

The following approach was used to satisfy the objectives of the audit:

- Discussions were held initially with the Head of _____________ and the Governance and Risk Manager for background to risk management procedures and development in the company and its relationship with promoting the principles of Best Value within the Company.
- Internal Audit prepared and requested the completion of a questionnaire by management to assist in addressing the above objective.
- Tests were devised and conducted as part of the exercise, and relevant evidence of progress made was requested and reviewed.

- Any problem areas were highlighted and brought to the attention of management via a draft report and their comments were incorporated into this report where appropriate.
- A final report was prepared for the attention of the Board of Director of _________.

SUMMARY OF MAIN FINDINGS

Internal Audit in the course of the audit found through testing that a number of key steps have been achieved in implementing recommendations from the -------- (year) Risk Management Framework report. However, a few areas remain incomplete.

Risk management procedures need to be finalised and issued to departments. The procedures will provide the Loss Control Groups (LCGs) with a formal operating framework. This should then be presented to the Audit Committee for approval.

The SMT has presently reviewed and approved the Company Risk Register. A quarterly report is prepared for the SMT and Audit Committee on risk management. This could be enhanced with a list of high-level risks gathered from departments on a quarterly basis. This will provide evidence to the SMT and Audit Committee that high risks have been identified and management is aware and assessed these risks.

In addition, the quarterly report to the SMT and Audit Committee should include perceived departmental benefit outcomes of embedding the risk management process within the Company.

It was found that the Risk & Corporate Governance Manager did not have a formal record of DMT minutes delegating authority to LCGs. It is therefore recommended that a copy of each DMT delegated authority should be passed on to the Risk & Governance Manager to be incorporated within the risk management procedures and operating framework document.

ACTION PLAN

The action plan attached at Appendix has been compiled with the cooperation and agreement of the Head of Democratic Services and Governance.

Internal Audit considers that, in an effort to improve the quality of information, monitoring and control, the recommendations should be implemented in accordance with the agreed action plan. The Management has set achievable implementation dates and will be required to provide reasons to the Audit Committee for failure to implement within the agreed timescale. Where the management decides not to implement the recommendations it must evaluate and accept the risks associated with that decision.

A system of grading audit findings, which have resulted in an action, has been adopted in order that the significance of the findings can be ascertained. Each finding is classified as 'fundamental', 'material' or 'minor'. The definitions of each classification are set out below: -

Fundamental - major observations on high level controls and other important internal controls. Significant matters relating to factors critical to the success of the objectives of the system. The weakness may therefore give rise to loss or error.

Material - observations on less important internal controls, improvements to the efficiency and effectiveness of controls which will assist in meeting the objectives of the system and items which could be significant in the future. The weakness is not necessarily grave, but the risk of error would be significantly reduced it if were rectified.

Minor - minor recommendations to improve the efficiency and effectiveness of controls, one-off items subsequently corrected. The weakness does not appear to affect the ability of the system to meet its objectives in any significant way.

CONCLUSIONS

It is the opinion of Internal Audit that good progress has been made by the company to address the requirements of introducing a Risk Management framework.

However, during the course of the audit, some areas were identified as requiring further development and therefore recommendations have been made. These have been discussed with the management and an action plan agreed. (Any issues not accepted by management are done so with their knowledge and acceptance of risk and control weakness.)

Following Figure sets out a summary of the overall conclusions arising from the audit in terms of the specific objectives detailed above.

Figure: Summary of overall conclusions

Specific Objectives	Assessment
To establish whether the recommendations from the 2022/23 report have been implemented.	
Risk management arrangements are sufficiently developed to provide an effective operational management tool.	
Whether departmental loss control groups have set up risk registers within a set timescale.	

ACKNOWLEDGEMENTS

Thanks are due to Head of ________________ and his staff for their co-operation and assistance rendered during the audit and the preparation of the report and action plan. Thanks, are also due to ______________ and staff along with ______________ who provided comment on the relevance of the proposed model.

Internal audit department of ____________ has prepared this report. Its work was limited to the scope mentioned above in this report. It cannot be held responsible or liable if information material to our task was withheld or concealed or misrepresented.

This report is private and confidential for the company's information only and is solely for use in the provision of an internal audit service to the Company. The report is not to be copied, quoted or referred to, in whole or in part, without prior written consent.

Appendix

ACTION PLAN

Action Plan No.	Para	Grade	Weakness identified	Agreed Action	Responsible Officer	Date of Implementation
1	2.3	Material	Operating procedures are to be finalised and issued to departments. This will also offer an operating framework for departmental LCGs and present to the Audit Committee for approval	This is close to completion as the necessary documents have been prepared and will go to the next RMG for review and approval.		
2	2.1	Material	The quarterly report to the SMT and Audit Committee does not include a list of high-level departmental risks and any perceived benefits resultant from embedding the risk management framework.	The quarterly report will in future include these issues		

Annexure – B

CHECK LIST

COMPLIANCE WITH MINING SECTOR RISKS

Requirements relating to all types of external risks in the mining sector have been outlined in Chapter-6 and those relating to all types of internal risks have been given in Chapter-7. The Internal Auditor (IA) must ensure that the same have been fully complied with. IA must report the shortfalls, if any, and should check that such shortfalls have been addressed by the management.

QUESTIONNAIRE RESPONSE

A detailed Questionnaire containing list of questions that the internal auditor must get answers has been given in Chapter-8 of this Manual.After initial meeting with the management, the IA will ensure that all the required documents, data &information, including replies to the questionnaire, has been provided to him by the auditee. Following checklist, which is indicative not exhaustive, may help in in this regard. The IA may add more points in this check list as per requirement –

- Previous internal audit report on the risk management of the company, if any, has been provided.
- The management has provided the list of already identified internal and external risks.
- The auditee has provided its Manual or policy on risk management.
- The auditee has provided the details of its Risk Management Framework.
- The names of the members with contact number and email ids, including that of Chief Risk Officer of the Risk Management Team (RMT) has been provided.
- Minutes of last three meetings of RMT has been provided.
- Do the minutes of the meetings of RMT take place regularly?
- The copy of the Action taken Report (ATR) on the issues discussed in the last three meetings of RMT has been provided.

- The copy of the report or brief of the report, presented by RMT to the higher management / Board of Directors (BOD) recently, has been provided.
- The copy or brief on the communication system to explain the Risks and Risk Mitigation System to the middle and lower-level management of the company has been provided.
- Copy of the statutory risk management provisions, applicable on company has been provided.
- The details of the programmes organised to communicate the Risk Management Framework to the each and every level of the hierarchy has been provided.
- Copy of the literature distributed among the all levels of the management and workers to make them aware of the Risk Management Framework has been provided.
- Copy of the Annual Report of the Company has been provided.
- A copy pf the brief on the financial, commercial or human loss, if any, taken place in the company due to improper Risk management in last ten years has been provided with a copy of the report of the enquiry committee also.
- Name of the person (s) who is accountable to the Boards for quality, risk and assurance disclosures has been provided.
- Name of the person (s) who is aligning strategy with regulatory requirements and obligations has been provided.
- A brief on managing stakeholder relationships and meeting multiple demands has been provided.
- The brief report on anymajor business interruption or inefficiency, due to ineffective asset management, has been provided.
- Has the comment on Escalating cost of resources of major projects been provided.
- Any report on lack of key Labor-skill and industrial relations has been provided.
- Any report on impact of Evolving environmental laws and regulations has been provided.
- Comment on relationships with regulators has been provided.
- Comment on increasingly complex regulatory environment, I any, has been provided.
- Report on the status of health and safety of employees, especially those who are engaged in mining activities, has been provided.

- The figures of last three years of fraudulent financial reporting, payment fraud, bribery and corruption, theft, anti-competitive behaviour, Market rigging etc, has been provided.
- Report of the steps taken to avoid disputes over transfer pricing been provided.
- Copy of the HR policy of the company has been provided.
- A brief repot on the financing and financial resources of the company of the company has been obtained.
- Copy of the cost audit report, if applicable, has been provided by the management.
- Any other report which was sought from the management has been provided.

CHECKLISTS

After addressing the requirements to comply with the internal & external risks and after obtaining requisite documents, &data/information in response to the questionnaire listed above, the Internal Auditor is required to carry out the assessed checks in each domain area to test the operating effectiveness of internal controls. Risk-focused checklist for select areas has been given below:

Finance & Accounts

- Are the assets reflected in financials properly recorded in the books, verified, and reconciled? Are the assets protected under insurance coverage? Are the coverages obtained commensurate with the risks involved?
- Are the debtors and creditors periodically reviewed and properly recorded? Are balance confirmations obtained?
- Are asset disposals, write-offs, and write-backs duly approved?
- Are the accounting standards followed for the recording of financial transactions? Are the financial powers duly exercised while conducting the business?
- Are the roles and responsibilities of the Finance & Accounts team members defined? Are the financial/accounting policies and processes defined for respective heads of accounts?
- Are the financial records (vouchers, supporting, etc) properly maintained? Does the retention of records comply with the law of the land (say, for 8 years)?
- Is there any foreign currency transactions? Is the process, if any followed to hedge against currency fluctuations? Are current fluctuations monitored and exchange gain/loss duly recorded?

- Is there a process for reviewing the financials (including MIS) periodically? Is there a process to match the numbers reported in financial statements with the financial books of records?
- Is there a process to review and report on contingent liabilities, if any?
- Is the financial report periodical reviewed and certified by the competent authority (Statutory Auditors)?
- Is there a mechanism for the restoration of financial data/records to avoid disruption in case of any eventuality?
- Do the policies and processes are in conformance with the legal & regulatory requirements? Are the deviations or exceptions reported to the appropriate authority?
- Are the findings/observations reported by the auditors (internal and external including CAG's office, in case of PSUs) duly acted upon?
- Are the Financial processes and the Accounting Software adequate to prevent any advertent/ inadvertent error while recording, processing, and reporting the transactions? Does the accounting software facilitate generating exception reports? Are such exceptions monitored?
- Are the Access and Privileges granted to employees duly authorized? Are these privileges periodically reviewed to prevent misuse?
- Are the controls exercised while consolidating the Financials at the Corporate Head Quarter with the mines/units adequate?
- Are the controls adequate over the movements in financial records post-book closure? Are such activities monitored and reported to the appropriate authority?
- Is the Financial System (software) exposed to threats from the internal and external environment? How is the integrity of financial data used for accounting and reporting ensured?
- Is there a process to review the financial ratios focusing on the interrelationship between various financial items? Is there any process to report and address the abnormalities noticed, if any?
- Are the employees associated with the function have the required expertise and are regularly trained?
- Is there a process to exercise control over unbudgeted expenditures? Is there a process defining the approval mechanism for such expenditures?
- Is there a process to ensure compliance with the conditions of the Terms of Reference of the Board Committee?

Human Resource

- Are the existing policies and processes adequate to exercise governance (say, delegation of authority, defined roles and responsibilities)?
- Do the HR practices followed conform to the standard guidelines & best practices?
- Are there appropriate measures to prevent and protect against workplace discrimination and harassment of employees?
- Are the liabilities around the health and safety of employees, contractors, etc, duly protected? Does the insurance coverage, benefits, and contractual clauses provide adequate protection?
- Are the personnel files/records contain proper documentation relating to the selection, transfer, promotion, exit, and separation of employees ensuring its completeness? Are the files/records properly stored (physical/digital) for future reference?
- Are there adequate safeguards to protect the confidentiality and sharing of sensitive information by the employees?
- Are the selection of external vendors associated with HR services (say, an Insurance company) in line with the laid down procurement process?
- Are the employees, workers (including contractual), and vendors apprised of to abide by the 'code of business conduct' policy of the organization?
- Are there checks and balances to prevent inadvertent errors and malpractices relating to disbursements being made on account of salary and wages, increments, benefits, medical, etc.(say, disbursement made towards a fictitious employee)?
- Are there measures for identity and background verification for new recruits, and associated vendors?
- Are the policy and processes designed to attract and retain the talents required for the organization? Are there adequate training and development opportunities for employees? Are the performance evaluation indicators clearly defined and monitored?
- Is there an adequate process to address personnel-related complaints and investigation into workplace accidents, and injuries for proper resolution?

Statutory Compliance

- Are there adequate controls over the payment of statutory dues under various applicable laws (say, Mines Safety Act, Factories Act, PF Act, etc.)?

- Is there a process to ensure the filing of returns, claiming tax benefits/credits, responding to notices, etc. under various applicable statutory/regulatory requirements?
- Is there a process to monitor to avoid exposure to the imposition of fines, penalties, etc.?
- Is the compliance mechanism adequate for the import and export laws? Are the applicable subsidies availed, if any?
- Are the Secretarial records maintained in compliance with the Companies Act? Is there a process to carry out a secretarial audit by a competent authority?
- Is there a process to review and monitor the progress of cases under litigation, if any with Statutory Authorities?
- Is there a process to obtain tax declarations from employees, customers, and vendors?
- Is there a process to ensure the validity and renewal of various Licences and Certificates (say, Pollution Certificates, Mining licenses, etc.)? Is there a process to maintain a repository of licenses and Certificates required to be maintained? Is there a process to periodically update the requirement?
- Is the skillset deployed to manage the Statutory Compliance activities adequate? Are the licenses, and certificates physically verified?
- Is there a framework to manage the overall compliance activities?

Information Security

- Is the Network Architecture open to potential vulnerabilities? Are the firewalls adequate to prevent unauthorized access? Is there an adequate patch management process?
- Are there any weaknesses in System Configurations? Is there a process to test the configurations to prevent unauthorized changes?
- Is there an Access control and Authentication process? Is it periodically reviewed?
- Is the Data Storage and Backup process adequate? Is the Backup data periodically retrieved and tested for its completeness?
- Are the existing applications (Software & Hardware) periodically assessed for vulnerabilities, if any? Are there any checks to prevent the installation/download of unauthorized applications?
- Are the security protocols uniformly applied to personal handheld devices, laptops, etc. used for official purposes?

- Is the data transferred and shared internally and externally duly encrypted? Is the process regularly monitored?
- Are the User Accounts and Access Privileges periodically reviewed? Is there a process to check and prevent password sharing?
- What processes are followed to identify cyber-related threats? Is there a process to assess its significance/relevance to the organization? Is there adequate protection of suppliers, customers, and Government related data in the custody of the organization?
- Are there mitigating protocols for incident response relating to information security risks? Are there any tools deployed for monitoring data leakage and exposures? Is the monitoring process adequate?
- Are the Employees and Users trained on information security-related risks?
- Is the organization ensuring compliance with prevailing laws (say, General Data Protection Regulation, Digital Data Protection Bill, etc.)?
- Are there license fees, royalties, etc. payable to the vendor/s, if any duly paid to avoid disruption or penalty?
- Is there a process for the disposal of IT equipment? Is it environment-friendly? Is there a process to ensure that data is also not discarded with the equipment?
- Are there processes to Upgrade and Maintain the current Applications in use? Is the organization exploring and utilizing the benefit of free supplies to such upgrades provided by the vendors, if any?
- Is there any third party engaged to manage the IT-related services? Are the contractual arrangement, and service level agreements monitored?
- Is there an adequate process to ensure protection in case a piece of equipment is stolen, lost damaged (say, lodging an FIR, Insurance claim)?

Procurement

- Is the procurement process followed is in adherence to the approved Procurement manuals/guidelines? Are there any exceptions (e.g. the terms of the offer and the terms of acceptance are the same)? Is it approved by the competent authority?
- Is there a process to ensure that the items/materials (quantity, quality) received corresponds to the order? Is there a tolerance level defined for acceptance beyond the order quantity and is adhered to?
- Is there a process of quality inspection? Are the items/materials not meeting the required criteria returned within a reasonable timeframe?

- Is the quality inspection carried out for all the items/materials? Is the sampling process for quality inspection adequate?
- Are there vendors who consistently fail to meet the quality criteria? Does it have any impact on the value chain?
- Are the materials accepted from the vendors beyond a reasonable period of time (say, expected delivery date as per order), and what's the reasoning for the same?
- Is the strategy to reduce dependency on imported materials directed by the Government being followed?
- Is there a committee that deals with the standardization for the specification of materials used for mining/production? Is there a process to ensure that materials suppliers meet the stringent quality certification criteria?
- Is the process robust to check the feasibility of buying materials indigenously at the RFI stage in line with govt guidelines? Is the database of all indigenous suppliers validated?
- Are the orders placed to promote the use of indigenous materials? Are the ceilings prescribed (say, minimum procurement from SMEs) by the Government applied while placing the order to avail of the incentives? Is there a process to monitor?
- Is the bidding process transparent to ensure fair participation?
- Is there a database of items/materials required for mining?
- Is there a process to ensure performance and quality standards?
- Are the laid down procurement manuals/guidelines followed? Is there a process to identify deviations and an appropriate approval mechanism for exceptions?
- Is there a process to analyse the reasons for old unused items/materials corresponding to its orders?
- Is there a process to reduce dependency on niche suppliers?
- Is there a process to vet the contractual risks through subject matter experts to ensure protection in case of any eventuality? Are the contractual clauses enforceable (say, on cancellation of orders)?
- Is there a process to report on fraud and corruption-related complaints? Is the organization required to comply with anti-corruption and bribery laws? Is it in compliance with the laws?
- Is the function equipped with skilled and qualified personnel considering the criticality of the processes?

- Is there a process adequate to monitor blacklisted vendors? Is the process adequate in banning and suspension of vendors?
- Is there an adequate system to monitorPerformance Guarantees, Security Money, etc. obtained from the vendors?
- Is there a process to ensure vendor compliance with all contractual requirements? Are the exceptions monitored?

Inventory

- Are there adequate processes to match the products mined (reported by the miningunits), products dispatched to customers, and products available in stock? Is it reconciled periodically? Is the process followed for all the products mined?
- Is there a process to verify the products in stock to identify damaged and obsolete products? Is there a process for its disposal and treatment?
- Is there a process to ensure that only approved quantities of the products are loaded and transported out of the work premises?
- Is the process for the valuation of the inventory is in line with the accounting standard?
- Is there adequate insurance coverage for the storage and transportation of the inventory?
- Is the process for inventory verification independent of bias or free from any influence?
- Is there a process to categorize the inventory (say, A, B, and C)? Is there a process to deep dive into old items for taking necessary action for its liquidation?
- Are the controls adequate to prevent unauthorized issues or misuse of items/ materials from the inventory maintained?
- Is the process adequate for the disposal of scrap? Are the vendors selected in conformity with the Procurement guidelines?

Production

- Is there a process to ensure that design specifications for items used for mining meet the specified criteria? Is the testing infrastructure adequate?
- Is the technology used in the mining process have any end-use restrictions? Does it require to comply with Government guidelines, if any?
- Is the mining process making use of all indigenously available materials and supporting in availing the benefit provided by the Government in terms of incentives? Is there a process to identify and report where such benefits are not/ could not be availed?

- Is there a process whereby there is coordination between the Production and Procurement departments for material requirements?
- Is there a process to check and analyse the variance between the Standard and Actual consumption of inputs?
- Is there a process to meet environmental standards (sustainable practices) in the mining process? Is there a process to monitor and ensure compliance?
- Is there a process to review production delays? Is it correlated with idle time?
- Is there a process to carry out periodical maintenance of equipment/machinery to ensure its performance?
- Is there a process to monitor the expenditure incurred on Research and Development activities? Is the expenditure incurred is in line with the approved budget?
- Are all of the above processes uniformly applied across all locations/mines?

Sales and Dispatch

- Is there a standardized template outlining the terms and conditions of the sales contract? Is the authority level defined to approve exceptions to the standardized clauses?
- Is there a process to review the contractual terms (say, through a legal expert) prior to the execution of the contract?
- Is the production schedule aligned with the sales contracts? Is there a process to review so as to meet the contractual deadline?
- Is there a process to communicate with the customers for schedule delays? Is the process documented?
- Is there a process to approve the Product pricing? Is there a pricing guideline that is adhered to? Are there any additional benefits (say, in terms of incentives, discounts, etc.) extended to customers?
- Is there a process to ensure all sales invoices are booked/recorded in financials? Is the receivable periodically monitored to avoid blockage of working capital?
- Is there a process to review the cancelled orders/contracts (full or part) and the resulting consequences for the organization?
- Is there any technology used for monitoring the movement of vehicles transporting company products? Are the reports reviewed?

Marketing

- Are the promotional activities aligned with the marketing strategy of the organization?
- Is there a process to assess the benefits derived from the promotional/marketing activities? Are the promotional campaigns monitored? Is there any third party engaged to manage the promotional activities?
- Is there a process to obtain customer feedback? Is there a process to monitor customer complaints and their resolution?
- Is there a process to monitor negative social media coverage, if any, and a crisis management plan to address the eventualities?
- Is the organization following environment-friendly processes to avoid backlash due to increased consumer activism?
- Are the products marketed required to comply with any guidelines (say, export control regulations, etc.), and whether it is being followed?
- Are the expenditures incurred and booked in the financials for the purpose intended?
- Is there a process to cover Product liability risks? Is the organization exposed to counterfeit products?

Administration

- Have the administrative expenditure heads/items been defined (say, Travelling, Maintenance, Security, etc.?
- Are the expenditures incurred under the budgeted head? Is there a process to approve the budget for these expenditures?
- Is there a process to approve the expenditures? Is there a process to review and approve budget overruns?
- Is there a process for the execution of Administrative/Service contracts? Is there a process to monitor the service level agreements?
- Is there an abnormal rise, decline, or variance in administrative expenditures compared to the budget or past period? Are the reason analysed?
- Is there adequate oversight for the renewal of existing contracts? Are the contracts renewed on competitive terms?
- Is there a dependency on a single vendor? Is the reason analysed and documented?
- Is there a process to monitor split contracts escaping the due approval process (say, avoiding escalation to higher authority for approval basis the financial threshold designed0?

- Is there adequate control over the number of contracts awarded? Are the liabilities correctly recorded?
- Is there a process to review and monitor the effectiveness of service contracts?

Security

- Are there adequate security measures in place to prevent entry of intruders in work premises?
- Is there electronic surveillance in place? How frequently this data is reviewed? Is there adequate backup of this data maintained?
- Are there any physical records maintained? Are the documents stored?
- Is there a process to log security incidents? Is there a system to review and close recorded incidents?
- Is the process uniform for all the locations of the business? If no, what is the reason? Is it adequate?
- Is there a background check for contracted security personnel? Is the process adequate to ensure approved personnel are deployed within the premises for security job?
- Is there a process to analyze the trend of security incidents to understand the pattern for corrective action?
- Is the process adequate to check whether vehicles are detained from carrying unauthorised explosive materials?
- Are the security personnel rotated periodically to avoid fatigue in the workplace?
- Is there a process to conduct surprise checks?
- Is there a process to ensure the credibility of third-party agency engaged by the organization?
- Is there a system to indemnify the company by the insurance company or the security agency for any loss?

Maintenance

- Is there a system to prepare a schedule of preventive maintenance for the machinery involved in the mining activities? Is there a system to review and report, and corrective action for lag in scheduled maintenance activity?
- Is there a process to analyze and identify the root cause of the breakdown maintenance record?

- Is it analyzed to find out repetitive problems? Are actions initiated against any of these repetitive problems? Are actions effective?
- Does maintenance department ensure availability of key replacement parts so as to ensure no stoppages due to unavailability of spares?
- Is statutory testing of all lifting device &carried out annually? Do the results indicate continuing suitability?
- Is concept of machine maintenance reliability & maintainability understood? How is reliability calculated? Are trends satisfactory? If not, are actions instituted to improve the same? Are actions effective?
- In Predictive maintenance what is the methodology applied to machines/ equipment? How is it monitored?
- In case of breakdown are those intimated from production to maintenance? Are timely actions initiated against this noted breakdown? Are records maintained?
- Is List of machines equipment maintained? Does it include all machines / equipment in unit?
- Is there equipment lying unused due to poor maintenance?
- Is preventive maintenance schedule of each type of machine available? Are activities carried out as per schedule? Is record maintained including problems observed/repairing done etc. during PM?
- Is the approved budget adequate for maintenance activity?

Fire

- Is there an effective system for ensuring that the quantities and storage of all types of flammable materials are reasonable and properly controlled?
- Are all employees in high-risk areas properly informed of the particular risks and the means to control these risks?
- Have all staff received basic fire prevention instruction? If any permit-to-work systems are in place, are they operated correctly at all times? Do staff understand the need to report any potential fire hazards?
- Have all electrical systems and equipment been installed and tested as per the manufacturer's instruction manual and electricity standards? Are records regarding regular testing of installation, equipment and portable appliances are up to date at your workplace?
- Are regular checks undertaken and recorded of the condition of all fire safety measures within the premises?

- Are fire exits of a sufficient number and of sufficient width to enable the individual present in any and all areas to evacuate safely?
- Have appropriate provisions been made for the safety of persons with special needs, such as the young, old or disabled? Especially like ramps, handrails in the staircase etc.
- Are there clearly defined written fire action and emergency evacuation procedures, including provision for ensuring that everyone is out of the building?
- Have appropriate fire staff been appointed to take control in the event of a fire and to summon the fire brigade for all fires, no matter how small?
- Are there sufficient fire alarm call points located near to every exit from each floor and from each building?
- Is there a Comprehensive list of fire extinguisher, firefighting equipment & alarm system available?
- Are sufficient appropriate fire safety notices and signs used throughout the premises? Are all fire safety signs throughout the premises present, undamaged and clearly visible?
- Is there a process to carry out fire safety compliance audit?

Quality Control

- Is there a system to assess the deviations from the regulatory requirement and implement corrective measures?
- Are the calibrations carried out periodically and the record is up-to-date? Is there a system to preserve the calibration records for future reference?
- Is there a process to analyse the quality control data to identify patters or anomalies?
- Is there a process to act on the findings of internal or external audit relating to quality control?
- Is there a process to corelate the customer complaints or feedback with the internal quality control findings?
- Are there records evidencing training imparted on quality control to employees?
- Are the internal processes aligning to quality standards?
- Does the organization apply quality control at all stages i.e. material handling, production line, testing and inspection, &shipping and the process defined for all stages?
- Does the quality control process bring accountability at all stages?

- Is there a system to monitor the material or products rejected on quality parameters?

Corporate Governance

- Is the board of sufficient size and composed of people with an appropriate range of skills and independence to ensure its responsibilities are met?
- Is there a system for the board to ensure management has established effective systems that facilitate and monitor compliance within the organisation?
- Does the organisation have appropriate plans and systems in place to minimise the effects of a broad range of disruptions and to ensure that business operations are maintained within acceptable limits?
- Is the system adequate to ensure that the board ensure that any discussion around strategy considers the full range of key risks that the organisation is exposed to?
- Is the governance structure adequately cascaded in the organization and in adherence to board approved framework (say, Bank Signatories, Delegation of Power)?
- Is the system adequate to monitor and track the status of qualification made by statutory bodies (say, Statutory Auditor)?
- Is there any system to file the audit report with any regulatory authorities? Are all reports, returns etc. mandated by the government or regulatory bodies submitted on time?
- Is there a system to report back to the Board on non-adherence / non-compliance to Board approved framework, guidelines?
- Is there a system to check compliance to requirements laid down under the Companies Act; SEBI regulations, etc.?
- Is the system adequate for storage of related corporate governance documents?
- Is there a corporate code of ethics?

Plant & Machinery

- Is the Capital procurement process followed is in adherence to the approved Procurement manual/guidelines? Are there any exceptions (e.g. the terms of the offer and the terms of acceptance are the same)? Is it approved by the competent authority?
- Does all the plant and machinery procured and installed form part of the Fixed Asset register? Is there a process of periodic review of the asset register to ensure its updation?

- Is there a process to assign identification number to all plant and machinery and its cross verification with the asset register?
- Is there a process to periodically identify obsolete/non-performing machineries and initiation of steps for its disposal and alternate use?
- Are the supporting documents, say, invoice is properly maintained and date of procurement / installation duly recorded to ensure depreciation is duly recorded in the books of accounts? Is the depreciation method followed is applied consistently and in accordance with the applicable accounting standard?
- Is the bidding process transparent to ensure fair participation? Is there a process for technical and commercial evaluation of the bid/s, and is it duly followed?
- Are all the plant and machineries correctly recorded as capital assets and certain expenses, that are attributable to bringing it to the working condition is included in the cost?
- Is there a record of machineries sent out for repairs / fabrication and they are duly maintained?
- Is there a process to vet the contractual risks through subject matter experts to ensure protection in case of any eventuality? Are the contractual clauses enforceable (say, on cancellation of orders)?
- Is there a process to report on fraud and corruption-related complaints?
- Is there an adequate system to monitorPerformance Guarantees, Security Money, etc. obtained from the vendors?
- Is there a process to ensure vendor compliance to all contractual requirements? Are the exceptions monitored?
- Is the function equipped with skilled and qualified personnel considering the criticality of the processes?
- Are the plant and machineries duly covered under insurance?
- Is there a process for periodic maintenance of the plant and machineries?
- Are the reasoning and cost benefit analysis of new procurements / replacements duly recorded and maintained?
- Are there old pending requisitions / orders and is it being monitored? Are there old outstanding advance against which supply commitments are pending?
- Is there an approved budget for procurement of plant and machineries? Is there an authority matrix (delegation of financial power) that empowers such procurements? Is it being followed?

Civil Works

- Is the Civil contract process followed is in adherence to the laid down guidelines? Is the bidding process transparent to ensure fair participation? Are there any exceptions? Is it approved by the competent authority?
- Do civil contracts entered into duly vetted by the legal department to ensure protection against contractual risks? Is there a process for evaluation of technical and commercial parameters?
- Is there a process to monitor the work progress vis-à-vis the progress payments made? Is there a monitoring schedule? Is there a process for bill certification?
- Are the financial requirements (as agreed) with respect to Performance Guarantee, Security Money, Retention money, etc. duly monitored and adhered to?
- Is there a process to monitor time and cost overrun by the contractors? What steps are taken for non-compliance to contractual terms? Are deviations approved by the competent authority, as laid out by the company?
- Is there a process to inspect the quality of materials and certify the quality of job completion by the contractor?
- Does the contract stipulate reconciliation of materials utilized by the contractor? Is the reconciliation periodically carried out?
- Is there a process of certification prior to releasing the final payment? Is there a process to monitor old unadjusted payments made to the contractors?
- Is there a process to monitor that the contractor is adhering to all statutory obligations since the company is the principal employer?
- Is there a process to report on fraud and corruption-related complaints?
- Is there a process to monitor budget vis-à-vis commitment? Is there a process to ensure that commitments made in excess of the initial contract value / approved budget are being routed through the appropriate authority?
- Is there any pending dispute with the contractor/s? Is there a process to conduct the root cause analysis?
- Is there a process to ensure that materials procured by the contractor meets the quality requirement?
- Are there 'checks and balances' for sub-contracting by the contractors to restrict risk exposure, if any?
- Is there a process to ensure proper classification and booking of expenses under civil works, and its recognition as expense in the books of accounts? Is there a process to monitor the same?

- Is there a process for monitoring compliance to health and safety requirements of the personnel deployed for carrying out civil works?
- Is there adequate insurance coverage to protect against any accident/damage/liability arising out of civil works?

Liquidity Risk Management

- Does the Board recognize that liquidity risk can lead to business disruption?
- Does the Board take cognizance of liquidity risk when setting strategic goals?
- Is there a system to report to the Board directly on the liquidity risks?
- Does the Board play a role in setting and reviewing liquidity thresholds?
- Does the Board verify the information relating to liquidity risk?
- Is there any process for managing, reporting, decision-making, and other rules for monitoring the categories of liquidity (say, catastrophic, significant, moderate, etc.)?
- Is the responsibility for managing and monitoring liquidity risk/thresholds defined?
- Are the resources assigned for managing the risk adequate?
- Is there a process to periodically estimate Cash Flow with a cash flow forecast to gauge the amount of cash that will be available short-term?
- Is there a process to conduct stress tests and work through worst-case scenarios to identify liquidity risk drivers and risk areas to watch out for so as to better prepare?
- Do the organization define and use key performance indicators for risk, for example, assess the impact of production shortfalls or supplier financial distress on the production?
- Is there adequate protection (say, insurance, hedge, etc.) to prevent liquidity crises resulting from unforeseen events?
- Is the process for managing liquidity risk appropriate?
- Do the Business Units operate and administer their business/functions considering the liquidity position?
- Are countermeasures reviewed appropriately?

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