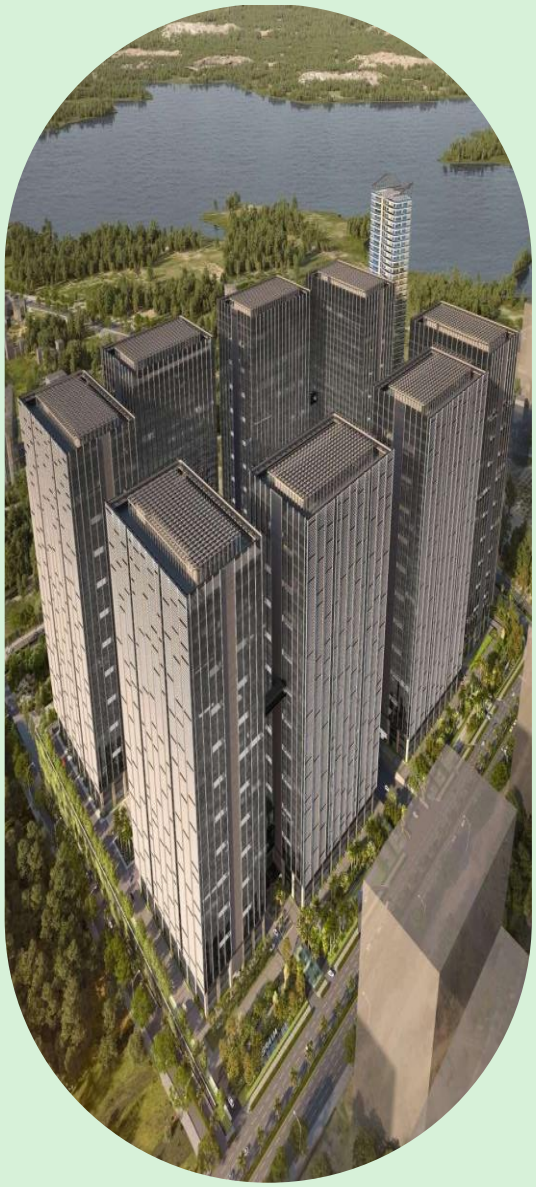
OHS & WELLBEING MANUAL



My Home Constructions Pvt. Ltd.

H.NO 1-123, 8th FLOOR, 3rd BLOCK, MY HOME HUB, HITECH CITY,

MADHAPUR, HYDERABAD - 500 081.

www.myhomeconstructions.com

MY HOME CONSTRUCTIONS PVT. LTD.

Revision	Date	Prepared By	Reviewed By	Approved By
02	01-06-2024	Head (EHS)	Sr. President (P)	EVC
		01/6/24	1/6/24.	

CONFIDENTIAL USE

00. REVISION HISTORY:

OHS & W Manual Section Ref.	Rev No.	Date	Brief Record of Revision
MHCPL-HSE-M	00	10-05-2019	The initial release of the HSE Manual to implement safety standards in MHCPL.
MHCPL-HSE-M	01	04-07-2022	– HSE Policy revised -01 – Updated incident/ accident communication process.
MHCPL-OHS&W-M	02	28-05-2024	– HSE Policy revised-02 – Updated management procedure – Updated safety requirements and standards – Document number revised with MHCPL-OHS&W-M.

Index

1. PURPOSE:

The purpose of the My Home Constructions Pvt. Ltd. OHS & W (Occupational, health, safety & wellbeing) manual ensures that all employees, contractors, and subcontractors perform construction work in conformance with all health, safety, and environmental laws, regulations, and company standards. This OHS & W (Occupational, health, safety & wellbeing) manual serves as a comprehensive guide outlining all health, safety, and environmental laws and regulations established by My Home Constructions Pvt Ltd. for all its construction projects.

It is important to note that this manual does not succeed existing regulatory standards in India but complements them. Its purpose is to reinforce these standards and underline to contractors the critical areas that must be addressed in their respective site safety plans, with a particular emphasis on maintaining excellent housekeeping practices and promoting overall health and safety in the workplace.

The obligations and requirements outlined in this manual are intended to be strictly adhered to all parties involved in My Home projects. It is imperative to understand that these guidelines do not reduce the contractor's responsibilities under the terms of the contract or their statutory obligations concerning health and safety. Rather, they serve to strengthen and increase these obligations, emphasizing the paramount importance of maintaining a safe and healthy work environment at all times.

This plan applies to all levels of Project Management, employees, Contractor/Sub-Contractor / Vendors, suppliers, and visitors under the control of MHCPL

2. SCOPE:

We at My Home Constructions Pvt Ltd. are fully committed to creating, providing, and sustaining a safe working environment while promoting and maintaining the highest standards of Health, Safety, Environment, and well-being for our workers.

To achieve these objectives, we have developed an Occupational Health & Safety (OH&S) and Well-being manual that outlines the guiding principles and objectives for our EHS management system. This manual has been documented with consideration for all applicable statutory provisions and requirements under various statutes and laws. It establishes procedures to be followed in our day-to-day operations. It is imperative to emphasize that the effective implementation of the OH&S and Wellbeing manual relies on the participation and support of all personnel within the organization, which can only be achieved with the commitment and support of leadership at various levels.

Through this communication, we urge every corporate function head, Project/site head, and every employee of the company, as well as all stakeholders, to personally commit themselves to the cause of EHS within the company. We ask them to ensure the proper implementation of the HSE policy and OHS & Wellbeing manual within their respective areas of responsibility.

MHCPL's top management is dedicated to establishing a formalized process to address safety concerns and conduct blame-free investigations of near misses and incidents, demonstrating a strong commitment to safety. Management will review all serious incident reports, identify contributing factors, and communicate findings throughout the organization.

The EHS management system aims to eliminate or minimize impacts/risks associated with its activities and covers all stakeholders (Including employees, contractor/sub-contractor/Vendors) and other interested parties

3. HSE POLICY:

HEALTH, SAFETY, & ENVIRONMENT POLICY

"We are committed to conduct business with standard Health, Safety, and Environment conscience ensuring sustainable development, safe workplaces, and enrichment of the quality of life of employees, contract employees, customers, stakeholders, and community.

We believe that Safety, Health & Environment protection is an integral part of "efficient and profitable business management of our group".

We shall:

- Plan, design, operate and maintain all facilities, processes, and procedures to secure sustained Health, Safety, Environmental protection, and well-being of all stakeholders and the community.
- Comply with all applicable rules and regulations on Occupational Health, Safety, and Environmental protection and wellbeing.
- Adopt and promote industry best practices to prevent accidents and improve Health, Safety, and Environment performance.
- Encourage communication, consultation and participation of all relevant stakeholders in HIRA & EAIA preparation, Injury & Ill-health prevention, OH&S matters and wellbeing framework.
- Ensure to train, and equip effective and prompt response to untoward accidents and emergencies.
- Carry out an audit at regular intervals on issues relating to Health, Safety, and Environment, to ensure compliance.
- Remain committed to being a leader in providing sufficient resources in Occupational Health, Safety, and Environment protection and eliminating hazards, reducing risks, and exploring opportunities through continual improvement.
- Communicate to all our stakeholders and reviewed once in every 2 years or as and when required as per the procedures whichever is earlier to ensure that it remains relevant to our business and effective to improve performance.
- Inculcate the culture of **"SAFETY IS LINE MANAGER'S RESPONSIBILITY".**

EXECUTIVE VICE CHAIRMAN

Date: 5th February 2024, Rev -02

4. REFERENCES:

The procedures in this manual should be read in conjunction with;

- The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996. & State Rules, 2002
- The Factories Act, 1948
- The Telangana "Fire Service Act – 1999"
- The Explosives Act – 1884
- OHSAS 18001: 2007 – Occupational, health and safety Assessment Series- Standard.
- Occupational Health and Safety Management Systems – Requirements (First Edition).
- Environmental management systems – Requirements with guidance for use (Third Edition).
- ISO 45001:2018 Occupational health & safety management system.
- ISO 14001:2015 Environmental Management system

5. TERMS & DEFINITIONS:

Some technical terms that are used on our project sites are listed below:

OHS & Wellbeing	Occupational, health safety & wellbeing
HSE Policy	Top management's official statements on an organization's overall goals and direction regarding its performance in terms of health, safety, and the environment
Risk	The probability of a hazard causing harm and the severity of that harm
Hazard	Any potential source of harm or adverse health effect on a person or property.
HIRA	For a particular activity, identify the hazard, evaluate the risk, and apply suitable control measures to mitigate the risk.
Risk Assessment	The process of evaluating potential risks, determining their likelihood and consequences, and identifying measures to mitigate or manage them
Incident	An unplanned event or occurrence that has the potential to cause harm, loss, or damage.
Accident	An incident that results in injury, damage, or loss
HSE Performance	The measurement and evaluation of health, safety, and environmental practices and outcomes within an organization.
Safety Culture	The shared values, attitudes, beliefs, and behaviors regarding safety within an organization
Objectives	Clear and measurable goals are set to achieve desired health, safety, and environmental outcomes.
Audits	Systematic and independent examinations to determine whether activities and results conform to planned arrangements and regulatory requirements
Safety Inspections	Regular examinations of the workplace to identify hazards and ensure compliance with safety regulations.
Ill Health	Adverse health effects resulting from workplace conditions or exposure to hazards.

Occupational Health	The branch of public health concerned with identifying and controlling workplace hazards to prevent injury and illness
Nonconformity	Failure to meet specified requirements or standards.
Preventive Action	Proactive measures are taken to eliminate or mitigate potential hazards before they cause harm.
Root Cause	The underlying factors contributing to an incident or nonconformity.
Incident Investigation	A structured process of examining incidents to determine their causes and prevent recurrence.
Severity	The extent of the harm or damage caused by an incident.
Probability	The likelihood of an incident occurring
Environment	The surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, humans, and their interrelation.
Acceptable Risk	The level of risk that an organization is willing to tolerate based on its objectives, resources, and values
Auditor	A person qualified to conduct audits and evaluate compliance with standards and requirements.
Auditee	The entity or individual being audited.
Corrective Action	Actions taken to address identified nonconformities, prevent recurrence, and improve processes.
Environmental Impact	The effect of an organization's activities, products, or services on the environment.
Environmental Aspect	An element of an organization's activities, products, or services that can interact with the environment
Construction	The process of building or assembling infrastructure, facilities, or structures.
Training	The process of teaching employees or workers the skills and knowledge needed to perform their jobs safely and effectively.
Safety Committee	A group of employees are responsible for promoting and maintaining a safe work environment, often through communication, training, and hazard identification.
Unsafe Acts	Actions performed by individuals that pose a risk to health, safety, or the environment on a construction site.
Unsafe Conditions	Physical circumstances or situations within the construction site environment that have the potential to cause harm, injury, or damage.
Housekeeping	The practice of maintaining a clean, organized, and hazard-free work environment within the construction site.
Foreseeable	that which is likely or possible.
Site Safety Plan	The specific safety plan that the Contractor has produced from his outline Safety Plan.
Compliance	Compliance ensures that the construction activities are conducted in a legally and ethically responsible manner
Permit to Work	Permit to Work systems help manage risks associated with potentially dangerous activities by ensuring proper planning, controls, and oversight.
Action Plan	Action plans aim to mitigate risks, improve safety performance, and achieve EHS objectives effectively
Procedure	a methodical approach to doing a task or procedure

LTI Frequency rate	LTI Frequency Rate = No of LTIs X 1000000/ Total man hours worked

5.1 Distribution of OHS & Wellbeing Manual:

Copies of this OH&S Wellbeing Manual are distributed to all contractors, where it is designated as a reference document in WO/PO. Additionally, it is issued to all staff of My Home as necessary. and made available to all employees through the polices link in PHP.

6. UNDERSTANDING THE ORGANIZATION AND ITS CONTEXT:

My Home Constructions Pvt. Ltd., has decided to develop large-scale Residential & commercial construction projects to make a significant shift in the organization's business strategy. The company has recognized the potential for growth and profitability in the residential & commercial real estate sector. As a result, they aim to showcase their capabilities in handling residential & commercial projects with the highest standards of safety and quality.

My Home Constructions Pvt. Ltd. Is strongly committed to fostering a culture of continuous improvement in safety performance across all its construction projects. This commitment is driven by the organization's core values of prioritizing the well-being of its workforce, stakeholders, communities, and customers.

7. EHS OBJECTIVES:

- To Implement measures to ensure NO fatalities or serious injuries occur on the construction site throughout the project duration
- Regularly identify, assess, and mitigate potential hazards and risks associated with construction activities, including but not limited to falls, electrical hazards, and hazardous material exposure.
- To develop and implement comprehensive emergency preparedness and response plans to effectively address potential incidents/accidents.
- To provide regular EHS training and ensure that all personnel possess the necessary skills and competence to perform their tasks on the construction site safely
- To minimize the environmental impact of construction activities by preventing pollution, conserving resources, and implementing sustainable practices such as recycling and proper waste management
- To establish a robust system for reporting and investigating incidents, near misses, and hazards promptly to identify root causes and implement corrective actions.

8. LEGAL & OTHER REQUIREMENTS:

My Home Construction Pvt Ltd is committed to complying with all applicable legal and regulatory requirements. This procedure aims to define the roles and responsibilities within the organization for identifying and determining appropriate legal and other requirements within the scope of EHS Management Systems. It also aims to raise awareness and understanding of legal responsibilities by communicating relevant information on legal and other requirements to all employees and subcontractors based on the organization's activities.

The applicable work procedures, rules, regulations, and standards depend on the types of activities conducted by the company, such as the construction of residential and commercial projects. These standards are determined based on identified aspects, impacts, hazards, and their assessed risks, with corresponding risk control measures applied.

The EHS Management Representative is responsible for identifying and keeping up-to-date with all legal and other applicable requirements. Applicable legal and other requirements are tracked through legal publishers, newspapers, and the Internet.

8.1 List of applicable legal Requirements:

- Building and Other Construction Workers-BOCW (Regulation of Employment and Conditions of Service) Act, 1996. Telangana rule
- Contract Labour (Regulation) Act, 1970
- Child Labour (Prohibition & Regulation) Act 1986
- The Electricity Act 2003(Amended 2007), The Electricity Rules, 1956 (amended 2006)
- The Gas Cylinder Rules 2004.
- The Motor Vehicles Act, 1988(Amended 2013).
- The Explosives Act 1884 (amended 1983), along with the Explosive Substance Act 1908 and the Explosives Rules 1983.
- The Environment Protection Act, 1986 and Rules 1986, amended (1991 and 2009)
- Air (Prevention and Control of Pollution) Act, 1981(amended 1987)
- Water (Prevention and Control of Pollution) Act, 1974(amended 1988)
- The Noise pollution (Regulation & Control) Rules,2000(amended 2010)
- The Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008 (amended 2010 and 2015)
- The Bio-medical Waste (Management & Handling) Rules, 1998 (amended 2003 and 2016)
- The Petroleum Act, 1934 and Rules 2002(amended 2011)
- The Manufacture Storage and Import of Hazardous Chemical Rules, 1989 (amended 2000)

9. EHS LEADERSHIP & COMMITMENT:

- At MHCPL, we prioritize the safety and well-being of our employees above all else. Our leadership is fully committed to ensuring a safe working environment and upholding the highest standards of environmental health and safety
- Our EHS management structure comprises dedicated EHS leaders who oversee compliance with regulations and implement safety measures at all levels. All MHC EHS team as an advisory members to the project team to create a safe work environment.
- Our EHS objectives include achieving zero workplace accidents, reducing environmental impact through sustainable practices, and providing ongoing training to enhance safety awareness among employees
- Our top management regularly participates in safety walks, demonstrating a hands-on approach to EHS leadership. Additionally, our management team allocates necessary resources to support safety programs and initiatives.
- Employees are encouraged to report any safety hazards or concerns through our anonymous reporting system or directly to their supervisors. Leadership values employee feedback and actively seeks input to improve safety practices
- Our commitment to EHS extends beyond compliance; we continuously review and update our policies and procedures to reflect best practices and emerging trends in safety management
- We recognize and reward employees who consistently prioritize safety through our Motivational program. Employees who go above and beyond to promote a culture of safety are publicly acknowledged and rewarded for their efforts.

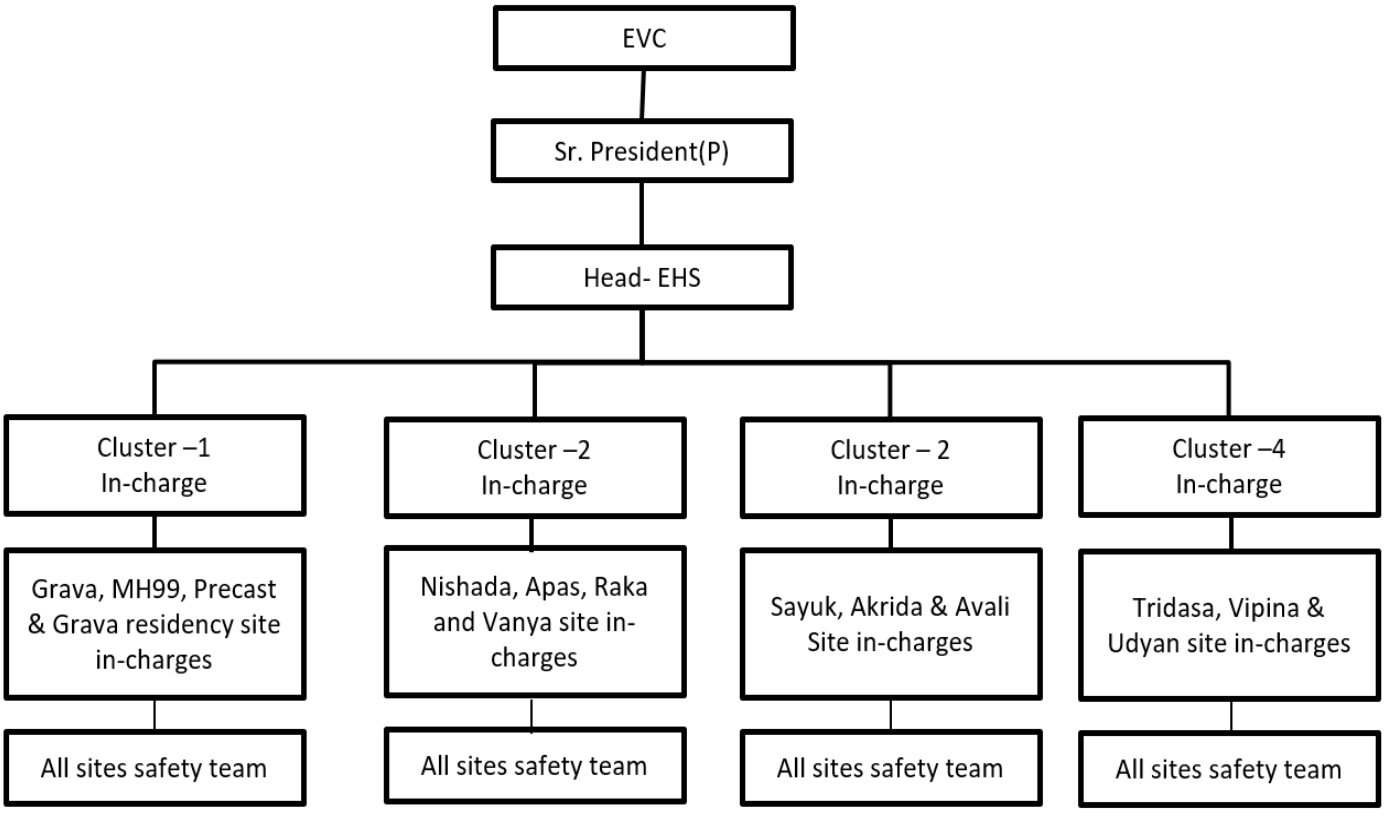
- Ensuring that EHS is the "first agenda" of all review meetings at Head officers, and project sites, and empowering employees to implement the Stop Work Authority.
- Employees are empowered to halt work when immediate action is necessary due to imminent danger to life, property, or the environment.
- Project Managers should recognize and reward employees whose swift actions prevent potential incidents.
- Our top management instruction for any job candidates for the MHCPL role interview is that EHS aspects need to be checked at the interview stage.

10. EHS RESOURCES MANAGEMENT

The EHS team is led by the Head-HSE, who oversees the entire safety management system in MHCPL. To streamline resource allocation and management, our all-project sites are divided into 4 clusters. Each cluster is overseen by a Cluster in charge, responsible for the safety and well-being of all personnel within their designated cluster

- The Cluster I/C is accountable for implementing safety protocols, conducting regular inspections, and addressing any safety concerns within their assigned cluster
- Each project site is equipped with an EHS team comprising a Site safety I/C and their deputy, responsible for overseeing safety measures on-site.
- Staff deployment is based on the size and complexity of each project site. Typically, one engineer is deployed for every two towers, and one executive is assigned to oversee each tower
- Continuous training and development programs are provided to EHS team members to keep them abreast of the latest safety regulations and best practices in the construction industry
- Open and effective communication channels are established between different levels of the EHS team and project site personnel to facilitate the reporting of incidents and safety hazards
- Resources such as personnel, equipment, and budget are allocated strategically to support the implementation of safety measures without compromising project timelines or quality.

10.1 EHS Organisation structure:



11. ROLES & RESPONSIBILITIES AND AUTHORITY & ACCOUNTABILITIES(RRAA):

At all levels of Management from senior management to site supervisors & workers have a responsibility to ensure that those people under their control are not exposed to unnecessary risk whilst they are at work.

The RRAA (Roles, Responsibilities, Authorities, and Accountabilities) of all project staff are defined in their respective Position Descriptions. A copy of these Position Descriptions, agreed upon, signed, and dated by each individual, is to be held by the Site Safety I/c or the site HR.

11.1 Top Management which includes Executive Vice Chairman (EVC), Sr. President (Projects).

Function / Activities	EHS Roles & Responsibilities, Accountabilities and Authorities
Roles & Responsibilities	– Setting EHS Vision and Policies: Top management is responsible for establishing a clear and compelling EHS vision for the organization. They should also develop and communicate EHS policies that align with legal requirements and industry best practices. – Allocating Resources: Providing adequate resources, including budget, personnel, training, and equipment, to implement EHS programs effectively. – Leadership and Communication: Demonstrating visible leadership on EHS matters and fostering a positive safety culture. Top management should regularly communicate the importance of EHS to all levels of the organization. – Reviewing Performance: Regularly reviewing EHS performance data and statistics to assess progress, identify trends, and make decisions through review meetings and site inspections. – Risk Assessment and Mitigation: Ensuring that risk assessments are conducted for construction projects and taking appropriate actions to mitigate identified risks. – Incident and Accident Management: Overseeing the investigation and analysis of incidents and accidents to prevent recurrence and improve safety measures. – Compliance and Legal Obligations: Ensuring compliance with all relevant EHS laws, regulations, and permits. – Contractor Safety: Ensuring that EHS requirements are communicated to contractors and that their performance is monitored to maintain a safe working environment. – Continuous Improvement: Promoting a culture of continuous improvement in EHS performance, aiming for zero harm and environmental impact.
Accountabilities	– EHS Performance: Top management is accountable for the overall EHS performance of the organization and its projects. – EHS Objectives: They are responsible for setting measurable EHS objectives and targets for the company and monitoring progress towards achieving them. – Legal Compliance: Ensuring the organization complies with all applicable EHS laws, regulations, and standards.

Authorities	– Decision-making: Top management has the authority to make decisions related to EHS matters and allocate resources for EHS initiatives. – Setting Priorities: They can prioritize EHS initiatives and allocate time and effort to achieve the established EHS objectives. – Approvals: Top management may be required to approve EHS policies, procedures, and plans.

11.2 Project Head/HODs:

The Project head/Site head is the most senior person on the site and the primary responsibility is to create an overall safety culture that aims and supports a safe and healthy at workplace.

- **EHS Integration:** Integrate EHS considerations into the overall project planning, execution, and completion processes.
- **Regulatory Compliance:** Ensure that the project adheres to all relevant safety and environmental regulations, codes, and standards.
- **Risk Management:** Guide and support the team to identify potential hazards and risks associated with the project activities and implement appropriate control measures.
- **EHS Planning:** Participate in development and implement project-specific EHS plans, protocols, and guidelines.
- **Incident Prevention**: Implement proactive measures to prevent accidents, incidents, and occupational health issues.
- **Resource Allocation**: Allocate resources, including personnel, budget, and equipment, to support EHS initiatives throughout the project.
- Responsible for the completion of the project with the total implementation of the company's EHS policy requirement and site-specific EHS plan and compliance with the relevant legislation and regulations.
- Ensure the right people are deployed for the right job.
- Ensure that the EHS competence of subcontractors is verified before deployment.
- Delegate responsibilities and achieve the EHS operational objectives set to meet the EHS policy objectives.
- Ensure sufficient resources are made available at the project.
- Reviewing EHS Plan implementation and discussing any outstanding issues in Project review meetings, site inspections, and EHS Committee Meetings.
- Arrange a kick-off meeting for all new contractors/vendors with the safety team.
- Investigating non-compliance and non-implemented items.
- Ensure that all staff and workmen are competent to perform their tasks safely in compliance with the EHS Management System and requirements.
- Screening of workmen is effectively implemented by the EHS Dept. & site execution engineers.
- Regular monitoring and organizing continuous in-house EHS training.
- Establishing adequate control measures for the employee's fitness to avoid fatigue, stress, extended working, etc.
- With the assistance of the Site safety, I/c, develop Emergency Response Procedures (ERPs) for all emergencies that may be encountered on-site using the templates provided at Evacuation Plan and Emergency Response Procedures
- Project EHS Plan implementation monitoring

- Monitoring the investigation of all high potential incidents and non-compliance and ensure immediate remedial action to stop recurrence.
- Participate in investigating incidents (to find out the root causes) with a no-blame approach & initiate necessary corrective & preventive actions.
- Accountable for the implementation of EHS policy effectively on-site.
- Accountable for the compliance of all applicable legal requirements related to EHS at the project site.
- Be accountable for the overall safety performance of the project.
- Be accountable for managing and investigating incidents and accidents that occur during the project.
- Ensure that the project complies with all applicable safety and environmental regulations.
- Accountable for ensuring that adequate resources are provided to impart training for the employees, workmen, sub-contractors & visitors.
- Establish adequate control measures for the employee's fitness to avoid fatigue, stress, extended working, etc.
- Authorities to implement EHS at the workplace.
- Have the authority to stop any project activities that pose an immediate unsafe to workers or the environment.
- Have the authority to allocate resources for EHS initiatives and requirements.
- Have the authority to enforce EHS protocols and procedures throughout the project.
- Have the authority to lead and conduct investigations for incidents and accidents.
- Have the authority to approve and implement EHS plans and protocols.

11.3 EHS Cluster In-charge:

The EHS Cluster I/C and Site Safety I/c provide advice and guidance to project staff on health & safety matters, as safety on site ultimately rests with line management (i.e., the Construction team).

- Serve as the primary point of contact for health and safety matters within the EHS cluster exclusively for the respective site. And ensuring timely submission of all reports (daily, weekly, monthly, yearly) to the Head office.
- He should report to the Head of HSE for all EHS function-related issues and to the Site Head for administration-related issues only.
- Ensure adherence to the EHS policy & OHS & Wellbeing manual across all projects within the cluster.
- Conduct kick-off meetings with new contractors to familiarize them with safety requirements and prepare minutes of meeting (MOM) for circulation to concerned persons.
- Engage with external stakeholders such as agencies, clients, and customers regarding EHS concerns.
- Assess staffing needs for EHS personnel within the cluster.
- Monitor the performance of safety professionals working for contractors and clients on-site
- Stay updated on state/region-specific legal requirements and ensure compliance within the cluster.
- Develop & review site-specific EHS plans, detailing compliance requirements and responsibilities, and issue them to the contractor, ensuring compliance.
- Oversee the implementation of the EHS Management System and OH&S Wellbeing Manual.
- Design and deliver training programs for staff, contractors, and visitors, tailoring modules as needed. Prepare yearly safety calendars for respective sites, conduct training, monitor, and assess effectiveness.
- Review and evaluate EHS performance at sites, ensuring legal compliance.
- Conduct EHS inspections and audits to identify areas for improvement within the cluster and maintain records.
- Coordinate the preparation of EHS risk assessments for projects within the cluster and implement them. Conduct regular reviews for any updates in the HIRA document.

- Organize promotional activities to foster a culture of EHS in the workplace such as BBS training and monitoring and evaluating effectiveness.
- Manage the procurement and quality control of personal protective equipment (PPE) and safety devices.
- Assist in vendor assessment to ensure the use of high-quality safety products.
- Investigate serious incidents and implement corrective and preventive actions as necessary. Implement corrective actions, monitor effectiveness, and maintain records.
- Analyse incident trends and implement proactive measures to mitigate risks.
- Facilitate the establishment and maintenance of emergency preparedness and response procedures.
- Compile and report site-specific EHS statistics for the cluster to Head Office.
- Ensure compliance with EHS policies, legal requirements, and company standards.
- Promote a culture of safety and wellbeing across all projects within the cluster.
- Identify and address gaps in EHS practices and procedures; implement necessary procedures.
- Take appropriate actions to mitigate risks and prevent incidents.
- Maintain accurate records and documentation related to EHS activities
- Make decisions regarding EHS practices and procedures within the cluster.
- Allocate resources for training, equipment procurement, and other EHS-related activities.
- Enforce compliance with EHS policies and standards.
- Initiate corrective and preventive actions in response to incidents or non-compliance.
- Represent the EHS cluster in discussions with internal and external stakeholders

11.4 Site EHS In-charge & team:

- Ensure that the organization complies with all relevant health, safety, and environmental regulations, standards, and policies at the site
- He should report to the Head of HSE & Cluster I/c for all EHS function-related issues and to the Site Head for administration-related issues only.
- Identify potential hazards and risks within the workplace and develop strategies to mitigate them.
- Organize and conduct safety training programs for employees to raise awareness and promote safe work practices.
- Oversee the investigation of incidents, accidents, and near-misses and implement corrective and preventive actions.
- Develop and implement emergency response plans to address potential crises and ensure employees' safety.
- Develop and implement the site-specific EHS plan which incorporates all safety requirements and communicates to contractors
- Conduct regular site inspections and audits to identify safety and environmental hazards and ensure compliance.
- Co-ordinate all Project EHS matters by receiving regular reports, making EHS visits, and ensuring that information is circulated to keep all concerned fully informed.
- Ensure EHS inspections are carried out as planned.
- Track the status of EHS objectives and implement necessary actions to achieve them.
- Advise the Project team about EHS implementations in required areas.
- Provide EHS reports to the Head-HSE and project Head to inform them of the status of EHS performance.
- Carry out accident & incident investigations, prepare reports, and share them with the Head-HSE & Site head.

- Ensure EHS committee meeting is undertaken and recorded
- Monitor the provision of project EHS training and advice on training requirements, and maintain records of training.
- Fully review the project EHS plan every year as a minimum or as dictated by legislation, risk, or current events and requirements.
- Monitoring the hygienic & health conditions of the workmen & staff, Awareness training, and health camps to conduct as required.
- Creating EHS awareness through Toolbox Talks (TBT) and Pre-Execution Planning (PEP) Talks.
- Conducting EHS inspections of work areas, plant and machinery equipment, and machinery according to Standard Operating Procedure "MHCPL-EHS-SOP-21-53".
- Organizing and conducting fire drills and ensuring suitable fire extinguishers are placed at required locations.
- Advising and coordinating the implementation of effective Permit-To-Work (PTW) systems.
- Conducting daily inspections of the workplace to identify unsafe acts and conditions, followed by necessary actions.
- Ensuring all workers wear appropriate personal protective equipment (PPE).
- Implementing EHS policies, procedures, and guidelines at the respective work areas.
- Providing guidance and support to employees and management on EHS matters.
- Monitoring and analysing EHS performance statistics to drive continuous improvement.
- Verifying that Pre-medical examinations are conducted before deployment of employees at the site.
- Use disciplinary procedures in consultation with the Head-HSE & HR if any employee or contractor is careless about their own or others' safety at the workplace.
- Ensure that the EHS competence of subcontractors is verified before deployment.
- Establish adequate control measures for the employee's fitness to avoid fatigue, stress, extended working, etc.
- Accountable for the implementation of EHS policy at his workplace.
- Accountable for the compliance of all applicable legal requirements related to EHS at the project site
- Accountable for ensuring that adequate resources are provided to impart training for the employees, workmen, sub-contractors & visitors.
- Be accountable for the overall health and safety performance of the organization.
- Be accountable for managing and investigating incidents, accidents, and near-misses.
- Be responsible for providing necessary health, safety, and environmental training to employees.
- Be accountable for the effectiveness of emergency response plans.
- Authorities to implement EHS at the workplace.
- Have the authority to halt any work activity that poses an immediate unsafe to employees/workers
- Have the authority to allocate resources for health, safety, and environmental initiatives and requirements.
- Have the authority to enforce safety protocols and procedures throughout the organization.
- Have the authority to lead and conduct investigations into incidents and accidents.
- Have the authority to approve and implement health, safety, and environmental plans and protocols

Corporate EHS Team:

- Assist management in preparing safety policies and procedures, ensuring their implementation. Any non-compliance should be reported to the relevant authority capable of directing corrective action.

- Conduct site safety inspections to assess physical work conditions, practices, and procedures followed by workers. Provide advice to the concerned department on measures to remove physical hazards and prevent unsafe actions by workers.
- Develop and prepare safety SOPs, inspection checklists, and safety permits in collaboration with the relevant supervisor as required by the concerned department.
- Monitor all EHS statistics across all sites, identify any lapses, and suggest improvements. Continuously monitor the implementation of suggestions.
- Ensure compliance with central, state, and local safety laws, regulations, codes, and rules.
- Organize EHS events and coordinate with all site safety I/c for safety-related concerns.
- Coordinate with all site in-charges to consolidate EHS reports and suggest to top management measures to create a safe work environment for workers.
- Suggest new safety initiatives to top management for implementation within the organizations

11.5 Execution team which includes Tower I/c to Engineers:

The Site Execution team is responsible for assisting the Project head in implementing the site EHS Plan.

- Integrating safety considerations minimizes potential hazards during construction and operation.
- To achieve the EHS Departmental objectives set to meet the EHS policy objectives.
- Conducting regular inspections of construction sites to identify safety hazards and environmental concerns.
- Organizing and providing safety training to construction workers and site personnel.
- Ensuring that scaffolding, formwork materials, access, work at height, and tagging meet the safety requirements.
- Ensuring the right people are deployed for the right job.
- Identifying potential hazards and recommending appropriate control measures.
- Conducting TBT/PEP talks with the workmen under him.
- Responsible for overseeing incident investigations and implementing corrective actions.
- Ensuring the workmen under him wear the necessary personal protective equipment relevant to the job.
- Establishing adequate control measures for workers' fitness to avoid fatigue, stress, extended working hours, etc.
- Perform Monthly Workplace Inspections with the Health and Safety Representative. Inspection is to be led by the Health and Safety Representative.
- Eliminating all unsafe conditions in the workplace and keeping the workplace neat and clean.
- Knowing the critical activities of his job based on EHS Risk Assessment and ensuring implementation of control measures.
- Ensuring PPE and equipment are properly maintained and used in their workplace as per the Standard Operating Procedures (SOP).
- Participating with the EHS Engineers or committee members in the Project EHS Inspection.
- Accountable for the implementation of the EHS policy at his workplace.
- Accountable for the effectiveness of emergency response plans.
- Following all work permit systems as per company requirements or EHS Management System before starting work.
- Ensure good housekeeping in the respective areas at the site.
- Reporting near-miss cases/reportable LTI/Fatalities to the EHS team immediately.
- Authorized to implement EHS at the workplace.

- Authorized to stop any activity posing immediate danger to workers or the environment.
- Implement corrective actions following incidents or safety audits.
- Participate in incident investigations (to identify root causes) with a no-blame approach and initiate necessary corrective and preventive actions.

11.6 P&M In-charge:

- Integrate EHS considerations into the management and operation of plant and machinery.
- Ensure that all plant and machinery operations comply with relevant safety regulations and standards.
- Oversee regular inspections of plant and machinery to identify safety issues and maintenance needs.
- Provide EHS training to operators and maintenance personnel working with plant and machinery.
- Oversee investigations into machinery-related incidents and accidents and implement corrective actions.
- Maintain up-to-date documentation for machinery, equipment, and vehicles as required.
- Keep records current for machinery inspections, maintenance activities, and incident reports.
- Ensure that operators and maintenance personnel are familiar with safety procedures and the proper use of PPE.
- Ensure that the right personnel are deployed for the right job.
- Conduct risk assessments for machinery-related activities and implement measures to mitigate identified risks.
- Verify the EHS competence of contractors/operators/drivers before deployment.
- Manage staff, processes, and activities to maintain all plant machinery, equipment, vehicles, and other physical assets to ensure safe, continual, and efficient operation.
- Select and implement the maintenance strategy and activities necessary to improve or maintain efficient operations. Such as,
    a. Assessing the current processes and equipment used and providing a report on findings making recommendations where necessary.
    b. Establishing and directing the implementation of approved maintenance procedures.
    c. Developing, guiding, and following up the implementation of work safety procedures and practices within the plant as it pertains to the general maintenance of the plant and by Industry Standards.
    d. Maintaining appropriate records of maintenance activities.
    e. Implementing training programs for the Maintenance Department employees.
- Ensure that periodic predictive, preventive, and corrective maintenance of all plant, equipment, machinery, vehicles, and other physical assets is appropriately scheduled and completed, with emergency troubleshooting and maintenance support readily available as needed.
- Effectively implement the Lockout, Tagout, try out (LOTOTO) system where required.
- Enhance the reliability of plant and equipment.
- Oversee electrical resources to maintain the facility and support production efforts as necessary.
- Responsible for implementing the EHS policy at their workplace.
- Responsible for ensuring compliance with all applicable legal requirements related to EHS at the project site.
- Accountable for the overall safety performance of plant and machinery operations.
- Responsible for managing and investigating machinery and vehicle-related incidents and accidents.
- Responsible for providing necessary EHS training to operators and maintenance personnel.
- Ensure that all plant and machinery operations comply with safety regulations and standards.
- Responsible for ensuring timely and proper maintenance of plant and machinery.

- Have the authority to halt plant and machinery operations if safety concerns are identified.
- Have the authority to allocate resources for machinery maintenance and safety improvements.
- Have the authority to lead and conduct investigations into machinery and vehicle-related incidents and accidents.
- Have the authority to approve maintenance plans and schedules for plant and machinery.

11.7 Site Security:

- Provide security and access control to the site to prevent unauthorized entry and ensure the safety of personnel and property.
- Assist in emergency response efforts, such as evacuations, and coordinate with emergency services.
- Report safety hazards or incidents observed during security patrols or surveillance.
- Monitor the site for any security breaches or suspicious activities that may impact safety or security.
- Enforce access control measures and ensure that only authorized personnel and vehicles enter the site. Ensure that legal documents for every vehicle entering the site are checked beforehand.
- Perform regular patrols of the site to prevent unauthorized access and monitor safety conditions.
- Report any safety incidents, accidents, or security breaches to the appropriate authorities.
- Keep a close eye on security systems, such as CCTV cameras, to identify potential safety risks.
- Coordinate with site management, EHS personnel, and law enforcement in case of emergencies.
- Keep records of authorized personnel entering and leaving the site.
- Accountable for ensuring compliance with all applicable legal requirements related to EHS at the project site.
- Responsible for managing and reporting security incidents and breaches.
- Responsible for ensuring that access control measures are effectively enforced.
- Responsible for effective communication during emergencies and security-related matters.
- Have the authority to control access to the site and prevent unauthorized entry.
- Have the authority to assist in emergency response efforts and coordinate with relevant authorities.
- Have the authority to report safety incidents, security breaches, and other related matters.
- Have the authority to monitor the site for potential safety and security risks.
- Have the authority to enforce security measures and protocols on the site.

11.8 First aider:

- As a First Aider, your primary role is to provide immediate first aid assistance to injured or ill individuals at the workplace.
- Assess the nature and severity of injuries or illnesses and provide appropriate first aid treatment accordingly.
- Effectively communicate with emergency services, other first aiders, and relevant personnel about the situation and the actions taken.
- Accurately document the details of the first aid provided, including the nature of the injury, treatment given, and any follow-up required.
- Keep up-to-date with first aid techniques and participate in training programs to enhance your knowledge and skills.
- Responsible for following up on the victim's condition with hospitals until the victim is discharged and returns to work. Ensure that workers have a physical fitness certificate before returning to work. Up-to-date reports should be sent to the Head Office and maintained as a record.
- Provide First Aid Treatment and Prevent infection
- Perform cardiopulmonary resuscitation (CPR) if necessary
- Monitor the health conditions of staff and workers based on their nature of work.

- Accountable for ensuring Health awareness training for the employees, workmen, sub-subcontractors.
- Establish adequate control measures for the employee's fitness to avoid fatigue, stress, extended working, etc.
- Be accountable for providing prompt and effective first-aid assistance to those in need.
- Be responsible for the quality and appropriateness of the first aid provided.
- Be accountable for effectively communicating with other responders and medical professionals.
- Be responsible for maintaining accurate and detailed records of the first aid interventions.
- Be accountable for providing effective basic lifesaving training
- As a certified First Aider, you have the authority to provide necessary first aid treatment within your training and certification limits.
- You have the authority to access and utilize first aid supplies and equipment when responding to emergencies.
- You have the authority to communicate with emergency services and other responders to coordinate the response effectively.
- Within the scope of your training, you have the authority to make decisions regarding the appropriate first-aid actions to be taken.

11.9 Contractors:

- Ensure all contractors have safety supervisory staff such as engineers and executives with appropriate experience and training.
- Supervisory staff are responsible for implementing and maintaining Site safety plans, conducting inspections, audits, and retaining records along with the MHCPL team
- Contractors must adhere to the OHS & Wellbeing manual and Site safety plan.
- Contractors and subcontractors provide safety training to workers and supervisors, retaining records for inspection.
- Compliance with laid down EHS rules and regulations is mandatory.
- Ensure safe handling, use, and storage of materials.
- Provide welfare facilities like running water, toilets, and drinking water at work locations.
- Provide necessary information, training, and supervision to protect workers from risks.
- Monitor health and workplace conditions.
- Ensure access to and proper use of personal protective equipment (PPE).
- Adhere to safety rules and guidelines established by the MHCPL
- Implement safe work practices and procedures.
- Take necessary steps to mitigate potential hazards and maintain a safe work environment.
- Regular participation in safety meetings, walks, and celebrations.
- Accountability for implementing and complying with EHS policy and legal requirements.
- Accountability for safety performance, incident management, and quality of work.
- Authority to implement EHS measures, stop work if hazards are identified, and enforce safety compliance.

12. CONTRACT MANAGEMENT SYSTEM

12.1 Selection of Contractor/Vendors:

It aims to ensure that contractors adhere to the same high standards of occupational health and safety as our organisation

Pre-qualification Assessment:

Before engaging any contractor/Vendor, conduct a pre-qualification assessment to evaluate their capability, experience, and commitment to occupational health and safety standards in a pre-defined format. This assessment may include:

a. Reviewing the contractor's safety record and past performance.
b. Ensuring the contractor possesses necessary licenses, certifications, and insurance.
c. Assessing the contractor's safety policies, procedures, and training programs.

***Example**: Before awarding a contract for any work, the MHCPL contracts team & Safety team conduct a thorough review of potential contractors' safety records, certifications, and training programs to ensure they meets our safety standards.*

Safety Requirements in Contract Agreements:

- Incorporate specific occupational health and safety requirements into contract agreements with contractors. Clearly outline expectations regarding compliance with relevant regulations, safety protocols, reporting procedures, and incident management
- Our contracts with contractors include clauses stipulating compliance with all relevant safety regulations and OHS & Wellbeing manual guidelines during the project duration.
- After receiving the Work Order (WO) or Purchase Order (PO), the contractor/vendor is required to attend a kick-off meeting with the site safety team to understand the MHCPL safety requirements before starting any activity. Any contractor intending to work on the site premises must submit the following documents: work methodology, site plans, emergency plan, reporting structure, valid equipment documents, TPIs (If Applicable) s, and legal documents such as BOCW registration, labour license, CAR policy, etc. Additionally, a HIRA document for all activities within their scope is mandatory. The MHCPL team will review all submitted documents, suggest any additional requirements, and approve them. Only after approval, the contractor can initiate the induction program for their workers.

General Guidelines for Contractors:

- Regularly monitor contractor compliance with occupational health and safety requirements throughout the project. Conduct periodic inspections, audits, and reviews to ensure adherence to safety standards
- The contractor shall submit the contractor site organization structure to MHCPL for easy communication.
- MHCPL conducts monthly safety audits to assess contractor performance, identify any safety concerns, and implement corrective actions as necessary.
- The management team is responsible for managing the contractor selection process, ensuring compliance with safety standards, and providing necessary resources to support contractors in maintaining a safe work environment.
- Contractors and subcontractors are responsible for complying with all statutory and contractual requirements regarding construction safety, health, and the environment, including the general duties imposed on them under the laws and regulations of the Government of India, the Government of Telangana, and/or other relevant authorities.
- The MHCPL shall only deal with health and safety matters through the contractor and shall hold the contractor responsible for all of their actions and those of their subcontractors. All subcontractors shall be accountable to the contractor.
- All contractors and subcontractors must ensure that there is an adequate level of competent supervision maintained at the workplace at all times. All supervisory staff must possess the relevant knowledge, training, and experience necessary to properly oversee the work.

- Contractors must ensure that all subcontractors can demonstrate a successful track record in managing health and safety. During the tendering process, contractors/subcontractors will be requested to provide various information to determine their suitability. This information, relating to their activities over the last five years, shall include, among other things:
    a. Fatal accidents
    b. Major lost time accidents
    c. Accidents involving members of the public
    d. Dangerous occurrences
- Contractors are responsible follow the Site-Specific plans provided by MHCPL.
- Contractors/subcontractors are responsible for the provision of suitably trained and qualified safety staff to carry out regular safety inspections, safety promotion, and safety audits and for the retention of records of all such activities for inspection by MHCPL.
- Contractors and subcontractors are responsible for promptly reporting dangerous occurrences and accidents to the employer's representative using the quickest practicable means available.
- Any major breaches of the site safety plan, relevant statutory provisions, safety codes, or any other blatant disregard for health and safety by any person directly or indirectly associated with the works may result in the MHC exercising their authority to require the removal from the site of the contractor's site manager and/or any other personnel.
- The contractors should adhere to the disciplinary measures and procedures developed by MHCPL and implement them promptly upon the commencement of site activities. These measures and procedures should include, among other things:
    a. The issuance of warning notices.
    b. The removal from the site of personnel who disregard safety instructions. Any individual who is removed from the site for breaching safety measures shall not be permitted to be re-employed on any other MHC work sites.
- The contractor's senior representative should sign the MHC Site-specific plan, acknowledging that all occupational health and safety issues outlined in the plan will be given the highest practicable priority throughout the contract and in fulfilling contractual obligations. Additionally, it should clearly state that the contractor's representative will be directly accountable for all safety matters at the site.
- The contractor is responsible for providing, erecting, and maintaining barriers, barricades, lights, signals, signs, and other traffic control devices. These measures should be implemented by applicable laws and regulations and to the extent necessary to full-fill the contractor's obligations under the contract.

12.2 Appointment of contractor project manager (PM), and his duties & Responsibilities:

- The Contractor shall appoint a senior representative of its respective project as the contractor's representative, who shall be responsible and directly accountable to the MHC safety representative in all matters concerning construction safety.
- Before appointing a contractor project manager for any project, submit all qualifications & his credentials to MHCPL. MHCPL will select the project manager through a screening process.
- The MHC representative shall only address safety matters through the contractor and shall hold the contractor responsible for all their actions and those of their subcontractors. All subcontractors shall be accountable to their respective contractors.
- The contractor shall establish and maintain their organizational structure, including safety staff, to effectively implement and manage occupational health and safety on-site. Such staff shall be solely engaged in construction safety activities.

- Responsible and accountable for all construction activities at the site related to safety issues, the contractor's Project Manager (PM) must be promptly informed of any safety concerns. The PM holds full responsibility for addressing all unsafe acts, conditions, and incidents at the site.

12.3 Appointment of contractor safety personnel, and his duties & Responsibilities:

- The contractor must appoint a qualified and experienced Safety Officer before commencing work activities.
- The Contractor's site safety in-charge must have a minimum of 10 years of experience in relevant fields and must have completed at least a bachelor's degree. Additionally, the remaining safety staff must have completed a minimum of a diploma or bachelor's degree and possess 3 to 5 years of relevant experience. All relevant certificates must be submitted to the MHCPL site safety team.
- The Safety Officer's duties, which must be full-time, are solely related to safety, environmental, industrial health, and hygiene aspects, reporting directly to the site in charge.
- This appointment is crucial, and the Safety Officer is responsible for implementing, maintaining, and monitoring compliance with the safety plan and procedures, being present full-time on-site.
- The contractor cannot remove the appointed safety officer without prior written consent from the MHC safety in-charge. If a replacement is needed, the contractor must nominate the replacement simultaneously while seeking consent to remove the incumbent safety officer.
- The contractor shall empower the Safety Officer and safety staff to issue stop orders to all employees, including subcontractors at any tier, including laborers.
- These orders are to cease operations immediately and take appropriate action to rectify unsafe conditions, prevent unsafe acts, or address any breaches of the safety plan or applicable laws at the site.

12.4 Appointment of contractor supervisory staff, and Duties & Responsibilities:

- All contractors and subcontractors must ensure the presence of competent supervision at the workplace at all times. Supervisory staff must possess relevant knowledge, training, and experience to effectively oversee the work. The MHCPL team checks the competency level before appointing the execution team
- To assess subcontractor suitability, various information shall be requested regarding their activities over the last five years, including but not limited to:
    a. Fatal accidents
    b. Major lost time accidents
    c. Accidents involving members of the public
    d. Dangerous occurrences
- In addition to all contractor and subcontractor additional duties include:
    a. Knowing, understanding, and complying with relevant safety legislation.
    b. Providing a comprehensive Safe Work Method Statement (SWMS) and adhering to the work procedures and health and safety considerations detailed within that SWMS.
    c. Adhering to site-specific work procedures, site safety rules, and directions given by site management.
    d. Complying with the terms and conditions of all permits and instructions from MHCPL.
    e. Ensuring that access and egress to their work areas are safe.
    f. Attending and participating in "Toolbox" safety meetings and other mandated meetings as required by site management.
    g. Reporting incidents/accidents immediately to their site supervisor.
    h. Reporting and, if safe to do so, correcting any potential hazards.
    i. Refraining from working in an unsafe manner or placing themselves or others at risk.

- Contractors and subcontractors have health and safety obligations similar to any employer. Therefore, contracting companies must assess risks and implement controls to safeguard the welfare of their employees.

12.5 Contractors Safety Organization

The contractor shall appoint the following Nos. of safety I/c & Engineer/Executives with prior approval from the MHCPL safety dept.

No of workers	Safety Executives	Safety Engineers	Safety Manager(I/c)
Up to 50 Workmen	01		
50 and up to 100	01	01	
Above 100 and up to 300	02	01	
Above 300 and up to 500 workmen	03	02	
Above 500 and up to 1000 workmen	03	03	01
Above 1000 workmen	05 per 1000	03 per 1000	01

13. CONSULTATION & COMMUNICATION

Consultation and communication are crucial for ensuring good safety outcomes on our projects. The project team will engage in safety consultation with all contractors and subcontractors through various methods:

- Daily toolbox meetings will be conducted at the beginning of each working day to address specific issues and reinforce safe working practices. These sessions typically last for 15 minutes.
- Spot toolbox talks will be organized on-site whenever specific issues are identified to address and correct unsafe practices promptly.
- Site safety committee meetings will be conducted at least once in three months.
- Daily health and safety meetings will involve the health and safety leads of all contractors on-site, with notes taken on the raised issues.
- A formal site safety meeting will be held weekly with project managers and all health and safety representatives from contractors on-site.
- A motivational scheme will be implemented, offering rewards to encourage adherence to safety protocols.
- Full signage will be deployed in all movement areas of the site to reinforce the objectives of the health and safety culture

MHCPL is committed to effectively communicating safety, occupational health, and environmental management measures through various channels, including poster campaigns, safety signs, banners, and glow signs displayed around the work site. These efforts aim to enhance safety awareness among the workforce.

Posters will be displayed in Hindi, English, and other suitable languages as deemed appropriate, ensuring that all personnel can understand and adhere to safety guidelines and procedures.

13.1 Site Safety Committees

Site Safety committee is mandated to be established on the project as per regulations. MHCPL site management will establish the site safety committee for all projects

All employees should have the opportunity to participate in the creation and monitoring of arrangements for the health, safety, and well-being of workers at their place of work. This includes the establishment of

site safety committees, where representatives from employees, contractors, and subcontractor workers are nominated to serve on the committee. The site safety committee's role is to promote and monitor the health, safety, and well-being of workers on their worksites.

Site Safety Committee Formation

- The MHCPL site safety I/C should form a safety committee for the respective project.
- The committee should consist of the following members:
  a. **President:** The MHC Site head/Project head.
  b. **Working president:** The MHC safety Cluster I/C
  c. **Secretary:** The MHC Safety In-charge.
  d. **Members:** MHC staff, contractor's and subcontractors' management, and workers' representatives.

Notice: The committee secretary should send the notice of the meeting at least 1 week before the meeting date to all relevant parties including client representatives, contractor representatives, and worker representatives.

Safety Agenda and attendance:

- The safety committee meeting agenda will be prepared and issued to all committee members before the meeting by the Site Safety team
- The safety meeting agenda should generally follow the form defined in the safety review procedure.

Agenda:

a. Welcome and Introduction with a safety talk
b. Review of Previous Meeting Minutes
c. Adequacy and Implementation of Site Safety Plan
d. Monitoring Safety Inspection Reports
e. Analysis of Accident and Incident Reports
f. Review of Accident Statistics and Trends
g. Emergency and Rescue Procedures
h. Site Safety Training
i. Promotion of Health, Safety, and Wellbeing
j. Contractor's Monthly Safety Report
k. Follow-up Actions on Minutes of Meeting
l. Next Meeting Date and Adjournment

Sharing MOM and tracking for compliance:

Once the meeting is concluded, the responsible individual should distribute the Minutes of the Meeting (MOM) to all relevant parties within two working days, indicating the target date for compliance. Additionally, any issues raised should be tracked to ensure compliance within the specified timeframe

Frequency:

In attendance as and when they wish, representatives of the employer and the employer's representative meetings should be held at least once every 3 months.

13.2 Toolbox talks (TBT)/Pep talks

The site contractor team is required to conduct toolbox meetings with the employees under client supervision and document the discussion on the Record of Toolbox Meeting using the specified format. For every toolbox talk, all concerned contractor managers/Engineers/Supervisors must attend without fail. The Execution team will lead the Toolbox talk.

Toolbox talks should be conducted daily before the commencement of activities at the job location to ensure that employees and subcontractors are informed about conditions and any project changes that could affect health and safety. A copy of the toolbox talks must be retained, and action items listed in the toolbox talk record should be promptly followed up on, with the results reported at the subsequent meeting.

The purpose of the following Toolbox Talk is to provide guidance on the subjects to be covered during the session. These talks should be presented to groups of workers, with each group consisting of no more than twenty individuals, by their respective supervisors. Each talk should last between ten and fifteen minutes. An attendance sheet should be maintained for each talk, documenting the presenter, the attending workers, and the duration of the session.

13.3 Contractor and Stakeholder weekly meetings

Site Contractor/subcontractor and other stakeholder meetings will be conducted with the MHCPL site team to ensure that project critical activities interfacing with stakeholders involved in the project are formally discussed and documented. Safety will be the first agenda item at these meetings. The meetings will be scheduled every week at the project site.

13.4 Communication with Relevant Interested Parties

Communication with relevant interested parties is facilitated through the following methods:

- Consultation or involvement of local service providers (such as hospitals, fire services, etc.) and neighbors is ensured as necessary during the development of emergency response plans and mock drills.
- If any deviations from legal compliance are identified during the verification process, the need to seek clarity from enforcement authorities is discussed in the site safety performance review meeting.
- The requirement to communicate significant hazards, including associated risk levels, to interested parties is addressed in the site safety meeting. Decisions made are recorded in the Minutes of Meeting (MOM).
- As part of communication with relevant stakeholders, a safety bulletin should be circulated monthly by the Head-HSE. The bulletin should include lessons learned, best practices, and other relevant safety information.

Management of change (MOC):

The management of the change process should be initiated if any changes occur at the site that impact the site safety system. This includes personnel changes, equipment changes, logistic changes, and changes to SOP or management of change (MOC) procedures.

A HIRA will be conducted with relevant stakeholders in response to the change in MOC at the site. If any further hazards or risks are identified due to the change in management, they will be communicated to all relevant stakeholders. ***(For detailed procedure refer to Doc No: MHCPL-EHS-SOP-21-22 & 20)***

14. SITE SAFETY REQUIREMENTS.

All workers and employees must be familiar with the site safety standards and adhere to all requirements.

14.1 General Safety Requirements

- No child labor (below 18 years) is permitted to work on the site, and individuals above 58 years of age shall not be considered for work at the site.
- All workmen shall undergo screening before being engaged in the job, utilizing a valid state or central government ID and presenting a medical fitness certificate as per the BOCW Act FORM – XI [See rule 223] to the MHCPL safety team prior to safety induction.
- The physical fitness of workmen engaged in height work shall be checked with a Physical Ability Test rig. An MBBS doctor must issue the vertigo and basic medical fitness certificate, and the same needs to be renewed every six months.
- All operators, drivers, food handlers, welders, and height workers shall undergo pre- and periodical medical examinations.
- Basic PPEs (Safety helmet, Safety shoes & Reflective jacket) need to be worn while entering the workplace.
- Visitors can enter the site with a visitor pass. They shall be provided with basic PPEs and shall be accompanied by the responsible person in that area.
- Sub-contractors shall ensure adequate supervision at workplaces. They shall ensure that all persons working under them do not create any hazards for themselves or their co-workers
- All work must be conducted in a manner that minimizes obstructions to traffic. The safety and convenience of the public, as well as the protection of individuals and property, the contractor shall be provided by the specifications outlined in the contract.
- Smoking is strictly prohibited in the workplace.
- No one is allowed to work at or above 1.8 meters height without wearing a double lanyard Full body harness and anchoring the lanyard of the Full-body harness to firm support, preferably at shoulder level.
- Necessary PPEs need to be worn by workmen based on the nature of the job.
- All excavated pits shall be hard barricaded with appropriate safety signage, and this shall be maintained until backfilling is done. A safe approach must be ensured in every excavation using ladders and stair towers.
- Adequate illumination in the workplace shall be ensured before starting work at night.
- All dangerous moving parts of the portable/fixed machinery being used shall be adequately guarded.
- Ladders being used on-site shall be adequately secured at the bottom and top. Ladders shall not be used as work platforms.
- Horseplay is completely prohibited in the workplace. Running on-site is completely prohibited except in cases of emergency.
- Material shall not be thrown from a height. People shall be instructed to lower it by hoist, chute, lift shaft, or manually.
- Insertion of bare wires for tapping power from electrical sockets is completely prohibited.
- All major, and minor accidents, near misses, and sick cases must be reported to the Site Engineer, EHS Engineer, or Officer to enable management to take necessary steps to avoid recurrence.
- All scaffoldings/work platforms shall be strong enough to take the expected load. The width of the working platform, handrail arrangement, toe boards, and fall protection arrangement shall be maintained as per scaffold safety standards IS 3696 – I & 3696 – II. A scaffolding inspector inspects and certifies the scaffold. Scaffold tag system shall be followed (Red & Green).
- All lifting tools, equipment, machinery, and tackles shall be inspected by a competent person (P&M Personnel). Monthly inspections are carried out on all lifting tackles. Defects must be reported immediately. No lifting tackle should be used unless it is certified by the concerned P&M engineer, EHS Engineer.

- Good housekeeping must be maintained. Passages shall not be blocked with materials. Materials like blocks shall not be stacked more than 5 feet high. Stacking shall be with sleeper and stopper provision.
- Debris, scrap, and other materials must be cleared immediately from the workplace and at the time of closing work every day.
- Sub-contractors shall ensure that all their workmen are following safe practices while traveling in the company's transport and staying at the company's accommodations.
- All unsafe conditions and unsafe acts identified by the Subcontractors, reported by site supervisors and/or EHS personnel, need to be corrected on a priority basis.
- Other than the Driver/operator, no one shall travel in a tractor/tough rider, etc.
- Identity cards should always be displayed and shown when demanded.
- Safe work methods need to be followed by all workmen.
- Workmen who have consumed alcohol shall not enter the work premises.
- No person shall sit/sleep on the walls/floor edges. Workmen shall not rest under the vehicle or near electrical installations
- Employees are required to report any unsafe conditions they encounter to their supervisor and/or the Safety Engineer/Supervisor. They should feel confident in reporting such conditions without fear of facing reprisals.
- Employees are obligated to report all injuries to their supervisor promptly. In case of any injury, it must be reported and treated in the first aid room. Additionally, all injuries must be reported immediately to the MHCPL site team.
- All project personnel are required to wear approved personal protective equipment as instructed. Furthermore, this equipment must be maintained in good condition and replaced when necessary. At a minimum, personnel must wear Safety shoes, Safety helmets, and High visibility jackets.
- The project site does not recommend wearing contact lenses.
- Loose necklaces, dangling earrings, and bracelets are not permitted to be worn while working on the project.
- Any individual working on-site property with scalp hair longer than the top of their shoulders must tie up and restrain their hair within the hard hat, coveralls, shirt, or jacket collar.
- Male workers are required to wear tight-fitting pants, while female workers are required to wear saris and blouses. Lungs, half pants, and loose clothing are not permitted on the project site.
- Workers need to be transported only in seated vehicles such as bus etc.as prescribed by the RTO
- Vehicular traffic must not exceed the posted speed limit. The speed limit on the site is 5 km/h.
- Security personnel will be deployed to direct and control employee vehicle traffic entering and/or exiting the site. Failure to follow their instructions will result in disciplinary action, potentially leading to removal from the project.
- All personnel, except qualified, authorized, and licensed electricians, must maintain a safe distance from electrical gear and wiring at all times.
- Emergency equipment must not be used by project personnel for other than its intended use during an emergency, such as fire alarm equipment, fire extinguishers, etc.
- Fighting anywhere on the project site, including parking areas, is strictly prohibited. Violators will be barred from the site and may face legal action by local authorities.
- Running, pushing, practical jokes, and other horseplay are prohibited on the site, including in parking areas.
- Gambling on the site is not permitted.
- Intoxication or possession of alcohol or illegal drugs is strictly prohibited.

- No asbestos material is allowed at the Site.
- Possession of weapons on the site is strictly prohibited.

14.2 Personal protective equipment (PPE):

Although PPE is considered a last resort in the hierarchy of risk controls for minimizing risks, it is also acknowledged that PPE may be the only source of protection during certain activities or serve as an additional layer of protection.

The person should wear adequate personal protective equipment for example safety helmet, safety goggles, and safety shoes, and shall at all times keep and maintain an adequate supply of suitable personal protective equipment which shall be readily available for use at all times on the sites

As such, it is the responsibility of all site personnel to always wear appropriate PPE relevant to the work task or site situation while on-site. The minimum required PPE includes:

a. Safety helmet
b. High visibility vest/jacket
c. Safety shoes

MHCPL will ensure that all contractor employees and workers are provided with the necessary PPE required to perform their duties according to project safety procedures. Mandatory PPE signage for the work area shall be displayed at the entrance to that work area. For MHCPL employees, the issue of PPE will be documented and recorded on the PPE Issue Register at the store.

All Contractors/Subcontractors are obligated to provide their employees with any necessary PPE. In cases where a Contractor/Subcontractor's employee is not provided with appropriate PPE, MHCPL site management will supply the necessary equipment and debit it from their running bills.

Specification of safety helmet for employees: *Safety Helmet with ISIS Mark, Ratchet-Type Adjustment with Chin Strap, Certification: IS 2925:1984, Model No: PN542, Make: KARAM*

Specification of safety helmet for workers: *Safety Helmet with ISIS Mark, Ratchet-Type Adjustment with Chin Strap. Certification: IS 2925:1984, Model No: PN521, Make: KARAM*

List of safety equipment:

PPE	Purpose
Industrial Safety Helmet	For protection of the head against falling objects or during a fall of a person from height.
Safety Goggles (Grinding, Welding, etc).	For protection of eyes against flying particles/dust, chemical splash, sparks, arcs, flashover, etc.
Face shield	For the protection of the face against flying particles/dust, chemical splash, sparks, arc, flashovers, etc.
Earplug / Ear muffs	For ear/hearing system protection while working in high noise level areas.
Apron (PVC /Cotton)	For body protection against chemicals, oils, cryogenics, sharp-edged objects, heat, hot objects, etc.
Gloves (Nitrile/Leather, Electrical shock proof)	For the protection of hands against chemicals, oils, cryogenics, sharp-edged objects, heat, hot metals/objects, electricity, etc
Safety Shoes	For protection of legs/feet against falling objects, sharp-edged objects, heat, hot metals/objects, electricity, etc.

Full body safety harness/ I Rope /Lifeline/ Fall prevention system etc	For fall prevention while working at heights or in-depth, working in a vessel or a confined space.
Dust Respirator	Protection of the respiratory system against dust
Self-contained breathing apparatus (SCBA) set	Self-contained breathing apparatus (SCBA) set

(For detailed procedure refer to Doc No: MHCPL-EHS-SOP-21-19)

14.3 Site Security (Fencing)

The boundaries of the site, or specific work areas where required, must be equipped with a secure perimeter fence or hoarding that is suitable for the risks associated with the work being carried out on the project.

14.4 Access & Egress

The MHCPL site team is responsible for ensuring safe access and egress to the site. This involves segregating vehicular and pedestrian traffic, and ensuring that walkways are clear of hazards that could lead to slips, trips, or falls. Contractors are responsible for providing safe access and egress for their workers from the workplace, including walkways, platforms, ladders, etc., by relevant legislation.

In the event of any electrical cable crossing over pedestrian or vehicular pathways, all electrical cables should be positioned 3 meters above ground level for pedestrian access and 6 meters above ground level for vehicular pathways or underground

14.5 Traffic Management

A suitable traffic management plan must be established before work commences, especially where the interaction of vehicles, and people (including site personnel and the public) is affected by the site works. Traffic control at work sites should be implemented, maintained, and monitored.

Specific site rules regarding traffic management and control should be integrated into the project-specific induction and may include, but are not limited to:

a. Applicable speed limit(s)-5kmph
b. Requirements for high-visibility clothing
c. Reversing/motion alarm requirements
d. Designation of loading, unloading, and delivery zones
e. Delivery requirements for the use of tower cranes

14.6 Alcohol, drugs & smoking

MHCPL acknowledges that the use of drugs and alcohol can significantly impair a person's ability to work safely, posing risks to themselves, their colleagues, and the public.

Therefore, the possession or consumption of alcohol or non-prescription drugs is strictly prohibited at all workplaces.

The site security team will monitor the site gate entry and respond to any situations involving an employee or Contractor/Subcontractor suspected of being under the influence of alcohol or drugs at the workplace. Any individual found to be affected will be immediately removed from the workplace, and arrangements will be made for their safe transport home.

Individuals who are taking prescribed medication must inform their supervisor. If the medication impairs their ability to work safely, alternative duties may be offered to them, if available.

Smoking is strictly prohibited in all work areas, except within a designated smoking area. These areas will be identified by barrier tape and signage, ensuring they are located well away from chemical storage areas, confined spaces, amenities, etc.

Additionally, "No Smoking" signs must be prominently posted in all amenities, offices, and chemical storage areas to reinforce the smoking policy and maintain a safe working environment.

14.7 Manual Handling

All construction workers should not carry or lift any material, tool, or appliance by hand or over their backs or shoulders if it exceeds the maximum weight limits set out for each worker. The maximum weight limits are:

- Adult man 50kg
- Adult woman 30kg
- Adolescent-male 30kg (18 to 22 or 18 to 25 age)
- Adolescent-female 20kg

No building worker aided by other building workers, lift by hand or carry overhead or over their back or shoulders, any material, article, tool or appliance exceeding in weight the sum total of maximum limits set out for each building worker separately.

14.8 Lighting (Illumination)

MHCPL is committed to providing appropriate lighting for all work activities performed on the project. This includes ensuring that adequate lighting is available for access, egress, and emergencies, as well as shared and common areas.

The responsible Contractor/Subcontractors are tasked with providing appropriate task lighting for each work activity conducted by their employees. This ensures that workers have the necessary illumination to perform their tasks safely and effectively.

Ensure while providing Illumination at site as under:

- Where natural lighting is inadequate, working light fittings or portable hand lamps should be provided at the workplace on the construction site where a worker will be working. And check the illumination level on regular basis.
- Emergency lighting should not produce glare or create disturbing shadows.
- Lamps should be protected by guards to prevent accidental breakage.
- The cables of portable electrical lighting equipment should be of adequate size and characteristics to meet the power requirements and possess adequate mechanical strength to withstand severe conditions in construction operations.
- The specific standards for illumination levels on construction sites in India can be found in IS 14489:1998 Code of Practice for Outdoor Lighting

    a. General Construction Areas: 10-20 lux
    b. Entry/Exit Points, Walkways, and Stairs: 20-50 lux
    c. Loading and Unloading Areas: 50-100 lux
    d. Detailed Work or Inspection Areas: 200-500 lux

14.9 Fire Prevention and Protection

- All site amenities, offices, RMC plant, and storage facilities, including those belonging to Contractor/Sub-Contractors, must be equipped with a suitable type and quantity of fire extinguishers for use in case of a fire.
- An evaluation of the adequacy of firefighting equipment should be conducted for each project. Bulk storage of fuels, oils, or other substances may necessitate specific requirements for firefighting equipment provision, by the Petroleum Act and rules.
- All firefighting equipment must be tagged in compliance with country standards and subjected to weekly inspections by a qualified individual.
- The lighting of fires is strictly prohibited on the project site. Hot work activities, such as grinding and welding, cannot be undertaken without obtaining prior authorization through a Hot Work Permit.
- Furthermore, smoking is not permitted in any work areas except within designated smoking areas, which must be demarcated by barrier tape and signage. These areas should be situated far away from chemical storage zones, confined spaces, and amenities.

14.10 Housekeeping

Housekeeping should be ingrained as a fundamental aspect of every activity within the workplace. Implementing good housekeeping practices not only aids in preventing injuries but also enhances productivity.

Contractor/Sub-Contractors bear the responsibility of maintaining work areas under their jurisdiction in a tidy and safe condition. This entails ensuring that materials and equipment not in use are neatly stored and kept clear of access ways.

- Don't leave rubbish lying about.
- Keep all gangways, passages, aisles, and stairways clear.
- Wipe up spilled oil, grease, or liquids.
- Use metal containers for oily or greasy rags and waste.
- Stack goods and materials away from gangways.
- Store your tools safely when not in use.
- Keep benches and worktops uncluttered.
- Don't accumulate scrap or waste.
- Don't leave loose tools on running machines.
- Ensure that access to fire extinguishers is not obstructed.
- Keep all fire doors and exits clear of obstructions.
- Assign dedicated manpower for housekeeping.

Furthermore, work permits will not be issued until proper housekeeping standards are consistently maintained in the workplace. This emphasizes the critical importance of maintaining good housekeeping at all times.

14.11 Barricade & Safety Signage

- Barriers such as guardrails, hole covers, or others must be provided with suitable signage to protect building workers against falls.
- A warning barricade shall be kept five (5) feet back from the edge of any excavation, hole, platform, or roof. A protective barricade may be placed closer. Barricades shall be erected before a hole is cut and extended as the excavation progresses.
- Barricade signs shall be fully informative, legible, and visibly displayed.

- Where barricades cannot be installed, safety nets should be installed close to the level of the terrace at which the danger of a fall exists.
- All work areas, walkways, platforms, etc., elevated 1.5 meters or more, must be encompassed by an approved guardrail or rope.
- All cut outs or openings through floors shall be covered with stone, thick plywood, metal plate, or rebar gratings, or a rigid guardrail immediately.
- Barricades shall be removed when no longer needed.
- Where securing a foothold is impracticable, a safety belt with a secure anchorage arrangement should be provided. A lifeline with sufficient strength should be provided all around the building to which the workers exposed to the risk of falling can tie the hooks of their safety belts.

Safety signage:

Appropriate signage must be installed on the project with relevant rules, regulations, codes of practice, standards, and guidelines about the work activities being undertaken.

Mandatory signage should include a 24-hour emergency contact name, telephone number, and emergency evacuation plan prominently displayed at the main project entrance, ensuring it is visible from outside the project. Additionally, signage indicating the requirement for personal protective equipment (PPE) should be placed at the main entrance of all projects, as determined by the construction team through the Project Risk Assessment process.

Furthermore, a safety park will be established near the safety induction room, which will feature safety signage aimed at enhancing safety awareness and promoting best practices among personnel.

The Safety Park should be positioned near the EHS induction room. A mannequin equipped with necessary PPEs and other safety gadgets should be displayed in the cabin. Posters depicting do's and don'ts need to be displayed both in the park and in the induction room. Separate safety park displays, featuring all gadgets (Do's and Don'ts), should be exhibited for easy understanding by workers. The following gadgets shall be displayed on the display board.

All appropriate safety signage should be displayed by the contractor in and around the site, and it shall be in Telugu, Hindi, and English. Examples of required signs include:

- Wear Safety Helmets.
- Wear Safety Footwear.
- Wear Hearing Protection.
- Wear Eye Protection.
- Danger Electricity.
- Danger Crane Overhead.
- Stop, look, and listen.
- No Smoking.
- First Aid.
- No Entry signs.
- Fire precautions.
- Emergency Exit from underground works.

All safety signs shall comply with internationally recognized Safety Colors as indicated below:

- Blue: Mandatory.

- Yellow: Danger.
- Red: Prohibition.
- Green: Safe Condition.

14.12 Electrical Equipment

The testing and tagging of all electrical tools and equipment on the project will be conducted by relevant rules, regulations, codes of practice, and guidelines.

All electrical equipment used on-site, including that utilized by Contractors/Subcontractors/Vendors, will be documented in the Electrical Department master list. The contractor is responsible for appointing a qualified electrician to maintain their equipment.

Residual Current Circuit Breakers (RCCBs) will be installed on all electrical distribution boards. These RCCBs, including portables, will undergo monthly trip testing and quarterly calibration. The trip current will be recorded on the electrical inspection document and must not exceed 30 Milliamps and 300 Milliseconds.

Any tools and equipment on-site must undergo testing and tagging monthly or as required. Electrical equipment lacking a current inspection tag will be restricted from use on the project, and relevant Contractor/Subcontractor personnel will be notified accordingly.

Moreover, all hangers, hooks, stands, etc., must be appropriately insulated to prevent electrical hazards.

14.13 Vehicle movement

- Park vehicles only at designated places. Don't block roads to create hindrances for other vehicles.
- Don't overload the vehicle.
- Obey speed limits and traffic rules.
- Always expect the unexpected and be a defensive driver.
- Drive carefully during adverse weather and road conditions.
- Read the road ahead and ride to the left.
- All vehicles used for carrying workers and construction materials must undergo predictive/preventive maintenance and daily checks. .
- Drivers with proper valid driving licenses shall only be allowed to drive the vehicle.
- Routes shall be levelled, marked and planned in such a way so as to avoid potential hazards such as overhead power lines and sloping ground etc.
- While reversing the vehicles, the help of another worker should be ensured at all times.
- An unattended vehicle should have the engine switched off.
- Wherever possible one-way system shall be followed.
- Barriers / fixed stops should be provided for excavation/openings to prevent fall of vehicle.
- Load should be properly secured.
- The body of the tipper lorry should always be lowered before driving the vehicle off.
- Signs/signals/caution boards, etc., should be provided on routes

Project personnel tasked with operating plant or equipment on the project site must undergo appropriate training and possess the necessary skills to ensure safe and competent operation. In instances where plant or equipment necessitates a certified operator, said operator must present evidence of a current certificate of competency during the project-specific induction and prior to operating the plant or equipment.

Furthermore, all plant and equipment slated for use on the project must undergo inspection before being deployed on-site by P&M In-charge. Daily inspections must also be conducted by the operator, and servicing should be carried out by the manufacturer's recommendations.

Records of P&M safety inspections must be provided to MHCPL P&M personnel every week or as otherwise stipulated. These procedures are crucial to maintaining the safety and efficiency of operations on the project site.

Employees and workers shall park their privately owned vehicles in the designated parking areas at the site. The site security team will provide guidance for all vehicles entering the site and control traffic on site at all times.

14.14 Danger and Out of Service Tagging

Danger tagging and, in certain cases, mechanical lockout procedures must be implemented to safeguard the safety of personnel working with plant and equipment. These measures are crucial to prevent unintended use or activation by unauthorized individuals during maintenance or repair operations, as well as to secure isolated equipment before work commences.

Out-of-Service Tagging should be utilized to prevent accidental use of defective plant and equipment that necessitates servicing or repair. This helps to ensure the safety of all personnel and maintains the integrity of the equipment until it is restored to proper working condition.

14.15 Services Protection

Prior to the initiation of any work on the project, the Site Head/Electrical In-charge must arrange for a services search to be conducted to identify all underground and overhead services that may be impacted by the works.

For overhead wires (OHW), the distance of plant/equipment operations from the wires must adhere to the requirements set by the service owner or legislative regulations. The safe distance should consider the sag and sway of overhead conductors due to weather conditions. Safe distances from energized OHW are as follows:

Voltage	Distance with Spotter
Voltage up to 132,000	3 meters
Voltage >132,000 but < 333,000	6 meters
Voltage > 330,000	8 meters

For underground services, specific procedures must be followed:

a. All known underground services must be identified and noted before any work commences.
b. Services within one meter of an excavation or trench location must be progressively exposed by hand (potholed).
c. Excavation should be done by hand to verify that the ground is free of services at that location before using machinery. This process should be repeated in 300 – 500mm deep stages until all known services are located.
d. Safe Work Method Statements must accompany all excavation work.
e. All services are to be treated as live unless explicitly stated otherwise.

14.16 Weather conditions

Employees will not be subject to working in inclement weather such as rain or direct heat, which can impact human health. In hot and/or humid temperatures, the Site Head & EHS i/c should consider conducting a site-wide toolbox meeting to warn workers of the dangers of UV exposure, heat stroke, etc. Workers should be encouraged to take regular rest breaks (in the shade), drink plenty of water, and butter milks and, where possible, be rotated out of the sun.

Contractors must ensure that all high-risk activities, such as working externally on scaffolds and near excavated areas, are stopped if there is a risk to human safety and also provide butter milk for all workers at summer time.

14.17 Noise:

Industrial deafness occurs due to prolonged exposure to high levels of noise generated by machinery or construction processes. Once a person's hearing is damaged, it cannot be restored. Deafness not only affects an individual's ability to hear but also increases the risk of accidents on-site, as workers may not be able to hear warnings or instructions.

According to safety regulations:

- For continuous exposure lasting eight hours in any single day, the sound level should not exceed 90 dB.
- For non-continuous exposure, the calculated equivalent continuous sound level should also not exceed 90 dB.
- Workers must not be exposed to sound levels exceeding 90 dB unless they are wearing appropriate hearing protection that effectively reduces the sound level to 90 dB or below at the user's ear.
- If peak noise levels surpass 120 dB, wearing suitable hearing protection becomes mandatory.

For construction sites, the permissible noise levels during daytime (6:00 AM to 10:00 PM) and night-time (10:00 PM to 6:00 AM) are as follows:

Daytime Limits (6:00 AM to 10:00 PM):

- In industrial areas: 75 decibels (dB) as per the day-time standard.
- In commercial areas: 65 dB as per the day-time standard.
- In residential areas: 55 dB as per the day-time standard.
- Silence zones (such as areas near educational institutions, hospitals, and courts): 50 dB as per the daytime standard.

Night-time Limits (10:00 PM to 6:00 AM):

- For all areas, there is a relaxation of 10 dB in the permissible noise levels compared to the daytime limits.

  For example:
- In industrial areas: 70 dB.
- In commercial areas: 55 dB.
- In residential areas: 45 dB.
- Silence zones: 40 dB.

All contractors will provide suitable ear protection to their workforce. The site safety team will monitor the noise level at the workplace and maintain documented records for future reference.

14.18 Site Disciplinary Procedures

Safety staff are required to strictly adhere to the site EHS policies, procedures, and site safety practices.

Supervisors condoning blatant breaches of EHS will not be tolerated on the site.

The site team retains the right and will exercise it, to remove any individual from the Project who condones, supports, or instructs others to engage in unsafe acts, work in hazardous environments or unhealthy conditions, endanger the environment, risk the health of others, or operate with unsafe equipment.

If any willful violation occurs, wherein an employer intentionally disregards site safety rules and regulations or shows indifference to employee health and safety, it will be punishable by a minimum fine equivalent to one day's salary and a maximum fine equivalent to one week's salary per violation.

Disciplinary actions for employees, workers, or subcontractors who disregard the safety requirements will be enforced as follows:

- Unashamed Disregard for Working at Heights site safety practice – Instant Dismissal
- Unauthorized Removal of a Danger Tag or Lock – Instant Dismissal
- Unauthorized Removal of an Out of Service Tag – Instant Dismissal
- Fighting, consumption of alcohol or drugs, horseplay, unauthorized alteration of scaffolds, carrying firearms, and lethal weapons – Instant dismissal

Smoking at Site:

- First Offense – Written Warning
- Second Offense – Dismissal

Non-Compliance with PPE:

- First Offense – Verbal Warning
- Second Offense – Written Warning
- Third Offense – Dismissal

Non-Compliance with Project EHS Work Practices:

- First Offense – Verbal Warning
- Second Offense – Written Warning
- Third Offense – Fine
- Fourth Offense – Dismissal

15. SAFETY TRAINING:

All MHCPL employees and contractors who work on-site must possess the requisite skills and knowledge to carry out their work safely and efficiently.

15.1 Safety Induction/ Orientation:

- Before issuing a site access card by local government requirements, all personnel must attend a safety orientation/induction. and All job site personnel must attend an initial safety orientation before commencing work on the project.
- Before commencing the induction process, all workers must carry their government-issued identification, such as an Aadhar card or passport. Contractor personnel are required to verify the

validity of these documents before attending the induction. During the induction, MHCPL personnel will cross-check all documentation for each individual.

- Additionally, MHCPL's designated first aider will assess the health condition and Basic Industrial Medical (BIM) fitness of the workers. Any specific job worker must provide a medical certificate authorized by the government.
- Safety Induction training shall be conducted by the MHC safety personnel (virtual or direct) for all individuals before granting them access to the worksite. Workers' ID cards should only be issued after this training has been completed.
- A well-established induction room should be ensured with all necessary facilities, including an LCD TV, speaker system, tables, and chairs, considering the maximum number of workmen in one stretch. The projector in the main conference hall should be utilized for in-house and mass training sessions.
- The safety induction program should cover the following topics at a minimum:
    a. General safety awareness relevant to site conditions.
    b. First aid procedures.
    c. Emergency procedures.
    d. Proper use of PPE and job-specific PPE.
    e. Identification and management of specific site hazards.
    f. Safe procedures for critical activities at the site.
- After completing the induction, MHCPL safety personnel will sign the induction form. These signed forms will then be forwarded to the site security department. The site security team will then issue a worker ID card based on the completed induction process.
- Refresher induction shall be conducted at least every six months to ensure that all workers on site are kept up to date with safety requirements on site.
- Where the person entering the site is a non-working "visitor" a reduced induction process will be undertaken although the general induction. A "visitor" who has only had a general induction must always be accompanied by MHCPL personnel if the visitor needs to visit the site (without exception).
- Visitors are not permitted to directly access project sites where significant hazards to health and safety exist.
- Upon a visitor's arrival at the project site, relevant staff members are responsible for informing the Site Safety team.
- The Safety officer will conduct a basic safety induction for the visitors, communicating site EHS rules, regulations, and emergency response procedures as outlined in the visitors' guidelines.
- If necessary, the security personnel will provide the required safety gadgets for the visitors.
- Throughout the site visit, the visitor must be accompanied by the relevant staff member or their designated nominee to ensure safety and adherence to site regulations.

15.2 Training needs identification

EHS department has identified the training that needs to be imparted to various categories of employees including Subcontractor employees along with the MHCPL HR department. The safety department publishes a yearly training calendar as per training needs identification at the site level. At the end of the year, a review of the training program is made based on the feedback received from the sites & identify the skill gaps through the competency evaluation process. Based on those new trainings are included in the forthcoming training plans.

Based on the training needs identified, the HR and EHS Departments will suggest whether external or internal training will be conducted.

15.3 External training

All external training will be organized from the corporate level for all targeted employees. Most of the external training will focus on leadership in safety culture, EHS excellence in safety culture, etc.

At the site level, external training will primarily target critical activities such as scaffolding, slinging & rigging, confined space entry, working at height, electrical safety, chemical safety, behavior-based safety, first aid, and internal auditor training. Additional training sessions will be conducted as needed based on specific training needs.

15.4 Internal training

Site On job training & Classroom training

According to the yearly training calendar, the site safety team will conduct training sessions for all workers and site teams, including contractors, either through classroom training or on-the-job training. It is essential to provide appropriate training to ensure that every job holder, whether a supervisor or worker, is competent to perform their job safely

At the corporate level, one classroom training program will be conducted every month for the MHCPL site safety team as well as the contractor team.

All contractors will conduct two training sessions on EHS-related topics weekly for their workmen and employees to improve safety awareness

All training that is carried out shall be formally recorded on dated and signed attendance records, with copies of the records being kept on the sites for inspection by the MHC safety Head/ his representative. Details of the respective training course programs shall be produced, on-demand or as per intervals prescribed, which include the following information:

- Course Title.
- Course Duration.
- Date of the training.
- Target Audience.
- Actual Audience with record of attendance.

15.5 Training Evaluation & Effectiveness

At MHCPL, we are committed to ensuring the effectiveness of our training programs to enhance employee skills, safety, and productivity. We believe in continuous improvement and actively seek feedback to refine our training methodologies

All training, whether classroom-based or on-the-job, requires evaluation. For employee safety, the site safety team will conduct pre & post-training assessments during the training sessions and maintain a record. Line managers will closely observe the effectiveness of employees for continuous monitoring.

For workers, face-to-face interactions or interviews will occur during training sessions. Line supervisors will closely observe the effectiveness of the training for workers for continuous monitoring.

- After completing the safety training session on any topic, you will receive a feedback form. We value your feedback and use it to refine our training content and delivery methods for future sessions
- We provide ongoing support to employees following training sessions to address any questions or challenges that may arise. Don't hesitate to reach out to your supervisor or training coordinator for assistance.

- If you encounter difficulties applying the new safety procedures learned during training, schedule a follow-up session with your supervisor to receive additional guidance and support
- Based on feedback from employees, we have updated the customer service training module to include new techniques for handling customer inquiries and resolving issues effectively
- Based on feedback from employees, we have updated the training module to include new techniques and resolving issues effectively.

16. EHS COMPETENCE REQUIREMENTS:

- Competence requirements and mapping shall be carried out for individuals involved in activities with significant EHS aspects.
- The supervisor shall identify the competency required to carry out activities based on hazards and significant aspects according to EHS requirements.
- The competency of candidates will be reviewed during the recruitment process for the job they are appointed to, as necessary.
- The EHS I/c, in consultation with the project manager, will determine whether the job holder is competent to perform their job safely.
- The EHS I/c will ensure that appropriate training is provided if necessary to perform and complete the job according to OHS & Wellbeing guidelines & Site yearly calendar.
- It will be ensured that respective Dept I/c provides education to their employees and contractors' personnel to make them competent.
- HODs will decide on additional/special competencies required for specific jobs and select competent employees accordingly.

The following details may be used as a reference for verifying competence.

General requirement	Competences
Physical fitness	– He should have good physical health. – Their age shall be more than 18 years and below 60 years. – Their weight shall be between the ranges of 50-75 Kg. – They shall not suffer from any disease. – They shall have good vision and hearing capability. – They shall not have any adverse past history.
EHS requirements	– He shall know the use of PPE for work carried out by him/her. – He shall know general construction safe conditions. – He shall know about signage and posters displayed at the site. – He shall know emergency evacuation routes. – He shall have knowledge of work at height and scaffold work. – He shall know about proper stacking of material and housekeeping. – He shall know about Permit-to-work system at the site – Employees should be able to identify potential hazards in the workplace such as slippery floors, electrical hazards, or chemical exposure. They should also understand how to assess the level of risk associated with these hazards and take appropriate preventive measures – Workers should be trained in emergency response procedures such as evacuation plans, first aid techniques, and how to use firefighting equipment.

	Regular drills should be conducted to ensure everyone is familiar with these procedures – Employees & Workers should know when and how to use appropriate PPE such as safety helmets, gloves, goggles, or respirators to protect themselves from workplace hazards. Training should include proper fitting, maintenance, and disposal of PPE – Workers should understand the proper procedures for handling, storing, and disposing of hazardous materials such as chemicals, biological agents, or radioactive substances. This includes knowledge of MSDS and labeling requirements – Employees should be educated on proper ergonomic practices to prevent musculoskeletal disorders related to repetitive tasks, poor posture, or heavy lifting. This may include workstation setup, stretching exercises, and awareness of early signs of discomfort – Workers should receive training on the safe operation of machinery and equipment, including lockout/tagout procedures, machine guarding, and regular maintenance checks. Only authorized personnel should operate machinery – Employees should maintain good personal hygiene practices and adhere to workplace cleanliness standards to prevent the spread of infectious diseases. This includes proper handwashing techniques, sanitation of shared equipment, and waste disposal procedures – Workers should know how to report workplace incidents, injuries, or near misses promptly to their supervisors or the designated safety officer. Encouraging a culture of reporting helps identify areas for improvement and prevents future accidents
Categories	**Competences**
Blasting Work	– Competency in handling and storing explosives safely. – Understanding of blast area preparation and exclusion zone establishment. – Knowledge of blast design principles and techniques. – Ability to recognize and mitigate risks associated with fly rock and ground vibration. – Proficiency in conducting pre-blast surveys and post-blast inspections.
Excavation	– Competency in soil analysis and understanding soil stability. – Knowledge of proper trenching techniques and shoring systems. – Ability to identify and mitigate risks associated with underground utilities. – Understanding of excavation safety regulations and standards. – Proficiency in using excavation equipment safely and effectively.
Concrete Work	– Competency in handling and pouring concrete safely. – Understanding of concrete mixing ratios and curing processes. – Knowledge of formwork erection and removal procedures. – Ability to recognize and prevent concrete-related hazards such as silica exposure. – Proficiency in using concrete finishing tools and equipment.

Reinforcement work	– Competency in operating bar cutting and bending machines safely. – Knowledge of rebar specifications and cutting/bending tolerances. – Understanding of proper handling and storage of rebar. – Ability to identify and address hazards related to sharp edges and flying debris. – Proficiency in interpreting structural drawings and bar bending schedules.
Shuttering Work	– Competency in assembling and dismantling formwork systems safely. – Understanding of formwork design principles and load-bearing capacities. – Knowledge of proper bracing and support systems for formwork. – Ability to recognize and address hazards related to formwork collapse and instability. – Proficiency in using hand and power tools for formwork installation.
Flooring Work	– Competency in surface preparation techniques such as grinding and levelling. – Understanding of different types of flooring materials and their installation methods. – Knowledge of chemical hazards associated with flooring adhesives and coatings. – Ability to identify and mitigate slip, trip, and fall hazards during flooring installation. – Proficiency in using personal protective equipment (PPE) such as respirators and gloves.
Painter	– Competency in surface preparation including cleaning, sanding, and priming. – Understanding of paint types, mixing ratios, and application methods. – Knowledge of ventilation requirements and solvent handling procedures. – Ability to recognize and mitigate risks associated with lead-based paint. – Proficiency in achieving desired finish and coverage while minimizing waste.
Welding Work	– Competency in operating welding equipment safely and proficiently. – Understanding of welding techniques and principles including electrode selection and amperage settings. – Knowledge of welding hazards such as arc flash, fumes, and UV radiation. – Ability to interpret welding symbols and blueprints. – Proficiency in performing weld inspections and quality control measures.
Rigger Work	– Competency in rigging equipment selection and inspection. – Understanding of load calculations and canter of gravity determination. – Knowledge of proper lifting and hoisting techniques. – Ability to recognize and address hazards related to rigging failures and dropped loads. – Proficiency in signalling and communication with crane operators.
Electrician	– Competency in electrical systems installation, maintenance, and repair. – Understanding of electrical codes and regulations. – Knowledge of electrical hazards such as shock, arc flash, and electrocution. – Ability to perform electrical testing and troubleshooting. – Proficiency in using PPE and lockout/tagout procedures.
Plumber	– Competency in plumbing system installation and repair. – Understanding of plumbing codes and standards. – Knowledge of piping materials, fittings, and joining methods.

	– Ability to identify and mitigate risks associated with hot water systems and confined spaces. – Proficiency in leak detection and pressure testing techniques.
Masonry and Plaster Work	– Competency in masonry techniques including bricklaying, block laying, and plastering. – Understanding of mortar mixing ratios and curing processes. – Knowledge of scaffold erection and safe working at heights. – Ability to recognize and prevent hazards related to silica dust exposure. – Proficiency in using masonry tools and equipment safely and effectively

16.1 EHS Competency Mapping

For every individual designation, it is necessary to identify the EHS competency. We have a separate SOP document numbered MHCPL-EHS-SOP-21-42 for competency mapping. This SOP clearly outlines the required criteria for EHS competency.

Based on the competency mapping SOP, the site head and the site safety in-charge assess the EHS competency for all employees and first-line workers. This competency assessment is conducted every quarter for both existing employees and new joiners.

Following the assessment, we identify any competency skill gaps, analyze the EHS competency gaps by individual or specific topic, and plan training programs accordingly to address these gaps in EHS competency. Make it prioritize the training based on the individual

The site safety in-charge will be responsible for maintaining a document that records EHS competency gaps and training records. This document will serve as a comprehensive record of identified competency gaps and the corresponding training activities undertaken to address them. It will provide valuable insight into the progress and effectiveness of the training programs aimed at enhancing EHS competency within MHCPL.

17. PERMIT TO WORK SYSTEM.

The permit-to-work system has been developed by the MHC Safety Department, and contractors are required to adhere to it for all activities. This system is a formal document procedure used to control certain types of work that are potentially hazardous. A permit to work is a document that specifies the work to be done and the precautions to be taken. Permits-to-work form an essential part of safe systems of work for many construction activities. They ensure that work commences only after safe procedures have been defined and provide a clear record that all foreseeable hazards have been considered. Permits to work are typically required in high-risk areas as identified by risk assessments.

17.1 List of work permits:

1. Height work permit
2. Hot work permit
3. Confined Space work permit
4. Lifting work permit
5. Excavation work permit
6. Electrical work permit
7. Blasting work permit
8. General Work permit
9. Night Work permit

10. Concrete work permit
11. De-shuttering work permit.

- Before commencing any activity, ensure that a work permit is obtained without fail, and all permits must be initiated through the OQSHA mobile application.
- The execution team, whether the contractor or MHCPL, must initiate the permit for any work.
- The contractor safety team will ensure that all requirements for the activity are met.
- The MHCPL execution team will issue the work permit, after which the MHCPL safety team will approve it. Do not commence any activity until the safety team has approved the permit.
- In the event of any incident, promptly cancel the relevant work permit
- No permit for simultaneous work at one location is allowed unless the site safety in-charge issues the permit after reviewing all safety measures at the location.

Categories	Require work permits	How to raise permit	Remarks
Critical activities	Work at height Confined space Hot work Lifting/shifting Electrical works Concrete work De-shuttering Excavation Blasting	Through OQSHA Mobile application	All critical activities must require a work permit without fail. Do not commence these activities without obtaining a work permit. Serious action will be taken against those who start activities without a permit.
Non-Critical activities	General Work permit Night Work permit	Through the OQSHA Mobile application	Non-critical activities also required a work permit.

17.2 Stop work authority:

Stop Work Authority (SWA) is a program designed to provide employees and contract workers with the responsibility and obligation to halt work when a perceived unsafe condition or behaviour may lead to an undesirable event. Stop work authority should be initiated for conditions or behaviours that pose a threat or imminent danger to individuals, equipment, or the environment. Situations that warrant a SWA may include, but are not limited to, the following:

- Alarms
- Changes in conditions
- Changes to the scope of work or work plan
- Emergencies
- Improper equipment uses
- Lack of knowledge, understanding, or information
- Near-miss incidents
- Unsafe conditions

Employees are empowered to stop work when the situation warrants immediate action due to forthcoming danger to life, property, or the environment. Site head should acknowledge and reward those employees whose prompt actions help prevent potential incidents

(For detailed procedure refer to Doc No: MHCPL-EHS-SOP-21-14)

18. SAFETY INSPECTION:

Safety inspections involve a thorough assessment of the construction site environment to identify potential risks such as structural weaknesses, unsafe equipment, hazardous materials, or unsafe work practices. By pinpointing these hazards, safety inspections contribute to preventing accidents, injuries, and fatalities among workers and visitors on-site, thereby ensuring the physical well-being and health of all individuals involved.

18.1 Site safety inspection:

The MHCPL team will conduct regular safety inspections on-site to identify potential hazards and to ensure that workers (and visitors) comply with site safety rules, SOPs, etc through the OQSHA mobile application.

Regular and frequent (hourly) general safety inspections will be carried out throughout the day and documented using the Site Safety Observation Report. The safety observation report should be sent to the Head of EHS every week.

Additionally, a formal safety inspection will be conducted daily by the site team in collaboration with the Safety team. Any hazards identified during site safety inspections must be addressed and closed out within appropriate timeframes.

- Further, Site safety inspections shall be conducted once a month/Fourth night by designated individuals including the MHCPL site head, site safety I/C, MEP I/C, tower managers, contractor's staff, and their EHS staff or other designated individuals
- Inspections shall cover all work areas, including but not limited to construction sites, office spaces, storage areas, and access points. The inspection shall also encompass review of work habits and the well-being of employees.
- During inspections, attention shall be paid to:
    a. Identification of physical hazards such as uneven surfaces, exposed wires, or inadequate signage.
    b. Evaluation of mechanical hazards including malfunctioning machinery, defective tools, or improper use of equipment.
    c. Assessment of work habits to ensure adherence to safety protocols and procedures.
    d. Evaluation of employee wellbeing, including ergonomic considerations and provision of adequate rest areas.
    e. Availability and condition of required PPE
- Upon completion of each inspection, a detailed report shall be compiled, highlighting findings, observations, and recommendations for corrective actions with responsible person and target date. The report should be submitted to the Head-EHS and HO team.
- Inspection reports shall be discussed with relevant site managers, subcontractors, and other levels of site management during site safety meetings. This facilitates prompt action on identified issues and promotes a culture of continuous improvement in safety standards.
- Timely follow-up actions shall be taken to address identified hazards and implement corrective measures. Responsibilities for implementing these actions shall be clearly assigned to respective personnel
- All inspection reports, along with corresponding corrective actions taken, shall be documented and maintained for future reference and audit purposes.

18.2 Site Inspections by Top Management

Our top management places significant emphasis on safety visits, believing that effective housekeeping and identifying the UA/UC are crucial in controlling or eliminating workplace hazards. Poor housekeeping practices often contribute to incidents. If the presence of paper, debris, clutter, and spills is normalized, it can lead to overlooking more serious hazards. Housekeeping extends beyond mere cleanliness; it encompasses keeping work areas tidy, maintaining floors free of slip and trip hazards, and removing waste materials (such as paper and cardboard) and other fire hazards from workspaces. Additionally, attention to details such as workplace layout, aisle marking, storage facility adequacy, and maintenance is essential. Good housekeeping forms a fundamental aspect of incident and fire prevention.

Poor housekeeping can be a cause of accidents/incidents, such as:

a. Tripping over loose objects on floors, stairs, and platforms.
b. Being hit by falling objects.
c. Slipping on greasy, wet, or dirty surfaces.
d. Striking against projecting, poorly stacked items, or misplaced material.
e. Cutting, puncturing, or tearing the skin of hands or other parts of the body on projecting nails, wire, or steel strapping.

To avoid these hazards, a workplace must maintain housekeeping throughout the workday. Although this effort requires a great deal of management and planning, the benefits are many

MHCPL has developed plans to encourage all employees, including the contractor's workforce, to maintain good housekeeping in the workplace. These plans include:

Introducing a rolling trophy for the best site and labor camp in Housekeeping & Safety compliance. Every month, the housekeeping & Safety committee will inspect all the projects and labor camps, and ratings will be given. The committee consists of the Head-EHS along with any other two HODs from the head office. The inspection will be carried out as per the checklist (Doc No. MHCPL-EHS-CL-48 & 49)

18.3 Equipment's safety inspection

Pre & Monthly safety inspections:

- Before each operation, conduct a thorough visual inspection of all equipment and machinery to ensure they are in safe working condition.
- Utilize a pre-defined checklist to inspect for any visible damage, wear, or loose components.
- Ensure that all safety guards and features are properly installed and functional.
- If any defects, malfunctions, or safety concerns are identified during the pre-operation inspection, promptly document these issues.
- Report the findings to the equipment supervisor or maintenance department using a standardized reporting form.
- Equipment with identified defects or safety concerns should not be operated until repairs or maintenance are completed and verified. Clearly mark defective equipment as "OUT OF SERVICE" to prevent accidental use with reg tag
- Follow the colour coding system for all safety inspection
    a. **January, May and September – BLUE**
    b. **February, June and October – YELLOW**
    c. **March, July and November – RED**

d. April, August and December – GREEN

- All monthly inspections will be initiated and conducted by the safety team, in collaboration with relevant teams such as the Plant & Machinery (P&M) team and Electrical team, among others. These inspections will adhere to a predefined checklist to ensure comprehensive coverage of safety aspects across the project site and maintain document record.
- Document all findings, including hazards, risks, non-compliances, as well as any wear and tear that may require preventive maintenance.
- Suggest the corrective action plans for identified issues, specifying the necessary repairs, replacements, or adjustments.
- Assign responsibility for implementing these corrective actions and establish clear timelines for completion.
- Compile the monthly inspection reports and promptly communicate them to site head and contractor PM, equipment supervisors, and relevant stakeholders.
- Ensure that corrective actions are tracked, and progress is reported to relevant parties regularly.
- ***(For detailed procedure refer to Doc No: MHCPL-EHS-SOP-21-53)***

19. RISK MANAGEMENT

The MHCPL team will conduct a risk assessment tailored to the scope, nature of the works, and specific site conditions. This assessment will involve a qualified and experienced team comprising planning, design, and supervisory staff, as well as the contractor team and worker representatives led by the MHCPL safety team.

This document will be subject to regular review to update further activities and ensure its relevance. Additionally, all concerned ground-level personnel will receive communication about the updates and relevant training to ensure they understand and implement the necessary measures.

Furthermore, the risk assessment will propose elimination and mitigation measures to minimize risks to an acceptable level. The documentation resulting from the risk assessment will be included in the auditable safety records, ensuring transparency and accountability in managing risks throughout the project.

Before commencing any potentially high-risk operations, the contractor must conduct hazard analysis and risk assessment of the task, detailing the measures they intend to implement to reduce the risk to acceptable levels. That document needs to be submitted to the MHCPL safety team. The MHCPL team will review the HIRA document and suggest any additional measures needed for implementation, and approve the HIRA. Until approval is received, the contractor shouldn't start the activity. These worksheets will serve as a crucial reference point for managing risks effectively throughout the project.

19.1 Risk Assessment Process

The risk management process will involve four key steps as follows:

- **Identify hazards:** This step involves identifying any potential hazards that could arise during the project. Hazards could include physical hazards, such as machinery or equipment, as well as environmental hazards or human factors.
- **Assess the risk of the hazards:** Once hazards have been identified, they must be assessed to determine the level of risk they pose. This assessment involves considering factors such as the likelihood of the hazard occurring and the potential severity of the consequences.

- **Eliminate or control the hazards:** In this step, efforts are made to eliminate or mitigate the identified hazards. This may involve implementing safety measures, such as installing safety guards on machinery or providing personal protective equipment for workers.
- **Monitor and review the control measures:** Finally, the effectiveness of the implemented control measures must be monitored and reviewed regularly. This ensures that the measures remain effective over time and allows for adjustments to be made if necessary to further enhance safety

19.2 Hazard Identification

A variety of methods will be employed to identify hazards on construction projects. These methods include:

- Safety inspections with regular walk rounds conducted by safety personnel.
- Consultation with employees and subcontractors involved in the work, as they often have valuable insights into potential hazards.
- Review of injury and illness records to identify recurring or common hazards.
- Analysis of incidents to determine root causes and identify any underlying hazards.
- Type of activity or work being carried out
- How it is carried out
- Where it takes place (work environment)
- Who undertakes the activity?
- How many people are involved?
- Whether the task is of short or long duration.
- Potential for safety management failure
- Potential for human error failure
- What are the consequences?

19.3 Risk matrix

- Assess the likelihood and severity of identified hazards.
- Use a risk matrix or similar tool to determine the level of risk for each hazard.
- Prioritize hazards based on the level of risk, considering factors such as frequency, severity, and exposure.
- Specify the criteria used for evaluating the likelihood and severity of identified risks

Risk levels based on criteria such as likelihood for a Risk Assessment as mentioned below:

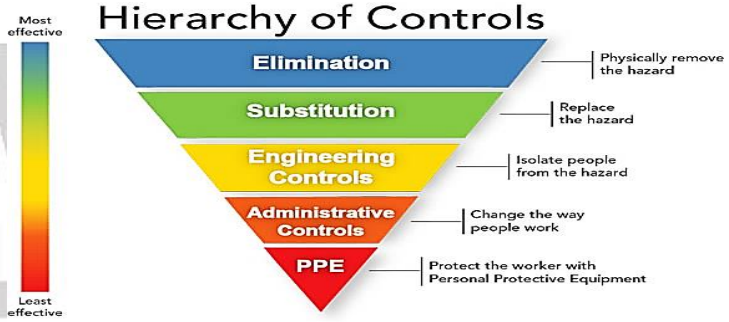
Risk level	Likelihood	Description
Low (1-6)	Rare	Highly unlikely to occur during the expected lifespan of the activity or process.
	Unlikely	Uncommon, but possible to occur occasionally.
Medium (8-12)	Possible	Reasonably likely to occur at some point, potentially causing disruption
	Likely	Expected to occur more often, with a moderate impact on operations.
High (15-25)	Very Likely	Highly probable to occur frequently, leading to significant disruption
	Almost Certain	Almost certain to occur regularly, with severe consequences.

LIKELIHOOD		SEVERITY	Physical discomfort & Insignificant damage/Loss	Non Reportable Requiring First Aid & Minor Damage to Property	Reportable Temporary disability, sever illness & Moderate Damage Property	Permanent disability & Major Damage/Loss	Fatal/ Total Permanent disability & Huge Damage/Loss
			(Nuisance and irritation) & Insignificant Damage/Loss	(Superficial injuries, Minor cuts, bruises, temporary ill health, Eye irritation from dust) & Loss/damage	(Dermatitis, Asthma, Work related upper limb disorders, Lacerations, burns, Minor fractures, Sprains, Moderate Damage to property)	(Amputations, Multiple injuries, Major fractures) & Damage/Loss	(Severe life shortening diseases, Occupational cancer) & Damage/Loss
			1	2	3	4	5
Certain (Very Likely)	(Typically experienced no. of times daily or whenever performing the activity)	5	5	10	15	20	25
Quite possible (Likely)	(Typically experienced at least daily once or occasionally while performing the activity)	4	4	8	12	16	.
Unusual but possible (Unlikely)	(Typically experienced at least weekly once)	3	3	6	9	12	15
Remote (Very unlikely)	(Less than 1% chance of being exposed during monthly performing activity)	2	2	4	6	8	10
Improbable	Never happen/ Unlikely	1	1	2	3	4	5

1 to 6	--->	Low Risk
8 to 12	--->	Medium Risk
15- 25	--->	High Risk

19.4 Hierarchy of control

Eliminate the hazard completely.
Substitute the hazard with a lower risk hazard.
Use an engineering control.
Use an Administrative Control.
Personal Protective Equipment (PPE).



Note: HIRA document must undergo review at least once quarterly, in the event of any incidents occurring, or before commencing any new job. Additional reviews may be conducted as needed based on changes in project conditions or activities. Regular reviews ensure that the HIRA remains current and effective in identifying and addressing potential hazards throughout the project duration.

19.5 Environmental aspect & impact assessment(EAIA):

- The elements of an organization's activities, products, and services that can interact with the environment are called environmental aspects.

Examples include discharges, emissions, consumption or reuse of materials, or the generation of noise.

- Changes to the environment, whether adverse or beneficial, that result wholly or partially from environmental aspects are called environmental impacts.

Examples of adverse impacts include pollution of air, water, or land, and depletion of natural resources.

- Identify the environmental aspects that the organization can control and those it can influence, along with their associated environmental impacts, considering a life-cycle perspective.
- Establish criteria and a method to determine which environmental aspects will be considered significant.
- Determine the risks and opportunities related to its environmental aspects, compliance obligations, external/internal issues that can affect environmental performance, and the needs and expectations of internal and external stakeholders.

- Aspect and impact assessments should be conducted by a team consisting of individuals with thorough knowledge of the work being assessed. Team members may include site In-Charges, Department Heads, Tower In-Charges, Execution Engineers, Subcontractors, and Workmen.

The approach to identifying environmental aspects shall be as follows:

- Emissions to air.
- water releases.
- Releases to land.
- Use of raw materials and natural resources (e.g., land use, water use).
- Local/community environmental issues.
- Use of energy.
- Energy emitted (e.g., heat, radiation, vibration).
- Waste and by-products.

Based on the above evaluation score the Impact as under:

Risk Priority Number (RPN) → P*S*C*D

- Probability (P)
- Severity (S)
- Controls (C)
- Detectability (D)

- In case the total impact score, RPN > 30 then the aspect will be treated as a significant aspect.
- The aspects that apply to legal requirements (such as emission and discharge limits in permits or regulations, etc. are considered as significant aspects.
- The concerns of internal and external interested parties (such as those related to organizational values, public image, noise, or visual degradation are considered significant aspects.
- Significant environmental aspects are considered for setting the environmental objectives and programs.
- Accordingly, operating procedure/ work instruction/ other controls/ PPE's to be planned to reduce the significance of aspects.

Rating score:

Attributes	Description	Point Rating
Scalability (SC)	– Very localized effect – The department area is affected – The entire factory is affected – Surrounding community is affected – Widespread effect over a large area	1 2 3 4 5
Severity (SV)	– Negligible visual impact – Causes discomfort or nuisance – Affect marine life, Flora & Fauna – Affect human health – Fatal to human health	1 2 3 4 5
Duration (D)	– Momentary – Impact for less than 2 hours – Impact for a day – Impact likely for a month or less	1 2 3 4

	– Permanent effect on the environment	5
Probability (P)	– Very rare – Once in a month or less – Once in a day – Several times a day – Continuous	1 2 3 4 5

(For detailed procedure refer to Doc No: MHCPL-EHS-SOP-21-11)

20. REPORTING OF ACCIDENTS/INCIDENTS AND INVESTIGATION

The primary objective of an incident investigation is prevention. By identifying the root causes of an incident and implementing corrective actions to control or eliminate them, we can prevent future incidents from occurring. This procedure provides guidelines on how to respond, investigate, and report all types of incidents, including near-miss incidents, and how to take corrective and preventive actions to avoid recurrence and enhance existing safety measures. Factors such as the work environment, job constraints, and the experience of supervisors or workers can significantly influence the occurrence of an incident. It is essential to examine these factors to determine their role in causing the incident. Once the causes are identified, measures must be determined and actions implemented to prevent recurrence.

Investigations should be conducted in an open and positive atmosphere that encourages witnesses to speak freely. The primary objective is to ascertain the facts to prevent future reoccurrences. Accidents rarely occur solely due to the fault of the worker. When a worker has not been adequately trained, instructed, or supervised, the fault may lie with the contractor's management.

20.1 Incident Investigation:

- Accidents or dangerous occurrences resulting in death, serious injury, or significant property damage must be investigated immediately by the MHC site head or site safety I/c along with concerned dept. members consisting worker representative also to determine the root cause and formulate measures to prevent recurrence.
- At the project level, the construction team will conduct monthly reviews of all incidents and reported injuries/illnesses to identify trends and potential causes. This information will be summarized in the Monthly Health and Safety Report.
- Within MHCPL, the Safety Officer in charge will regularly consolidate all incident investigations and monthly site performance reports to be submitted to the head office.

The post-incident situation must be handled in various steps:

Secure the scene of the incident

When a major incident occurs at the workplace, the priority of the Site Safety In charge shall be to provide first aid treatment and further shift the injured to the identified medical facility. The Site in charge shall arrange to secure the incident location so that initial data can be collected without disturbing the evidence. Conduct effective interviews to aid in reconstructing the scene and gather as much pertinent information as possible for later analysis.

Communicate the incident to higher authorities and the Head Office (HO). & Gather data

Once the incident scene has been secured, it is important to gather evidence from as many sources as possible during the initial investigation. The Site Safety In charge shall arrange to gather evidence related

to what happened, how it happened, and why it happened. All items found at the scene of the incident must be considered important.

Investigation

All incidents and near-miss cases shall be investigated thoroughly to determine the root causes that led to the incident occurrence. The Site Head shall constitute an investigation team. Care shall be taken to include at least one technical person (Mechanical or Electrical) in the investigating team when incidents about Mechanical or Electrical issues are investigated. Dangerous occurrences that did not result in bodily injury but have the potential to cause injury or affect health shall be reported to the concerned authorities. Major incidents leading to serious effects such as loss of life, permanent disability, or adverse effects on the environment shall be reported to the concerned authorities as per statutory requirements.

After any accident or dangerous occurrence, it's crucial to gather information in an organized manner. The following steps are recommended:

a. Take photographs and create sketches.
b. Examine the equipment, workplace, materials, and environmental conditions involved.
c. Interview the injured, eyewitnesses, and other parties involved.
d. Seek expert opinion if necessary.
e. Identify the specific contractor or subcontractor involved.

Once information is gathered, it's necessary to analyze the incident:

a. Establish the chain of events leading to the accident or incident.
b. Determine at what stage the accident occurred.
c. Consider all possible causes and the interaction of different factors leading up to the accident, identifying the most probable cause.

Note: *The cause of an accident should never be attributed solely to carelessness. The specific act or omission that caused the accident must be identified.*

The next stage is to proceed with follow-up actions:

- Report the findings and conclusions.
- Formulate preventive measures to avoid recurrence.
- Publicize the findings and the remedial actions taken.

20.2 Incident reporting procedure:

- For any incidents such as property damages, Medical Treated Cases (MTC), Lost Time Injuries (LTI), and fatalities, the MHCPL Safety in charge will send a first-hand information report to the head office within 24 hours. Immediate correction and corrective actions will be initiated in response to the report.
- All injuries, no matter how small, are to be recorded on the First Aid-Injury Record and registered on the Injury Register by the First Aider. This allows incident statistics to be compiled and patterns/trends to be identified.
- After a thorough investigation with the investigation team, the site safety in charge will send the investigation report to the head of EHS within 48 hours.

- Within 48 hours, our Head of EHS will conduct a thorough investigation, including gathering statements from all witnesses. The final report, along with recommendations and conclusions, will be submitted to top management.

Site communication and reporting procedure for all type of incidents:

Nature of Accident/report	Duration of time to report	Who has to report/submit	Whom to report/submit	Means of communication
Fatal/Reportable Accidents/Incidents	within 30 minutes	First observer	MHC safety I/c	Phone / SMS
	Within 35 minutes	MHC safety I/c	Site I/c (AVP) & Head (EHS).	Phone / SMS
	Within 45 minutes	Head (EHS)	Sr. President & EVC	Phone / SMS
LTC	Within 30 minutes	First observer	Site safety I/C	phone/SMS
	Within 35minutes	Site safety I/C	Site I/C(AVP) Head (EHS)	phone/SMS
	Within 45 minutes	Head (EHS)	Sr. President & EVC	Phone/SMS
All accident/incidents with photographs	With 60 minutes	Site safety I/c	Head-EHS	Whats app/ Email
MTC	Within 30 minutes	Site safety I/c	Site I/C(AVP) Head (EHS)	Phone / SMS
	Within 45 minutes	Head (EHS)	Sr. President & EVC	Phone/SMS
Near misses	2 to 3 Hrs.	Safety Professionals	Site safety I/c	Record
All accident/incident Reports In a pre-defined format	Within 48 hrs.	Site safety I/c	Head (EHS)	By mail (On format)
All accident/incident Reports In a pre-defined format	Within 72 hours	Head (EHS)	Sr. President & EVC	By Email/Hard copy

(For detailed procedure refer to Doc No: MHCPL-EHS-SOP-21-57)

21. EHS STATISTICS

- EHS statistics provide a snapshot of the MHCPL EHS performance over time. By tracking key lagging and leading indicators.
- By analyzing monthly statistics over an extended period, organizations can identify trends and patterns in EHS performance
- Monthly statistics allow organizations to benchmark their EHS performance against industry peers and internal targets. By comparing performance metrics such as LTI frequency rates organizations can identify areas where they excel and areas where they need improvement.

21.1 Collection of Statistics

Contractors' safety officers are required to submit EHS statistics for the month to the MHC site safety I/c within two days of the following month. The monthly construction accident statistics report must be submitted, even if there are no injuries or dangerous occurrences during the month.

21.2 EHS sharing reports

All MHCPL site safety I/C are to submit reports within the timeframe as mentioned below:

Frequency	Reports
Daily Reports on every day.	DLR (Daily labor report)
Weekly reports should be submitted every Monday of the week.	– Self-safety Audit – Weekly observation report – BBS training and observation report – Risk Register
Monthly reports should be submitted on or before the 3rd of the following month	– Monthly HSE Report – First Aid cases report – Training Tracking and Evaluation – EHS Objective Tracking – Motivational program rewards/awards tracking – Trend analysis for Near misses, First aid cases, UA/UC, Ill Health Monitoring, and Nonconformities – Power Consumption details for the respective site, including Site, RMC, and labor colony
Quarterly reports should be submitted, along with the following monthly report.	– Contractor performance evaluation – MOM of Safety Committee Meeting – EHS Competency Evaluation matrix – HSE Cross Audit report – Mock drill report (As and when required) – Investigation and Effectiveness of Incident/Accident Reports and Action Plans. – Good practices and implementations
Half-yearly reports should be submitted, with the following monthly report. Yearly reports should be submitted within the first 10 days of the next year.	– HSE Safety bulletin (Half-yearly)- HO – EHS Objective achieving status – Training details – Yearly consolidate HSE report for respective sites – Good practices and implementations

21.3 Man-hour's calculation

According to the BOCW rules, the standard working hours for construction manpower are 8 hours per day and 6 days per week.

To calculate the worked man-hours:

- Number of manpower: This includes all workers on-site and, in the office,, including contractors and vendors.
- Number of working hours: 8 hours per day.
- Total number of working days: This excludes public holidays. Consider one month's worth of working days.

Worked man-hours = Number of manpower × Number of working hours × Total number of working days

In the event of an LTI (Lost Time Injury) case:

- Lost man-hour: This is calculated if a worker sustains an injury and does not return to work within 48 hours of the injury.

Lost man-hour = Number of manpower × Number of lost working hours × Total number of lost working days

Safe man-hours = Worked man-hours – Lost man-hours

LTI Frequency rate = No of LTIs X 1000000/ Total man hours worked.

22. EMERGENCY PREPAREDNESS

Every contractor is required to formulate an emergency preparedness plan for their respective sites. These plans must address foreseeable emergencies that may arise during construction activities. The MHCPL site safety in-charge will develop a plan based on the site conditions, identifying potential emergencies, and preparing for them. The plan will be finalized after obtaining signatures from the site head and the Head of EHS. The document number of the emergency preparedness plan should be MHCPL-EHS-ERP-(Site Name) for the respective site

Examples of activities for which plans should be prepared include, amongst other things:

- An accident resulting in death or major injury (major injury as defined).
- A serious fire that threatens life.
- Leakage or short circuit of any electrical supply.
- Major engineering failures such as:
  a. Collapse of structures
  b. Major utility collapse
  c. Unintended explosions
  d. Subsidence causing damage to structures or services

Development of the plan should include the following considerations:

- The name, location, and phone number of the Emergency Coordinator.
- Designated personnel with locations and phone numbers.
- Details of the emergency response team with locations and phone numbers.
- Functions of the emergency response team.
- Means of escape.
- Communication with emergency services including:
  a. Police
  b. Fire Services
  c. Ambulance and hospital services.
- First-aid facilities.
- Suppliers of emergency equipment such as sump pumps, lighting, cranes, etc.

Copies of the emergency preparedness plan should be displayed at each place of work and notice boards. This information should be reviewed and updated as often as required, but at least once six months. Drills should be arranged to test the efficiency in mobilizing necessary personnel and equipment, with drills conducted at once in months to cover all potential emergencies.

- All personnel will receive briefings on emergency reporting and response procedures during new employee orientation and at frequent "TBTs and weekly meetings.
- Emergency procedures and telephone numbers will be posted at key locations throughout the job site.
- Emergency evacuation plans for all work areas and office areas shall be identified by competent persons trained in emergency procedures.
- Site EHS I/c shall schedule announced or unannounced drills to ascertain the effectiveness of the training provided.

23. FIRST AID & MEDICAL FACILITIES

The MHCPL HSE policy places the highest priority on the safety and health of all personnel working on the site. Prevention is the key element used to reduce the number and severity of occupational injuries and/or illnesses. In the event of unplanned events, it is crucial to establish adequate emergency medical services to ensure prompt and competent medical care for site personnel.

The project will provide appropriate emergency rescue, first aid, and medical facilities, as well as procedures necessary to respond to anticipated onsite emergencies. These facilities and services will be established and maintained based on a detailed review of risk factors.

- A qualified doctor/paramedic shall be in attendance at the first aid base during all times when work is being undertaken on the site. MHCPL will provide the first aider/paramedic.
- The name and contact details of the qualified First-Aid person shall be incorporated into the emergency contact details, and the location of the first aid center shall be included in the construction logistics plan at the initial stage of the project.
- At least three employees on every site are required to have First Aid qualifications and a training session on first aid for site personnel must be conducted once every year.
- For every site, a tie-up letter should be established with the nearest hospital for any emergency.
- Biomedical waste will be disposed of daily through tie-ups with hospitals, and records will be maintained.
- The first aider will monitor the BMI for all employees during induction and check the job-specific requirements such as the number of BMI, Blood Pressure (BP), eye check-ups, acrophobia tests, autophobia tests, claustrophobia tests, vibration monitoring checks, manual handlers' health checks, general health check-ups, and maintain a record as per the BOCW rules.
- Construction sites are often spread out over large areas, and accidents or injuries may occur at different locations. Therefore, contractors are required to provide first aid kits strategically placed throughout the site at their work area.
- Biomedical waste shall be disposed of through a tie-up hospital. Ensure that records are maintained for the disposal of medical waste.

Note: *The facility of a visiting doctor will be arranged to visit the site and labor camp a minimum of twice a week by the contractor or MHCPL. Alternatively, a tie-up with the nearest clinic or hospital will be established to provide medical treatment to the workers free of cost.*

23.1 First aid Center

The First Aid center shall consist of, at minimum:

- Adequate space for the treatment of injured or ill persons.
- Necessary furniture and equipment for providing first aid, including but not limited to:
    a. First aid kits containing essential supplies such as bandages, antiseptics, and medications.
    b. Stretchers or beds for resting injured individuals.
    c. Chairs or benches for seating.
    d. Washbasin with running water for cleaning wounds.
    e. Other equipment deemed necessary for providing immediate medical care.
- Adequate lighting and ventilation to ensure a comfortable and safe environment for both patients and first aid providers.
- Easy access to communication devices for contacting emergency services if needed.
- Clearly marked signs indicating the location of the first aid center.
- Adequate staffing with trained personnel capable of administering first aid effectively.
- Compliance with any additional local or national regulations pertaining to first aid facilities.

- The first-aid unit shall be equipped with air conditioning and must be maintained in a clean and tidy state at all times.

23.2 First aid box

The First Aid box should be placed in the First Aid Room, clearly identified, and contain a sufficient quantity of suitable first-aid materials and nothing else. Site paramedics' First Aid Boxes should be checked weekly to ensure they are fully stocked and all items are in a usable condition. Sufficient quantities of each item should always be available in the first aid box.

The following items should be available in the First Aid Box, adjusted according to the number of persons working at the site:

1. Adhesive bandages (plasters)
2. Sterile gauze pads
3. Adhesive tape
4. Sterile eye wash solution and eye pads
5. Antiseptic wipes or solution
6. Disposable gloves
7. Scissors
8. Tweezers
9. Triangular bandages
10. Roller bandages
11. CPR face shield
12. Cold packs
13. Eye wash solution
14. Burn ointment or gel
15. Thermometer
16. Pain relievers
17. First aid manual or guide
18. Emergency contact information and procedures

- Portable first aid boxes will be maintained fully equipped at each local site office and work location where 20 or more persons work at a time. In each site office and location, one employee suitably trained in first aid should be available at all working hours to attend to emergencies.

23.3 Ambulance service

- One emergency vehicle with driver shall be provided at the first aid center during all working hours(24X7).
- The ambulance mobile number shall be incorporated into the emergency contact numbers to facilitate easy access to the ambulance in case of any emergency.
- Provide a designated parking area for ambulances to facilitate easy access and exit.
- For the ambulance, maintain a shift mobile phone that can be easily utilized to contact replacement drivers in case of any absence for the respective driver.
- The ambulance driver will maintain a maintenance record in case of any service, as well as a driven log book.

24. PLANT & MACHINERY

For any hired/owned machinery before its first use on the site, the Site gate security team will conduct a visual inspection and check the validity of documents before entering the site. Then, the MHCPL safety team and P & M team shall inspect all machinery. To enable this inspection, all contractors shall be required to provide technical certifications and servicing records involving a check of the following:

- Maintenance records up to date (including any associated lifting gear),
- Daily logbook up to date,
- Operator's certification/training sighted,
- Concludes with a visual inspection of the equipment.
- Valid document for machinery s

All machinery brought onto the site, following inspection, will be recorded on the P & M Register. The MHCPL Safety team will carry out random spot-checks of the plant and equipment (including logbooks) on a regular basis to ensure it is being used as intended, in accordance with the SOP, and that daily checks and other maintenance requirements are being kept up to date.

- All mobile heavy plant shall be equipped with at least one 2.5 or 5kg Dry Powder Fire Extinguisher, carried at a suitable position to ensure its easy availability.
- Whenever heavy plant is operating in congested areas, thoroughly trained and experienced banks men shall be deployed to control the plant and personnel movement and interface.

24.1 Operator Certification

- Only appropriately trained and certified personnel are allowed to operate the machinery. All licenses must be sighted (and recorded) during the project-specific induction. The site P&M In-charge will check the competency of specific operators once certified by P & M In-charge and maintain a record for further usage. Once the P&M in-charge certifies the competence, then the safety team will cross-check all related documents and conduct the induction.
- The safety team will conduct random spot-checks of machinery operators working on-site to confirm they hold the appropriate qualifications.
- All machinery operators, including contractors/sub-contractors, will have their competency checked by the MHCPL P&M In-charge.
- All operators of heavy plant, such as earth movers, piling rigs, etc., must be medically fit, over eighteen years of age, and thoroughly trained and experienced to operate the equipment.
- The operators shall conduct daily inspections of their respective items of machinery, with the results of these inspections being recorded and the records kept available for inspection by the MHC safety representative.

24.2 Inspection schedule

- All plant/Machinery, whether owned by MHCPL or a service provider or contractor, is to be maintained in accordance with the timeframes stipulated in the relevant standard, code of practice, or manufacturers' guidelines.
- As per the MHCPL inspection schedule, all plant and machinery equipment on the site must undergo monthly inspections, conducted jointly by the P&M team and Safety team, with records maintained accordingly.
- During maintenance/service times, any waste engine oil and filters resulting from on-site activities shall be promptly removed from the sites and disposed of in an environmentally conscious manner at authorized disposal locations. Additionally, maintenance areas should be kept separate and designated for such activities.
- All drums of fuel oil shall be stored on drip trays, or the fuel shall be kept in bounded bulk storage fuel tanks, with quantities stored being minimized. Storage areas must have dry powder fire extinguishers positioned nearby for use in case of emergency.
- During inspections, it is necessary to check all legal documentation such as RC, insurance, TPI (if required), and pollution certificates, and maintain records for documentation for further reference.
- ***(For detailed procedure refer to Doc No: MHCPL-EHS-SOP-21-25)***

25. AUDITING

MHCPL will undertake a combination of internal and external audits across all projects.

25.1 Internal audits

Internal audits will be classified into three types: self-safety audit, cross-audit, and IMS internal audit.

Self-safety audit: An internal safety audit, referred to as the Self-safety audit, is conducted every week. It involves using a checklist to inspect every individual site safety team process, workers, safety training, and other safety culture elements.

The main objective of the self-safety audit is for every site safety in-charge to conduct a self-assessment for further improvement.

Cross-audit: Cross-audit procedures are carried out by the project's safety team for all projects, including respective RMC and labor camps, as per the Head–HSE circular communication every quarter

- The cross-audit agenda involves one site safety in charge auditing another site's safety management system as per the Head-EHS schedule. This process aims to facilitate understanding and identification of any deviations or scope for improvement at respective sites.
- After completion of the cross-audit, within 24hr a detailed audit report will be sent to the concerned site head, with a copy to the safety team for compliance, along with target dates.
- Following the cross-audit, the Head-EHS organizes a corporate review meeting with all auditees and auditors, alongside top management. During this meeting, all safety issues and audit reports are identified and discussed.

IMS internal audits: We have integrated three management systems: Quality Management System (QMS), Environmental Management System (EMS), and Occupational Health & Safety Management System (OHSM). According to the IMS requirements, we have to conduct internal audits for each management system once every six months, using internal auditors. We have a team of 20 internal auditors.

- For this internal audit, we circulated the schedule one week before the audit via email. The schedule included the audit location, auditee name, auditor name, date, and time.
- The auditee will always be the site head, with the remaining site department heads serving as a supporting team for the auditee during the audit.
- After completion of the audit, a detailed report will be forwarded to the site head. This report includes good practices, non-conformities, and opportunities for improvement, along with the target date for compliance.
- The site head must take immediate corrective actions on Non-Conformity Reports (NCRs) and Opportunities for Improvement (OFIs), with the assistance of department heads and contractors. Tasks should be prioritized and completed within the targeted time frame. Contractors and MHC employees will be responsible for compiling audit findings.
- After compliance, the report will be sent to the auditor for closing of non-conformity. The auditor will cross-verify the compliance and close the NCR
- Then the Management Representative (MR) will review the NCR and confirm it by putting his signature on the NCR Form, thereby authorizing its closure.
- Following the IMS internal audit, the Management Representative (MR) will organize a management review meeting with top management once every six months. During the Management Review Meeting (MRM), all management will review all ISO clauses and their status, internal audit Non-Conformity Reports (NCRs), and identify any further improvements required.
- Minutes of all MRM meetings are recorded and circulated within two days of the meeting.

In the corporate office, all site Non-Conformity Reports (NCRs), Opportunities for Improvement (OFIs), and Minutes of Meeting (MOM) of Management Review Meetings (MRM) are maintained as records for further external audit verification.

25.2 External audits

ISO External audit: The IMS external audit will be conducted annually by an external agency (BSI). The audit will cover all three ISO standards across all departments on a sample basis. During the opening meeting, the auditor will select any two sites for construction activities audit.

- The audit will be conducted according to the audit schedule sent by the external agency. All Non-Conformity Reports (NCRs) raised during the external audit will be addressed and complied. Best practices and initiatives will also be reviewed during the audit by the agency.

(For detailed procedure refer to Doc No: MHCPL-EHS-SOP-21-50)

26. NON-CONFORMITY

During regular site inspections conducted by MHCPL site safety professionals, Non-Conformity (NC) reports will be issued for all unsafe acts and unsafe conditions to the concerned contractor's team. Or work/tower/Area in charge (I/C).

- The NC report will include details about what is going wrong (deviation), recommendations for improvement, and a target date for compliance.
- Follow-up NC reports will be issued for non-compliance with the initial NC report.
- If the concerned contractor fails to comply with the follow-up Non-Conformity (NC) within the target time, penalties will be imposed.
- Penalties will be imposed by the MHCPL list of penalties only.
- If the concerned MHCPL work In-Charge fails to comply with the follow-up NC within the target time, a warning letter (MEMO) will be issued.
- All non-conformance reports (NCRs) raised during daily site safety inspections, cross-audits, and external audit observations will be reviewed by top management.

(For detailed procedure refer to Doc No: MHCPL-EHS-SOP-21-21)

27. EHS PROMOTIONS, RECOGNITIONS AND PENALTIES

The Site Team requires that each worker places the highest importance on safety at all times during the performance of work on site. The worker shall fully participate and cooperate with all safety programs implemented by the Site Team to meet safety objectives and shall provide all statistics, information, training, and education required for such programs. The overall safety goal for all projects is to be incident and injury-free.

- MHCPL, in its efforts to enhance EHS (Environmental, Health, and Safety) standards, shall implement various programs for EHS promotion, motivation, recognition, and penalties for both individuals and subcontractors.
- Safety notices, posters, slogans, and important telephone numbers shall be prominently displayed to ensure everyone is aware of the prevailing hazards in the construction area.
- Training programs, drills, and demonstrations outlined in this plan shall be organized during the construction period to enhance awareness and motivation levels among workers.
- A safety week shall be organized once a year, and safety campaigns shall be conducted during notable days such as National Safety Day and World Environment Day. Several EHS programs, including lectures, demonstrations, and competitions, shall be organized during these events, and winners shall be awarded accordingly.

- Every month, a motivational program shall be conducted based on safety performance. The best safety-conscious engineers, supervisors, and workmen shall be selected and rewarded. This information shall be displayed on the notice board for transparency and recognition of their efforts.

Safety events and Celebrations

As per our top management decision and National Safety Council instructions, the following events need to be celebrated at all MHCPL project sites to raise awareness about safety:

- National Safety Week /Day- 4th March (Week will celebrated)
- World Environmental Day- 5th June

Penalties:

Any unsafe acts, unsafe conditions, and deviation from safety procedures and standards as per all applicable acts for construction activities will be considered safety violations.
For the first occurrence, a warning will be issued by the immediate supervisor on site. Upon a second occurrence, a warning will be issued by managers. Finally, for repeated violations, a warning note will be issued by the EHS department. Penalties will be imposed based on the severity of the violation.

***Below is a list of penalties**: (Approved by top management)*

Sl. No	Safety violation by contractor employee or worker at the workplace	Severity	Proposed Penalty (Rs.)
01	Unsafe acts & unsafe conditions	High	50,000/-
02	Working without wearing safety helmet	Medium	500/-
03	Working without wearing shoes	Medium	500/-
04	Safety net damage & Improper safety nets tightening.	High	50,000/-
05	Working without wearing Safety belt (double lanyard full body harness) for height jobs above 2 meters	High	50,000/-
06	Working without wearing face shield during cutting, welding, grinding	High	10,000/-
07	Not using PPEs, tools/tackles as mentioned in Safety Work Permit	Medium	10,000/-
08	Working without valid test certificate & Documents for lifting/ lowering tools/tackles/Vehicles	Medium	10,000/-
09	Working without appropriate electric Industrial plug tops, MCB, RCCB. & Any deviation on electrical standards.	Medium	10,000/-
10	Working without valid work permit (For each activity)	High	25,000/-
11	Gas cylinder without flash back arrestor & Gas cylinder without trolley	High	15,000/-
12	Faulty wire/ cable laying on ground or using snapped cables	Medium	1500/-
13	Not maintained good housekeeping & proper hygiene at work areas on a day-to-day basis by the respective contractor	Medium	1000/-
14	Long pending safety issues more than (One week pending)	High	50,000/-

***P.S:** Penalties for any deviation, as mentioned above, will be imposed and deducted from their respective running bills. This action will be duly communicated to the contractor's project manager/safety officer.*

28. FIRE MANAGEMENT SYSTEM

All site amenities, offices, plants, and storage facilities (including those of Contractors/Subcontractors) must be equipped with a suitable type and number of fire extinguishers for use in case of a fire.

- An assessment of the suitability of firefighting equipment should be conducted for each project. Bulk storage of fuels, oils, or other products may require specific firefighting equipment, and storage should comply with the Petroleum Act & Rules.
- All Firefighting Equipment (FFE) must be tagged in compliance with country standards and inspected weekly/Monthly by a suitably qualified person.
- The lighting of fires is strictly prohibited on the project site. Hot work, such as grinding or welding, cannot commence without the prior completion of a Hot Work Permit.
- Smoking is not allowed in any work areas except in designated smoking areas, which must be identified by barrier tape and signage. These designated areas should be located well away from chemical storage areas, confined spaces, amenities, etc.

In case you notice a fire, follow these procedures:

- Immediately rush to the spot and take charge of rescue and control work.
- Prioritize your safety and that of others.
- Shout "Fire! Fire! Fire!" to raise an alarm and call for help from colleagues.
- If the fire is small and manageable, attempt to extinguish it using the nearest fire extinguishers available, ensuring not to put yourself at undue risk.
- Simultaneously, inform the fire station, main gate, and the Safety Officer (SO).
- While reporting, state:
    a. Your name
    b. What happened
    c. Location of the incident
- Instruct security staff to cordon off the affected area and guide Fire Brigade personnel to the exact location of the fire, providing them with all possible assistance.
- Keep all audiences and non-essential employees away from the fire area.
- If necessary, switch off the electrical supply, taking adequate precautions.
- Attempt to remove flammable or dangerous materials from the vicinity without endangering yourself.
- If explosive materials are involved, immediately evacuate all personnel.
- Keep a count of the number of people involved and organize the rescue of any trapped personnel with the assistance of the fire brigade.

DONTs	Dos
– Don't run in panic. – Don't take undue risks. – Don't tamper with any machinery during firefighting. Leave them for authorized handling. – Don't argue or discuss at the scene of a fire. – Don't linger with the equipment. If you don't know its operation, keep away or ask someone nearby. – Don't throw sand on machinery parts. Use CO2 or dry powder instead. – Don't flood the affected area with water unless required. – Don't crowd the scene of the fire.	– Raise the alarm or shout 'FIRE' at the peak of your tone if you notice a fire within your vicinity. – Approach the scene as quickly as possible. – Try to attract others' attention as much as possible on your way to the scene of the fire. – If you are the first to reach, make sure that no one is trapped. – Try to extinguish the fire with the nearest appropriate type of extinguisher. – As others rush to the scene, inform them of the type of fire and which extinguisher to use. – Do arrange to cut off the power supply in case of electrical fires.

– Don't close the valve of a flammable gas cylinder on fire. – Don't resort to breaking or cutting unless required. – Don't use all types of extinguishers on one fire. – Don't use water on oil, electrical, and metal fires.	– Do not take any chances. Dial security phone numbers and provide the exact location. – Open all doors and windows after the fire is completely extinguished to avoid inhaling any fumes. – Keep yourself updated with information from time to time

All the following fire protection measures should be implemented at the site:

- Smoking is strictly prohibited in the construction area.
- Fire extinguisher locations and assembly points shall be communicated to all personnel.
- Flammables must be stored in properly labelled containers.
- All gas-cutting sets must be equipped with 4 flashes back arrestors, cylinder caps, and trolleys with chain arrangements.
- Firefighting equipment must be available at both the construction site and the office area.
- All fire extinguishers on site shall be inspected and provided with inspection tags once a month.
- Flammable liquids, such as gasoline, are prohibited for use in cleaning purposes.
- Materials shall not be stacked in a manner that obstructs fire doors, emergency exits, or access to firefighting equipment.

Fire extinguishers shall be provided according to the table below. All fire extinguishers must be checked and recharged periodically

TYPES OF PORTABLE FIRE EXTINGUISHER AND WHAT TO USE THEM ON

Note: Make yourself aware of the instructions on the fire extinguisher before using it

Class	Substances, materials, etc.	Water (red)	Foam (cream)	Carbon dioxide (CO_2) (black)	Vaporizing liquid (green)	Dry powder (blue)
A	Wood, paper, rag, textile, card-board, common plastics, laminates, foam etc.	YES	YES	YES	YES	YES
B	Flammable liquids, petrol, oil, fats, adhesives, paint, varnish etc	NO	YES (If liquid is not flowing0	YES	YES	YES
C	Flammable gas: LPG, butane, propane, methane, acetylene etc.	YES Will cool the area and put out secondary	YES If in liquid form	YES	YES	YES
D	Metal, molten metal, reactive metal powder etc	NO	NO	NO	NO	YES, Trained person- if no explosive risk
Electrical	Electrical installations, Welding	NO	NO	YES	YES	Yes, special powders are available, but dry

	Machines, Motors, Distribution Boards, computers, photocopiers etc.					sand may be used, or electricity should be switched off and dealt with as an ordinary fire.

- Combustible scrap and other construction debris should be disposed of off-site on a regular basis. If scrap is to be burnt on-site, the burning site must be specified and located at a distance of more than 12 meters from any construction work or any other combustible material.
- The contractor & MHCPL shall ensure that specially trained personnel are available to deal with fires due to electrical causes, gas explosions etc.
- Signage shall be erected at prominent positions showing the correct use of portable first aid fire extinguishers.
- Emergency plans and fire evacuation plans shall be prepared and issued. Mock drills should be held on a regular basis to ensure the effectiveness of the arrangements.
- The site execution team must ensure that all personnel assigned are educated in fire prevention practices.

Storage of Flammable Liquids:

- Flammable and/or combustible materials must be stored in segregated areas, in compliance with project safety practices and regulatory requirements.
- Material Safety Data Sheets (MSDS) will be displayed near combustible and flammable liquids materials.
- Sources of ignition are strictly prohibited in storage areas.
- Flammable liquids must not be used for cleaning purposes.
- Flammable and combustible liquids must be stored in approved safety cans labelled as to contents. Plastic or glass containers must not be used.
- All combustible materials must be kept at least 10 meters away from other sources of ignition.
- Avoid storing flammable liquids in areas used for exits, stairways, or the safe passage of people.
- Avoid storing flammable liquids on high shelves or in direct sunlight.
- Store flammable liquids in a well-ventilated area.
- Use approved containers.
- Limit quantities to the amount needed for the work in progress.
- Store no more than 25 litters of flammable and combustible liquids outside of a flammable storage cabinet.
- Label flammable liquid storage cabinets as "FLAMMABLE – KEEP FIRE AWAY."
- All diesel fuel storage tanks shall be surrounded by bunds to control any spillage or leakage.
- Only the necessary amounts of flammable liquids should be issued for immediate use. Cans for carrying flammable liquids must be leakproof, properly stoppered, and clearly marked with the label "FLAMMABLE LIQUID."

(For detailed procedure refer to Doc No: MHCPL-EHS-SOP-21-29)

29. ENVIRONMENT MANAGEMENT

29.1 Prevention of Pollution & Conservation

The following precautionary measures shall be taken to prevent the pollution

Land Pollution: Land pollution may occur due to accidental spillage in the flammable liquid storage area at the construction site.

Preventive measures should be implemented to mitigate the risk of land pollution.

- The floor of the storage area and the collecting drains shall be made of Plain Cement Concrete (P.C.C) with an impermeable layer such as Polythene sheets below it.
- The floor should be sloped at a ratio of 1:80 to facilitate the smooth flow of spilled oil into the collecting drain.
- Any spilled oil in the drain must be collected and disposed of or recycled in accordance with local regulations.

Prevention of water pollution & conservation:

- Suitable local arrangements shall be made for water conservation and waste/stormwater drainage systems.
- Effluents shall be appropriately disposed of through the sewage drainage system or septic tank. Effluent treatment plants shall be installed wherever necessary.
- The quality of drinking water shall be periodically checked and maintained. (once in three/six months)

Prevention of Air Pollution:

If abnormal levels of dust are detected, appropriate measures for dust suppression shall be implemented. The following dust suppression methods shall be adopted based on the area or situation:

- Water shall be sprayed on the site roads at regular intervals to minimize dust resulting from vehicular movement and wind blowing.
- Depending on atmospheric conditions, water shall be sprinkled daily. Tanker trucks shall be deployed on-site by the contractor or MHCPL to spray water over the road surface, preventing airborne dust and minimizing dust spread during construction activity.
- Water shall be sprayed before cleaning the floors.

Prevention of Noise Pollution:

- Diesel generator sets shall be equipped with acoustic enclosures to restrict the noise generated within safe limits.
- Periodic noise level surveys shall be conducted at critical locations such as boundaries, areas interfering with the public, and random locations within the workplace. A noise limit of 80 dB shall be ensured for equipment operation under ideal conditions

Energy conservation:

- Installation of energy-efficient fixtures and accessories.
- Electrical accessories shall be switched off when idle or during work shift changes.
- Air, noise, and stack monitoring shall be conducted according to IGBC requirements.
- Air quality tests shall be conducted once every three to six months.
- Emission tests shall be conducted for all diesel generators once every three to six months.
- Ambient noise studies shall be conducted once every three to six months.

29.2 Waste management:

- Prevention and control of water pollution entail managing the handling, storage, transportation, and disposal of hazardous substances and non-hazardous waste.
- Chemical/hazardous waste (such as air-sprays, oil, paint, etc.) should be collected separately and disposed of by legal regulations.

- A separate storage yard shall be designated for storing hazardous waste.
- Materials and equipment intended for modification or removal from the site must not be contaminated with chemicals and should be thoroughly cleaned.
- Construction debris, including non-hazardous (such as debris, plastics, and metal scrap) and hazardous waste materials, must be adequately segregated, stored, handled, transported, and disposed of in compliance with EHS and legal norms (State Pollution Control Board or Central Pollution Control Board).
- All waste categories must be stored in a manner that prevents direct contact with air, land, or water.
- The Store in charge is responsible for ensuring that the quantity of hazardous waste disposal and generation aligns with the quantities specified in the authorization for hazardous waste. They must also ensure compliance with the conditions outlined in the authorization. Records for the collection, transport, storage, and disposal of hazardous waste shall be maintained in the prescribed form.
- If the final disposal location is in a different state, a "No Objection Certificate" is required from the State Pollution Control Board (SPCB).
- Hazardous wastes shall be sent or sold only to a registered recycler, re-processor, or re-user who possesses a valid authorization for that specific hazardous waste.
- Waste shall be identified, sorted, and segregated at the source of generation.
- Hazardous waste from the site shall be sent to a designated store and/or a common collection and storage point.
- Packaging and labelling shall be clearly visible and able to withstand physical conditions and climatic factors.
- The site in charge shall ensure that there is no spillage of waste during handling, loading, and unloading.

Storage of Waste:

- Oil containment trays shall be provided where required.
- Hazardous waste shall be stored in containers that are sound, sealable, and free from damage or leaks.
- Hazardous waste shall not be stacked on top of each other, and mixing shall be prohibited during storage and transportation.
- Separate bins shall be provided for individual hazardous wastes such as used/waste oil, oily cotton waste, scrap oil filters, etc.
- Oil spill absorbent pads shall be used to absorb spilled oil and collect it in a bin.
- Gas cylinders shall not be kept near the hazardous waste storage area.
- A reasonable distance shall be maintained between the storage bins and the boundary wall
- Concrete flooring with a dyke wall shall be provided. Small catchment pits shall be installed in the oil storage area.
- Adequate space for walkways and oil transfer within the storage area shall be provided.
- Proper illumination, ventilation, and lighting must be ensured.
- The floor of the storage area shall be elevated above ground level to prevent rainwater or waterlogged from nearby areas from entering inside.
- Exhaust fans shall be installed, and lighting fixtures should be of flame-proof type.
- The space requirement for hazardous waste storage shall be determined based on the following considerations:
    a. Fire-fighting facilities must be provided.
    b. Information regarding the location of the first aid box, Material Safety Data Sheets (MSDS), and brief instructions on actions to be taken in case of emergencies should be displayed.
    c. Loose electrical connections are prohibited.

Disposal of waste

Non-hazardous waste shall be reused, recycled, or disposed of to the respective vendor. Food waste shall be disposed of suitably. Sewage waste shall be disposed of through the local Municipal Corporation.

30. SAFETY STANDARDS & GUIDELINES

30.1 Blasting:

Before commencing any blasting activity, conduct a comprehensive site assessment to identify potential hazards, including nearby structures, utilities, and environmental factors. Ensure that the contractor has obtained all necessary licenses and permits as per the Explosives Act, 1884, and relevant state regulations. This includes obtaining clearance from the Chief Controller of Explosives and any environmental clearances required by local authorities.

- Contractor develops a blast plan outlining blast design parameter, safety measures, and emergency procedures, prepared by qualified personnel and complying with applicable safety standards and regulations.
- Conduct a thorough site assessment and risk assessment to identify potential hazards and mitigate risks associated with blasting activities, including assessing nearby structures, utilities, and environmental considerations.
- Mandate the use of appropriate PPE for all personnel involved in or near the blasting area.
- Ensure all personnel involved in blasting operations are properly trained and competent to perform their duties safely, including training on blast safety procedures, equipment operation, and emergency response procedures.
- Comply with all environmental regulations, including dust suppression measures, noise mitigation, and obtaining necessary environmental clearances to minimize the environmental impact of blasting activities.
- The blaster will identify the blasting zone for every blast to assess ground conditions, surrounding structures, utilities, and potential hazards, as well as any obstacles or environmental factors that may affect the blasting operation.
- The blaster should possess appropriate training and certification in blasting techniques, explosives handling, and safety procedures, as required by local regulations, and a Blaster has a valid blaster license from the Explosives Authority Mines Department.
- Inspect all blasting equipment to ensure proper functioning and compliance with safety standards, and address any issues promptly.
- Before blasting, implement appropriate safety measures, including establishing blast exclusion zones, securing the area, and notifying personnel and stakeholders about the blasting schedule and safety precautions.
- Ensure that the blast area is clear of debris, unexploded explosives, and other hazards before allowing personnel to re-enter the area, and implement appropriate clean-up procedures.
- For the readiness of blasting activity, drilling should be carried out according to the blaster's requirements.
- Maintain accurate records of the blasting operation, including blast plans, permits, inspection reports, incident logs, training records, and explosive usage records.
- Ensure that the explosives are charged as per calculations and blasting is carried out by a licensed blaster following the guidelines of the Mining department.
- Only authorize personnel and vehicles to enter a blast site after proper notification and escort have been provided.
- Personnel should not enter explosive magazine areas or blast sites during electrical storms.

- The Blaster is responsible for the explosives used at the site, including how many explosives are used and how many are not used. The Blaster must maintain a daily record. Ensure that no explosives are stored on the site.
- Display boards at main entrances and other locations should be updated daily with the blasting schedule, and the blast hotline should also be updated daily.
- Blasting activities should comply with company, state, and local regulatory requirements, as well as equipment manufacturer's recommendations.
- Initiate the blast as per the blasting plan, including the use of appropriate initiation devices and timing sequences, and maintain a safe distance from the blast site during initiation.
- Conduct post-blast inspections to assess the effectiveness of the blast and identify any potential hazards or unexploded ordnance.
- Ensure that the blast area is clear of debris and safe for personnel to enter before resuming normal activities.

Transportation & Storage of explosives

- Explosive materials will be promptly transported to the storage area or blasting site. Designated areas should be maintained to park the explosive vehicle with security personnel at the site.
- Closed non-conductive containers will be used, with separate containers for explosives and detonators.
- Explosive material and detonators will not be transported on the same vehicle unless separated by 4 inches of hardwood.
- Vehicles used for transportation will be equipped with fire extinguishers or automatic fire suppression systems.
- Warning signs indicating the contents will be posted on all sides of the vehicle and removed when not in use.
- Plan transportation routes carefully, avoiding densely populated areas, sensitive sites, and areas with high traffic congestion. Choose routes that minimize the risk of accidents or incidents
- Implement security measures to prevent unauthorized access to explosive vehicles during transportation. This may include using locks, seals, and GPS tracking systems.
- Vehicles will have side and end enclosures higher than the explosives being transported.
- Only qualified personnel necessary for handling the explosives will be allowed in the vehicles.
- Vehicles must be secured with the parking brake applied and chocked when not in operation.
- Maintain proper temperature control during transportation and storage to prevent overheating or freezing of explosives, which could lead to instability.

(For detailed procedures, please refer to SOP No: MHCPL-EHS-SOP-21-01)

30.2 Excavation, Demolition & Backfilling:

Excavation is a critical phase in any construction project, but it often poses significant safety risks if not properly managed. Contractors must prioritize safety by planning and executing excavations safely.

The contractor is responsible for ensuring that all excavations are supervised by workers with comprehensive knowledge and experience in excavation work.

Before commencing any work, the integrity of the excavation and its support system must be inspected daily, with the results formally recorded. These records must be readily available for inspection by the MHC site safety I/c.

Planning excavations is crucial for ensuring safety on construction sites. Contractors should carefully consider and plan against the following potential hazards before digging any excavations:

- Collapse of the sides
- Materials falling onto people working in the excavation
- People and vehicles falling into the excavation
- People being struck by plant
- Undermining nearby structures
- Contact with underground services
- Exposure to fumes
- Ensuring necessary equipment such as trench sheets, props, etc., are available on site before work begins
- Adequate ventilation to prevent build-up of hazardous gases
- Monitoring weather conditions to prevent flooding or soil instability
- Implementing proper signage and barriers to prevent unauthorized access
- Regular inspection and maintenance of excavation support systems

All excavations performed on the site must comply with relevant health and safety standards, as well as the provisions outlined in the BOCW (Building and Other Construction Workers) Act and rules, with adherence to the codes of practice and guidelines ensured by both the contractor and MHCPL staff.

The following measures should be implemented:

- Obtain PTW (Permit to Work) and ensure safe access and egress are always maintained.
- Keep plant/equipment well away from the edge of the excavation.
- Ensure all excavations and trenches are suitably benched, battered, or shored.
- Ensure materials and equipment that may affect the stability of the excavation are not located close to the excavation's edge.
- Locate and clearly identify underground services.
- Conduct regular inspections to check for falling or loose earth and rocks, as well as the ingress of water into the excavation.
- Undertake regular risk assessments on all excavations 1m or greater in depth.
- Prevent the sides and ends from collapsing by battering them to a safe angle or supporting them with timber, sheeting, shoring, benching, or proprietary support systems.
- Do not enter unsupported excavations.
- Never work ahead of the support.
- Remember that even work in shallow trenches can be dangerous. Provide support if the work involves bending or kneeling in the trench.
- Prevent materials from falling into excavations.
- Do not store spoil or other materials within one meter of the sides of excavations, as the spoil may fall into the excavation and increase the risk of collapse.
- Protect the edges of the excavation against falling materials. Provide toe boards where necessary.
- Wear a safety helmet when working in excavations.
- Take steps to prevent people from falling into excavations. If the excavation is 2 m or more deep, provide substantial barriers such as guardrails and toe boards.
- Keep vehicles away from excavations whenever possible. Use brightly painted barriers where necessary.

- If vehicles must tip materials into excavations, use stop blocks to prevent them from overrunning. Remember to provide extra support for the sides of the excavation as needed.
- In areas where water ingress is possible, pumping sumps should be established, and pumps should be readily available for immediate use. Additional ladders should also be placed for emergency evacuation purposes.
- Care shall be taken to ensure that tools or materials such as wheelbarrows, shovels, picks, tiles, cement, and lumber are kept far enough from the edge of the trench to prevent their fall into the trench.
- No material or load shall be stacked near the edge of any excavation, shaft, pit, or opening in the ground, as it may endanger the persons employed below.
- Stairs, ladders, or ramps must be provided where workers are required to enter a trench or excavation four feet or more in-depth.
- All excavation equipment must be equipped with audible and visible warning equipment, and the swing area of the equipment must be barricaded. A signalman should always be present for excavation equipment operations.
- All trenches in soil more than 1.5m deep shall be securely shored and timbered, depending on the type of soil and water table.
- All trenches in unstable rock exceeding 2m in depth shall be securely shored and timbered.
- The vertical sides of shoring shall extend at least 30 cm above the excavated pit. When open-spaced sheathing is used, a toe board shall be provided to prevent material from rolling down the slope and falling into the trench.
- Shoring and timbering shall be carried out concurrently with the opening of a trench, but when conditions permit, protective work such as sheet piling may be done before excavation commences.
- Safe angle of repose while excavating trenches exceeding 1.5m depth up to 3.0m should be maintained. Based on site conditions, provide proper slope, usually 45° and suitable bench of 0.5m width at every 1.5m depth of excavation in all soils except hard rock or provide proper shoring and strutting to prevent cave-in or slides. The excavated material shall not be placed within 1.5 m of the edges of the trench or half of the depth of the trench, whichever is more. Cutting shall be done from top to bottom. Under no circumstances mining or under-cutting shall be done.
- All trenches 1.2 m or more in depth shall be supplied with at least one ladder for each spacing of 30m in length or fraction thereof. Ladder shall be extended from bottom of the trench to at least 1.0 m above the surface of the ground
- Open excavations shall be fenced off by suitable railing and warning signals installed, so as to prevent persons slipping or falling into the excavations. Don't allow vehicles to operate too close to excavated area. Barricade should be provided.
- The Contractor shall ensure the stability and safety of the excavation, adjacent structures, services and the works.

Demolition:

The contractor must ensure that all demolition works are carried out in a controlled manner under experienced and competent supervision.

Prior to commencing any demolition, a survey must be conducted to identify the presence of hazardous materials such as asbestos and lead. If any hazardous materials are found, consideration should be given to whether they need to be removed by a specialist agency or subcontractor before the main demolition works begin.

Before any demolition work is commenced and also during the progress of the work

- Before demolition commences, all relevant notifications must be given to local authorities and media outlets.
- All roads and open area adjacent to the work site shall either be closed or suitably protected. Appropriate warning signs shall be displayed to caution approaching persons
- Before demolition operations begin, the Contractor shall ensure that the power on all electric service lines is shut off and the lines cut or disconnected at or outside the demolition site. If it is necessary to maintain electric power during demolition operation, the required service lines shall be adequately protected against damage. Persons handling heavy materials/equipment shall wear safety shoes
- No floor, roof, or other part of the building shall be overloaded with debris or materials as to render it unsafe
- Entries to the demolition area shall be restricted to authorized persons only

Backfilling:

- The backfill material should be suitable for the job, such as soil, sand, gravel, or crushed stone.
- Utilize hand tampers, plate compactors, or roller compactors to compact the material and establish a stable foundation.
- Regularly inspect and test the backfilled area to verify stability and compaction.
- Following backfilling, conduct final grading to ensure adequate drainage and slope.
- Check the vehicle brakes used for backfilling at least once a day before commencing work.
- Utilize flowable fill where applicable to avoid workers entering the trench, thereby reducing the risk of cave-ins.

(For detailed procedures, please refer to SOP No: MHCPL-EHS-SOP-21-06 & 08)

30.3 Working at height:

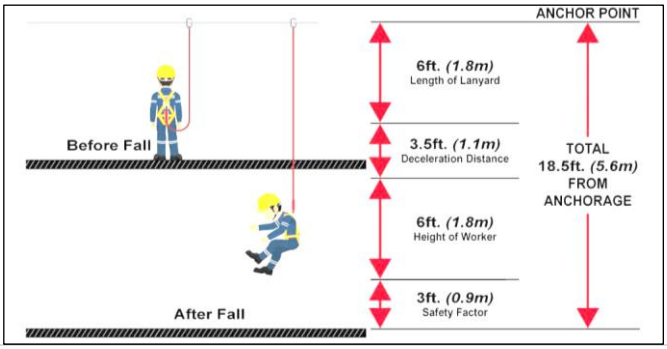
Working at height is the largest single cause of serious accidents in the construction industry. Therefore, the MHCPL & contractor shall conduct risk assessments for all work where workers or materials can fall more than 1.8 meters

- While working at a height of more than 3 meters, ISI approved full-body safety harness shall be used.
- Worker should be well trained on the usage of full body safety belt including its proper usage at the time of ascending/descending
- All tools should be carried in tool kits to avoid their falling
- If the job is on a fragile/sloping roof, roof walk ladders shall be used.
- Provide lifeline wherever required.
- Additional safety measures like providing fall arrestor type safety belts, and safety net should be provided depending upon site conditions, job requirements
- Keep the working area neat and clean. Remove scrap material immediately
- Don't throw or drop material/equipment from height
- Avoid jumping from one member to another. Use the proper passageway.
- Keep both hands free while climbing don't try to bypass the steps of the ladder.
- Try to maintain calm at height. Avoid overexertion
- Elevated workplaces including roofs should be provided with safe means of access and egress such as stairs, ramps, or ladders

Fall protection & prevention measures

The primary focus should be on fall prevention rather than catching falling objects or attempting to limit the damage they cause after falling.

- Robust physical barriers such as screens, guardrails, and safety net systems must be provided to prevent persons or materials from falling any distance likely to cause injury during work at height.
- All perimeter protection must be adequate to prevent materials or personnel from falling, designed to mitigate against the risks of all planned work. Where there is a public interface, an adjacent building, or a personnel access point below, this protection must fully enclose the building to a minimum height of 3 meters above the highest working floor.
- Any hazards associated with introducing a perimeter protection system must also be adequately managed. All edges where a person or materials can fall will be protected in accordance with risk assessment and following standard specifications for prevention.
- Ensure edge protection, ideally guardrails at a height of 1 meter with mid-rails and toe boards, to prevent falls.
- Ensure fall protection is provided for those installing guardrails.
- Ensure install safety catch nets to protect against falling objects and persons on pedestrian routes.
- Ensure signage and illumination or lighting where necessary to highlight and warn of hazards such as floor openings or leading edges.
- Implement a permit system to open or remove edge or opening protection.
- Avoid working at multiple elevations simultaneously.
- Cover open holes/shafts with a crash deck or install guardrails and toe-boards around holes/slab openings, with catch nets.
- Install warning signs and adequate lighting arrangements for night-time operations.
- When necessary to remove whole covers/protections to execute specific works, after completing the job, it is mandatory to reinstall all the covers/protections again.
- Personnel engaged at height should wear a standard double lanyard Full Body safety harness that conforms to the IS: 3521-1999 (Third Revision) safety standard.
- The lanyard used should be made of 12mm Polypropylene rope and have a length of 1.8 meters. The double lanyard configuration provides an additional safety measure.
- Full body harnesses should be appropriately inspected before each use. Regular inspections are essential to ensure that the harness is in good condition and free from any damage or wear that could compromise its effectiveness.
- Where it is not possible to provide a safe working platform then the use of safety harnesses may be considered. If safety harnesses are used, they should be of the full body type and secure anchorage points shall be provided and used. Workers must be instructed in the proper use of harnesses
- **Full body harness specification:** Full body harness GIS26 permanent attached CL- L&P (CLASS L & CLASS P Model with permanently attached energy absorber with 1.2m lanyard) BIS standard (IS:3521:999)



Safety Net installation:

Safety harnesses are essential for personnel working at height on working platforms, but additional safety measures are also necessary. Safety net size 10m X 5m and Safety nets of suitable mesh size, such as 100 mm x 100 mm or 25 mm x 25 mm, shall be provided to arrest the fall of persons and materials on a need basis. These safety nets act as an additional layer of protection to prevent accidents and injuries from falls. For the peripheral fall protection system, we are using two types of safety nets.

Braided with monofilament safety net – These nets should be tied at wall brackets as fall protection at 2 levels, ensuring that bottom tying is not overlooked. If SCP (self-climbing platform) is erected no need to tie bracket net at the working floor and below floors.

Specification:

Braided monofilament safety nets 2.5mm braided/30mm-square/mesh/ lona green colour.
Standard size: 10m X 5m. With green colour knotless monofilament net, with 12mm boarder rope, duly as per IS 111057.

- **Single layer braided net** – These nets should be tied at 3 levels as follows:
  - 1st Level – Immediately below the bracket nets
  - 2nd Level – 2 floors below the 1st layer of braided net
  - 3rd Level – To be permanently provided at the 1st floor

Specification:

Braided safety nets: 2.5mm braided, 30mm square mesh, made of Lona material in green color, Standard size: 10m x 5m,10 handles with 12mm border rope, as per IS 11057.
For peripheral safety net installation, utilize 40mm diameter, Class-B, MS pipes along with 40mm swivel clamps.

- In the OTS area, safety nets should be installed for every 5 floors. Additionally, whenever work is being performed in an area below or above the designated level, OTS safety nets should be installed accordingly.
- Similarly, in the lift shaft, safety nets or steel mesh should be installed for every 5 floors. Additionally, whenever work is being performed in an area below or above the designated level within the lift shaft, lift shaft safety nets should be installed.
- The Site Safety In-charge is responsible for estimating the total requirement of safety nets for the project, which includes both Braided with monofilament safety nets and Single layer braided nets until the project's completion. Once the estimation is prepared, it should be submitted for approval by the EHS head before proceeding with the safety net indent process.
- Upon receiving safety nets as per the site request, conduct a load test for each delivery to assess the strength and stability of the safety nets under the supervision of the safety team. Capture photos and videos of the test and submit them to the EHS head for review. After review and approval by the EHS head, the safety nets can be deemed suitable for usage.

Floor Openings & Lifeline:

- Floor openings, wall openings, floor edge openings, and lift shafts must be hard barricaded with handrails, mid-rails, toe boards, and safety net provisions. Prominently display safety signage to warn of the hazard.
- Utilize 40mm Class-A MS pipes for hard barricading, either as top rail or mid rail. Avoid using steel rods for edge protection in balcony areas.
- All staircases should be barricaded with handrails, mid rails, and toe boards to prevent falls. Adequate illumination should be provided at all times to ensure visibility and safety.

- Until permanent arrangements are made, floor openings and floor edges should be guarded with railings on all exposed sides. After concreting, vertical posts can be inserted, and top-rail/mid-rail and toe boards should be provided with warning tape provision.
- If inserting vertical posts into the concrete is not possible, insert plates can be embedded for welding the vertical posts or anchoring them.
- Rebar mesh can be used to cover floor openings and provide additional protection.
- Shaft entrances and lift shafts should be protected with gate arrangements.
- Systems such as guardrails, toe-boards, screens and flaps inside and outside the structure,
- Covers for penetrations and having procedures for passing materials through to lower decks,
- Guardrails and continuous floors at every corner of the mid platform, and
- Sufficient overlap of scaffold planks at each hanger bracket.
- Straight life line shall be provided with 24 mm Poly propylene ropes and all diagonal life line shall be provided with 8 mm steel wire rope.
- Lifelines shall have minimum statics strength 4.76 KN.
- Vertical lines shall be used with Retractable Fall arrestors /Rope Grab Fall arrestors to climb up and down ladders.
- Approved knotting shall be made in all rope dead ends and intermediate joints shall be made by using D-shackle with approved knotting arrangements.
- Bulldog grip (3 Nos.) shall be used for anchoring wire ropes as per standard.
- Anchoring points shall be made in between column rebar, retaining wall rebar, casted column and any other suitable arrangements.
- Column vertical rebar shall be tied with column stirrups to increase the strength.

Scaffolding:

Accidents are also caused by the ladders falling or the climber losing his balance or failure of scaffolds. As such, utmost care should be taken as ladder and scaffolding are extensively used for maintenance and construction purpose

- Adequate and safe means of access and exit shall be provided for all work places, at all elevations. Using of scaffolding members (avoiding a ladder) for approach to high elevations shall not be permitted
- Suitable scaffolds shall be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short duration work as can be done safely from ladders. Ladder shall be of rigid construction having sufficient strength for the intended loads and made either of good quality metal and all ladders shall be maintained well for safe working condition
- Short ladder must not be tied together to give greater lengths. All ladders of 6 m or above should be tied to the structure on which they are resting to prevent from. An extra worker shall be engaged for holding the ladder if ladder is not securely fixed. If the ladder is used for carrying materials, suitable foot holds and handholds shall be provided on the ladder. The ladder shall be given an inclination not steeper than 1 in 4(1 horizontal and 4 vertical). Ladders shall not be used for climbing carrying materials in hands. While climbing both the hands shall not be free
- The free length must extend by 1.5 meters above the point of landing but should not be more than ¼th of the ladder length. No portable single ladder shall be over 9 meter in length. Metal ladders may not be used for electrical work.
- Scaffolding or staging more than 3.5 m above the ground or floor, swung or suspended from an overhead support or erected with stationary support shall have a standard guard rail properly attached, bolted, braced or otherwise secured at least 1.0 m high above the floor or platform of such scaffolding or staging.

The guard rail shall extend along the entire exposed length of the scaffolding with only such opening as may be necessary for the delivery of materials. Standard railing shall have posts not more than 2 m apart and an intermediate rail halfway between the floor or platform of the scaffolding and the top rail. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure. Scaffolding and ladder shall conform to relevant IS specification (IS: 3696). Timber/Bamboo scaffolding shall not be used

- Working platforms of scaffolds shall have toe boards at least 15 cm in height to prevent materials from falling down
- Every part of scaffolding must be of sound construction. Steel planks used in scaffolds should be carefully inspected and should be tied on both sides with suitable fixing arrangements to the pipes. Scaffolding must not be overloaded.
- The Steel pipe & clamp to be used must be of good quality. The spacing between the vertical & horizontal members of the scaffolding should not be more than 1.5m and 1 meter respectively. The scaffolding should be further strengthened with cross bracing and stays.
- The scaffolds should be provided with short climbs ladders for safe ascending/ descending of workmen in the job. Only those workmen who are well trained/ experienced in erecting scaffolding should be engaged for scaffolding work. The men working in the actual erection/dismantling of the scaffolding and all persons using the scaffolding must use appropriate PPEs.
- A sketch of the scaffolding proposed to be used shall be prepared and approved by the Scaffolding Engineer, prior to start of erection of scaffolding. All scaffolds shall be examined by scaffolding inspector before use.
- Working platform, gangways and stairways shall be so constructed that they shall not sag unduly or unequally and if the height of the platform or gangway or stairway is more than 3.5 m above ground level or floor level, they shall be closely boarded, shall have adequate width for easy movement of persons and materials and shall be suitably guarded
- The planks used for working platform shall not project beyond the end supports to a distance exceeding four times the thickness of the planks used. The planks shall be rigidly tied at both ends to prevent sliding and slippage. The thickness of the planks shall be adequate to take load of men and materials and shall not collapse
- Each opening in the floor of a building or at a working platform shall be provided with suitable means to prevent fall of persons or materials by providing suitable fencing or railing.
- Safe means of access shall be provided to all working platforms and other elevated working places. Every ladder shall be securely fixed. No single portable ladder shall be over 9 m in length. For ladders up to 3m in length the width between side rails in the ladder shall in no case be less than 300 mm. For longer ladders this width shall be increased by at least 20 mm for each additional meter of length. Step spacing shall be uniform and shall not exceed 300 mm
- Adequate precautions shall be taken to prevent danger from electrical lines and equipment. No scaffolding, ladder, working platform, gangway runs, etc. shall exist within 3 meters of any uninsulated electric wire. Whenever electric power and lighting cables are required to run through (pass on) the scaffolding or electrical equipment are used, such scaffolding structures shall have minimum two earth connections with earth continuity conforming to IS Code of Practice.
- All scaffolding works above 1.5m should be provided with stable platform with guard rails and toe guards as per standard specified. In case of height below 1.5m, ladder may be used with minimum height to base ratio of 1:3 with the provision of access.

- Guardrails are to be provided at all working places with toe guards (minimum 6 inches high) and other locations where persons or materials could fall. Working platform should be of minimum 600mm width. Where this can physically not be achieved, suitable and sufficient fall protection devices that do not rely on individuals should be provided and used to establish a safe place of work. (Examples include Safety Nets closely installed under height works, stretched wire ropes of 8mm installed to hook up safety harnesses while workers move from one location to another at height, Use of full body safety harnesses with double lanyards etc.)
- Free-standing scaffold towers used externally must not be higher to the top platform level than three times the minimum base dimension unless secured to a permanent structure. For internal use only, the height of the platform may rise to 3.5 times the minimum base dimension. Castor Wheels (6 inch. Diameter) must be locked when towers are in use. No person or any materials is permitted to remain on a tower platform while a tower is being moved.

  Here are the corrected sentences:
- All posts shall be accurately spaced, erected on suitable bases (foot plate/sole plate), and kept plumb.
- Handrail height should be 42 inches, mid-rail at 21 inches, and the board at 6 inches. Sole plate dimensions should be 12 inches by 12 inches by 2 inches. The metal working platform's minimum width shall be 600 mm, with a length of 2 meters, allowing for internal or external access and egress. The usage of ladders on the interior or exterior of the scaffold is not recommended.
- Only sound scaffold materials shall be used for erection, and no scaffold erection or dismantling should occur after sunset.
- Scaffolders should undergo medical tests and physical ability tests before engaging in work.
- Secure tools and lifelines between rigid structures during shuttering.
- Ensure workmen use two lanyards for added safety.
- Do not keep loose materials at height; bring them inside during lunch and off-hours or secure them properly.
- Use manual lifting hooks for lifting and lowering materials. Materials that cannot be lifted with manual hooks should be lifted using cranes or hoists.
- Safety nets should be secured below the work platform, and the fall distance should not exceed 6 meters.
- Multitier work should not be allowed, and materials should not be carried while ascending or descending ladders. Use ropes for lifting and lowering materials.

Erection of Scaffold

- Ensure the base is adequately compacted before commencing scaffold erection.
- Use base plates for all scaffolds and ensure accurate spacing and plumb of all posts.
- Scaffold erection should be carried out only by skilled workers under the supervision of a competent scaffold supervisor.
- Ensure access arrangements for height work, with ladders used until the shuttering is stabilized, and stair towers provided for reinforcement and concreting works.
- Provide red tags to caution that the scaffold is under erection.

Dismantling of Scaffold

- The scaffold dismantling area shall be cordoned off, and only skilled workmen should be employed for this task.
- A red tag should be attached to the scaffold being dismantled to indicate that it is unsafe to work on.
- Dismantled materials should be lowered using derrick and pulley arrangements.
- Each tier should be completely dismantled before moving on to the next tier to prevent accidents.
- Double lanyard safety harnesses should be used for protection during dismantling.

Scaffold Tags

- Red Scaffold Tag indicates that the scaffold is under erection or dismantling, or it has not been inspected and is not safe for use.
- Green Scaffold Tag indicates that the scaffold is complete, inspected by a competent person, and safe for use.

Usage of ladders

All ladders shall be of sound construction and free from patent defects. Ladders should be checked weekly, and defective ladders shall be promptly and properly repaired or replaced. Ladders shall not be used as working platforms but may be used for work of short duration, up to thirty minutes.

Metal ladders shall not be used near or adjacent to overhead power lines unless they have been certified dead under a permit-to-work system. Ladders shall:

- Be secured at the top or footed at the bottom to prevent slippage;
- Not be used if any rung is missing;
- Not be used for any purpose other than providing access;
- Be set at an angle of seventy-five degrees unless designed for vertical access;
- All vertical ladders shall be fitted with hoops to prevent falls.
- Maintain three points of contact (two hands and a foot, or two feet and a hand) when climbing or descending a ladder.
- Face the ladder when climbing or descending & keep your body inside the side rails.
- Use extra caution when getting on or off the ladder at the top or bottom.
- Avoid tipping the ladder sideways or causing the ladder base to slide out.
- Carry tools in a tool belt or raise them using a hand line. Never carry tools in your hands while climbing up or down a ladder.
- Extend the top of the ladder three feet above the landing & Keep ladders free of any slippery materials.
- Conduct safety inspections for all ladders on-site monthly and before use, following a checklist.

(For detailed procedures, please refer to SOP No: MHCPL-EHS-SOP-21-02 & 03)

30.4 Electrical works:

The following is provided as general guidance for the Contractor and should be regarded as specific requirements, in addition to complying with the Indian Electricity Act, Indian Electricity Rules, and IS Specifications when working on MHCPL sites.

- Only qualified electricians familiar with code requirements are allowed to perform electrical work. Ensure electrician certification before engaging in the work.
- Employees and workers are not permitted to work near an unprotected electrical power circuit unless they are protected against electrical shock by de-energizing the circuit and grounding it, or are protected by effective insulation or other means, and are wearing required PPE
- The electric power supply will be generally made available at one point in the works site of the contractor by the MHCPL
- Any work needing to be performed on a live electrical panel must follow the LOTOTO (Lockout-Tagout, try out) procedure, and the Electrical 'Tag Out' procedure must be followed for carrying out maintenance jobs.

- All three-phase equipment shall be provided with double earthing. All light fixtures and portable equipment shall be effectively earthed to main earthing.
- All earth terminals shall be visible. No gas pipes and water pipes shall be used for earth connection. Neutral conductors shall not be treated as earth wire.
- The contractor shall not connect any additional load without prior permission of MHCPL electrical dept.
- Joints in earthing conductors should be avoided. Loop earthing of equipment shall not be allowed. However, tapping from an earth bus may be done. Check earthing resistance once a month and maintain a record.
- Electrical equipment and installations shall be installed and maintained as to prevent danger from contact with live conductors and to prevent fires making from electrical causes like short circuits, overheating etc. Installation shall not cause any hindrance to movement of men and materials
- Materials for all electrical equipment shall be selected with regard to working voltage, load and working environment. Such equipment shall conform to the relevant IP44 standards
- Electric fuses (MCB-Miniature Circuit Breaker) and circuit breakers installed in equipment circuits for short circuit protection shall be of the proper rating. For all loads, earth leakage circuit breakers (ELCB) or RCCBs of the proper rating shall be provided in the circuits.
- Wires and cables shall be properly supported and approved method of fixing shall be adopted. Cables shall not be left on floor/ground. Loose hanging of wires & cables shall be avoided. Lightning and power circuits shall be kept distinct and separate.
- Reinforcement rods or any metallic part of structure shall not be used for supporting wires and cables, fixtures, equipment, earthing etc.
- Display voltage ratings prominently, certified electrician number with "Danger" signs.
- All cables and wires shall be adequately protected mechanically against damages. In case, the cable required to be laid underground, it shall be adequately protected by covering the same with bricks, Plain Cement Concrete (PCC), tile or any other approved means
- All armoured cables shall be properly terminated by using suitable cable glands. Multi-stranded conductor cables shall be connected by using cable lugs/ sockets. Cable lugs shall preferably be crimped. They shall be of proper size and shall correspond to the current rating and size of the cable. Twisted connections will not be allowed.
- All the Distribution Boards, Switch Fuse units, Bus bar chambers, ducts, cubicles etc. shall have MS enclosures and shall be dust, bugs and waterproof. The Distribution Boards, switches etc. shall be so fixed that they shall be easily accessible.
- The Contractor/MHCPL shall provide proper enclosures/covers of approved size and shape for the protection of all switchboards, equipment etc. against rain.
- All distribution boards shall be inspected every month. Ensure that every distribution board has rubber mats and suitable fire extinguishers should be placed.
- Isolating switches shall be provided close to equipment for easy disconnection of electrical equipment or conductors from the source of supply when repair or maintenance work has to be done.
- All connections to lighting fixtures, starters or other power supplies shall be provided with PVC insulated, PVC sheathed twin/three/four core wires to have better mechanical protection for preventing possible damage to equipment or injury to personnel. Taped joints shall not be allowed and the connections may be made in a looping system. Electric starter of motors and switches shall not be mounted on. wooden boards. Only sheet steel mounting or iron framework shall be used.

- Only PVC-insulated and PVC-covered wires or armoured PVC-insulated and sheathed cables shall be used for external power supply connections of a temporary nature. Weatherproof rubber wires shall not be used for any temporary power supply connections. Taped joints in the wires shall not be used.
- All portable appliances shall be provided with a three-core cable and a three-pin plug. The third pin of the plug shall invariably be earthed. It shall be ensured that the metal part of the equipment shall be effectively earthed.
- Ensure that electrical switchboards, portable tools, and equipment (such as grinding machines, etc.) remain dry during usage. If they get wet, stop the main supply, dry the tools thoroughly, and only then resume usage. Check for proper earthing.
- ELCBs must be provided for all temporary connections. Use insulated 3-pin industrial plug tops.
- Do not lay unarmoured cables directly on the ground, walls, roofs, or trees. Proper sleeves should be installed at road crossings. If temporary cables are to be laid on wooden or steel poles, the minimum cable height should be 6 meters for the vehicle movement area and 3-meter height for pedestrian access.
- Ensure all electrical activities obtain a work permit before starting the work, whether temporary, permanent, or maintenance work.

(For detailed procedures, please refer to SOP No: MHCPL-EHS-SOP-21-05)

30.5 Lifting work

Lifting Operations:

The contractor/ MHCPL shall ensure that during any lifting operations the following minimum requirements shall be followed:

- All lifting operations must be supervised solely by a competent Lifting Supervisor certified by the MHCPL Site P&M team. Maintain records of the lifting supervisor's competency documents, such as experience letters, etc.
- Only trained and experienced crane operators, slingers, and riggers are permitted to engage in lifting activities. If a certified rigger or signalman is absent, hold the lifting activity until a certified rigger arrives at the location.
- Standard hand signals must be used, known by both the crane operator and signaller.
- Crane operators must only respond to signals from appointed signallers.
- Ground conditions for crane placement must be checked before lifting by the P&M team along with the Safety team.
- The weight of the load must be known to both the crane operator and the slinger/rigger. A lifting plan based on the object must be prepared by the responsible in-charge and verified by the Plant & Machinery (P&M) team for all critical lifts.
- No loads are to be swung over public areas without first stopping pedestrians and vehicles.
- Riding the crane hook or loads being lifted is prohibited.
- When lifting any loose material, a material basket must be used, and a guide rope should be duly utilized. Avoid lifting loose material on pallets. If any material falls during the swinging of the crane, the material basket should have four individual anchoring points and possess a valid Third-Party Inspection (TPI) certificate.
- Ensure that while lifting through the material basket, for every anchoring point, individual four slings should be used.
- If lifting a round object that is lengthy and intended to bend or flexible, ensure that the anchoring of the round object is calculated based on the center of gravity of the object. Anchoring should always consist

of four individual points. Alternatively, a long pallet with four anchoring points should be used duly using guide rope.

- Ensure proper barricades are provided to prevent unauthorized entry to the lifting zone.
- Ensure that the crane swing radius is clear from any personnel crossing underneath the suspended load.
- Ensure proper communication is established between the crane operator and signalman using walkie-talkies for a safe lift.
- Crane hooks must be equipped with safety latches to secure the lifting slings during lifting operations.
- Lifted loads and stacked materials must be kept secure and stable.
- Lifting appliances must be grounded when working close to overhead power lines.
- A strict Permit to Work (PTW) system is mandatory before initiating any lifting activity. Work in charge must ensure that the PTW is obtained before commencing any lifting activity, whether by the contractor or the client, by ensuring all the above requirements are met.
- The contractor must deploy competent riggers and signalmen for all tower crane lifting operations, who are duly certified as competent by the site P&M In-charge of MHCPL.
- For any critical lifting activity, submit a method statement. Only use the mobile crane with the rated capacity as per the method statement requirements. Verify the mobile crane documents before entering the site along with the Plant & Machinery (P&M) team.
- Before placing the mobile crane, inspect the soil condition and, if necessary, compact the soil to strengthen the surface. Ensure that the outriggers of the mobile crane are fully extended and check the stability of the crane placement before lifting.
- All lifting activities will be carried out during daylight hours only. Night-time lifting work is not permitted unless a special permit is obtained from the EHS head, ensuring all additional safety precautions are met.

Handling of Cranes & Lifting appliance

The contractor or MHCPL shall ensure that all lifting appliances, including synchronized mobile jacks, pit jacks, mobile cranes, tower cranes, gantry cranes, derricks, and lorry-mounted cranes, etc. undergo pre-inspection by the MHCPL P&M team and safety personnel before being allowed to work on-site.

- All lifting appliances must undergo testing and examination by a competent person before their initial use, after any alterations or repairs affecting their strength or stability, and after erection on a construction site. A Third-Party Inspection (TPI) should be conducted by a competent person to ensure compliance. Ensure that the competent person conducting the inspection is certified by the Directorate of Factories Act 1948. Additionally, only the competent person themselves, not their subordinate should conduct physical site inspections.
- Every lifting appliance and loose gear must be marked with its safe working load and identification.
- Crane operators must possess adequate skill, competency, and training, verified by the P&M team.
- No person under eighteen years of age may control any lifting appliance.
- Third-party inspection by a competent person is required before the activity begins, with records maintained.
- Certificates in prescribed form are needed for winches, derricks, cranes, hoists, loose gear, wire ropes, and all lifting appliances.
- Cranes with variable safe working loads must have automatic indicators or load limiters.
- Cranes must have a cut-out that stops lifting if the load exceeds the safe working load.
- In the absence of an automatic indicator, cranes must be equipped with a table showing safe working loads at different jib inclinations on a load chart. Before commencing any lifting activity, the load chart should be reviewed by both the P&M team and the Safety team.

- Precautions must prevent anyone from standing or passing under a hoisted load.
- Equipment must not be loaded beyond its safe working load, except for testing.
- No one may ride on a suspended load or lifting appliance.
- Loads must be adequately suspended and supported during hoisting or lowering.
- Receptacles for hoisting materials must be suitably enclosed to prevent falls.
- Heavy load guidance appliances must be used to avoid crushing hazards for building workers.
- The contractor must ensure that a competent signalman is provided for every tower crane, with their competency verified by the P&M team.
- The contractor must ensure that only competent riggers or signalmen rig the load at all times, and loose materials must be lifted in a material basket only. It is the contractor's responsibility to conduct the Third-Party Inspection (TPI) for the material basket, while the MHCPL team is responsible for ensuring the validity of the TPI.

Below are the general guidelines to be followed for all types of handling and lifting equipment.

- A well-planned safety program should be in place to ensure that all lifting appliances and lifting gear are selected, installed, examined, tested, maintained, operated, and dismantled to prevent accidents organized by the P&M team along with the safety team.
- All lifting appliances must be examined by competent persons at frequencies as specified in "The Factories Act. 1948"
- Before putting them into use, visually check the quality, size, and condition of all lifting tools such as chain pulley blocks, slings, U-clamps, D-shackles, etc. by the P&M team and the concerned work in charge.
- The safe lifting capacity of all lifting and handling equipment, tools, and shackles should be verified, and valid certificates obtained from competent authorities before their use. The safe working load must be marked on them.
- The Plant & Machinery (P&M) team will periodically check the oil, brakes, gears, horns, and tire pressure of all moving equipment such as cranes, forklifts, etc., as per the manufacturer's recommendations.
- Check the weights of the objects to be lifted and decide accordingly on the crane capacity, boom length, and erection angle before placing the crane (or supporting crane).
- Use lifting slings as short as possible and check packing at friction points.
- During the lifting/placing of the load, no unauthorized person should remain within the boom radius or underneath the load.
- When loading, unloading, and stacking pipes, use proper wedges to prevent them from rolling down.
- Only trained operators and riggers should carry out the job. A trained rigger should be present to monitor for potential collisions with other objects while the crane is moving or lifting the load.
- Avoid lifting heavy equipment during high wind conditions and at night if possible. If night-time erection is unavoidable, ensure operators and riggers are fully trained for night signalling and provide proper illumination.
- Allow the crane to move on hard, firm, and leveled ground.
- When the crane is idle for long periods or unattended, lower or lock the crane boom according to the manufacturer's guidelines.
- Ensure the hook and load being lifted remain in full visibility of crane operators during lifting, to the extent possible.
- Do not allow booms or other parts of the crane to come within 3 meters reach of overhead electrical cables.

- No structural alterations or repairs should be made to any part of a lifting appliance that may affect its safety without the permission and supervision of a competent person.

Slinging & Rigging

- The entire length of the sling must undergo a visual inspection before each use. For any sling, whether rope, Chain, or web sling, a Third-Party Inspection (TPI) should be conducted by a competent person once every six months. Clean the sling before inspecting it, as dirt and grime can hide damage, especially in chain and wire rope. Slings should be relaxed during the inspection. Any damaged or defective slings must be discarded. When disposing of a defective or damaged sling, cut it in half or otherwise destroy it to ensure it cannot be reused.
- When inspecting steel alloy chain slings, pay special attention to nicks, gouges, cracks, corrosion pits, stretching, and distorted or worn fittings. Replace the entire sling if any part is damaged, has more than 10% wear or 5% stretch, or if the hook is twisted more than 10 degrees or opened up more than 15% at the throat
- Wire rope slings must be replaced if there is severe corrosion, localized wear (shiny worn spots), a 1/3 reduction in outer wire diameter, excessive stretching, damage or displacement of end fittings, more than 10 broken wires in one lay, or evidence of damage to the rope structure such as kinking, crushing, bird caging, or other distortion. Ensure double ferrules for each wire rope sling are mandatory for lifting operations.
- Do not use synthetic web slings that have burns, broken or worn stitches, excessive stretch, exposed warning stitches, snags, punctures, tears, cuts, or distorted fittings.
- Inspect metal mesh slings for broken wires, lack of sling flexibility, kinks or twists in the edge, a 25% reduction in wire diameter due to abrasion, and broken brazed joints or welds on the edge.
- Store slings vertically on a rack or wall to minimize the risk of damage and for easy access. And Lift only from solid attachment points.
- Before making the lift, make sure the weight and balance of the load are known and the sling is securely positioned around the load.
- Guard against shock loading by taking up the slack in the sling slowly.
- Operators must know and must not exceed the working load limit (rated capacity) of the sling. The working load limit is calculated by dividing the breaking strength of the sling by five.
- Do not lift items that exceed the working load limits of the sling.
- Lifting tools and tackles should be tested by a competent authority once a year.
- Take up slack slowly and ensure that every link in the chain sits properly. Never put a strain on a kinked chain. If the links do not slide freely within each other, the chain is damaged and must be removed from service.
- Do not use a hammer to force a hook over a chain link & avoid bending wire rope around a small radius
- Ensure that the load is always properly positioned in the bowl of the hook.
- Never attempt to repair welded components on a sling. A broken chain must not be spliced with a bolt or any other type of coupling.
- Lubricate the chain for longer service life. Before applying lubricant, ensure the sling is as dry and clean as possible. Lubricating a dirty or damp sling promotes corrosion.
- Synthetic web slings cannot be repaired; damaged slings must be discarded.
- Do not join slings by knotting. Stretching is the only accepted method of attaching end fittings or forming eyes.

(For detailed procedures, please refer to SOP No: MHCPL-EHS-SOP-21-15)

30.6 Site Mobile Equipment

- Ensure all mobile equipment on site, such as Skid-steer loader (Bobcat), backhoe loader (JCB), excavator, dozer, wheel loader, forklift, hydraulic mobile crane, rollers, and boom placer, have valid documents (registration and insurance) before entering the site.
- Ensure that pre-inspection of all equipment is conducted by the Plant & Machinery (P&M) team along with the safety team before entering the site. Ensure that all equipment is equipped with a reverse alarm, front, and rear-view mirrors, wheel stoppers, and seat belts, check for any oil leakages, brakes, tail lights, handbrakes, first aid box, fire extinguisher, and valid documentation during an inspection.
- Ensure all operators possess valid licenses or experience certificates for the operation of the respective equipment. Additionally, operators must be certified and authorized to operate the machinery. Before engagement, operators must also undergo medical fitness assessments to ensure they are physically fit and have good vision capacity.
- All drivers and equipment operators' skill levels shall be evaluated by P&M personnel, and competency certificates shall be provided, and signed by both P&M personnel and Safety personnel.
- Authorized Operator format needs to be displayed with a photo. Unauthorized operations need to be avoided. If possible biometric system shall be adopted in major Plant and machinery for avoiding unauthorized operation.
- All the warning devices must be in proper working condition. The condition of the battery and lamp should be checked regularly.
- Ensure that the tractor's back door is always kept closed, and only the driver is permitted to sit in the driver's cabin. No one other than the driver should be allowed to sit in the driver's cabin, and transporting passengers by tractor is prohibited.
- Outriggers should be fully extended and should rest on firm ground for boom pleaser
- Ensure that wheel stoppers are used while loading, unloading, and parking all equipment at the site.
- Before issuing a PTW for any activity involving mobile equipment on site, ensure that all documents, operator competency, and risk assessments for the particular activity are checked. Additionally, ensure that all operators wear PPE (safety helmet, safety shoes & highly visible jacket) at all times on the site without fail.
- All P&M equipment shall be carried out periodic maintenance as per manufacturer recommendation.
- Ensure valid registration, fitness, insurance, and pollution documents are available for all vehicles, including tractors, DCMs for material-carrying vehicles, tippers, trailers, etc. at the sites.
- For vehicles with wheel mounting systems, ensure that the instructions on the wheel and the machine are compatible.
- Abrasive wheels shall be carefully inspected and not used if they are damaged in any way.
- Wheels shall be subjected to a Ring Test to check for invisible cracks or damages.
- Monthly inspections shall be carried out for all equipment used on-site by the P&M team along with the safety team, and inspection color coding stickers shall be placed every month.
- Check noise levels in the roller working area. If high noise exposure is detected, provide earplugs to those working near the roller area. Roller operators must always wear earplugs.
- Only experienced operators or personnel with a high level of competency are permitted to operate the Skid-steer loader.
- The contractor shall submit all respective valid documents for the respective equipment to the MHCPL P&M team as well as the safety team.
- Ensure that all the above requirements for site mobile equipment are complied with before commencing work; otherwise, critical work at the site should not be permitted.

- The driver shall not leave their cabin while the engine or motor is running or while the load is suspended.
- Before leaving the machine, the operator shall switch off the electric power supply or stop the engine, apply appropriate motion brakes, and lock to keep the machine in a safe condition.

30.7 Operation, Erection & Dismantling of Tower Crane:

- Tower cranes shall be erected, dismantled, used, operated, and maintained by the BOCW Act 1996 and Rules 2006.
- The base foundation of a tower crane shall be designed by a competent design engineer, considering the soil-bearing capacity of the location.
- When a tower crane is erected and the height is extended within a structure or building, climbing operations shall be carried out according to the manufacturer's instructions. Before the erection and extension of the tower crane, ensure a HIRA & method statement is obtained from the concerned contractor and review it thoroughly. Additionally, any additional suggestions based on the site location should be recommended before issuing a permit.
- Lightning arrestors and anemometers shall be installed on tower cranes with proper body earthing.
- A fall arresting system for ascending and descending in tower cranes shall be ensured.
- Double earthing for tower cranes shall be ensured.
- Load lines shall be provided, taking into consideration the load being lifted.
- Adequate clearance shall be maintained between moving and rotating structures of the crane and fixed objects to allow the passage of employees without harm. Additionally, ensure that Anti-Collision Devices (ACDs) are installed on all tower cranes before use.
- An overload indicator and limit switch shall be provided to warn the operator when the hook reaches the upper hoist limit.
- Jerking or snatching of the load shall be avoided.
- The slewing lock shall never be engaged except during the climbing or lowering of the tower.
- In the event of high wind, all operations shall be suspended. The crane's hook block shall be immobilized to the highest position, and the trolley moved closer to the tower. The same instructions shall be followed when the crane is switched off or out of service.
- Since the stability of the jibs relies on balance, the boom shall never be overloaded.
- A tower crane of height above the free-standing height shall be secured to a structure at regular intervals.
- Movement on the boom shall be balanced by the counterweight placed on a separate boom or at the base.
- All power connections shall be switched off before attending any electrical maintenance work.
- All tower cranes shall undergo periodic maintenance as per the manufacturer's recommendations. This maintenance should be conducted under the supervision of a competent service engineer, and records for all tower crane maintenance activities should be maintained by concerned personnel.
- Walkie-talkies shall be provided to the operator and signalman. Two signalmen shall be deployed for individual tower cranes if the crane is operated across multiple floor levels for effective signalling and safe communication between the operator and signalman.
- Check the competency of all tower crane operators and signalmen before engaging them to work. Ensure that their competency is certified by the site Plant & Machinery In-charge, and maintain a record of the competency for all operators.
- Employees or workers engaged in the erection and/or dismantling of tower cranes, as well as the inspection, maintenance, or repair related to such activities, when working at elevations more than 3 meters or greater over ground or other surfaces, shall be required to use fall protection such as a full-body harness and fall arrester.

- if practicable, erection, dismantling, or height alteration operation during night time should be avoided.
- Operations shall not be conducted when wind speed exceeds the speed tolerance recommended by the manufacturer or, where the manufacturer does not specify this information, the speed tolerance 50km/hr
- EHS Requirements for Crane Construction
  a. All personnel will undergo site safety induction training.
  b. Certificates and licenses of mobile cranes and crane operators will be checked before the erection of tower cranes.
  c. Erection will be carried out strictly by the manufacturer's recommendations, a copy of which available on-site with P&M team & safety team
  d. All erectors will be experienced and competent in erecting this type of crane.
  e. All erectors have received manual handling training and undergone a manual handling assessment.
  f. When working at heights above 2 meters, a lanyard body harness will be worn and used when exposed to open edges, with the harness attached to crane mast sections.
  g. A hazard zone will be established around the working area using safety barrier tape, along with danger signs to prevent unauthorized persons from entering.
  h. Operations will only take place where weather and lighting conditions permit.
  i. All operatives/erectors will be informed of the contents of this method statement and associated risk assessment.
  j. Any circumstantial changes on-site will be notified to the MHCPL team. A method statement field change form will then be completed on-site and signed off by the crane supervisor.

Tower crane erection sequence

a. Proper setting out for crane foundation as per site plan.
b. Excavation for crane foundation according to the approved drawing.
c. Blinding concrete poured under the foundation.
d. Shuttering and reinforcement steel installed according to the approved drawing.
e. Fixing angles in the exact location according to the drawing.
f. Mast section aligned and checked for plumbness and squareness.
g. Components of the tower cranes delivered to site by flat-bed trailer.
h. Offloaded components checked and verified to be in proper working order.
i. Components offloaded from the trailer by the mobile crane.
j. Basic mast section installed and attached to the fixing angles.
k. Slewing ring platform and cathead assembled in the designated area.
l. Counter jib sections prepared by the crane crew and assembled at ground level.
m. Assembled slewing ring and cathead lifted into place and fixed by experienced riggers.
n. Main jib assembly carried out at ground level.
o. Trolley added and locked in place.
p. Tie bars assembled and attached to the hooks on the main jib.
q. Counter jib assembly with tie bars lifted to the top of the cabin section and fixed with pins.
r. Main jib assembly lifted to the level of the top cabin section and fixed with pins.
s. Counterweights ready and lifted to the location of the free edge of the counter jib boom and fixed in place.
t. Steel rope supplied by the Manufacturer runs across the wheel drum in the gearbox winch to the end pulley, and back to the trolley gear lock.

u. Conduct a full inspection and testing by a third-party agency, rectify any issues, and obtain certification for crane use.

Tower Crane Dismantling Sequence

a. Remove the hook block and reeve the hoist rope back onto the hoist drum.
b. Utilize a mobile crane or derrick to dismantle the rear counterweights from the tower crane, except for the last one which will be dismantled after removing the front jib.
c. Before initiating the dismantling process, erect a derrick or mobile crane for dismantling the erection. Ensure that after erecting any crane for dismantling activity, thorough Third-Party Inspection (TPI) is conducted by a competent person. Check the strength and placement of supports, among other factors.
d. Once the TPI is completed, the MHCPL P&M team and safety team will inspect the location for any risks associated with the activity before issuing a permit.
e. Use a mobile crane or derrick to dismantle the front boom.
f. Remove the hoisting mechanism with the assistance of a mobile crane or derrick, after removing the last counterweight.
g. Remove the counter jib using the same derrick or mobile crane.
h. Utilize a mobile crane or derrick to dismantle the tower head and cabin.
i. Use the mobile crane or derrick to dismantle the pivot head.
j. Remove mast sections one by one, followed by the climbing cage.

(For detailed procedures, please refer to SOP No: MHCPL-EHS-SOP-21-35)

30.8 Operation, Erection & dismantling of P&M hoist.

The P&M hoist, a lift essential for construction sites, facilitates the transportation of personnel and materials. Its installation and dismounting processes are convenient, allowing it to adapt as the building's height increases. Equipped with reliable electrical and mechanical safety devices, the hoist ensures efficient and safe vertical transportation of materials and personnel on the construction site.

Erection & Dismantling of P&M Hoist:

- No changes or modifications shall be made to the hoist, without prior consulting supplier or manufacturer after erection.
- The surface on which the machine stands shall be stable enough to support the weight of the machine, the mast, and the lifting capacity. Min. required bearing capacity 30 psi (2.1 kg/cm2)
- Always anchor the mast by the instructions of the manufacturer. Before erecting or dismantling the P&M hoist, the contractor or consultant shall submit the method statement & HIRA to the MHCPL team, P&M team, or safety team for review. The team will suggest any necessary additions based on site conditions.
- Before commencing P&M erection activity
- Use a suitable fall protection system such as a safety harness during the erection and dismantling of the P&M hoist. Ensure that only competent crew members perform the erection and dismantling of the P&M hoist.
- Before issuing a permit for the P&M hoist erection and dismantling activity, the MHCPL P&M team will finalize the location and inform the safety team to check for any hazards in the work location. If any potential hazards are identified, the safety team will recommend compliance measures. Only after compliance with these recommendations will the permit be issued.

- If the P&M hoist is being erected in an OTS area or ventilation shaft area, the P&M team will be responsible for the OTS safety net removal and re-fixing. The excavation team will be responsible for ensuring that no work is performed on the floors above while the P&M hoist erection is being carried out.
- Ensure that P&M cage protection is provided with GI sheets above the P&M hoist cage before the P&M hoist erection is carried out.
- In case of an imminent thunderstorm, place the hoist at the lowest position and switch the power off due to the risk of a lightning strike. Disconnect the power plug
- Pay attention to the risk of getting jammed when passing anchoring or other obstacles.
- Never use the hoist free-standing, without anchoring. Anchor the mast as specified
- Support the ground mounting frame adequately.
- Check if the working area around the hoist is free of obstacles
- Close the switch box doors before use
- Do not assemble or disassemble the machine during winds of 28 m.p.h., (12.5 m/s) or more.
- Always install the red mast section at the top. And ensure over-hoist limit switches are installed.
- Install the ground cage around the machine, to prevent persons from unintentionally walking under the machine and protect them against falling objects.
- After erection, or any alteration conduct a Third-Party Inspection (TPI) with a competent person before putting the equipment into usage. Ensure that the competent person is certified by the Directorate of Factories Act 1948. The certificate will be valid as per the recommendations of the competent person.
- Before commencing electrical connection work on the P&M hoist cabin after the erection of masts and cabin, ensure that a cover is provided by the contractor or client to protect against falling objects on the P&M hoist cabin. Subsequently, the P&M team should inform the safety team about safety arrangements on the particular shaft, such as tying safety catch nets. MHCPL P&M team should be responsible for arranging certain safety measures on the P&M hoist."

P&M Hoist safety during Operation:

- Wind speeds above 45 Kmph Place the hoist at the lowest position and don't use it anymore
- Check if there are no objects in the hoist way during operation. Ensure all limits are working properly without fail. Avoid bypassing any limits daily.
- Ensure that while inspecting the P&M hoist, there is a suitable fire extinguisher, first aid box, and a siren (in case of any emergency) available on the cage.
- Use the hoist for the purpose it is designed for, the vertical transportation of personnel and material not exceeding the maximum permitted weight
- Never transport persons or materials on the roof of the cabin, during normal use. This is only allowed during the assembly, disassembly, and maintenance phase for authorized personnel.
- Illuminate the appropriate area (machine and landings) adequately, if the hoist is used during darkness. This is to provide the operator with a good view under all conditions.
- Be aware that wind speeds can be reinforced locally by ambient conditions (e.g. High raised buildings). Operators shall be aware of these factors during use
- Take care that the hoist and landings are free of obstacles (building waste, dirt, snow, etc.)
- Place the hoist at the lowest level. Secure the main switch with a padlock, to avoid unauthorized use of the hoist.
- Ensure that the P&M hoist has a sliding door interlocking system with the landing door. Once the landing door and sliding door are closed, the P&M hoist can be operated by the operator. Otherwise, the P&M hoist operator will be held until the doors are properly closed and interlocked.

- If anyone notices the bypassing of the standard or safety interlocking system, immediately stop the P&M hoist by using the emergency stop button. Ensure that safe load details, the operator's contact number, and emergency contact numbers are always displayed in the cabin with a valid TPI certificate
- Ensure that only authorized operators operate the P&M hoist. Operators must have specific experience in P&M hoist operation, and their competency should be certified by the MHCPL P&M team.
- Additionally, provide training to all operators on the safe usage of the P&M hoist once every six months. This training can be conducted by the manufacturer or the P&M team to continually improve the competency level of the operators.
- Ensure monthly inspections of the P&M hoist are conducted along with the safety team and P&M team once every month, maintain records of these inspections, and provide monthly color code inspection stickers. Additionally, any maintenance work conducted on the P&M hoist should obtain a permit from the Safety team.
- If possible, provide operators access to the P&M hoist using biometrics to prevent unauthorized operation. Additionally, ensure that the P&M hoist gate at floor level is always closed with a lock system. Only the operator should have the key to allow passengers or materials into the P&M hoist.

(For detailed procedures, please refer to SOP No: MHCPL-EHS-SOP-21-36)

30.9 Reinforcement works.

Reinforcement works play a major role in construction activities, but unfortunately, many accidents and incidents occur due to carelessness during these processes. To give more focus on reinforcement works in the construction site, all contractors/MHCPL teams will below are safety measures that need to be followed while performing reinforcement activities.

Steel loading, unloading & Storage:

- Once the steel bundle trailer arrives at the site gate, the security team will check the vehicle's condition, document it according to the procedure, and grant permission to enter the site. Concerned team(stores) personnel will then inform the safety team.
- Before entering the site, an MHCPL store person will check the vehicle load-securing condition, and runners' condition and inform the site safety team. After entering the site, the store person will decide on the unloading location and seek suggestions from the safety and execution teams to ensure the availability & potential risks of the location.
- While loading & unloading the steel, if tandem lifting is used, only loading and unloading are permitted. Shifting of the steel bundle using a tandem lift at the site is strictly prohibited.
- While carrying out tandem lifting for loading and unloading using a mobile crane (Hydra/Farana), ensure that the surface of the activity area is very clear and free from any obstacles in the surrounding area. Additionally, barricade the area and place signage for safety.
- All loading & unloading of steel activities are performed during daylight hours only, don't allow night light hours.
- Before issuing a permit for the loading/unloading of the steel bundle using the tandem lifting method, ensure that both cranes have valid documents and that the operators and riggers are competent. Additionally, ensure that all lifting tools and tackle have valid TPI (Third-Party Inspection) certificates before issuing a permit.
- Ensure continuous supervision of the operation to maintain safety standards and prevent any shifting of the steel. Rig the slings to the steel bundle using runners and use guide ropes to prevent any unwanted shuffling of the steel.

- Only allow the operator to sit in the crane cabin; other personnel are not permitted. Verify the competency of the operator, rigger, and signalman before commencing the activity. P&M team members will certify the competency level of the crew.
- If any steel bundle needs to be shifted to another location, ensure safe shifting of the steel by trailer.
- When manually shifting steel, ensure that all workers use shoulder pads and cut-resistant gloves to prevent cuts and long-term injuries. Also, ensure proper access to reach the storage location of the steel.
- When storing the steel bundle, provide concrete sleepers for easy accessibility and organized storage of different diameters and lengths. Additionally, provide tags for the steel bundles to facilitate easy identification and retrieval.
- Ensure manual handling training to all workers involved in steelworks

Steel processing (Bar cutting & Bar bending)

- Ensure that all machine operators receive training on safe machine operation before operating the machine. (Bar bending & Bar Cutting Machine)
- Perform a visual inspection before operating the machine.
- Verify that all safety guard systems such as rotating parts, and sharp objects cover, are in place before operating the machine.
- Use the correct personal protective equipment before operating the Bar Bending Machine, such as cut-resistant gloves and earplugs in case of high noise.
- Keep hands away from all moving parts.
- Maintain proper housekeeping at the workplace, and ensure that tools are clean and in their designated places & never make stacks higher than 3 times the minimum base width.
- Ensure proper lighting where the machine is running.
- Ensure that operators can be isolated from dangerous energy if they come into contact with dangerous parts. Additionally, ensure proper earthing for the machine and regularly maintain earth pits.
- Avoid wearing loose clothes, chains, or handkerchiefs around the neck, and ensure that hair is tied back to prevent entanglement in the machine.
- Never distract the machine operator while they are operating the machine.
- Do not operate a machine that is not properly maintained. Turn off the power before leaving the machine after completing work.
- Never remove material from the machine while it is running. Only remove material by hand when the machine is stopped.
- Do not remove machine guards they are installed for the safety of the operator. No other work should be conducted in the area where the bar bending machine is operating.
- Avoid reaching parts of the machine that may cause danger while the machine is running.
- Do not use a machine if its guard is missing, as this increases the risk and creates more danger.
- Use the machine only for its intended purpose using it for other purposes can create dangerous situations.
- Only competent operators should operate both machines, such as bar bending and bar cutting machines.
- Steel scrap will be kept in a designated area with clear identification signage, ensuring easy access to the scrap yard for regular removal from the site.
- Provide a shield for bar bending and cutting machines when they are directly exposed to sunlight and to prevent falling of objects.
- Conduct safety inspections for the bar bending & cutting machines every month by the safety team, in collaboration with the electrical team. Maintain a record of inspections and issue inspection monthly color-coded stickers for identification.

- The contractor should provide operator identification for the bar bending and cutting machine. This identification should include a photo, contact number, and details of the contractor to prevent unauthorized operations.
- If any bar bending & cutting machine operator changes, the contractor engineer/safety team will inform MHCPL safety about the new operator and ensure that job-specific training is conducted for the new operators.

Steel handling & tying:

- A trained rigging gang shall be deployed to handle the reinforcement rods.
- While shifting the processed steel bundle to the working floor using a tower crane:
    a. Ensure competent riggers and signalmen for the lift.
    b. Use a material cage for loose steel materials with four individual anchoring points for the material basket, duly using four individual slings with a guide rope.
    c. Do not allow the lifting of loose material.
    d. Follow the lifting procedure while lifting by tower crane
- Do not store the processed steel on the edges while fixing the steel.
- Ensure workers are oriented in manual material handling techniques.
- Rebar works shall not be done under energized overhead electric lines.
- Workmen shall use scratch-resistant hand gloves for handling the steel rebars.
- Workmen shall not be allowed to stand on the stirrups secured with binding wires.
- Ensure work platforms are provided, provide rebar caps where protruding rods are exposed. Scraps shall be stored separately and stacked with display boards.
- Slab rebars shall be secured with the binding wire immediately after laying.
- Sliding of vertical bars (column/shear wall) sideways shall be avoided, and rigid support arrangements shall be temporarily provided until concreting is completed.

30.10 Shuttering & De-shuttering works

The MIVAN shuttering and de-shuttering process play a major role in the construction of residential & commercial buildings using aluminium formwork systems. Proper execution of these procedures ensures structural integrity and the safety of workers on-site

Shuttering work:

- Before initiating the shuttering and de-shuttering process, conduct a thorough inspection of the construction site to identify potential hazards and ensure a safe working environment. Verify that all MIVAN formwork components are in good condition and properly assembled according to manufacturer guidelines
- The contractor shall submit the methodology and HIRA (Hazard Identification and Risk Assessment) for shuttering and de-shuttering activities to the MHCPL execution team and safety team. The MHCPL team will review the procedure and suggest any further improvements as per the site conditions.
- During shuttering and de-shuttering activities, all workers must wear appropriate personal protective equipment (PPE) including helmets, safety shoes, gloves, and high-visibility vests.
- Ensure all personnel involved in MIVAN formwork construction receive proper training on its assembly, dismantling, and safety measures
- Implement fall protection measures such as guardrails, safety nets, or personal fall arrest systems to prevent falls from heights. Ensure clear communication and coordination among workers to avoid collisions and accidents

- All MIVAN shuttering material is lifted using a tower crane to reach the initial flat. While lifting, ensure that all loose shuttering boards are lifted using a material basket only, with a competent rigger and signalman. Do not allow the lifting of loose material on pallets. If the shuttering boards are fully packed as per the manufacturer's instructions, then allow lifting with proper supervision of the execution team.
- Use a material cage for loose shuttering materials with four individual anchoring points for the material basket, duly using four individual slings with a guide rope
- Ensure that all material baskets undergo Third-Party Inspection (TPI) and maintain valid certificates.
- Before issuing work permits for shuttering and de-shuttering activities, ensure that the respective location is mentioned on the permit. Also, ensure properly secured safety nets are in place at the work area and barricade the location below. Provide proper access in case of any emergency from the working floor.
- Before commencing the shuttering or de-shuttering activity, ensure that fall protection systems such as peripheral safety net and bracket net are tied and properly secured at two levels. Peripheral safety nets should be installed below the working floors with a gap of two levels, and then the second peripheral safety net. For bracket safety nets, install them at two levels above and below the working floor.
- To begin the shuttering process, position the pre-assembled MIVAN formwork panels according to the layout plan. Securely connect the panels using the specified stub pins, clamps, and braces, ensuring proper alignment and support.
- Ensure that on the working floor, the contractor has provided edge protection covered with hard barricades on floor openings, shaft openings, staircase openings, etc.
- Never allow the use of damaged MIVAN panels. If a damaged panel is found, send it immediately for refurbishment to increase its lifespan, as it can pose a collapse risk. Also, ensure that shuttering boards are not kept on the edges.
- Wall ties should be checked, this is a main load-carrying member and improper installation of it will lead to a very bad situation. Each wall tie should be checked for correct installation along with stub pins at holes
- Ensure that proper suitable PPE, such as a nose mask, full-sleeved clothes, and rubber gloves, are worn while applying shutter release agents over the surface. Additionally, do not place them on hot surfaces.
- Install the transfer box at the correct location along with additional reinforcement bars to strengthen the cutout. Cover it with wood boards when not in use. Provide identification to prevent falling risks.
- Ensure to avoid contact between the shuttering boards and overhead power lines. Conduct regular checks to ensure electrical safety measures are in place and working effectively.
- Ensure the contractor secures all electrical cables lying above 3 meters in height during shuttering work and ensures they are free of joints with good insulation. Additionally, avoid temporary lighting electrical cable joints in the shuttering area and make proper plug-top connections.
- While performing shuttering and de-shuttering activities in unreachable areas, do not allow sitting on the full-body harness lanyard. Provide a proper working platform to reach the work location safely.
- Install internal and external corner panels as required with the help of brackets on the outer side. Ensure that the brackets are fully covered with a working platform, and anchor the full-body harness while working on the brackets. Conduct a final inspection to verify the integrity of the shuttering system before concrete pouring.
- Prop Lengths (PL) should be fixed in plumb. Nowadays, adjustable PLs are available, so it's important to ensure all PLs are in plumb. Also, ensure Prop jacks are secured with proper locking support. Do not allow steel rods to support the prop jacks as it increases the risk for workers.

- Conduct toolbox talks daily before starting the activity, led by the execution team. The safety team will ensure the toolbox talks before issuing a permit. Contractors are responsible for conducting daily toolbox talks at the workplace.
- During conventional shuttering, ensure that all plywood is stacked properly at the work location. Inspect plywood cutting machines with the Safety and Electrical teams every month and during the site visit
- Ensure that plywood cutting machines always have guards. Work should not be allowed without guards. If any machine is identified without a guard, remove it from the site and hand it over to the MHCPL store as a defective machine. And place identification for defective machines.
- Only competent fitters should operate cutting machines. Guards, as necessary, should be provided to protect the operator and others from the point of operation, running nip points, rotating parts, and flying chips and sparks.
- Ensure 360-degree guards wherever possible for the rotating portions of all applicable machinery, tools, and equipment.

De-shuttering works

- Once the concrete has cured to the required strength, begin the de-shuttering process by carefully removing the clamps and braces securing the formwork panels. Gradually dismantle the panels starting from the top to prevent sudden shifts or collapses. Use appropriate lifting equipment and techniques to handle heavy components safely. Inspect the formwork components for any damage or defects before storage.
- After completing the shuttering and de-shuttering activities, conduct a post-operation inspection to verify that all MIVAN formwork components are properly stored and secured. Remove any debris or waste materials from the work area to prevent trip hazards and maintain cleanliness on-site
- While performing de-shuttering activities, ensure the area below is barricaded. Additionally, provide barricades to indicate the progress of work on the working floor.
- After completing the de-shuttering, make sure tie rods and wall tie-removing work, Do not allow the use of hot steel rods for this practice, as it poses a fire hazard.
- In the event of an emergency such as a collapse or injury, immediately stop work and notify the site supervisor. Follow established emergency procedures for evacuation and first aid. Ensure that all workers are aware of emergency exits and assembly points.
- Ensure that all personnel involved in shuttering and de-shuttering activities receive adequate training on equipment operation, safety protocols, and emergency procedures. Encourage open communication among workers to report any safety hazards or incidents promptly.

Cleaning of MIVAN shuttering boards

During the MIVAN shuttering board cleaning activity, the contractor shall adhere to the following safety precautions:

- If cleaning chemical used for cleaning use proper PPE such as a PVC apron, gum boots, mask, goggles, PVC hand gloves, and full-sleeve clothing to avoid skin contact.
- Ensure the storage area is cool, dry, and well-ventilated. Any leaks in the storage area should be neutralized with neutralizing liquid.
- In case of skin contact, wash with plenty of water only. Ensure an eye wash center is available near the storage and work area. Avoid skin and eye contact.
- While performing the activity, ensure the area is well-ventilated and open.
- The material is non-combustible but acidic.

30.11 Concreting

- Ensure stability of shuttering work before allowing concreting and recheck the edge protection on the slab.
- Barricade the concreting area while pouring at height/depths.
- Keep vibrator hoses and pumping concrete accessories in good condition and mechanically locked. Ensure all electrical connections are properly secured and free from joints.
- Pipelines in the concrete pumping system shall not be attached to temporary structures such as scaffolds and formwork support as the forces and movements may affect their integrity
- Ensure pipeline routing through shaft will be better (if possible) and ensure support is provided for the pipeline concrete structure. Scaffolding shall be erected around the pipeline area for any modifications or checks of the pipeline.
- Check for the safety cages and guards around moving motors/parts etc. provided in concreting mixers.
- Use Personal Protective Equipment like gloves, safety shoes (Gum Boots), etc. while dealing with concrete, and wear respirators for dealing with cement.
- Earthing of electrical mixers, vibrators, etc. should be done and verified.
- Cleaning of rotating drums of concrete mixers shall be done from outside. Lockout devices shall be provided if there is a need for workers to enter the drum.
- Where concrete mixers are driven by an internal combustion engine, exhaust points shall be located away from the worker's workstation to eliminate their exposure to obnoxious fumes.
- Do not allow unauthorized persons to stand under the concreting area.
- Ensure adequate lighting arrangements for carrying out concrete work during the night.
- Do not allow the same workers to pour concrete round the clock. Insist on a shift pattern.
- During pouring, shuttering and its supports should be continuously watched for defects.
- Ensure that there is no undesired spillage of concrete during the work; in case spillage takes place, collect the same and dispose of it properly.
- While concrete pouring on PCC & RCC in the excavation pit, ensure proper access to reach the work location and avoid man-made GI concrete chute pouring concrete on the excavated pit. Use boom placers instead of GI concrete chutes.
- While pouring concrete on the excavated pit, ensure proper hard barricade for edges within 2meter distance
- If using SPB (Static Placing Boom) for pouring concrete, ensure the proper inspection is conducted with P&M team members along with the safety team before pouring the concrete for any damages, leakages, etc. Make sure the SPB has a valid TPI (Third-Party Inspection) certificate.
- Ensure a competent operator operates the SBP (Static placing boom), while pouring concrete. Do not allow unauthorized operators to operate the SBP.
- Ensure that during the swinging of the SPB (Static placing boom), tower crane operations are strictly monitored to avoid collisions. If possible, stop the tower crane operation while performing SPB operations.
- SPB hoses should be held by a minimum of two or three members while pouring to avoid jerking and hitting workers.
- If any choking is identified on the pipeline, make sure the concrete foreman checks the choking and instructs the concrete pump operator not to operate.
- Before starting the concrete activity, ensure the concrete pump is placed in a suitable location to reach the transit mixer for unloading and barricade the area. Make sure all concrete pumps are inspected every month, and records are maintained.

- While pouring columns and beams using scaffolding, ensure that the scaffolding is erected as per the drawing and provides a proper working platform and safe access for pouring.
- Ensure that the scaffolding has proper supports and that workers wear full-body harnesses at all times while pouring concrete on the scaffolding. Additionally, scaffolding tags should be placed after inspection.
- While performing night concrete work, ensure proper illumination should be provided by the contractor at the workplace and access area. Additionally, a separate work permit & supervisor shall be deployed
- When performing concrete curing after the pour is completed, workers should wear gloves, safety goggles, and long sleeves to minimize skin contact with wet concrete. Additionally, they should wear non-slip shoes to reduce the risk of slipping on wet surfaces.
- While performing curing activities, workers should be aware of open cutouts, floor openings, edge protection, etc. on the floor level. Additionally, ensure that workers involved in curing activities are lone workers so that we can provide training on lone working precautions and emergency procedures.

(For detailed procedures, please refer to SOP No: MHCPL-EHS-SOP-21-07)

30.12 Material Management

Material management on a construction site plays a major role in preventing incidents and accidents. Both the contractor and the client are responsible for maintaining all construction materials properly

Material transportation:

- Before allowing any material-loaded vehicle to enter the site, the security team will conduct thorough checks, including verifying valid documents and visually inspecting the vehicle according to the security protocol. Additionally, ensure that materials are securely positioned and properly secured on the equipment to prevent shifting, sliding, or falling during transit.
- If any defects, malfunctions, or abnormalities are identified during the inspection, they must be reported immediately to the concerned department for prompt resolution. Do not allow the vehicle to enter the site until the issues are addressed.
- Ensure appropriate securing methods, such as straps, chains, or specialized fixtures, are used based on the characteristics of the materials being transported.
- The concerned work in-charge or tower in charge will decide the unloading point in collaboration with the safety team to prevent access blockage and ensure safe access for future activities. Upon finalizing the unloading area, the work in-charge will obtain the permit for unloading.
- All material transportation activities within the facility must employ suitable equipment such as pallet trolly, forklifts, cranes, based on the nature, weight, and dimensions of the materials being transported
- Prioritize the selection of equipment that is specifically designed and rated for the intended tasks to ensure safe and efficient material handling operations
- Only trained and certified operators are permitted to operate transportation equipment within the premises. Ensure that operator competence is certified by the P&M team and maintain a record of certifications
- For manual material unloading/loading, ensure that only trained and competent personnel are engaged in handling, and utilize TILE techniques exclusively.

Material Segregation & Stacking:

- Upon delivery, all materials should be inspected for damage and conformity to specifications before acceptance.
- For any material, check for rust, correct dimensions, and damages, and ensure they match the specifications in the purchase order.

- Ensure that runners are provided between the steel bundles on the steel trailer for a safe unloading process. Additionally, the security and store team will visually check the vehicle's condition and verify valid documents.
- Before issuing any work permit for loading or unloading, the safety personnel will ensure that the area is cleared and proper access is provided to reach the material. Additionally, it should be away from traffic areas and emergency exits. On the ground, mark out these areas with painted lines or use physical barriers to delineate the stacking zones (if possible) at stores.
- Stack materials in stable and secure piles to prevent collapse. Ensure that the bottom layer of the stack is flat and even provides a stable foundation
- Avoid stacking materials too high, beyond safe height limits of more than 1 meter, or in a way that creates an unstable pile. Use appropriate stacking techniques, such as interlocking or cross-stacking, to enhance stability. If the material width is more than 1 meter, it can still be stored up to more than 1 meter with proper removal methods. In that case, avoid manual loading and unloading, and use mechanical equipment such as Hydra/Farana, forklift, etc.
- Regularly inspect stacked materials for any signs of instability or leaning, and take immediate corrective action if necessary
- Utilize appropriate stacking equipment such as pallets, racks, or shelves to prevent material damage and ensure easy access
- When using pallets, ensure they are in good condition, free from defects, and capable of supporting the weight of stacked materials.
- Train workers on the proper use of stacking equipment and techniques & Manual handling techniques to minimize the risk of accidents or musculoskeletal injuries.
- Ensure MHCPL Store and Contractor personnel maintain a clear labeling system for stacked materials to facilitate easy identification. Labels should include information such as the type of material, quantity, date of receipt, and any special handling instructions.
- Ensure that labels are prominently displayed and easily visible, even from a distance. Consider using color-coded labels or tags for quick identification.
- Regularly review and update the labeling system to reflect changes in inventory or stacking arrangement at stores.
- Ensure material stacking is based on the FIFO (First In, First Out) method at both the store and construction site. Storage of materials should not exceed two months of usage at the site.
- While stacking any materials at the site, provide slip-resistant mats or runners on the ground to prevent insect infestation, minimize material damage, and facilitate easier transportation.
- For loading or unloading any materials, ensure appropriate Personal Protective Equipment (PPE) is used, such as cut-resistant gloves, safety shoes, high-visibility jackets, and safety helmets. All workers shall be trained in manual handling procedures, including awareness of the weight of the materials they are handling.

Stacking of cement and other material bags

- Bags containing cement or lime shall be stored in dry places only
- Materials like bricks, tiles, or blocks shall be stored on firm ground.
- Reinforcing steel shall be stored according to its shape, size, and length. And keep the stack of reinforcing steel as low as possible.
- Do not store pipes on a rack or in a stack where such pipes are likely to fall by rolling.
- Maintain the angle of repose where loose materials are stacked.

- When storing or handling dust-laden material, take measures to suppress the dust produced by such storing or handling and supply suitable personal protective equipment to and ensure its use by the workers involved in such storing or handling.

Manual Material Handling Methods

- Where manual handling and lifting is necessary, workers shall be trained in correct body movements. Mechanical assistance (such as trolleys or pallets) shall be utilized to minimize manual handling. The maximum weight limit for manual handling, as per Telangana BOCW rules, must be adhered to.
- Many back injuries occur when the body is heavily loaded and in awkward work postures, such as twisting and lifting simultaneously.
- Crane and vehicle drivers, as well as office employees, may suffer from back pain due to unsuitable seating. They should be provided with seats designed to meet ergonomic requirements.
- Strong leg and thigh muscles should be utilized, and the natural shape of the spine should be maintained throughout the lift. The step-by-step procedure for good and safe manual handling technique should be as follows:
    a. Place the feet apart, providing a balanced and stable base for lifting.
    b. Lead with the leg as far forward as is comfortable.
    c. Adopt a good posture.
    d. Bend the knees so that the hands, when grasping the load, are as nearly level with the waist as possible.
    e. Do not kneel or over flex the knee.
    f. Keep the back straight (tucking in the chin helps).
    g. Lean forward slightly over the load, if necessary, to get a good grip.
    h. Keep shoulders level and facing in the same direction as the hips.
    i. Get a firm grip.
    j. Try to keep the arms within the boundary formed by the legs.
    k. The optimum position and nature of the grip will depend on the circumstances and individual preferences, but it must be secure. A hook grip is less fatiguing than keeping the fingers straight.
    l. If it is necessary to vary the grip as the lift proceeds, do this as smoothly as possible.
    m. Keep close to the load.
    n. Keep the load close to the trunk as much as possible. Keep the heaviest side of the load next to the trunk. If a close approach to the load is not possible, try sliding it towards you before attempting to lift it.
    o. Avoid jerking movements.
    p. Minimize twisting, bending, stretching, and reaching with the trunk during the lift.
    q. Move the feet when turning to the side; do not twist the trunk.
    r. Put down the load and then adjust it if precise positioning is necessary; put it down first, then slide it into the required position.

Chemical Storage & Handling

- Toxic and hazardous materials such as shuttering oil, waterproofing chemicals, tile adhesives, tinners, and paints should be labeled and kept in a secluded area accessible only to authorized personnel. Display the Material Safety Data Sheets (MSDS) of the chemicals nearby.
- Barrels and drums should preferably be stored upright. If placed on their side, they must be provided with racks or blocked to prevent rolling.

- Separate storage sheds should be allocated for storing diesel, petrol, lubricants, and greases far away from the regular store.
- Ensure that the diesel storage limit is maintained below 200 liters. Obtain the appropriate license from the concerned authority if this limit is exceeded.
- Only store the approved quantity of diesel/petrol.
- Store diesel drums (MS Drums) on a hard surface, preferably a concrete floor, with the floor sloped towards a corner where a sump is made for collecting spilled oil.
- Provide a secondary containment pit outside of the diesel storage yard.
- Install an adequate number of foam-type extinguishers.
- Maintain proper housekeeping standards, ensuring that the area inside and around the shed is clear of litter.
- Display caution boards regarding fire hazards, such as "NO SMOKING."
- Store chemicals in containers that are strong, sealed, and resistant to the chemicals they contain.
- Store chemicals in a well-lit, ventilated area that is easy to clean and has enough space for all the chemicals.
- Store chemicals according to the manufacturer's instructions and guidelines.
- Keep incompatible chemicals separate or in different locations.
- Always carry chemicals in approved containers.
- Wash your hands after using any hazardous material.
- Do not smell or taste chemicals.
- Wear clothing that covers your arms and legs, as well as appropriate shoes, avoiding sandals, perforated shoes, or sneakers.
- Do not wear jewelry that could interfere with rubber gloves or other protective clothing.

(For detailed procedures, please refer to SOP No: MHCPL-EHS-SOP-21-17)

30.13 Hot works:

Hot work means any activity in which flame, heat, or spark is generated. It may act as a source of ignition (fire) in the area where flammable material is placed or handled. Hot work includes cutting, welding, brazing, soldering, gas cutting, and any process involving the application of a naked flame. Where the flammable atmosphere is potentially present Drilling and grinding activity should be included in Hot work

Hot work is particularly hazardous in the presence of potentially flammable gases, vapors, liquids, or solids. Most of the industrial fires have occurred during hot work activities. Therefore, specific safety precautions tailored to the contractor or client should be followed during such activities, as outlined below

Welding:

- For individual welding machines, the rated current capacity of the supply conductors shall not be less than the maximum primary current of the welding machine. All moving and rotating parts of the welding equipment shall be guarded.
- All welding cables shall be completely insulated, flexible type, and capable of handling the maximum current requirements of the work in progress.
- The work lead must be securely attached to the work surface, and it should be kept as short as possible.
- The cables shall be free from repair or splices up to a minimum distance of 3.0 m from the electrode holder.
- All earth connections shall be checked to ensure that they are mechanically strong and electrically adequate for the required current.

- All equipment must be free from defects. Inspect all equipment before use to ensure safety. Make sure the following parts are in good condition to avoid any incidents, welding machine condition, cable insulation, welding holder insulation, main switch (ELCB), proper connection, and earthing.
- Welders designated to operate arc welding equipment shall have a thorough knowledge of safety requirements. They should have adequate qualified experience in the field, which should be checked by the P&M team.
- Welders shall develop the habit of always keeping their bodies insulated from both the work and the metal electrode and holder. They shall always wear leather safety shoes, a nose mask, a welding helmet, leather gloves, and aprons.
- P&M engineers, along with the safety team, shall regularly check welding machines to ensure that electrical connections and insulation on the holders and cables are in good order. Additionally, the contractor should provide a calibration certificate for the welding machine before commencing the welding activity, and the P&M team will maintain the certificate as a record.
- If the contractor has not provided a welding machine calibration certificate, do not allow work on the machine until calibration is completed by a competent agency.
- A dry chemical type fire extinguisher shall be made available in the work area.
- Before issuing a permit, ensure a separate fire watcher is in place and always made available. Permits should be given for one day at one location; don't allow work for one permit in different locations. Specify the specific location for the welding work.
- Any combustible or flammable materials should be kept at least 3 meters away from the welding activity location. Barricade the welding area to prevent unauthorized entry.
- The work in-charge will be responsible for clearing the welding area of fire hazards and ensuring that after completion of the job, the fire watcher must stay a minimum of 45 minutes at the welding location until fire sparks are completely off.
- Ensure that while performing welding activity, use a fire blanket to prevent the falling of fire sparks. If possible, use a yellow screen instead of fire blankets.
- Adequate ventilation shall be ensured by opening manholes and fixing a shield or forced circulation of air, etc., while doing a job in a confined space.
- Ensure that only approved and well-maintained apparatus, such as torches, manifolds, regulators or pressure-reducing valves, and acetylene generators, be used.
- All covers and panels shall be kept in place when operating an electric arc welding machine.
- The workpiece should be connected directly to the power supply, and not indirectly through pipelines/structures/equipment, etc.
- All cables, including welding and ground cables, shall be checked for any worn-out or cracked insulation before starting the job. Ground cable should be separate without any loose joints.
- Don't allow continuous welding work as it can cause acute effects, and workers can perform shift duties. Only competent welders should be allowed to do the work.
- Cable looping shall be maintained at a minimum level if not avoidable.
- Ensure all the above requirements are met before issuing a hot work permit.
- An energized electrode shall not be left unattended.
- The power source shall be turned off at the end of the job.
- Welding in wet, damp, or humid conditions reduces the skin resistance of the body and the insulating properties of accessories. Hence, welding shall not be conducted unless suitable protection is provided.
- In the event of heavy rain, ensure that a cover is in place for the welder, equipment, and workpiece to mitigate any risks.

Gas cutting:

MHCPL/Contractor while performing any gas-cutting activity, follow the safety precautions as under :

- Ensure that all personnel wear protective clothing and eye protection while performing Gas cutting activity.
- Gas cutters should have a valid gate pass mentioned with the gas cutter. Welders and fitters should also be allowed to perform gas-cutting operations.
- Always shut off the blowpipe when not in use to prevent accidents. Avoid leaving a lighted blowpipe on a bench or the floor as the force of the flame may cause it to move.
- Clamp the workpiece securely; avoid holding it by hand.
- Keep hoses away from the working area to prevent contact with flames, heat, sparks, or hot spatter.
- Move the workpiece to a safe location for carrying out the hot work process.
- Remove any combustible materials within about 10 meters of the work area, such as flammable liquids, wood, paper, textiles, packaging, or plastics.
- Ventilate spaces where vapors could accumulate, such as vehicle pits or trenches.
- Protect any combustible materials that cannot be moved from close contact with flame, heat, sparks, or hot slag using suitable guards or covers.
- Use guards or covers to prevent hot particles from passing through openings in floors and walls (Doorways, windows, etc.).
- Keep fire extinguishers nearby for immediate access in case of emergencies.
- Keep hoses clear of sharp edges, abrasive surfaces, or areas where vehicles may run over them to prevent leaks.
- Handle cylinders carefully, keeping them upright and fastened to prevent them from falling or being knocked over. Chain them in a wheeled trolley or against a wall for added safety.
- Always turn off the gas supply at the cylinder when the job is finished to prevent leaks.
- Maintain all equipment in good condition and regularly check all connections and equipment for faults and leaks.
- Provide adequate ventilation during welding and cutting operations to prevent the accumulation of hazardous fumes.
- Never allow oil or grease to come into contact with oxygen valves.
- Ensure all gas cylinders are properly secured in an upright position.
- Store acetylene and oxygen cylinders separately, and store full and empty cylinders separately as well.
- Ensure all full cylinders are transported with caps. Do not allow acetylene and oxygen cylinders without caps onto the site. Ensure that empty cylinders also have caps. Store i/c will be responsible for the cylinder safety
- Avoid cylinders coming into contact with heat sources.
- Do not drag cylinders; if they need to be moved, roll them on their bottom edge.
- Before changing torches, shut off the gas at the pressure-reducing regulators and not by crimping the hose.
- Use friction lighters, not matches, to light torches.
- Immediately move any leaking cylinders to a safe location.
- Utilize trolleys for oxygen and acetylene cylinders and chain them for added stability during transportation.
- Use red hoses for acetylene and other fuel gases and blue hoses for oxygen, ensuring both are of equal length.
- Ensure hoses are free from burns, cuts, and cracks, and properly clamp them to prevent leaks.

- Avoid dragging hoses over sharp edges and objects.
- Do not wrap hoses around cylinders when in use or during storage.
- Protect hoses from flying sparks, hot slag, and other hot objects.
- Do not use lubricants on Oxygen-fuel gas equipment.
- During cutting/welding, use safety goggles/face shields to protect your eyes and face from sparks and debris.
- Before issuing a permit, ensure all the above requirements are fulfilled. The work in-charge is responsible for implementing the provisions as mentioned earlier and installing flashback arresters at both ends of the DA and Oxygen cylinders.

Safe storage & handling of the cylinder

- Cylinders should be stored in a cool, dry, and well-ventilated area, under cover, away from any potential source of ignition.
- Full and empty cylinders should be stored separately, and areas should be properly designated and maintained lock and key with chain.
- Cylinders containing flammable gases and toxic gases shall be kept separately by providing adequate distance or suitable partition walls. Other gas cylinders should also be kept separate from these cylinders.
- The storage room should be of fire-resistant construction with a suitable explosion relief system.
- The storage room where cylinders containing flammable gases are stored should be provided with flameproof light fittings and other electrical equipment.
- Cylinders, especially those for liquefied gas and dissolved gas, should be stored upright unless designed to be stored horizontally.
- Do not store cylinders in such a way that they become part of an electric circuit.
- Cylinders should be secured while stored to prevent tipping or falling.
- Warning notices should be displayed appropriately near the storage area.
- Adequate slope and drainage should be provided to the floor so that cylinders do not come into contact with water and get corroded.
- Gas cylinders should be handled carefully. Do not slide, roll, or drop the cylinders.
- Suitable trolleys or cradles with securing arrangements should be used for moving the cylinders.
- Liquefiable gas cylinders and dissolved acetylene cylinders should always be kept in an upright position unless they are designed for use in a horizontal position.
- Cylinders designed to be used in a horizontal position should be secured so that they do not roll.
- All potential sources of ignition and situations that may lead to overheating of cylinders should be prohibited from the area where the cylinders are used.
- While using gas cylinders, precautions should be taken to protect the cylinders from sun and rain.
- When the cylinders are not in use or being charged, valve caps/guards should be kept on the cylinders.
- Gas cylinders should not be used as supports for earthing or any other purpose.
- Do not weld or strike an arc on any gas cylinder because such activity can reduce the wall strength.
- Without emptying the gas, do not attempt to repair a valve or relief device attached to a gas cylinder.
- Do not use gas from a cylinder that is not provided with clear identification.
- Cylinders with damaged valves should be returned to the supplier at the earliest.
- Do not handle the cylinders with lifting magnets. Cylinders should be lifted with devices specifically designed for such activity.
- Before drawing gas from the cylinder, make sure that the connections are leakproof. Soap solution may be used for detecting leaks, if any.

- Do not draw gas from the cylinder directly without using pressure-reducing devices.
- While transporting cylinders in trucks, fasten cylinders securely in an upright position. There shall not be any sharp projections inside the truck, and cylinders should not project beyond the side or ends of the vehicle.
- Cylinder valves should be closed daily at the close of the work by a responsible person.
- During transportation, if any cylinder containing flammable or toxic gas starts leaking, it should be shifted to an isolated place away from any potential source of ignition, and any leak should be arrested using the emergency leak arresting kit, if available. Simultaneously, inform the supplier and consignee for necessary advice.
- If a leak on the cylinder valve cannot be arrested by tightening the gland nut or the spindle, the cylinder should be removed to an open area where it poses the least danger to life and property, and the supplier should be informed.

Cutting & Grinding:

In a construction site, cutting activities are major sources of sparks that can easily ignite fires. These activities encompass rod cutting, cutting of iron materials, tie rods, MS pipes, GI sheets, and similar materials, and can also result in cut injuries. Therefore, the MHCPL and contractor team will pay close attention to cutting activities.

- While performing any cutting activity, ensure the cutting machine has proper 360-degree guards wherever possible for the rotating portions of all applicable machinery, tools, and equipment.
- Ensure a separate area is designated for cutting activities. The area should have good housekeeping practices and be free from combustible and flammable materials. Additionally, it should be equipped with suitable fire extinguishers.
- Ensure that the RPM of the cutting wheels is always higher than the RPM(Rotation per minute) of the cutting machine. Make sure standard cutting wheels are used; if any substandard wheels are noticed, do not allow them to be used. Label and hand over any substandard cutting wheels to the MHCPL store.
- Ensure the cutting machine is always free from cable joints, and that electrical cables have good insulation. If cable joints are noticed, do not allow work to proceed. Ensure that industrial plug tops are used for power connections from the PDB.
- While performing cutting activities, ensure a cover shield is in place to prevent sparks from flying. Additionally, ensure that proper PPE is used, such as a face shield or safety goggles, as well as cut-resistant hand gloves.
- Cutting performed using a gas cutting set requires proper fire prevention measures and equipment to be kept at the work location, such as a water bucket, fire extinguisher, etc.
- The contractor or client work in-charge will obtain a permit for any cutting activity at each specific location. Do not issue a work permit covering different locations on a single work permit. Ensure that location-specific work permits are provided.
- For balcony cutting activities, ensure proper fall protection measures such as a full-body harness with a double lanyard, and ensure that the anchoring of the full-body harness is always at a different location with two lanyards.
- For any grinding activity, ensure a fire blanket is available at a specific location to prevent sparks. Before issuing a permit, the safety team will assess the risks at the work location. Based on the safety team's recommendations, the contractor will comply.

(For detailed procedures, please refer to SOP No: MHCPL-EHS-SOP-21-04)

30.14 Precast elements operations

Loading, transportation & unloading:

- Loading of non-stressed beams (NPS) should be planned according to trailer capacity, element count, loading order, and the weight of the beams.
- Fill trailers with NPS in the prescribed order and a balanced manner, If the trailer needs to be moved while being loaded, the bracings and belts need to be fastened.
- Only trailers with valid registration, license, safety worthiness certificate, employer's approval certificate, and pollution under check certificate shall be used for the transport of elements.
- If the length of the NPS beams exceeds that of the trailer width or length, ensure additional measures are taken, such as providing red flags or warning signs for the extra length of the beam. The public should be made aware of the clearance while transporting through public areas.
- The loading and unloading of precast elements should only occur during daylight hours; it is prohibited during night hours.
- The trailer should not be moved while still loaded without the belts fastened, and all side runner supports should be placed for the trailer until don't allow more from the factory.
- Upon completion of loading, ensure proper dunnage support, stanchions are placed on both longer sides and belts need to be fastened, followed by QC Inspector approval & verified by safety personnel.
- The number of elements loaded on the trailer should be limited, depending on the size and shape of the NPS.
- The loaded trailer should be checked for stanchions, bracings, tightened belts, etc., by safety personnel, followed by a security check.
- During transportation, precast elements shall be securely fastened to prevent toppling. Elements shall only be placed on designed pedestals. Trailers must be equipped with side lamps, tail lamps, audible alarms for safe transportation, and warnings to the general public using the roads.
- The driver's responsibility is to check the condition of the loaded trailer, and then to follow RTA rules and road conditions until the trailer reaches the site.
- The precast elements shall be securely fastened to the trailers using necessary wooden wedges, and red indicators/safety tapes must be provided to ensure the vehicle is visible to other road users both during the day and at night.
- After reaching the site, the driver should follow instructions from the authorized foreman or supervisor for parking, which may include cranes, towers, etc.
- The driver's responsibility is to ensure the safety of the trailer.
- The trailer parking area should be well-compacted and properly leveled. Trailers should be parked in the designated area based on the instructions of the supervisor or foreman.
- Upon the trailer's arrival from the factory, the security team will ensure the load is properly secured. If it is found that the load is unsecured, do not allow it to proceed to the site.
- During unloading or lifting the NPS from the trailer, identify the lifting sequence and instruct the lifting team to remove it accordingly or as directed by the supervisor or foreman.
- While unloading units, ensure that stanchions or bracings are not removed until the unloading process is completed.
- Ensure that during the unloading of beams, the sequence should be followed according to the weight of the beams and their placement on the trailer. If NPS beams are positioned at the edges of the trailer, do not remove the beams from one side fully; instead, unload the beams in a way that balances the trailer load. Otherwise, there is a high chance of the beams falling from the trailer.

- Do not move an incompletely loaded trailer without securing the belts.
- Ensure that only the Signal Man and designated Rigger are allowed around the trailer.

Erection of precast elements:

Erecting precast elements is one of the riskiest jobs, requiring utmost precaution at all stages, including planning, establishing the casting yard, casting, pre-stressing, logistics, and erection.

- Erecting precast elements is among the most hazardous tasks, demanding utmost caution at every stage, from planning and establishing the casting yard to casting, pre-stressing, logistics, and erection.
- The crane used for erection must undergo verification by a third party and undergo regular maintenance and inspection.
- Crane operators should remain in their cabins during operations. Only designated staff/workers with assigned duties, fully aware of associated risks, should be present in an organized manner.
- Lift and movement areas must be cordoned off, and unnecessary personnel should not be present in the vicinity.
- Regular inspections and pre-briefings for all involved workers are essential.
- Signaling should be synchronized through a main signalman who receives signals from deputy signalmen positioned at required locations.
- Crane positions and operations, including unloading heavy loads, moving loads, and sequential crane operations, must be incorporated into the Lift Plan.
- Lifting of elements should be carried out with a tower crane and suitable capacity slings under the supervision of competent riggers.
- Only authorized personnel should be allowed in the working area.
- Precast elements should be lifted slightly from the pedestal/casting bed to inspect lifting arrangements and rectify any unsafe conditions.
- Dimensions should be verified according to design drawings.
- Operators should have clear visibility of lifting activities.
- The lift plan should consider all loads, site conditions, and parameters.
- A trial lift on empty conditions should be conducted to check load capacity and identify obstructions.
- Anti-collision measures should be designed and implemented.
- Communication between riggers/signalmen and crane operators should be maintained, preferably through two-way radios.
- Workmen engaged in reinforcement fabrication and concreting should be provided with necessary PPE, including hand protection gloves.
- Adequate strength working platforms with handrails should be provided for work at height.
- Access control measures should be implemented to prevent unauthorized persons from entering the construction area.
- Operators, workmen, and foremen should possess adequate knowledge and experience.
- Trailers and lifting devices should be inspected before operations to ensure safety.
- Proposed lifting schemes/plans should be developed and submitted before operations, and revised as per site conditions.
- Responsible lifting engineers/supervisors should be present throughout the activity, ensuring close monitoring. Operators, riggers, and signalmen should be experienced and certified.
- Approach roads should be cleared during transportation of precast elements. Persons should not be allowed under suspended loads, and exposed reinforcement heads should be properly covered.
- Adequate lighting should be ensured throughout the operation area.

- Access to drinking water and toilets should be provided for all workers.
- First aid boxes and fire extinguishers should be available on-site, along with proper access ladders/stairways for the safe ascending and descending of workers/engineers.

30.15 Confined space.

All potential work in confined spaces on the project shall be assessed during the initial Project Risk Assessment.

If necessary, a detailed investigation should be conducted to determine whether a work area may be classified as a confined space, as per the health and safety standard definition

- A confined space, concerning a place of work, is defined as an enclosed or partially enclosed space that:
    a. Is not primarily intended or designed as a place of work.
    b. Maintains atmospheric pressure while persons are in it.
    c. May contain an atmosphere with potentially harmful contaminants, an unsafe level of oxygen, or stored substances that may cause engulfment.
    d. May (but need not) have restricted means of entry and exit.
- When a potential confined space is identified, all work shall be conducted in accordance with the BOCW act and rules for safe working in confined spaces.
- An Entry Permit must be completed for all confined space work using a Confined Space Permit. Both the confined space worker and their attendant must receive appropriate training.
- Contractors must comply with all applicable legal and regional requirements concerning Confined Spaces. This includes adherence to Permitting, Entrant and Attendant procedures, Confined Space Rescue protocols, and mandatory employee training
- Training records for confined space personnel will be provided to the MHCPL Safety personal before any confined space activity commences
- The facility may contain confined spaces requiring a written permit before work begins, which must be discussed in the TBT.
- Contractors must supply suitable confined space instrumentation to measure oxygen levels, detect explosive atmospheres, and identify the presence of toxic gases before issuing a Permit to Work.
- Supply suitable rescue equipment, including but not limited to:
    a. Tripods and retrieval systems
    b. Full-body harnesses and lanyards
    c. Lifelines
    d. Personal protective equipment and clothing
    e. Communication devices
- The Contractor must notify appropriate personnel before entering a confined space.
- Before issuing a permit, the MHCPL safety team will conduct a re-check to ensure there are no toxic fumes present and to verify oxygen levels in the confined space. Additionally, they will ensure the presence of the confined space attendant, a confined space attendant register, and emergency rescue equipment at the site.
- Contractors should provide mechanical ventilation equipment, such as blowers, exhaust fans, etc., for fresh air intake and exhausts.
- Ensure that the oxygen level in the confined space is maintained between 19.5% to 22.5%. Regular intervals should be checked, and recorded in the register. Use only 24V bulbs for illumination.
- Painters working in confined spaces may face various hazards that can negatively impact their health and well-being. These hazards include a reduction in oxygen levels, which can cause dizziness, fatigue, and headaches, and lead to unconsciousness or death. Additionally, high temperatures in confined spaces can

cause dehydration, heat exhaustion, and even heat stroke. Exposure to hazardous fumes can also pose a significant risk to painters, as inhaling these fumes can lead to respiratory issues and other health problems.

- The contractor should provide for painters working in confined spaces by implementing proper ventilation, supplying necessary personal protective equipment (PPE), monitoring gas levels, providing training for workers, implementing safe work practices, encouraging hydration and breaks, and developing emergency procedures.

(For detailed procedure refer to Doc No: MHCPL-EHS-SOP-21-10)

30.16 Shaft activities

- Shaft works are critical activities in the construction sector, with high potential risks associated. Both contractors and MHCPL will prioritize safety measures for shaft activities.
- Safety nets in shafts should be tied at every five floors to prevent objects or persons from falling. During shaft activities, safety nets should only be removed at the specific floor where work is being conducted. Additionally, safety nets should be securely tied above and below the working level to ensure safety.
- When working on any shaft, always wear a full-body harness anchored to the strongest point near the work location at all times. Additionally, ensure a proper working platform is securely positioned above and below one floor of the work area

Scaffolding erection & dismantling:

- While erecting scaffolding in shafts, the contractor must inform all concerned individuals about the activity to prevent work near the shaft. The tower in charge will be responsible for communicating this information to all relevant parties.
- Before issuing a permit, ensure a safety catch net is installed at the top of the shaft to prevent the falling of objects.
- Competent scaffolders should erect the scaffolding in the shaft with proper plumb structure and sufficient support on both sides to bear the load. Use high-quality scaffolding materials and remove any defective materials.
- Always wear a full-body harness while erecting scaffolding in the shaft, and ensure helpers also wear full-body harnesses anchored on edge barricades to prevent the risk of falls. Additionally, avoid allowing multiple activities in shafts simultaneously.
- Base/soil plates should be used in shafts during erection. Ensure this before issuing a PTW.
- Install a safety catch net for every five floors of scaffolding to prevent any materials or personnel from falling.
- The contractor will remove debris from the shaft safety catch nets at regular intervals, once every 7 days.
- After completing the scaffolding, a competent person will inspect it according to the checklist and provide a scaffolding tag for identification.

Buffing:

- During buffing activity in the shaft using scaffolding, the contractor shall provide a proper working platform and a full-body harness to the worker who is working on the shaft.
- The contractor shall provide overhead protection, such as safety catch nets, on shafts both above and below the floor.
- Proper PPE, including a helmet, high-visibility jacket, nose mask, safety goggles to prevent dust inhalation, and ensuring workers wear full-sleeve shirts, must be provided.

- The contractor shall provide information to all concerned parties and obtain permits for buffing activities. Ensure that permits are obtained location-wise and do not allow work with a single permit in different locations.
- The contractor should provide training and conduct a Toolbox Talk (TBT) before starting the activity for all workers involved in the activities.
- The contractor shall ensure that the buffing machine is free from cable joints and has proper insulation. Industrial plug tops should be used for power connections, and cable routing should always be above the ground.

Safety net installation:

- Safety catch nets should be installed once every five floors in all shafts and regularly cleaned to remove debris.
- Only competent or trained workers should install safety nets in shafts. Unskilled workers should not be allowed to install safety nets in shafts. The contractor is responsible for providing competent labor and ensuring the proper installation of safety nets. If old nets are in good condition, reusable safety nets should be installed.
- In shafts, steel mesh with steel scrap should be provided to prevent the falling of persons and objects in the shafts.
- When cleaning debris on the safety net, the contractor will inform all concerned parties about the work and not allow work on the shafts or above/below the area. The tower in charge will be responsible for communicating the debris-cleaning activity.

Chipping:

- While performing chipping activity in shafts, keep the work area free of other workers and clean of dust, litter, and nails around the shaft area.
- Contractor shall provide proper PPE equipment and always wear a safety helmet, full body harness, eye protection, heavy-duty or anti-vibratory gloves, and earplugs.
- Ensure a proper working platform while chipping in shafts and install a safety catch net above or below the working floor to prevent debris falls.
- The work in-charge will provide information about the chipping activity location. The tower in-charge will then communicate with all work-charges about the chipping activity and instruct them not to start any activity until the chipping activity is complete, and then issue the permit.
- The contractor shall provide good chipping equipment with an industrial plug top electrical connection free from joint cables. Before starting the activity, a visual inspection should be done by the contractor's work in-charge.
- Strictly implement that while chipping activity in shafts, workers are not allowed to work under the shaft or near the shaft area.

Welding:

- Before commencing work, the contractor must submit a risk assessment for welding activities in shafts, as it is a critical task.
- Ensure that welding safety precautions are followed as outlined in the welding section. Additionally, provide a fire blanket below the floor to prevent the falling of fire sparks. Always ensure that workers wear full body harnesses and use a proper working platform.
- If possible, cover the shafts above and below the floor with GI sheets to prevent falling sparks.

- Suitable fire extinguishers should be positioned alongside a designated fire watcher. Additionally, ensure that welding electrodes are stored separately.
- The contractor shall obtain a work permit for each respective location. Each permit is applicable for one location and has an 8-hour validity.
- Do not conduct any welding work on surfaces exposed to rain or water until the water leakage has been halted. If water continues to leak, use a protective cover to shield the welding machine and ensure that all cables are free from joints to prevent short circuits.

Cable pulling:

- When conducting cable pulling or lowering activities in the electrical shaft, the contractor must submit a method statement and risk assessment, considering it a critical activity. The MHCPL electrical team and safety team will review the document and suggest any additional requirements needed. The contractor will comply with these requirements accordingly.
- Before commencing the cable pulling or lowering activity, the cable weight calculation and the capacity of the winch motor or mechanical aids should be reviewed according to the Method of Statement (MOS). All activities near the electrical shaft should be halted until the cable-pulling activity is complete. The contractor will make arrangements based on the MOS, and after installation, the MHCPL safety team will inspect the safety requirements.
- Once all safety requirements at the work location have been checked, issue the permit to make necessary arrangements.
- Before commencing cable pulling or lowering activity all mechanical aids such as slings, winch have valid TPI certification.
- The contractor must provide work platforms (scaffolds or MEWP) and ensure that full body harnesses are worn and secured when guard rails are removed.
- All scaffolds must be tagged and inspected every 7 days by a competent person.
- Temporary covers should be installed on fragile surfaces. Signs and barriers must be provided where ducts are left open and unattended.
- Sufficient numbers of well-supervised operatives should be provided to share manual handling tasks, including training in suitable techniques as explained in the method statement.
- Utilize all possible mechanical aids and methods to move and assist in pulling, such as prior cleaning of ducts, cable pulling lubricant, cable drums and laying trailers, and cable pushers.
- Use slide rollers on bends and hoop rollers along straight sections, with bell mouths fitted to duct entryways.
- Designate one person to control the pull to ensure all cable pullers work as a team and share the load.
- Ensure that drum roller frames, jacks, rollers, and operatives are suitably maintained and controlled to keep hands clear when the cable is moving.
- Be aware of maximum permitted cable pulling tensions and minimum bending radii.
- Inspect cables for damage before pulling.
- Store cable drums on level, stable surfaces.

Mechanical equipment installation:

- For mechanical equipment installation in shafts, including tower crane erection, SBP erection, concrete pump installation, and lift installation, the contractor must submit method statements and risk assessments to the MHCPL P&M team and Safety team for review. Any further requirements suggested by these teams should be complied with.

- Before commencing any activity in the shaft, the contractor must obtain a permit. Additionally, the MHCPL team will ensure that the contractor conducts a toolbox talk (TBT) before starting the activity.
- When performing any mechanical equipment erection or dismantling in shafts, the contractor must deploy skilled and competent manpower.
- The contractor is required to submit all Third-Party Inspection (TPI) certificates for the use of supporting tools and tackles, such as slings, chain pulley blocks, D shackles, or any cranes.
- During the erection of concrete pipes in shafts, concrete pipeline supports should not be attached to scaffolding. Instead, ensure all supports for the concrete pipeline are connected to the concrete structure. Additionally, ensure that no loads are placed on scaffolding.

30.17 Erection & dismantling of SPBs (Static placing boom)

During the Static Placing Boom (SPB) erection & dismantling task, the major components of the equipment include the base frame, mast section, boom, hydraulic system and pipeline, and counterweights. The installation requires a mobile crane, chain pulley blocks, power tools as required, firefighting and PPE safety equipment, foundation bolts and pins, etc.

- Before commencing SPB erection or dismantling, the contractor must submit the method of statement (MOS) and risk assessment for the activity to the MHCPL P&M team and Safety team. These teams will review the documents and suggest any additional safety measures. All activities must follow the sequence outlined in the Method of Statement (MOS), and work at the site should not begin until the MOS has been reviewed.
- Ensure that the mechanical supporting equipment for erection is certified by a third party and has valid Third-Party Inspection (TPI) certification.
- The MHCPL execution team, the P&M team, along with the safety team, should review the location proposed for SPB erection to identify any potential hazards in the workplace.
- Inspect the SPB equipment thoroughly. MHCPL P&M team members should inspect SPB components, lifting equipment, and the work area for any signs of damage, wear, or hazards before arriving at the site. Ensure that a crane with the rated capacity specified in the MOS is used.
- The contractor must provide appropriate PPE, including safety helmets, gloves, safety glasses, high-visibility vests, and non-slip safety shoes, for all workers involved in SPB operations.
- Before starting the activity, ensure regular safety training covering equipment operation, hazard awareness, emergency procedures, and proper lifting techniques are conducted for all workers involved in SPB installation.
- The contractor must obtain a work permit for SBP erection, ensuring that all safety protocols are followed before issuing the permit.
- If using a mobile crane, ensure that it is operated by a qualified and experienced crane operator. Conduct pre-operational checks on the crane to ensure it is in good working condition.
- Only competent signal persons should communicate with equipment operators using standardized hand signals or radio communication during lifting and assembly operations.
- Workers must use safety harnesses and lifelines when working at elevated positions such as on the mast or platform of the SPB.
- Erect barricades to the work area and restrict access to authorized personnel only.
- Ensure that the foundation bolts and pins are securely anchored into the slab to provide a stable base for the SPB. Check the integrity of the concrete before mounting the heavy-duty cross frame.
- Follow proper lifting procedures when raising the mast into a vertical position. Use the lifting points provided and ensure that the load is evenly distributed to prevent tipping or imbalance.

- Exercise caution when fitting hydraulic hoses and electrical cables. Ensure that connections are secure and free from leaks to prevent hydraulic fluid spills and electrical hazards

SPB Erection sequence:

- Provide a safe working space for cross-frame assembly, ensuring the area is secured with barriers or roped off.
- Attach eight M36 x 1000mm holding down bolts to the 400 x 200 x 20mm foundation plates into the slab in the stairwell area (2560 x 2750). Use a wooden template to hold the bolts in position during concrete curing.
- Cast the M36 hold-down bolts at a depth of 600mm, leaving 400mm above the slab to secure the heavy-duty cross frame at the center of the stairwell area.
- Once the concrete has cured, mount the cross frame securely within the cast bolts using four 25mm thick top plates (supplied with cross frame) and 8 No. M36 double nuts and washers.
- Fit the mounting section to the top of the cross frame and the turret section to the top of the vertical mast, supporting the first mast section.
- Raise one end of the mast section to a sufficient height to install the working platform and handrails using supplied fixing bolts.
- Fit the delivery pipeline onto the ladder mountings using clamps, and attach hydraulic hoses and electrical cables.
- Stand the mast vertically using lifting points inside the top section, lifting the mast into position. The total lifting weight of this 20m section, including the working platform, ladders, and pipelines, is approximately 5T
- Position the column assembly to ensure the pipeline on the column can connect to the delivery pipeline from the concrete pump.

SPB Dismantling sequence:

- Begin dismantling with the removal of the turret section at the top level and proceed step by step according to the approved Method of Statement (MOS)
- Utilize appropriate lifting equipment and follow the MOS to disconnect hydraulic hoses and remove the turret section in a controlled manner
- Assign trained personnel to handle hydraulic hoses and mast column removal, ensuring proper disconnection and securing of equipment to prevent accidents
- Use the tower crane to carefully lift and remove H-Frame supports following all necessary safety norms and precautions outlined in the MOS.
- Use appropriate lifting equipment and follow safety procedures to safely detach the base frame from the foundation while minimizing disruption to the work site.
- Ensure continuous supervision and regular safety inspections and provide on-site supervision to address any safety concerns and maintain a safe working environment for all personnel involved.

(For detailed procedure refer to Doc No: MHCPL-EHS-SOP-21-37)

30.18 Erection, Operation & dismantling of SRPs (Suspended rope platform)

Suspended rope platforms can be classified as permanent and temporary. In MHCPL, temporary suspended working platforms (SRPs) are used to work on elevations for finishing tasks.

- Before using the suspended rope platform, the MHCPL team will thoroughly assess the job requirements and working environment, selecting the appropriate platform for the task at hand.

- If working on a building façade, ensure the platform is suitable for vertical access and can accommodate the weight and number of workers needed.
- The MHCPL P&M team will finalize the suitable SRP as per the requirement of the execution team. The contractor shall submit the method statement & risk assessment. Thorough review will be conducted by the MHCPL P&M team, suggesting any additional requirements based on site conditions. The safety team will provide suggestions regarding safety concerns.
- The contractor should provide a well-maintained mechanical machine, equipped with necessary safety devices, and free from any patent defects. It should be properly installed, anchored to the building or structure, and have a suitable working capacity. Modification without certification is prohibited, and load testing before use is mandatory. Adequate access, egress, information, and communication means should be ensured. Competent personnel with proper qualifications, training, and equipment should operate the machine, and necessary instructions and training should be provided to all personnel.
- The contractor should appoint a competent person for SRP erection & dismantling, who possesses adequate knowledge and substantial experience in handling inspection, erection, and dismantling. Their responsibilities include ensuring proper installation and anchoring of the platform, verifying its good working condition, and ensuring it is free from defects.
- The contractor should assign a dedicated operator for the SRP. The operator must have received proper training, held a certificate of training, and demonstrated skills to operate the platform safely. The operator's competency and experience will be assessed by the MHCPL P&M team. They should adhere to general safety measures, maintain their equipment, avoid overloading the working platform, and be prepared for emergency situations by wearing a safety harness, utilizing safety devices, and reporting any defects to competent personnel.
- The suspended rope platform should be designed to carry the combined load, which includes the dead load, safe working load, impact load, and wind load. Working platforms should be capable of withstanding a distributed load of 1.5 kN/m^2 for light duty, 2.0 kN/m^2 for medium duty, and 2.5 kN/m^2 for heavy duty. The suspended working platform should also be able to withstand sustained wind speeds of up to 14 m/s and gusts of up to 31 m/s.
- A suspended rope platform must be adequately supported and anchored. The structure supporting or anchoring it should be well-constructed and free from defects. Details of anchorage and support affecting the building's structural integrity should be submitted for approval by an MHCPL structural engineer. Maximum load and rope tension should be calculated, and all metal components must be protected against corrosion and capable of withstanding various forces.
- When fixing roofs for suspended working platforms, the fixings should be designed according to appropriate stresses and approved by a professional engineer.
- Counterweights are used for stability against overturning. They should be securely attached and their weight should be permanently marked. Materials like water, clay, sand, chipping or aggregates cannot be used as counterweights. Counterweights used for roof trolleys should be an integral part of the structure and cannot be easily removed. They should be capable of sustaining the loads and the working platform in case of tilting.
- Wire rope specifications for working platforms:
    a. Use only wire ropes specified by the manufacturer of the working platform.
    b. Minimum acceptable requirement for four suspension ropes: 6mm diameter steel wire ropes.
    c. Safety ropes should not be less than 8mm in diameter.
    d. Each suspension and safety rope should have a factor of safety of not less than 8.
    e. Proper maintenance and lubrication of wire ropes is necessary to prevent corrosion.

f. Defects in wire ropes include kinks, birdcage, visible broken wires exceeding 5%, wear, corrosion, and reduction of nominal diameter of more than 10%.

- The working platform should be wide enough for people to stand on (at least 440mm) and made of slip-resistant material. It should have closely boarded or planked surfaces, with gaps no wider than 6mm. Toe boards should be at least 200mm high, and guardrails should be between 900mm and 1150mm high. The guardrails should be able to handle a 50kg weight without fracturing or showing permanent deformation when the platform is tilted at a 30-degree angle.
- Ensure the primary brake engages automatically in case of power failure or interruption. It should be capable of stopping and sustaining the working platform even when overloaded by 25%. The secondary brake should be mechanically operated independently of the primary brake. It should be capable of arresting and sustaining the working platform if the primary braking system fails or in the event of over-speeding of the working platform.
- Control levers and switches should be suitably locked to prevent accidental movement or displacement. They should be marked to indicate their purpose and mode of operation. The control for the power unit should stop when the manual application is released. Emergency stop devices should be located at each operator control station and in other required places, and they should be colored red.
- Sufficient safe means of access and egress should be provided to the working platform of the suspended rope platform. Access to the working platform from the roof of the building must be inside the parapet, and any necessary access gate should not open outwards but should close automatically. Scaffold boards or any other form of decking should not be used to provide access between adjacent working platforms.
- The following guidelines should be followed for the safe erection, dismantling, and alteration of a suspended rope platform:
    a. Erection and dismantling should only be done by or under the supervision of a competent person according to the manufacturer's manual.
    b. Alteration of the platform's original design should only be performed by a competent person under the guidance of a professional engineer.
    c. Wire ropes should be attached to anchor points before raising the front boom to its working position.
    d. Front boom and working platforms should be equipped with wheels for easy relocation.
    e. The structural strength of the parapet must be determined before using parapet clamps.
    f. Proper manual handling methods should be used for carrying counterweights, front boom, wire ropes, clamps, individual parts, and the body of the suspended working platform.
    g. After completing the erection of SRP, conduct a TPI (Third Party Inspection) with a third-party competent person certified under the Factories Act. Ensure a valid TPI certificate and maintain a record.
    h. During dismantling, materials and components should be lowered hand-to-hand or brought down by suitable means.
- Operators and workers on suspended rope platforms must be at least 18 years old, fit, agile, and have undergone training recognized by the Factories Act. They should obtain certification for such training. The training should cover the basic construction and operational features of the platform, safety devices, anchorage and suspension systems, the use of safety belts and lifelines, and emergency procedures.
- For suspended rope platforms, every person should have a suitable safety belt, independent lifeline, or anchorage. The safety belt, lifeline, anchorage, and fittings should be designed to prevent serious injury in case of a fall. A full-body harness meeting national standards should be used instead of a general-purpose safety belt. The hook of the lanyard should be anchored to an independent lifeline or a fitting of

the platform designed by the manufacturer. No part of the platform railing should be used for anchoring a safety harness.

- For temporary suspended platforms, independent lifelines should be secured to reinforced concrete beams or columns and not to the roof rig or scaffolding. Each person should have a safety harness and an independent lifeline or eye bolt. Ensure that when tying the lifeline rope, pads are used to prevent the rubbing of the lifeline rope.
- All persons using a suspended rope platform should be provided with a suitable safety belt, independent lifeline or suitable anchorage and fittings. The working platform should be marked clearly with the safe working load, the maximum number of persons that may be carried at any one time, and an appropriate mark to distinguish it from other similar platforms. The lifeline should not be secured to any part of the roof rig, including the outriggers, parapet clamps, or any counterweights.
- Ensure all limit switches such as over hoist, overload, anti-tilting, anti-swing rope, and those interlocked with the working rope are checked every day before starting the activity, and the checklist should be maintained. The checklist should include counterweight locking, checking for any cracks in the front booms, rope condition, lifeline rope condition, and fall arrester condition.
- It is important to ensure that the working load on the platform remains within 80% of the rated load capacity. Additionally, if the Suspended Rope Platform (SRP) is erected on a road or passage, it is crucial to put up barricades, and warning signs, and assign a watch person for safety. The P&M engineer should conduct daily inspections to ensure that the platform is working correctly and is safe to use. Moreover, the platform must be cleaned daily to prevent debris from accumulating on the platform and wire ropes.

30.19 External works:

External works in residential & commercial projects are very high-risk activities, in which we have to focus on safety systems for all external activities.

External painting:

Working at heights for painting activities such as painting roofs, working on scaffolding, and climbing ladders can pose fall hazards and risks. Injuries like bruises, cuts, broken bones, and fatalities can occur as a result of these hazards. & Slippery surfaces in painting work can lead to slips, trips, and falls, causing serious injuries. Common instances include spilling paint, walking through wet paint, dropping tools in wet paint, and using a ladder that has been coated.

The contractor & client should follow below safety measures when doing painting work:

- Always wear gloves, a respirator, and protective eyewear when working with or around paint.
- Ensure adequate ventilation when using paint to remove any harmful fumes from the air.
- If you're working at heights, ensure you learn the safety procedures for using ladders, scaffolding, and other equipment. This includes understanding proper working platforms and safe access to climb scaffolding, while also ensuring you wear a full-body harness with a double lanyard harness.
- When painting, try to avoid awkward body positions or take breaks if you need to work in a prolonged standing position.
- Use proper lifting techniques when lifting paint cans or other heavy objects to avoid injuries.
- Maintain safe distances from energized electrical equipment and electrical power lines to prevent the risk of electrocution.
- Follow the manufacturer's instructions and Material safety data sheet (MSDS) meticulously. Always adhere to the manufacturer's instructions when using paint or other chemicals to prevent accidents or injuries.
- Avoid painting activities outdoors during high temperatures, as workers may be at risk of heat stroke, dehydration, loss of consciousness, and an increased risk of falls.

- The contractor must always ensure the use of scaffolding that is properly braced with the permanent structure when working at heights. Safety equipment such as safety belts, helmets, and goggles should be worn, and the work area should be kept clean. Proper illumination should be provided, and workmen should be educated through pep-talk meetings. & Ensure a separate work permit for each location.

SRP works:

- The SRP should not be operated with a full load, as it may cause damage to the machine.
- The machine should never be used for hoisting or shifting any materials.
- The RSP should be erected at a distance of at least 10 meters away from high-voltage lines to avoid any electrical hazards.
- Operating the machine under weather conditions such as rainstorms, thunderstorms, dense fog, or heavy snow is not recommended.
- It is prohibited to open out-swing windows in the operating area of the machine.
- The machine should not be operated by a single person as it may pose a risk to their safety.
- It is prohibited to access the machine from the floor when the platform is hanging.
- Carrying any explosive material such as compressed gas cylinders while operating the SRP is not allowed.
- The lifeline rope should not be tied to the suspension bracket as it may cause instability and pose a risk to the operator's safety.
- Check the power connection using RCCB (Residual Current Circuit Breaker) only, and ensure that power cables are laid or hung away from the platform to reduce the risk of entanglement.
- Before starting the activity on SRP, ensure that there are always two operators present. In case of any emergency, both operators should be available, and the manual lever should be checked before commencing the activity. In the event of a power failure, the manual lever should be used to lower the platform safely.
- Don't work in heavy wind, rain, or intense sunlight conditions on SRP.
- Valid TPI (Third-Party Inspection) should be available on the platform, and any alteration or update made on SRP should undergo TPI for certification maintenance.
- SRP is designed and intended for man-carrying equipment only. Do not allow the transportation of materials on SRP unless recommended by the manufacturer. Check the manufacturer's design specifications if there is a need to carry materials on SRP and Approved by the P&M team.

Façade glass cleaning (Using rope access climbing):

- Window cleaners who work on buildings over 50m high should undergo medical examinations to ensure they are fit for the job. These check-ups should be conducted at the start of their employment and include assessments for conditions such as heart disease, high or low blood pressure, epilepsy, vertigo, impaired balance, limb function, alcohol or drug dependence, psychiatric illness, obesity, and diabetes.
- A basic rope access kit typically includes the following components:
  a. Working line: The main line used for descending.
  b. Safety line: An additional line adjacent to the main line, to which the worker should be connected.
  c. Ascender: Used for climbing up the rope.
  d. Back-up device: Attached to the backup safety line, it protects the technician from falling if the main working line fails or if the technician loses control. It locks onto the safety line without damaging the rope and absorbs shock loads to prevent falls.
  e. Helmet: Provides head protection against injury. Standards governing helmets for work at height vary by region.

f. Chest harness: Converts a regular work positioning harness into a fall arrest harness. Worn around the upper body, it is essential for ascending the rope and provides total body support.
g. Chest ascender: A rope adjustment device that locks under load in one direction and slides freely in the opposite direction.
h. Work harness: Used during the descent down the building.
i. Descender: A manually operated device that allows controlled descent and stopping at any point on the anchor line. They are used for descending the working line or positioning the operative in industrial rope access.

- Before starting the activity, it's essential to thoroughly check the equipment requirements as mentioned above to ensure the safety and effectiveness of the rope access operation.
- Safety anchors must be installed on the sides of buildings before beginning the cleaning process. These anchors can be chemically grouted anchors tested for a 1000k pullout load or Tied RRC concrete beams with polythene nylon ropes equipped with safety knots and pads to prevent rope rubbing. These anchors are fixed into the RCC (Reinforced Cement Concrete) and secure the main and safety lines, preventing accidents if a bolt becomes unplugged.
- Contractor shall engage trained and educated supervisors is crucial for checking equipment, monitoring usage, and providing safety instructions to workers.
- Rope access cleaning is not recommended for buildings over 12 floors. Cradles or Temporary Platforms are safer and more efficient for taller buildings.

Mobile elevated working platform (MEWP):

- Before commencing any activity using MEWP such as scissor lifts, boom lifts, or Vertical Lift, the contractor must conduct a thorough inspection of the equipment and run function tests before beginning work each day. If the machine fails any of these tests, it should be immediately tagged and taken out of service until it can be repaired by a qualified service technician.
- The contractor must conduct a workplace risk assessment before transporting the machine to the job site. The assessment should be submitted to the MHCPL P&M team and safety team for review. Upon review, if any additional recommendations are required, they should be suggested, such as identifying offs, holes, slopes, unstable or slippery surfaces, overhead obstacles, power lines, and others. A plan should be developed to steer clear of these hazards throughout all stages of machine operation.
- When selecting a Mobile Elevating Work Platform (MEWP), consider models with standardized controls for safer operation and improved rescue outcomes. For scissor lifts, choose ones with moveable or remote-control boxes for safer movement. Use observers to monitor blind spots for pedestrians when driven by external control. Retrofitting options are available to manage risks of crush injuries.
- The contractor must ensure that all workers wear the appropriate fall protection gear when operating a mobile elevated work platform. This includes a properly fitted full-body harness and a lanyard or self-retracting lifeline that is adjusted to the correct length.
- Do not sit, stand, or climb on the platform guardrails. The operator must always maintain a firm footing on the platform floor.
- Do not exit the platform when it is elevated. Keep a cell phone or two-way radio with you and have a rescue plan.
- For MEWP, ensure a valid TPI (if applicable) before starting the activity and implement a proper PTW system for all MEWP works. Additionally, do not carry out multiple works at the same place using MEWP.
- Only trained, competent persons shall be permitted to operate a MEWP or any other telescopic/hydraulic man-lifting device. Operator authorization cards shall be issued and displayed on equipment the company

should be certified by the site MHCPL P&M team. Operators should not operate the MEWP machine when there is a blind spot.

- Operators must receive proper training and licensing to operate MEWPs safely. They must also be familiar with specific MEWP model controls, including emergency descent controls, to be prepared for any unexpected situations. Regular inspection and maintenance of the MEWP is also critical, as it ensures that the equipment is in good working condition and adheres to the manufacturer's instructions.
- Outriggers of the MEWP should be fully extended and free from uneven surfaces. Do not attempt to overreach while working on the MEWP and always wear a full-body harness. Furthermore, do not move the MEWP when someone is working or standing on the equipment.
- All lifting and tackle used on MEWP should be tested and certified by a competent person. Ensure valid TPI for all tools and tackle.

30.20 Finishing works

Masonry Works (Block Work & Plastering)

- The contractor must ensure that workers deployed for Block wall masonry works receive proper training before they commence their duties.
- Only scaffolding should be used for carrying out this work. Drums, ladders, and other makeshift arrangements are not allowed. This is because scaffolding provides a safe and stable platform for the work to be carried out.
- A proper access and work platform with guardrails should be provided for the work. A competent person should inspect and tag the scaffold before using it. The walkway jollies should be secured with clamping arrangements. This will ensure that the scaffolding is stable and secure for the workers to use
- Unused scaffold should be dismantled and not be present without short of bracings. This is important to prevent accidents and ensure that the scaffold does not collapse.
- Contractor should be instructed to wear a full-body harness while constructing a block wall at the edge & periphery and secured in a rigid structure. This will help prevent falls and keep the workers safe
- The work platform should not be overloaded with materials and men. Overloading the platform can cause it to collapse, which can lead to serious accidents
- Mobile scaffolds should be provided with wheel locks and not be allowed near the periphery. This will help prevent the scaffold from moving or collapsing.
- Adequate illumination should be maintained. Workmen are not allowed to handle the light fittings when they are live. This will help ensure that the workers can see what they are doing and prevent accidents.
- Working inside the shaft requires a separate work permit (site-specific) and a permit to open the manhole/grill/guardrails. This is important to ensure that the workers are authorized to carry out the work and can do so safely
- The work platform inside should be designed by a competent person and provided. This will ensure that the platform is safe and suitable for the work to be carried out
- Scaffolding arrangement in a permanent staircase should be provided as per norms. This will help ensure that the workers can access the work area safely
- When work is carried out in the access staircase, the access shall be blocked and diverted. This is important to prevent accidents and ensure that the workers can carry out the work safely.
- Solid blocks should be shifted by using a pallet secured with a ratchet strap. This will help prevent accidents and ensure that the blocks are moved safely.

Core cutting:

- Ensure that all personnel using the core drill have undergone proper training and are familiar with safe operating procedures. Contractors should obtain approval from the site team before using the core drill on slabs or walls.
- Wear appropriate personal protective equipment, including safety goggles, gloves, hearing protection, and steel-toed boots.
- Workers should be aware of potential hazards such as electrical shock, flying debris, and noise pollution while operating the core drill.
- Contractors must inspect the core drill for any damage or defects before each use. Check that all safety guards are in place and functioning correctly.
- Keep hands and clothing away from moving parts of the core drill. Do not operate the core drill in wet conditions, and avoid using it near flammable materials.
- If core cutting activity is performed on edges, the contractor must provide a proper working platform and implement fall prevention measures such as full-body harnesses with double hooking points. A permit will be obtained for each location.
- Ensure that the work area is clear of any obstructions and has adequate ventilation. Mark off the work area to prevent unauthorized access. Do not exceed the manufacturer's rated platform capacity or attach overhanging loads to the MEWP.
- Lift and carry the core drill using proper lifting techniques to avoid injury. If the drill is too heavy, seek assistance; don't lift it alone
- After completing the core cutting, do not leave the core cutting pieces scattered. Ensure that core cutting pieces are placed on the core diameter only.
- Ensure that below the level areas are barricaded, and appropriate signage is provided.

Flooring work (Granite / Tiling)

- Only skilled workers should handle granite or tile work. Workers should have experience and expertise in handling these materials to ensure high-quality work and minimize safety risks.
- Granite should be stored on rigid "A" frames only and tied with Ratchet Strap Rope. These frames provide a stable and safe storage solution for the granite and prevent it from slipping or falling. Granite should not be stored on the floor or on unstable surfaces.
- Wrappers on tiles should be removed if stored inside a room for fire prevention. Removing the wrappers on tiles stored inside a room can help prevent the risk of fire. The wrappers should be removed in a safe and controlled manner, and the tiles should be stored in a safe location.
- Granite/tile storage areas should be cordoned off, and signboards should be provided. To ensure the safety of workers and visitors, the storage area for granite and tiles should be cordoned off and signboards should be provided to indicate the danger and prevent unauthorized access.
- Trained masons should be employed. Masons should have the necessary skills and training to handle the materials, operate machinery, and perform the work safely and efficiently.
- Major machinery and portable tools need to be inspected for fitness by P&M and safety personnel before deployment. Before deploying machinery or tools, they should be inspected by P&M and cordoned off to ensure they are safe, in good condition, and suitable for the task at hand.
- All rotary parts need to be guarded. To prevent accidents and injuries, all rotary parts of machinery should be guarded, and workers should be trained on how to use the machinery safely.

- When work is carried out in access staircases, access should be blocked and diverted. To ensure the safety of workers and prevent accidents, access to the work area should be blocked and diverted when work is carried out in access staircases.
- Manual handling norms, as per legal requirements, should be followed. Manual handling should be avoided to the maximum extent possible. If manual handling is necessary, it shall be assisted by mechanical modes such as a trolley/pallet truck, etc. Workers should follow the legal guidelines for manual handling to prevent injuries and accidents. Whenever possible, manual handling should be avoided, and mechanical assistance should be used instead.
- Access should not be blocked with granite/tiles. To ensure the safety of workers and visitors, access should not be blocked with granite or tiles.
- Damages and scraps should be removed from the workplace on a day-to-day basis. Scraps should be dumped in a yard and cordoned. Once accumulated, disposal needs to be carried out. Damaged materials and scraps should be removed from the workplace daily to maintain a safe and clean work environment. The scraps should be dumped in a designated area and cordoned off. Disposal should be carried out once the scraps have accumulated.

Waterproofing

- Obtain the Material Safety Data Sheet (MSDS) for the waterproofing material. The MSDS provides essential information such as the material's composition, hazards, and safe handling instructions. Review the MSDS to ensure that all employees are aware of the potential dangers and how to handle the material safely.
- Brief store personnel and employees handling the material on safety requirements according to the MSDS. They should be informed of the potential hazards of the material and the safe handling procedures to follow. Employees should be aware of the safety measures and equipment that must be used.
- Store the material in a designated place to prevent fire hazard and other potential dangers. The storage location should be far from any sources of ignition, heat, or flames. The storage area should be well-ventilated and dry.
- Smoking and any other hot work are prohibited when handling, using, or near the material due to its flammable nature. All employees should be aware of the prohibition on smoking or any other hot work while handling or near the material to prevent the risk of fire.
- Employees using the waterproofing material should wear rubber hand gloves, goggles or face shield, safety helmet, and shoes. Personal hygiene should be maintained. Employees should be equipped with the necessary personal protective equipment (PPE) when handling the material. Employees should follow good personal hygiene practices to ensure that the material does not come into contact with their skin or clothing.
- Employees handling the material should be fully covered to prevent chemical accidents. Employees should wear suitable clothing that covers their skin to minimize the risk of contact with the material. Clothing should be made of materials that do not react with the material or catch fire easily.
- Inform employees of the wash places to clean off any chemical that falls on them. Employees should be aware of the designated wash areas where they can clean off any spilled material. They should be instructed to wash any exposed skin immediately with water and soap.
- Ensure proper ventilation if waterproofing work is done in a confined space. Confined spaces can pose a significant risk to employees due to the lack of adequate ventilation. In such cases, it is essential to ensure that there is enough ventilation to prevent the accumulation of hazardous vapors

Painting

- Workmen must undergo medical testing before being engaged, and periodical medical check-ups are conducted. This is to ensure that the workmen are physically fit to carry out the task of painting and do not pose a risk to themselves or others.
- Only trained workmen should be deployed. Painting requires special skills and knowledge, and only those who have received proper training should be allowed to carry out the task.
- Competent personnel must check scaffolding and work platforms. Scaffolding and work platforms must be checked by a competent person to ensure that they are structurally sound and safe for use.
- Workmen should be instructed not to remove bracings on their own. Removing bracings can compromise the structural integrity of the scaffolding or work platform, which can lead to accidents.
- MSDS for the chemicals used must be maintained, and painters must be made aware of the hazards. Material Safety Data Sheets (MSDS) for the chemicals used in painting must be maintained, and painters must be informed of the hazards associated with these chemicals. This is to ensure that they are aware of the risks and take necessary precautions.
- Personal hygiene must be explained to the painters. Personal hygiene is important to prevent the ingestion or inhalation of paint particles, which can be harmful to health. Painters must be educated on the proper way to maintain personal hygiene while carrying out painting tasks.
- Paint drums should be stored in separate, secured rooms, avoiding basements and shafts. Paint drums should be stored in separate, secured rooms to prevent unauthorized access and to minimize the risk of fire hazards. Basements and shafts should be avoided as storage areas because they are prone to dampness.
- Paints must be stored with closed lids and carried with lids. Paints should be stored with closed lids to prevent spillage and evaporation. They must also be carried with lids to prevent accidental spillage.
- PPEs such as nose masks, goggles, and gloves should be issued to the painters, and they must be ensured to wear them during painting. Personal Protective Equipment (PPE) such as nose masks, goggles, and gloves should be issued to the painters to minimize the risk of inhalation, eye irritation, and skin contact with harmful chemicals. It is important to ensure that painters wear PPEs during painting.

30.21 Batching Plant

- It is important to follow the LOTOTO (Lockout, Tagout & Tryout) system before undertaking any maintenance or shutdown activity to prevent accidental start-up of the equipment.
- To ensure the safety of the workers, a lifeline with a fall arrestor system must be installed in the Silo cage ladder.
- A designated area must be allotted to store chemicals, and it is crucial to follow the safety requirements for chemical storage. It is also essential to provide MSDS (Material Safety Data Sheet) training to the entire batching plant crew to ensure they understand the potential hazards of the chemicals they are handling.
- Dust control measures must be ensured in the batching plant to prevent respiratory problems and promote a healthy work environment.
- To ensure the safety of the workers, the plant should only be operated if all safety devices and equipment such as interlocks, guards, emergency stops, sound insulations, and suction devices are in place and operational. It is also necessary to conduct regular inspections to ensure all safety devices are working correctly.
- The operator must check the plant at least once a day for any visible damage or defects. If any changes or deviations are found, the plant must be stopped immediately, and necessary rectifications must be carried out to prevent further damage.

- Starting and stopping procedures, control devices, and signals must be followed as per the manufacturer's guidelines to ensure the safe operation of the equipment.
- No one should be allowed to enter the skip area, and the surrounding area must be cordoned off when the skip is in operation to prevent accidental injury.
- Only authorized technicians should be allowed to carry out any repair and maintenance work to ensure the safety of the workers and prevent any accidental damage to the equipment.
- On and off procedures must be followed by the maintenance guidelines as indicated in the manufacturer's instruction manual to prevent any damage to the equipment during maintenance.
- A work permit system should be implemented for repair and maintenance works carried out on the batching plant to ensure that all necessary safety measures are in place before starting any work.
- If all the above points are checked and found satisfactory, the equipment can be energized, and normal operation can be started with confidence in the safety of the workers and the equipment.
- Conduct inspections once every week, submit a report to the RMC I/C, and ensure compliance. & The LOTOTO (Lockout, Tagout, Try out) procedure should be followed, and a register should be maintained.
- All transit mixer documents should be maintained by the RMC I/C and submitted to the Safety Department. The Safety Department should ensure and inspect them monthly, providing color codes for all RMC equipment.

(For detailed procedure refer to Doc No: MHCPL-EHS-SOP-21-38)

31. MANSOON SAFETY GUIDELINES

- Ensure proper drainage systems are in place to manage increased water flow during heavy rainfall. Keep trenches, ditches, and stormwater drains clean and functional. Adequate site preparation and grading can prevent water accumulation
- Monitor slopes and mounds for corrosion or landslides. Implement retaining walls, geotextiles, or erosion control mats to stabilize the soil.
- Regularly inspect, maintain, and reinforce scaffolding and formwork structures. Secure loose materials and cover them with tarpaulins to prevent water damage.
- Ensure all electrical installations and equipment are properly insulated and protected from water. Use ground fault circuit interrupters (GFCIs) and residual current devices (RCDs) to minimize electric shock risk. Keep electrical panels, outlets, and switches covered and away from water sources
- Ensure electrical distribution boards (DB) are covered and free from cuts or joints on cables. Install ELCB/RCCB on panels and barricade the electrical panel area to restrict unauthorized entry
- Workers should wear appropriate PPE, including non-slip boots, rain gear, and reflective clothing. Provide waterproof gloves and safety glasses for visibility and hazard protection.
- Provide proper sloping, shoring, or benching for excavations to prevent cave-ins.
- Use standby pumps or dewatering pumps if necessary to address waterlogging
- Conduct regular safety training sessions on monsoon-related risks, emergency procedures, and equipment use. Encourage workers to report unsafe conditions.
- Ensure loose materials are properly stored, especially sharp or cutting pieces, during heavy winds or storms.
- Ensure secure construction and anchoring of temporary structures. Use proper barricades and warning signs, especially in water-prone or weakened ground areas.
- Regularly inspect and maintain construction equipment for safe operation during the monsoon. Store equipment in covered areas when not in use.

- Conduct frequent inspections to identify hazards, water accumulation areas, and erosion signs. Promptly address issues and implement corrective measures.
- Display monsoon safety signboards prominently on-site.
- Ensure all drinking water tanks are properly covered and cleaned regularly to maintain hygiene.

32. WORKPLACE HYGIENIC & WELFARE FACILITIES:

Pre & periodical medical check-up:

- Before any workman is deployed, they are required to undergo a comprehensive medical examination conducted by a licensed medical practitioner. This is done to ensure that only workers who are physically and medically fit are deployed. The medical examination is mandatory for all workmen, without exception.
- For workers in critical roles such as operators, drivers, food handlers, welders, and scaffolders, Telangana BOCW Rules require that they undergo pre and periodic medical examinations. These examinations are designed to identify any underlying medical conditions that may affect their ability to perform their duties safely and efficiently. The periodic medical examinations are conducted at regular intervals to ensure that the workers remain fit and healthy throughout their tenure.
- As part of the medical examination process, all operators and drivers undergo a vision test administered by an ophthalmologist. This is done to ensure that their vision meets the required standards for operating machinery and driving vehicles. The ophthalmologist assesses their visual acuity, depth perception, and color vision to ensure that they can perform their duties safely and without any risk to themselves or others.

Drinking water:

- Contractors should set up drinking water stations every 200 meters on the site to ensure workers have easy access to drinking water at all times.
- All containers used for distributing drinking water must be clearly labeled as "DRINKING WATER" by the contractor. These containers should solely be used for storing and distributing drinking water and should display the label in three languages – Telugu, English, and Hindi – to ensure all workers can understand it. The label should also indicate the cleaning date and due date.
- Portable containers used for storing drinking water should be of high quality and have tight-fitting lids to prevent contamination. Additionally, these containers should be equipped with taps for easy access to the water by workers.
- Tankers used for transporting potable water should be identified and strictly reserved for this purpose only to maintain the cleanliness and safety of the water for consumption.
- Third-party (NABL) tests should be conducted on all water collection sources once every three months to ensure the water is free from harmful bacteria and chemicals. In case of a change in the source of collection, a test should be conducted promptly, and the results obtained.

Pest control:

Regular pest control measures are necessary to ensure a safe and healthy environment, particularly in areas vulnerable to mosquito breeding. In this regard, we recommend performing fumigation and mosquito repellent spray once a week in the site and workmen camp. Pest control records should be maintained by camp I/c. These treatments will help to eliminate any existing infestations and prevent new ones from forming, ultimately promoting the well-being of workers and visitors alike. By taking a proactive approach to pest control, we can ensure that our surroundings remain clean, comfortable, and free from harmful pests.

Sanitary facilities:

- According to the Telangana BOCW rule, an adequate number of latrines should be provided for workers and employees. The number of latrines should be based on the number of workers or employees in the establishment. For every 25-50 workers, there should be two separate latrines and urinals provided.
- The urinals and latrines should be checked and cleaned daily by the dedicated sanitation crew. The cleaning should be done using disinfectants, and the crew should ensure that there is enough soap and water for the workers to clean their hands.
- If a site has less than fifty workers or if the toilets are connected to a sewage system, there may not be a need to provide separate urinals.
- The floors, sinks, and toilet bowls must be disinfected daily, and the rest shelters should be cleaned after lunch hours. Garbage must be disposed of daily to minimize the risk of diseases and infections.
- The administration department (site HR) should monitor the hygienic conditions and ensure that the sanitation crew is following the cleaning schedules and procedures.

32.1 Workman camp standards:

Workmen camp general guidelines need to be followed for the construction of workmen camp. The guidelines include the type of material used, the structure, and the location of the camp.

- One cabin made of hard roof, measuring 4 x 4 meters. With a proper ventilation system, shall accommodate 4 persons, if the size is 6 x 6 max. 8 persons shall be accommodated. All cabins shall be provided with sufficient lighting, fans, and plug points. The roof height shall be more than 3 meters. Height.
- Drinking water to be provided at relevant locations, to ensure proper drinking water facilities are made available for workers at all times. The water quality to be tested as per BIS.
- Sufficient space of 2 meters. To be given between each row, and ensure proper water drainage system is provided, to avoid water clogs at labor living area.
- Ensure sufficient WCs/ urinals are provided. All WCs are to provide with light, water tap, and proper door. All WCs are to be cleaned every day to ensure hygiene at all times. At least (1:4) WCs are to be marked for women separately if any workers are living with family.
- Water facility for bathing, should be provided with required showers to avoid wastage of water. Facility for washing clothes with taps to meet such need.
- Proper facility to be provided for drying clothes separately (close to their living area), to avoid people spreading their clothes on electrical wires.
- At least 1:4 WCs are to be marked for women separately.
- All kitchens are to be provided with proper hygiene condition, proper drainage system. Firewood needs to be stocked away from cooking area, to avoid any fire accident.
- The contractor to provide Dining facility adjacent to kitchen, and ensure all workers shall take their food in the dining hall, and educate them NOT to eat food Inside their living area.
- Proper and sufficient waste bins with lids are to provide at kitchen and dining areas for collection of waste food and solid waste, and these bins are to be cleared every day to ensure proper hygiene
- Complete labor colony to be barricaded with fence and access control.
- Complete labor colony to be provided effective drainage system, to ensure water is not stagnated at any point.
- Ensure Liquor or any intoxicated items are NOT sold within the camp area or allowed to be brought from outside.
- Individual cocking by any means is NOT permitted in any labor camp.

- All labor camps should be provided with play areas for children, and proper crèche with good teaching aids (illustrated) and proper sitting arrangements.
- All labor camps should be provided with football / Volleyball courts for people to play during their off hours. This will help people in good health.
- Sufficient/appropriate fire extinguishers are to be provided in case of any emergency.
- Ensure all electrical wires are run above ground (10 ft above) and are not reachable to any children. All electrical panels are protected from rough weather, and proper access control is ensured.
- The shelter should be made with fireproof material to minimize the risk of fire incidents.
- A sufficient clearance should be kept between the shelters to allow easy access by trucks, fire engines, or ambulances in case of an emergency.
- A sharp cut/trench should be made around the Workmen Camp to prevent reptiles (like snakes) from entering the camp.
- Pits, undulations, small pockets, etc. should be filled, and the ground should be leveled to prevent water stagnation during the rainy season. This measure will prevent the breeding of mosquitoes and other insects that can cause diseases.
- A proper drainage system should be arranged to collect wastewater and dispose of it periodically to prevent waterborne diseases.
- A sufficient number of urinals and latrines should be provided, and they should be cleaned daily.
- Drinking water tanks should be cleaned every week, and drinking water should be checked once every three months to ensure that it is safe for consumption.
- A separate cooking shed should be provided, and a pest control program should be organized weekly to prevent the spread of diseases caused by pests.
- A sufficient number of dustbins should be provided, and daily housekeeping should be maintained at the Workmen Camp to prevent the accumulation of garbage and the spread of diseases.
- Communication facilities from the Workmen Camp to the site should be ensured to allow workers to communicate with their families and emergency services.
- Cylinders are not allowed inside living rooms to prevent fire incidents.
- A joint inspection by the Site head and safety I/c shall be conducted weekly to ensure that the health and safety measures are being followed.
- A committee walk-down at Workers camp shall be conducted at intervals to identify any issues or concerns that need to be addressed.
- A worker camp inspection checklist shall be made available, along with a worker camp emergency response plan to ensure that workers are aware of what to do in case of an emergency.
- First and welfare facilities shall be ensured, and fencing provisions around the worker camp need to be ensured to prevent unauthorized access to the camp.
- The do's and don'ts at worker's camps shall be displayed to ensure that workers are aware of the rules and regulations they need to follow.
- Illumination provisions shall be ensured to ensure that the camp is well-lit to prevent accidents and to help workers move around during the night. Separate bathing facilities with roof provisions shall be ensured to allow workers to take a shower and maintain personal hygiene.

Canteen:

- The canteen shed must be constructed with fireproof material, and it should be inspected regularly to ensure that it is in good condition.

- Adequate fire safety equipment such as fire extinguishers, sand buckets, and fire alarms must be provided. Additionally, a housekeeping crew should be deployed to collect waste paper and cups on an hourly basis to avoid any fire hazards.
- The wastewater generated from the vessel washing area must be collected in a tank and disposed of daily. The tank must be cleaned frequently to avoid any unpleasant odors or bacterial growth.
- Garbage should be collected and disposed of periodically to prevent any pest infestations or foul odors. The garbage bins must be kept covered and cleaned regularly.
- The kitchen and water tank should be cleaned every week to maintain hygiene standards. The utensils, cooking surfaces, and floors should be cleaned thoroughly to avoid any contamination.
- The LPG cylinders used in the canteen must be placed in a safe location, and safety norms must be strictly adhered to while using them. The cylinders should be checked for leaks regularly, and there must be adequate ventilation to prevent any gas buildup.
- The canteen safety standards should meet the BOCW Act 1996 and the Telangana BOCW rules. The canteen must have sufficient lighting, ventilation, and other safety measures in place to ensure the well-being of the employees and customers.
- Pre-medical examinations for canteen employees are necessary to ensure that they are fit for work. No person infected with asthma or TB should be allowed to work or cook in the canteen to avoid any risk of infection.
- Necessary provisions should be made to store vegetables and other grocery items. The storage area should be clean, dry, and well-ventilated to avoid any spoilage or contamination.
- Hand washing facilities must be provided in convenient locations, and wastewater must be drained through closed drainage systems. These facilities should be maintained neatly and cleanly.
- Sufficient waste bins with lids shall be provided in convenient locations for dumping food waste. &
- These bins will be maintained in a neat and clean condition at all times.
- Food waste shall be disposed of daily along with the food waste from the workmen's camp

Storage of provisions & Cooking Facility

- A separate storage area must be provided for stacking groceries and vegetables. The area must be clean and hygienic, and the storage shelves must be made of materials that are easy to clean and maintain. The storage area should be located away from the cooking and dining areas to prevent contamination.
- Drinking water should be available for both drinking and cooking purposes. The water quality must be monitored regularly to ensure it is safe for consumption. The drinking water source must be kept clean and covered to prevent contamination. The water storage containers must be made of food-grade materials and cleaned regularly.
- Flycatchers must be installed in the cooking and dining areas to prevent the entry of flies and other insects. The flycatchers must be cleaned regularly to ensure their effectiveness.
- The cooking area must be separated from the dining area to prevent cross-contamination. The cooking area must be equipped with suitable cooking equipment and utensils that are clean and hygienic. The cooking area must also have sufficient lighting and ventilation to ensure a comfortable and safe working environment.
- Sufficient windows and exhaust fans must be installed to ensure proper ventilation in the cooking and dining areas. The windows must be kept clean and covered with mesh screens to prevent the entry of insects and other contaminants.

- Adequate fire extinguishers (Wet chemical extinguisher/F-Class) must be provided in the cooking area to prevent fire hazards. The fire extinguishers must be located in accessible areas and must be checked regularly to ensure they are in good working condition.
- A vessel cleaning facility must be available in a convenient location, and wastewater should be drained through closed drainage to prevent contamination of the surrounding areas. The cleaning facility must have suitable cleaning equipment and materials, and the wastewater must be disposed of properly.
- Food must be stored in clean vessels and covered with suitable lids/containers to prevent contamination. The food storage area must be clean and hygienic, and the storage shelves must be made of materials that are easy to clean and maintain. The food storage area must be located away from the cooking and dining areas to prevent cross-contamination.

Stacking of LPG Cylinder

- Use an IS regulator hose to connect the LPG cylinder to the stove. An IS regulator hose is designed to regulate the flow of gas and ensure that the pressure is within safe limits.
- Keep the stove on an elevated platform above the height of the LPG cylinder. This will ensure that any gas leakages or spills do not come into contact with the cylinder, reducing the risk of a fire or explosion. Additionally, use a lighter to ignite the burner instead of matches, as this will reduce the risk of accidental fire.
- Store spare and empty cylinders outside of the canteen under a canopy. This ensures that any leaks or spills do not come into contact with any heat sources or flames, reducing the risk of a fire or explosion.
- Only a maximum of three full cylinders are permitted near the canteen. Overcrowding the canteen with more cylinders than necessary can increase the chances of accidents or mishaps.
- Shift gas cylinders in the vehicle. This reduces the risk of any mishaps while carrying the cylinders from one place to another.
- Always keep the cylinders in an upright position. This is because LPG cylinders are designed to work in an upright position, and any other position may cause gas leakage or other issues

33. WELL-BEING MANAGEMENT

Wellbeing management in the construction industry is concerned with the physical and psychological health of workers and others whose health could be affected by construction activities. Mental health and wellness are essential components of overall well-being and are vital for the safety and success of construction workers.

- MHCPL prioritizes employee & workers' well-being through various initiatives such as:
    a. Regular health check-ups and immediate access to medical assistance.
    b. Mental health support services and stress management programs.
    c. Facilities provided at the workman camp include push-up and pull-up bars, volleyball courts, etc
    d. Arranging a crèche at the workman camp for worker children.
    e. Training programs covering nutrition, fitness, stress management, and mental health awareness.
    f. Initiated a Behavioral Safety Program (BBS) for all employees and workers. A train-the-trainer program was conducted to facilitate all trainers to conduct training programs at the site. The aim is to identify workers' behavior, whether safe or unsafe, to promote positive changes in their behavior.
- MHCPL addresses mental health and stress management for its employees & workers by:
    a. Introducing mental health support services.
    b. Conducting stress management and mental health awareness programs.

c. Providing a safety net for employees' psychological needs.

- MHCPL offers training programs focused on employee well-being, including:
  a. Nutrition education.
  b. Fitness, Ergonomics training
  c. Stress management techniques.
  d. Mental health awareness sessions.

(For detailed procedure refer to Doc No: MHCPL-EHS-SOP-21-54)

34. CONTRACT AGREEMENT ON EHS CONDITIONS

- The contractor must read and understand the Occupational Health and Safety (OHS) and well-being manual requirements at the site before signing a contract agreement. Once the agreement is signed, the contractor is obligated to follow the safety requirements outlined in the OHS and Wellbeing manual.
- The EHS contract agreement is outlined on page 128 in the OHS &b Wellbeing manual, once you receive the work/purchase order copy, you must give acceptance through mail or a hard copy, indicating that you accept all OHS & Wellbeing manual requirements while working on-site. It is the responsibility of the Contract department to share the OHS & Wellbeing manual with the contractor along with the work order.
- After receiving the contractor work order, the contractor's team will hold a kick-off meeting with the site safety team to understand the site safety procedures and the submission of required documents. The contractor shall submit the necessary documents such as HIRA (Hazard Identification and Risk Assessment), MOS (Method of Statement), valid Third-Party Inspections (if applicable), valid vehicle documents (if applicable), CVs of safety staff, training calendars, and emergency procedures for the respective site, etc.
- The contractor with work order(s) valued up to Rs 1,00,00,000/- at any My Home site must follow the safety requirements mentioned in the work order & OHS & Wellbeing manual. (As applicable)
- The contractor, with work order(s) valued at Rs1,00,00,000/- and above at any My Home site must follow the OHS & Wellbeing manual and must appoint a qualified and experienced Safety Officer in consultation with the MHC Safety Head. Until the Safety Officer is appointed, the contractor is not permitted to commence any work or bring any workforce to any MHC site(s).
- The contractor's Safety Officer should have a minimum of 10 years of experience in the construction field as a contractor safety in-charge & at least 5 years as a safety officer and a minimum of 3 or 2 years as a Safety Supervisor. They should hold at least a bachelor's degree or diploma in Electrical, Mechanical, or Civil engineering. Additionally, they must possess technical qualifications such as NEBOSH-HSE/IGC or ADIS, or any construction safety diploma.
- The contractor must comply with legal requirements such as a valid labor license, BOCW registration, Registration of Establishment by contractors and subcontractors (employing more than 10 workers need to obtain Registration of Establishment), CAR policy, etc.
- **Safety Violations**: Any unsafe acts, unsafe conditions, or deviations from safety procedures and standards as per all applicable acts for construction activities will incur penalties as outlined in Section 27 of the OHS & Wellbeing manual. These penalties will be deducted from their respective running bills, with communication provided to the contractor's project manager/safety officer.
- PPE such as safety helmets and safety shoes are mandatory for all contract workers while working at the site. All PPE, including helmets, shoes, hand gloves, safety goggles, etc., must meet BIS and ISI standards or any international standards. The provision of complete PPE/Special PPE is the responsibility of the

contractor. However, upon request by the contractor's project managers or in-charges, the same PPE will be supplied by MHCPL at the site on a chargeable basis at the following rates:

a. Safety Helmet: Rs. 500/-
b. Safety Shoes: Rs. 2000/- per pair
c. Safety Goggles: Rs. 250/-
d. Leather Hand Gloves: Rs. 450/- per pair, Cotton Gloves: Rs. 75/- per pair, PVC Gloves: Rs. 350/- per pair
e. Full Body Harness with Double Lanyards: Rs. 7500/-

<u>These specifications outline the safety helmets required for workers and employees:</u>

- Specification of safety helmet for workers: Safety Helmet with ISIS Mark, Ratchet-Type Adjustment with Chin Strap. Certification: IS 2925:1984, Model No: PN521, Make: KARAM
- Specification of safety helmet for employees: Safety Helmet with ISIS Mark, Ratchet-Type Adjustment with Chin Strap, Certification: IS 2925:1984, Model No: PN542, Make: KARAM
- If the contractor fails to provide PPE or safety gear to workers or employees, in case of urgent need, My Home can supply PPE and/or special PPE, and safety gear at double the cost, upon written request by the contractor. The cost will be deducted from their running bills.
- All special PPE, such as welding screens, gas-cutting goggles, and leather aprons, must meet BIS and ISI standards or any international standards and are the contractor's responsibility
- The contractor/vendor shall supply all special PPE to their workers where special PPE is required.
- All workers shall report to the site safety team with proper documentation such as identification documents (Aadhar card, Driving license, Passport etc.) for induction before their activity. Without induction, no worker will be permitted on-site
- All lifting tools, tackles, and machinery shall be approved and certified by a Third-party agency competent person along with a competency certificate The contractor must submit a report to the MHCPL safety in-charge along with a competency certificate. If any deviation is found, the contractor will not be permitted to work at My Home sites
- All machinery, including welding sets, must be equipped with ELCB and cables without joints. Gas-cutting sets must have flashback arrestors, and gas cylinders must be equipped with guards. Gas cylinders should not be stored below the ground floor; they should be stored above ground level or in open sheds with proper approved storage conditions. Perished or damaged gas tubes and jointed welding cables are not permitted for use at any site. (If Applicable).
- Proper safety nets, conforming to BIS (Bureau of Indian Standards) standards or any international standards or approvals, must be erected at all appropriate required places while work is in progress. Full Body harness & safety net standards should be outlined in section 30.3.(If applicable)
- Good housekeeping and proper hygiene at work areas must be maintained on a day-to-day basis by the respective contractor.
- No female workforce will be permitted at any My Home sites. If required, all such female workers must ensure they wear a full-hand shirt over their dress and wear PPE. Additionally, contractors should provide separate restrooms for female workers.
- All vehicles used by contractors in My Home site must have valid fitness certificates, PUC (Pollution Under Control) certificates, valid driving licenses, and insurance.
- Alcohol, tobacco, chewing tobacco, or cigars are prohibited from being carried onto the site. Any person found in a drunken state will also be prohibited from entering the My Home site. Any deviation from this policy will be viewed seriously, and fines will be strictly imposed.

- The speed limit for all vehicles inside the site is restricted to 5 KMPH. Any deviation from this limit will be viewed seriously, and fines will be imposed.
- No person shall engage in any fraudulent activities or fighting at the site.
- In the event of an emergency, individuals should report to the main gate security or contact the site safety personnel via mobile phone. Mobile numbers are displayed at all sites for easy reference.
- Any deviation from the above-stipulated conditions will result in fines, which will be imposed and deducted from running bills. Fines will not be refunded.
- The contractor must comply with statutory requirements such as a valid labor license, BOCW registration cards, ESI, ECR, PF, minimum wages for workers, etc. Without statutory compliance, running bills can be held until the requirements are completed.
- For any specific work-related technicians such as tower crane operators, drivers, electricians, equipment operators, riggers, signalmen, etc., they must carry their qualification documents (Experience certificates, etc., valid licenses,) to be checked & approved by the respective MHC I/C.
- The labor colony is provided by MHC with facilities such as drinking water, utility water, and washrooms. Maintenance and cleaning should be done by the respective contractor. (if applicable)
- All electrical hand tools, such as cutting, drilling, and grinding machines, which operate using power sources, must have proper guards. Additionally, these machines should be provided with proper plug tops where applicable. Contractor supervisors must ensure that all machines undergo safety inspections by the My Home safety team and receive a safety inspection sticker. Work with any portable power equipment is not permitted without a safety inspection sticker. (if applicable)
- All contractors working at height must provide fall protection measures at the work location, including safety catch nets, meeting IS or BIS standards. This should include three levels of peripheral safety netting (below two levels of the working floor and one level at the ground floor permanently) and two levels of bracket netting at the working floor and below level. If material is provided by My Home, the contractor should install the safety net at the required location. For installation, manpower should be engaged by the contractor (If applicable)

  Specification for bracket nets: Braided monofilament safety nets with a 2.5mm braided/30mm-square/mesh in green color, with a standard size of 10m x 5m. It should have a knotless monofilament net with a 12mm border rope, complying with IS 111057.

  Specification for peripheral nets: Braided safety nets with 2.5mm braided, 30mm square mesh, made of Lona material in green color. The standard size is 10m x 5m, with 10 handles and a 12mm border rope, complying with IS 11057.
- Good housekeeping and proper hygiene at work areas must be maintained on a day-to-day basis by the respective contractor.
- For any emergency event My Home will provide an ambulance with a driver (24X7) for required assistance.

Sanitation, housekeeping, and inspections at the workman living area are applicable for those workers residing in the MHC workman colony.

- If My Home provides an area for constructing the workman colony, the contractor should be responsible for constructing and maintaining the colony according to safety requirements as:
  - The living area for labor should not be less than two square meters (2 m^2) per person. Each living area should be equipped with one 60-watt LED light, one ceiling or pedestal fan, and two plug sockets. Each person should be provided with a bed for comfortable sleep. Additionally, each living space should have a door with a locking facility and one window.
  - All electrical wiring in the entire camp area should be above ground, and proper junction boxes with MCBs/RCCBs should be provided.

- Kitchen and dining facilities should be provided for all workers to comfortably have their meals. Water coolers should also be provided in dining rooms as necessary.
- Toilets should be provided at a ratio of one WC for every 50 workers, along with proper washing facilities.
- Proper and sufficient waste bins should be provided at locations as required to ensure proper sanitation. Additionally, a dedicated team should be ensured for the maintenance of sanitation at the workman camp area.
- The entire labor camp area should be treated for mosquitoes, flies, and other bacteria once a week or as required for hygiene purposes.
- If a dry provisions store is provided, it must ensure that no drugs or alcohol are sold.
- Ensure proper security gate control at the entrance of the workman camp.
- Provide facilities such as drinking water, utility water, and washrooms. Maintenance and cleaning should be done by the respective contractor

– If My Home provides the workman camp, My Home will be responsible for taking care of the above requirements.
– The contractor should respond immediately to safety-related issues raised via email, the OQSHA mobile application, verbal communication, or during meetings without fail.

For material suppliers:

– The concerned contractor/vendor is responsible for supplying mandatory PPE to their workers or drivers.
– All workers must report to the site safety team for induction before commencing any activity. Without induction, no worker will be permitted on site.
– All portable power tools must have industrial plug tops and safety devices. Tools found defective or lacking safety devices will not be permitted for use at MHCPL sites.
– No female workforce will be permitted at any MHCPL sites. If required, all female workers must wear full hand shirts over their attire and ensure they wear PPE.
– All vehicles must have valid fitness certificates, Pollution Under Control (PUC) certificates, valid driving licenses, and insurance.
– Any deviation from the stipulated conditions will result in fines imposed and deducted from running bills, without refunds.
– Alcohol, tobacco, chewing tobacco, or cigars are strictly prohibited on site. Any individual found in a drunken state will not be permitted to enter the MHCPL site, and fines will be imposed for any deviation.
– The speed limit for all vehicles within the site is restricted to 5kmph. Any deviation from this limit will result in serious consequences and fines.
– No individual shall engage in any fraudulent activities or fights at the site.
– In case of an emergency, individuals should report to the site security main gate or contact the site safety personnel via mobile phone (mobile numbers are displayed at all sites).

For manpower suppliers:

– The concerned contractor/vendor is responsible for supplying mandatory PPE to their workers. PPE should meet IS standards, such as a Safety Helmet with ISI Mark and ratchet-type Adjustment with a Chin Strap. Certification: IS 2925:1984, Model No: PN521, Make: KARAM.
– All workers must report to the site safety team for induction before commencing any activity. Without induction, no worker will be permitted on site.

- The contractor must comply with statutory requirements such as a valid labor license, BOCW registration cards, ESI, ECR, PF, minimum wages for workers, etc. Without statutory compliance, running bills can be held until the requirements are completed.
- The labor colony is provided by MHC with facilities such as drinking water, utility water, and washrooms. Maintenance and cleaning should be done by the respective contractor.
- For any specific work-related technicians such as tower crane operators, drivers, electricians, equipment operators, riggers, signalmen, etc., they must carry their qualification documents (Experience certificates, etc., valid licenses,) to be checked & approved by the respective MHC P&M I/C.

35. DOCUMENT CONTROL

Revision & record:

The OHS&W manual is reviewed once every two years by a committee, which includes the Head–EHS and HODs. Revisions can be made for any updates on procedures, and additional safety & procedure requirements for activities.

On receipt of a revision, the Head-HSE, cluster I/c, and site head are responsible for ensuring that the required amendments are incorporated into a revised OHS & Wellbeing manual. The new revision number and date of the revision shall be entered into the table on Page 1. Outdated documents shall be removed from circulation but retained for archive purposes. And circulate an updated version of the OHS&W Manual.

Approval procedure:

Any modifications to the OHS & Wellbeing template must be made via the Senior President(P). Suggestions for improvements/amendments can be submitted by the Head-HSE, reviewed by the Senior President(P), and approved by the Executive Vice Chairman (EVC).

Archiving & Disposal:

MHCPL maintains procedures for the identification, control, filing, retrieval, and retention of HSE records by the requirements of relevant legislation, standards, guidelines, and IMS procedures. Retention periods will be determined by top management decisions.

35.1 Index of safety formats:

All updated safety formats will be circulated as needed. If any additional safety inspection checklists are required, please contact the HO team.

Safety Management System Documents				
Sl. No	**File Name**	**Document No**	**Revision**	**Indexing**
1	Safety Induction form	MHCPL-EHS-IND-01	1	Daily
	ID Screening Form	MHCPL-EHS-IND-02	1	Daily
2	TBT	MHCPL-EHS-TBT-03	1	Daily
3	NC	MHCPL-EHS-NC-04	1	As an when required
4	Penalty	MHCPL-EHS-P-05	1	As an when required
5	General Permit	MHCPL-EHS-PTW-06	2	Daily
6	Hot Work permit	MHCPL-EHS-PTW-07	2	Daily

7	Height work permit	MHCPL-EHS-PTW-08	2	Daily
8	Lifting permit	MHCPL-EHS-PTW-09	2	Daily
9	Night work	MHCPL-EHS-PTW-10	2	Daily
10	Confined space permit	MHCPL-EHS-PTW-11	2	Daily
11	Excavation permit	MHCPL-EHS-PTW-12	2	Daily
12	Blasting Permit	MHCPL-EHS-PTW-13	2	Daily
13	Electrical Permit	MHCPL-EHS-PTW-14	2	Daily
14	Concrete work permit	MHCPL-EHS-PTW-15	2	Daily
15	De-Shuttering work permit	MHCPL-EHS-PTW-16	2	Daily
16	Lifting Plan	MHCPL-EHS-LP-17	0	As an when required
17	EHS Competency Evaluation for Staff	MHCPL-EHS-CE-18	0	As an when required
18	Strategic Risk Assessment	MHCPL-EHS-SRA-19	0	As an when required
19	Internal Bench Mark Checklist	MHCPL-EHS- IBC-20	0	As an when required
20	SOPs	MHCPL-EHS-SOP-21	2	For Reference
21	HIRA	MHCPL-EHS-HIRA-22	1	As an when required
22	Monthly Inspections	MHCPL-EHS-MI-23	1	Monthly
23	Incident/Accident Investigation report	MHCPL-EHS-AI-24	1	As an when required
24	Self-Safety Audit	MHCPL-EHS-SIA-25	2	Weekly
25	Monthly report	MHCPL-EHS-MR-26	1	Monthly
26	Permit Register	MHCPL-EHS-PR-27	-	Daily
27	Induction Register	MHCPL-EHS-IR-28	-	Daily
28	First Aid Register	MHCPL-EHS-FR-29	-	Daily
29	HSE Trainer Assessment and Evaluation	MHCPL-EHS-TAE-30	0	As an when required
30	Training Attendance	MHCPL-EHS-TA-31	1	As an when required
31	Near miss report	MHCPL-EHS- NM-32	1	As an when required/Daily
32	PPE Matrix	MHCPL-EHS-PM-33	0	As an when required
33	First Aid cases report	MHCPL-EHS-FAC-34	0	Monthly
34	HSE Cross Audit checklist	MHCPL-EHS-CA-35	0	Monthly
35	Contractor performance evaluation	MHCPL-EHS-CPE-36	0	Quarterly
36	Pre-vendor/contractor evaluation (HSE) form	MHCPL-EHS-CEF-37	1	As an when required
37	EHS training evaluation	MHCPL-EHS-TE-38	0	As an when required
38	COSHH Assessment form	MHCPL-EHS-COSHH-39	0	As an when required

39	BBS Observation checklist	MHCPL-EHS-BBS-40	0	Daily
40	Risks & Opportunities Register	MHCPL-EHS-RAR-41	0	As an when required
41	MOM of Safety Committee Meeting	MHCPL-EHS-MOM-42	0	As a when-required/Quarterly
42	Daily/Weekly Observation Report	MHCPL-EHS-OR-43	0	Weekly/Daily
43	EHS Objective Tracking	MHCPL-EHS-OT-44	0	Monthly
44	EHS Competency Evaluation matrix	MHCPL-EHS-CEM-45	0	As an when required
45	Training Tracking	MHCPL-EHS-TTR-46	0	As an when required
46	Half-yearly HSE Safety bulletin	MHCPL-EHS-SB-47	0	Half-yearly
47	Risk register	MHCPL-EHS-RR-48	0	Weekly
48	Housekeeping checklist	MHCPL-EHS-CL-48	1	Monthly
49	Safety Inspection checklist	MHCPL-EHS-CL-49	0	Monthly

List of standard operating procedures (SOPs):

List of Standard operating procedures (SOP's)			
Document No.	**Name of the SOP**	**Revision**	**Effective date of after revision**
MHCPL-EHS-SOP-21-01	Blasting	1	16-05-2022
MHCPL-EHS-SOP-21-02	Scaffolding erection & dismantling	1	16-05-2022
MHCPL-EHS-SOP-21-03	Working at height	1	16-05-2022
MHCPL-EHS-SOP-21-04	Hot work	1	16-05-2022
MHCPL-EHS-SOP-21-05	Fixing Temporary and Permanent Electrical Systems	1	16-05-2022
MHCPL-EHS-SOP-21-06	Demolition Of Structure	1	16-05-2022
MHCPL-EHS-SOP-21-07	Concrete works	1	16-05-2022
MHCPL-EHS-SOP-21-08	Excavation	1	16-05-2022
MHCPL-EHS-SOP-21-09	Lifts installation	1	16-05-2022
MHCPL-EHS-SOP-21-10	Confined Spaces	1	16-05-2022
MHCPL-EHS-SOP-21-11	HIRA	1	21-03-2023
MHCPL-EHS-SOP-21-12	COSHH	1	21-03-2023
MHCPL-EHS-SOP-21-13	Objective setting, monitoring & continual improvement	1	16-05-2022
MHCPL-EHS-SOP-21-14	Permit to Work system	1	16-05-2022
MHCPL-EHS-SOP-21-15	Lifting Tools & Tackles and Operations	1	21-03-2023
MHCPL-EHS-SOP-21-16	Workplace Welfare facilities	1	16-05-2022
MHCPL-EHS-SOP-21-17	Material Manual Handling	1	16-05-2022

MHCPL-EHS-SOP-21-18	How to prepare ERP	1	16-05-2022
MHCPL-EHS-SOP-21-19	PPE Management	1	16-05-2022
MHCPL-EHS-SOP-21-20	Management of change	1	16-05-2022
MHCPL-EHS-SOP-21-21	NCR	1	21-03-2023
MHCPL-EHS-SOP-21-22	Stakeholder identification consultation and participation	1	21-03-2023
MHCPL-EHS-SOP-21-23	Waste Management	1	16-05-2022
MHCPL-EHS-SOP-21-24	Skilled workers Roles and Responsibilities	1	16-05-2022
MHCPL-EHS-SOP-21-25	Management and control of work equipment	1	21-03-2023
MHCPL-EHS-SOP-21-26	Road Safety	1	21-03-2023
MHCPL-EHS-SOP-21-27	Training of staff and workers	1	16-05-2022
MHCPL-EHS-SOP-21-28	How to Prepare SOP.	1	16-05-2022
MHCPL-EHS-SOP-21-29	Fire Safety Management	1	16-05-2022
MHCPL-EHS-SOP-21-30	LOTO procedure	1	16-05-2022
MHCPL-EHS-SOP-21-31	Lone / Remote Working.	1	16-05-2022
MHCPL-EHS-SOP-21-32	Legal and other compliance	1	16-05-2022
MHCPL-EHS-SOP-21-33	Infection Epidemic control	1	16-05-2022
MHCPL-EHS-SOP-21-34	Business Travel	1	21-03-2023
MHCPL-EHS-SOP-21-35	Tower Crane erection & Dismantling	1	16-05-2022
MHCPL-EHS-SOP-21-36	PM Hoist (Erection, Testing, Maintenance and Dismantling)	1	16-05-2022
MHCPL-EHS-SOP-21-37	SPB (Installation, Dismantling, and Maintenance).	1	16-05-2022
MHCPL-EHS-SOP-21-38	Batching Plant Installation and Dismantling	1	16-05-2022
MHCPL-EHS-SOP-21-39	Tower Crane operation	1	16-05-2022
MHCPL-EHS-SOP-21-40	Debris Chute Erection Maintenance Dismantling.	1	16-05-2022
MHCPL-EHS-SOP-21-41	Communication	1	16-05-2022
MHCPL-EHS-SOP-21-42	Competency Mapping	1	21-03-2023
MHCPL-EHS-SOP-21-43	Contractor or vendor performance evaluation	1	16-05-2022
MHCPL-EHS-SOP-21-44	Cost analysis for Accidents	1	16-05-2022
MHCPL-EHS-SOP-21-45	DSE Users (Display Screen Equipment)	1	16-05-2022
MHCPL-EHS-SOP-21-46	Noise and Vibration management	0	21-03-2023
MHCPL-EHS-SOP-21-47	Work Place Safety	1	16-05-2022

MHCPL-EHS-SOP-21-48	Occupational Health Monitoring	1	16-05-2022
MHCPL-EHS-SOP-21-49	Safety Management Review	0	21-03-2023
MHCPL-EHS-SOP-21-50	Auditing (External & Internal)	0	21-03-2023
MHCPL-EHS-SOP-21-51	Legionella Control	0	21-03-2023
MHCPL-EHS-SOP-21-52	Safety Budgeting	1	21-03-2023
MHCPL-EHS-SOP-21-53	Safety Inspection	1	16-05-2022
MHCPL-EHS-SOP-21-54	Wellbeing Management	1	21-03-2023
MHCPL-EHS-SOP-21-55	Pressure System	0	21-03-2023
MHCPL-EHS-SOP-21-56	Safety Program	0	21-03-2023
MHCPL-EHS-SOP-21-57	Reporting & Investigation of Accidents, Incidents & Near Misses	0	21-03-2023
MHCPL-EHS-SOP-21-58	Safety culture management	0	21-03-2023
MHCPL-EHS-SOP-21-59	Control of documented information	0	21-03-2023

Safety Inspection format:

List of safety inspection Checklists				
Monthly checklist				
Sl.NO	**Name Of Checklist**	**Document No**	**Revision No**	**Revision Date**
1	Bar Bending Machine inspection checklist	MHCPL-EHS-MI-23-01	1	03-07-2023
2	Bar cutting Machine inspection checklist	MHCPL-EHS-MI-23-02	1	03-07-2023
3	Full body Harness inspection checklist	MHCPL-EHS-MI-23-03	1	03-07-2023
4	Batching Plant inspection checklist	MHCPL-EHS-MI-23-04	1	03-07-2023
5	Excavator inspection checklist	MHCPL-EHS-MI-23-05	1	03-07-2023
6	Tower crane Inspection checklist	MHCPL-EHS-MI-23-06	1	03-07-2023
7	Hydra Inspection checklist	MHCPL-EHS-MI-23-07	1	03-07-2023
8	Transit Mixer inspection checklist	MHCPL-EHS-MI-23-08	1	03-07-2023
9	Electric Vibrator inspection checklist	MHCPL-EHS-MI-23-09	1	03-07-2023
10	Welding Machine Inspection checklist	MHCPL-EHS-MI-23-10	1	03-07-2023
11	Ambulance inspection checklist	MHCPL-EHS-MI-23-11	1	03-07-2023
12	Boom Placer inspection checklist	MHCPL-EHS-MI-23-12	1	03-07-2023
13	Backhoe Loader inspection checklist	MHCPL-EHS-MI-23-13	1	03-07-2023
14	Concrete Pump inspection checklist	MHCPL-EHS-MI-23-14	1	03-07-2023
15	Dumper Truck inspection checklist	MHCPL-EHS-MI-23-15	1	03-07-2023
16	Earth Compactor inspection checklist	MHCPL-EHS-MI-23-16	1	03-07-2023
17	Skid Steer Loader inspection checklist	MHCPL-EHS-MI-23-17	1	03-07-2023
18	Trailer inspection checklist	MHCPL-EHS-MI-23-18	1	03-07-2023
19	Four-wheeler inspection checklist	MHCPL-EHS-MI-23-19	1	03-07-2023
20	Bus inspection checklist	MHCPL-EHS-MI-23-20	1	03-07-2023
21	Pedestal Grinder inspection checklist	MHCPL-EHS-MI-23-21	1	03-07-2023
22	chipping machine inspection checklist	MHCPL-EHS-MI-23-22	1	03-07-2023
23	Circular Saw inspection checklist	MHCPL-EHS-MI-23-23	1	03-07-2023

24	Fire Extinguisher inspection checklist	MHCPL-EHS-MI-23-24	1	03-07-2023
25	Angular Grinder inspection checklist	MHCPL-EHS-MI-23-26	1	03-07-2023
26	Cutting Machine inspection checklist	MHCPL-EHS-MI-23-27	1	03-07-2023
27	Drill Machine inspection checklist	MHCPL-EHS-MI-23-28	1	03-07-2023
28	EOT Crane inspection checklist	MHCPL-EHS-MI-23-30	1	03-07-2023
29	Diesel Generator inspection checklist	MHCPL-EHS-MI-23-31	1	03-07-2023
30	Gas Cutting inspection checklist	MHCPL-EHS-MI-23-32	1	03-07-2023
31	Air Compressor inspection checklist	MHCPL-EHS-MI-23-33	1	03-07-2023
32	Tools and Tackles inspection checklist	MHCPL-EHS-MI-23-34	1	03-07-2023
33	Chain Pully Block inspection checklist	MHCPL-EHS-MI-23-35	1	03-07-2023
34	PDB inspection checklist	MHCPL-EHS-MI-23-36	1	03-07-2023
35	PM Hoist inspection checklist	MHCPL-EHS-MI-23-37	1	03-07-2023
36	Electric motor inspection checklist	MHCPL-EHS-MI-23-38	1	03-07-2023
37	Air Blower inspection checklist	MHCPL-EHS-MI-23-39	1	03-07-2023
38	Forklift inspection checklist	MHCPL-EHS-MI-23-40	1	03-07-2023
39	SPB inspection checklist	MHCPL-EHS-MI-23-41	1	03-07-2023
40	Tractor inspection checklist	MHCPL-EHS-MI-23-42	1	03-07-2023
41	Water Tanker inspection checklist	MHCPL-EHS-MI-23-44	1	03-07-2023
42	SRP inspection checklist	MHCPL-EHS-MI-23-45	1	03-07-2023
43	Wheel Loader inspection checklist	MHCPL-EHS-MI-23-46	1	03-07-2023
44	Paint mixer inspection checklist	MHCPL-EHS-MI-23-47	1	03-07-2023
45	Retractor fall arrestor inspection checklist	MHCPL-EHS-MI-23-48	1	03-07-2023
46	Illumination inspection checklist	MHCPL-EHS-MI-23-50	1	03-07-2023
47	Threading machine inspection checklist	MHCPL-EHS-MI-23-54	1	03-07-2023
48	Rope grab inspection checklist	MHCPL-EHS-MI-23-56	1	03-07-2023
49	Mobile crane inspection checklist	MHCPL-EHS-MI-23-57	1	03-07-2023
50	Bar straightening inspection checklist	MHCPL-EHS-MI-23-58	1	03-07-2023
51	Electric concrete mixer Inspection	MHCPL-EHS-MI-23-59	0	15-05-2024
52	Core cutting machine Inspection checklist	MHCPL-EHS-MI-23-60	0	15-05-2024
53	RCCB Safety Inspection checklist	MHCPL-EHS-MI-23-61	0	23-05-2024
54	Electrical panel inspection checklist	MHCPL-EHS-MI-23-62	0	27-05-2024
Weekly Checklists				
Sl.NO	**Name Of Checklist**	**Document No**	**Revision No**	**Revision Date**
1	Ladder inspection checklist	MHCPL-EHS-MI-23-29	1	03-07-2023
2	RO plant inspection checklist	MHCPL-EHS-MI-23-25	1	03-07-2023
Fortnight Checklists				
Sl.NO	**Name Of Checklist**	**Document No**	**Revision No**	**Revision Date**
1	Housekeeping inspection checklist	MHCPL-EHS-MI-23-53	1	03-07-2023
2	Scaffolding inspection checklist	MHCPL-EHS-MI-23-49	1	03-07-2023
3	Mobile Scaffolding inspection checklist	MHCPL-EHS-MI-23-43	1	03-07-2023
4	Workers camp inspection checklist	MHCPL-EHS-MI-23-51	1	03-07-2023
5	Store inspection checklist	MHCPL-EHS-MI-23-52	1	03-07-2023
6	PPE inspection checklist	MHCPL-EHS-MI-23-55	1	03-07-2023

Abbreviations:

Abbreviations	Full form
OHS & W	Occupational, health, safety & wellbeing
MHCPL	My Home Construction Pvt. Ltd.
EHS/HSE	Environmental, health & safety
EVC	Executive vice chairman
HODs	Head of the department
BOCW	Building & other construction workplace
SWL	Safe work load
LTI	Lost time incident
MTC	Medically treated cases
FAC	First aid cases
NCR	Nonconformity report
UA/UC	Unsafe act/ Unsafe condition
IMS	Integrated management system
PTW	Permit to work system
MOM	Minutes of meeting
SOP	Standard operating procedure
MOS	Methos of statement
PPE	Personal protective equipment
HIRA	Hazard identification & risk assessment
TBT	Toolbox talk
MSDS	Material safety data sheet
TPI	Third-party inspection
P&M	Plant & Machinery
PUC	Pollution Under Control
RCCB	Residual Current Circuit Breaker
LOTOTO	Lock-out, Tag-out, Try-out
ERP/ERT	Emergency response plan/ Emergency response team
MEWP	Mobile elevated working platform
PCC	Plain Cement Concrete
SRP	Suspended rope platform
IS	Indian standards
MOC	Management of change
LPG	Liquefied petroleum gas
SCBA	Self-contained breathing apparatus
RTO	Regional Transport Office
MI	Monthly inspection
WO/PO	Work order/Purchase order
NABL	National Accreditation Board for Laboratories
CPR	Cardiopulmonary resuscitation
ACD	Anti-Collision Devices
RCC	Reinforced Cement Concrete
BBS	Behavioral-based safety
ELCB/RCCB	Earth leakage circuit breaker /Residual Current Circuit Breaker

CONTRACTOR ENVIRONMENT, HEALTH, AND SAFETY (EHS) AGREEMENT

To,

Date:

My Home Constructions Pvt. Ltd
My Home Hub, 3rd Block,
8th Floor, Madhapur
Hyderabad-500081

1. Acknowledgment and Acceptance:

We, M/s_____ (Contractor Company Name), hereby acknowledge that we have received, read, and fully understood the "OHS & Wellbeing Manual" issued by My Home Constructions Pvt. Ltd., Document No. MHCPL-OHS&W-M, along with the associated work order. Furthermore, we assure that all safety rules, regulations, and standards will be ensured and fulfilled.

2. Compliance with Safety Rules and Regulations

The Contractor assured that all employees, agents, and subcontractors will comply with the safety rules, regulations, and conditions outlined in the "OHS & Wellbeing Manual" (Document No. MHCPL-OHS&W-M)

3. Adherence to Penalty Clauses

The Contractor agrees to the penalty clauses stipulated for any unsafe conditions, unsafe acts, or violations of safety issues as mentioned in the "OHS & Wellbeing Manual." The MHCPL reserves the right to recover any penalties from the Contractor's running bills after duly communicating the violations to the Contractor.

4. Penalty Recovery

The MHCPL reserves the right to deduct penalties from the Contractor's running bills for any safety violations. The Contractor will be notified of the violation and the corresponding penalty before any deductions are made.

5. Termination Clause

Failure to comply with the safety requirements and regulations may result in the termination of the contract without any liability or compensation on the part of the MHCPL.

Acknowledgment by the Contractor

I, Mr._____ (Contractor Representative's Name), representing M/s_____ (Contractor's Name), & Work order NO:_____ hereby acknowledge and agree to abide by the terms and conditions outlined in this Contractor Environment, Health, and Safety Agreement & OHS & Wellbeing Manual. If any deviation is noticed by the MHCPL team, we accept the penalties as mentioned in the manual (MHCPL-OHS&W-M).

Signature:

Name of the Contractor Representative's:

Designation:

Date:

Name of the Site:

Signature with contractor company seal

MY HOME CONSTRUCTIONS PVT. LTD.

H NO 1-123,8th FLOOR, 3rd BLOCK, MY HOME HUB, HITECH CITY,

MADHAPUR, HYDERABAD - 500 081.

www.myhomeconstructions.com