

ENVIRONMENT HEALTH & SAFETY PLAN OF A TRANSMISSION LINE IN MANUFACTURING INDUSTRY

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Abstract: To ensure that workers are protected during construction activities, all projects must have a construction safety management program in place to ensure compliance with mandated codes and standards. The Environment, Health & Safety (EHS) Plan is required of each construction project. Environment Health & Safety plan is a written set of guides for managing site health and safety matters. The EHS plan must be prepared by the main contractor before the project is commenced. It is important that the safety plan is understood by every staff and worker on the site and be made available at all times. It addresses those activities (normal and emergency situations) associated with work to be performed. The outline of project EHS Plan contains objective of project, description of project, resources and organization chart, roles and responsibilities of all, details of project EHS committee members, EHS risk assessment and safe work procedure for all activities, list of applicable legal & other requirements, work permit system to be followed, emergency response plan to deal with emergency situations, list of PPE applicable to perform the specific activity & their standard, training calendar and communication/reporting system. EHS Plan assisting the project management team to perform their tasks in a normal and emergency situation. The field staff and the Site Safety professional will implement this plan during site work. Compliance with this Environmental, Health, and Safety (EHS) Plan is required of all persons and third parties that perform fieldwork for project. The content of this EHS Plan may change or undergo revision based upon additional information made available to health and safety personnel, monitoring results, or changes in the technical scope of the work. Any changes proposed must be reviewed by the field staff/safety professionals and are subject to approval of the management.

Keywords: Environment, Health & Safety (EHS), work permit system, Manufacturing Industry.

1. INTRODUCTION

Environment Health Safety (EHS) Plan is an important component of overall planning and implementation of projects. Industrial activities, including those associated with the construction projects are reviewed and approved by Government agencies through a variety of approvals, authorisations and permits addressing issues ranging from human health and sanitation and wildlife habitat avoidance or protection. The EHS Plan is an important integration document between the various approvals, authorisations and permits issued for specific components and/ or activities of the undertaking.

This EHS plan outlines the contents of construction and operational phases both and roles & responsibilities of each related to projects for implementing the EHS plan and ensuring that all personnel are informed about the EHS plan and the requirement to implement the procedures it contains. The EHS plan is intended as a quick reference for Project personnel and regulators to monitor compliance, and is structured to allow updates and revisions as work continues.

2. LITERATURE SURVEY

Health and safety measures play vital role in all industry. It is the basic thing that the specialists know about the different type of occupational health problem in the workplace. In the meantime, it is essential that the management find the solution to protect the labor from critical situation. The following recommendations are improve the health and safety conditions in textile unit:

In order to minimize the exposure to cotton dust, workers are advised to wear masks. Appropriate dust control

equipment should be set up to reduce the workers exposure to dust. In units where there is heavy exposure to hazardous chemicals, workers are advised to wear safety gloves. Medical examination to be conducted once in six month by the employers for the workers. If significant occupational health issues are observed, appropriate action should be taken by the management.

Building & Other Construction Workers(Regulation Of Employment And Conditions Of Service) Act, 1996

Under CHAPTER VII of BOCW act **safety and health measures** mentioned as

Rule 38. Safety Committee and Safety officers:

(1) In every establishment wherein five hundred or more building workers are ordinarily employed, the employer shall constitute a Safety Committee consisting of such number of representatives of the employer and the building workers as may be prescribed by the State Government: Provided that the number of persons representing the workers, shall, in no case, be less than the persons representing the employer.

(2) In every establishment referred to in sub-section (1), the employer shall also appoint a safety officer who shall possess such qualifications and perform such duties as may be prescribed.

Rule Emergency action plans:

Under Part-III of Safety and Health of Chapter-IV general provisions

An employer shall ensure at a construction site of a building or other construction work that in case more than five hundred building workers are employed at such construction site emergency action plan to handle the emergencies like—

- (a) fire and explosion;
- (b) collapse of lifting appliances and transport equipment;
- (c) collapse of building, sheds or structures, etc.;
- (d) gas leakage or spillage of dangerous goods or chemicals;
- (e) drowning of building workers sinking of vessels; and
- (f) land slides getting building worker buried, floods, storms and other natural calamities, is prepared and submitted for the approval of the Director General.

3.METHODOLOGY

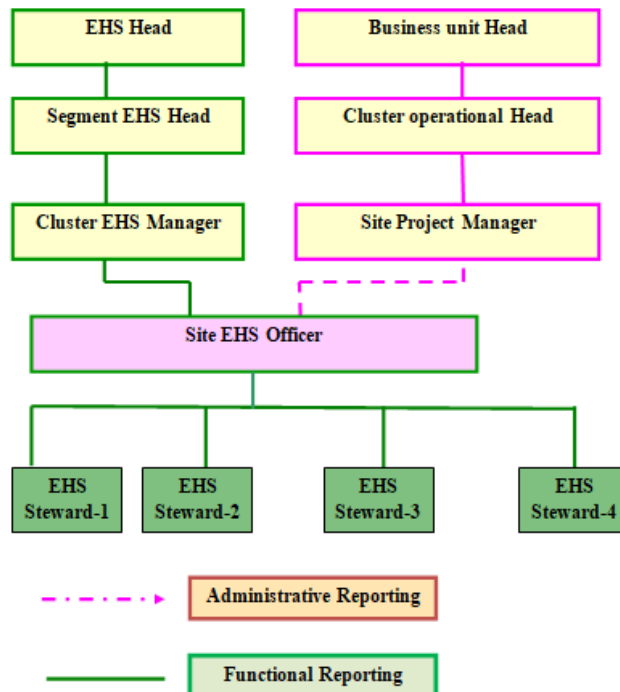


Figure.3.1 EHS Organization Chart

Roles & Responsibilities

The roles & responsibilities of Project Manager, site EHS officer, contractor, site engineers and project EHS committee members and remaining are defined in this section.

Functions / Activities	Roles / Responsibilities / Accountabilities & Authority
EHS Policy & Objectives	<ul style="list-style-type: none"> Responsible & accountable for the implementation of EHS policy at his workplace. Delegate responsibilities and authorities to implement EHS at workplace. Device methodology to achieve the target set to meet the EHS Policy objectives.
Legal	<ul style="list-style-type: none"> Responsible & accountable for the compliance of all applicable legal requirements related to EHS at project site.
IMS	<ul style="list-style-type: none"> Responsible to implement the EHS Management System and norms as per the IMS and EHS Manual respectively
Competence, Training & Awareness	<ul style="list-style-type: none"> Ensure right people are deployed for right job. Ensure the competence of subcontractors engaged with respect to health, safety & environment. Accountable in ensuring adequate resources are provided to impart training for the employees, workmen, sub-contractor & Visitors Establish adequate control measures for the employees fitness in order to avoid fatigue, stress, extended working etc.
Performance Monitoring	<ul style="list-style-type: none"> Chair the Project EHS Committee and ensure its effective functioning. Conduct EHS Inspections & ensuring on prompt actions. Review and monitoring EHS performance of the project Establishing Campaigns, Motivational Programmes & punitive measures.
Incident Investigation & initiating corrective & preventive action	<ul style="list-style-type: none"> Participate in Investigating incidents & initiate necessary corrective & preventive actions.
EHS Statistics	<ul style="list-style-type: none"> Appraise the EHS performance and implementation status to the management.

Table.3.1 Project Manager

Site EHS Officer

Functions / Activities	Roles / Responsibilities / Accountabilities & Authority
Legal	<ul style="list-style-type: none"> Monitor the evaluation of compliance to legal requirements as identified by the Cluster EHS Manager at the prescribed frequency. Appraise the project manager & CEHSC/M on matters of non-compliance and facilitate compliance.

Integrated Management System	<ul style="list-style-type: none"> Facilitate in establishing EHS requirements at workplace Ensure the implementation of the EHS Management System and norms as per the IMS and EHS Manual respectively
Training	<ul style="list-style-type: none"> Identify the training needs, designing and imparting training for staff, visitor, subcontractor and workmen.
Performance Monitoring	<ul style="list-style-type: none"> Conducting periodical Site EHS Inspections & report the finding for corrective action. Act as catalyst for the Project EHS Committee activities. Review & appraise the site EHS performance and facilitate for improvement. Ensure the proactive performance monitoring through systems such as Key Performance Indicator on EHS.
Incident Investigation & initiating corrective & preventive action	<ul style="list-style-type: none"> Conducting investigation of all incidents & initiate necessary corrective & preventive actions at sites. Analyze incident trends & initiate necessary corrective & preventive actions at sites
EHS Statistics	<ul style="list-style-type: none"> Reporting the site EHS statistics
Planning	<ul style="list-style-type: none"> Preparing and updating Project EHS Plan. Preparing EHS Risk Assessment & Safe Work Method. Timely reporting of EHS shortcoming to project manager for continual improvement.
Campaigns & Competitions	<ul style="list-style-type: none"> Organize campaigns, competitions & other special emphasis programs to promote EHS at workplace
Emergency Response	<ul style="list-style-type: none"> Act as a catalyst for establishing, implementing & maintaining emergency preparedness and response procedure at project sites.
Accountabilities	<ul style="list-style-type: none"> Accountable for appraising the management for Project EHS Plan implementation. Conduct EHS inspections as per monthly schedule. For reporting UA/UC not attended by the line staff. Carryout RA for all identified activities. Prepare and sent to weekly & Monthly report to CEHSC/M Issue violation memo in case of EHS Violation Verify the quality of PPEs & Safety gadgets
Authority	<ul style="list-style-type: none"> Access to records, information, property or plans to make work place safety evaluation. Physical access to all areas of the site to perform surveys, inspection, or other site safety related activities. Suspend work activities on behalf of line management if imminent danger exists which may immediately cause harm or occupational illness. If imminent danger exists, the Safety Officer is authorized, to stop work activities.

Table.3.2 Site EHS Officer

Site Engineers

Site Engineer	<ul style="list-style-type: none"> • Understanding the EHS requirements of the Project & following the same in execution of the work. • Responsible in selecting & engaging the workmen and ensuring that they are engaged only after completion of screening system & EHS Induction. • Participate in the preparation of EHS Risk Assessment, safe work method and implement the safe work method. • Responsible to implement the EHS Management System and norms as per the IMS and EHS Manual respectively. • Ensuring the workmen under him wear the necessary personal protective equipment respective to the job • Eliminating all unsafe conditions in their work area • Participating in the Project EHS Inspection along with the EHS Engineer / Officer or the committee Members. • Giving Pep talk in co-ordination with EHSO to the workmen working under him highlighting the risk involved in the task. • Obtain work permit as per client requirements or company EHS Management System before starting work requiring a work permit. • Report all incident to EHS Engineer immediately verbally & submitting the preliminary incident report within 12 hours • Informing the concerned authority as per the emergency response plan.
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Table.3.3 Site Engineers

Project EHS Committee Members

Functions / Activities	Roles / Responsibilities / Accountabilities & Authority
EHS Committee	<p>In addition to their normal EHS Responsibilities, they are also responsible</p> <ul style="list-style-type: none"> • To participate in meetings regularly as per schedule to discuss and decide the ways and means to achieve the EHS objectives and targets. • To take active participation in the KPI on EHS walk down • To suggest suitable measures to improve the EHS performance and meet the EHS objectives and targets. • To facilitate the implementation of EHSMS by providing the necessary resources required. • To set a role model to adopt and follow the EHSMS in the project / clusters. Active participation and motivation for the EHS campaigns, Celebrations, Competitions and other propaganda.
Accountability	<ul style="list-style-type: none"> • Attend the meeting as and when scheduled. • Take Corrective & Preventive Action & Close NCs • Set a role model to adopt and follow the EHSMS in the project
Authority	<ul style="list-style-type: none"> • Take appropriate action in case of EHS Violation

Table.3.4 Project EHS Committee Members

Sub-Contractors

	<ul style="list-style-type: none"> • All Subcontractors/ Vendor/ Supplier/ Third Party performing services at the Project shall follow the project EHS rules & requirement. • Ensure right workmen for the right job.
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Subcontractor	<ul style="list-style-type: none"> • Ensure workers are screened and imparted EHS Induction before they are deployed at workplace. • Ensure adequate supervision at workplace, and promptly report the EHS deviations to the Engineer concerned and rectify the same. • Report any injury or incident immediately. • Shall understand the EHS code of conduct for subcontractors and sign the same as a token of their acceptance before starting the activity. • Subcontractor, his Supervisor and his workmen shall adhere all the laid down EHS rules & Regulations while working at site, follow the instruction / advice of Site engineer & EHS Engineer / Officer from time to time.
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Table.3.5 Sub-Contractors

4. PROJECT EHS COMMITTEE

Project committee members are each person from each department including subcontractor. A committee will be formed & every month EHS meeting will be conducted. The MOM of meeting is circulated to all persons.

CIRCULAR

Committee

The following EHS Committee is constituted

Chairman : Mr. Project Head

1) Member-1

2) Member-2

3) Member-3

Secretary : Site EHS Officer

Periodicity

The committee will meet at least once in a month on tentative date.

Agenda

Secretary will circulate agenda of the meeting at least two days in advance of the schedule date of the meeting.

Circulation

Gist of the meeting will be minuted in the standard format and circulated to the following under the signature of the secretary ---

1. Chairman

3. Invitees

2. Members

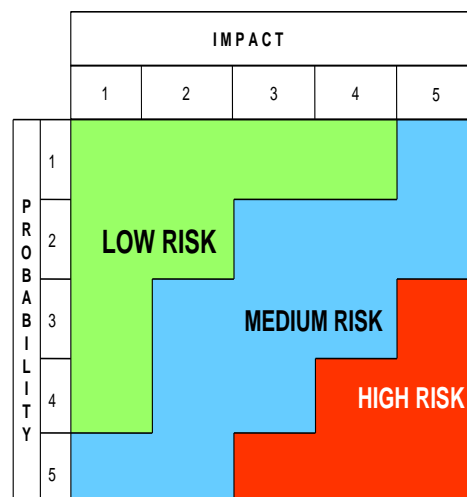
4. CEHSM

5. Others concerned

Date: _____ Signed By:

CHAIRMAN

Matrix for Hazard Identification Risk Assessment



3. PROBLEM IDENTIFICATION

Training Topic / Training Requirement	EHS Induction	EHS Plan Briefing	Concreting Safety	Electrical safety	Emergency response plan	Environment Safety	Excavation Safety	Fire prevention & Control	Handling & Storage of Materials	Material handling Safety	Occupational health Safety	Plant & machinery Safety	PPE' s	Work at height Safety
PM / CM		√	√		√	√		√						
Site Engineers	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Site Supervisors & Foreman	√	√	√	√	√	√	√	√	√	√	√	√	√	√
EHS Supervisors / Steward	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Sub-contractor	√			√	√	√					√		√	
P&M Supervisor, Technician & Helper	√	√		√	√	√		√	√	√	√	√	√	√
Drivers, Equipment Operators & Helpers	√		√	√	√			√		√	√	√	√	√
Bar bending workmen	√		√	√	√			√	√	√	√		√	
Security personnel	√			√	√	√		√			√			
Visitor	√				√			√						

Table.4.1 Trade wise Training details

5.COMMUNICATION AND REPORTING

Cascading Information

Cascading any EHS messages down the line is vital for the success of any EHS Management System and to ensure that all personnel are aware of EHS issues the following technique shall be adopted.

CONCLUSION

Any lifting activity requires systematic approach to handle all unexpected situations and it will play major role in preventing loss of life, company reputation and property damages. Particularly in metro construction industries it is necessity to give paramount importance to safety of lifting operations. In any industry for execution of safe lifting operations, Always need to keep in mind fitness of lifting equipment and lifting accessories, competency of the lifting team, each high-risk lifting activity must have dedicated lifting plan, never overload cranes and slings than its safe working load, a proper communication needs to setup with defined signals to avoid confusion, traffic diversion and traffic management plan is key requirement to metro sites as these activities having interface with public vehicle and to ensure road safety. In recent years accidents related to lifting are reduced in the metro industries as compared to previous times, it is because of companies are giving highest priority to safety of the people. Also, National Safety Council & Regional Labour Institutes are conducting regular technical trainings on lifting operations to develop competencies in different industries based on their needs

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