

Monsoon Safety

HSE Plan

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1. Scope & Objective

The scope of the document is applicable to everyone involved in the work activity at the work site, including the company hired workers, contractors, sub-contractors, and visitors.

The primary objective of the document is to ensure provision of a SAFE AND HEALTHY working environment at the workplace, and prevention of any accident/incident during the monsoon season.

2. Leadership and Commitment

Organization's management is responsible to provide demonstratable leadership and commitment as per the Article 16 of ILO convention C155 which requires an employer to provide safe working environment to workers and take care of them.

Management and leadership will take active part in the HSE planning and provide resources to implement the HSE plan at the worksite during the routine and non-routine work activities.

Management of the organization will comply with the regulations and ensure the non-compliance is avoided, and the work activities related risk is **As Low As Reasonably Practicable (ALARP)**.

3. Responsibilities

The organization has responsibilities to fulfill similarly the individual management is towards workers.

3.1. CEO/ MD

1. Take part in the planning and discussions, form safety committees, and appoint a competent and well-experienced HSE representative.
2. Develop and implement an HSE policy at all levels of the organization to demonstrate the management commitment towards workers health and safety at the work place.
3. Provide resources to implement the HSE management system and planning in an effective manner.
4. Provide assistance and guidance to conduct the risk assessments, incident investigations, audits, and job safety analysis.
5. Ensure the additional rainy-season related safety measures are adapted and implemented at all levels of the organization.

3.2. HSE Engineer/ Officer

1. Provide assistance to the worksite management in implementation of the HSE management system.
2. Conduct risk assessment, job safety analysis, worksite inspection, test the equipment and maintain the records.
3. Investigate the incidents and maintain record.
4. Train the workers for general safety and task-specific safety requirements as per training plan.
5. Provide assistance in performing the work activity in a safe manner.
6. Inspection of the electrical appliances specially during the monsoon season.
7. Provision of the information on safe work method statement during monsoon.
8. Adaption of the preventive water logging measures in the workplace.
9. Other responsibilities allocated by the management.

3.3. Area In-charge/ Site Engineer

1. Ensure safe conditions at the workplace, implement the HSE management system, and preventive actions.
2. Ensure the PPEs issued are in good condition, well maintained, and inspected before use.

3. All incidents and accidents are reported, and investigated to stop recurrence.

4. Risk Assessment

Organization is liable to conduct the Risk Assessment of working in a rainy weather. Job Safety Analysis will be performed as well to define the job activity and take preventive measures. The objective of the risk assessment is to identify the Hazards associated with the job activity, evaluate the corresponding risk level, and check if the existing controls are sufficient to keep the risk level to acceptable level.

5. Unsafe Conditions and Precautions

The work place, the work activity, and work equipment can be in dangerous condition specially in the monsoon season if correct precautions are not adapted. Hence, it is mandatory, that the hazardous situations are identified and correct preventive actions are selected and implemented.

The list of hazardous situations is listed below, so relevant preventive actions should be adapted. If needed, relevant inspection checklists should be used to inspect the work equipment and ensure they are safe for use.

5.1. Electrical & Mechanical Equipment Safety

S/#	Unsafe Condition	Action to take
1	Short Circuit	All of the equipment can be wet due to rain, hence inspect the electrical appliances, switches and boards before use and if required use checklist.
2	Flash Over	The equipment or appliance when switched on due to wet conditions, can throw flame, or demonstrate Flash Over. Hence it is mandatory that it is inspected and handled with care.
3	Bulbs and lights damaged, broken, or fused.	The bulbs, lights, can be damaged due to rain, not in good condition, and when switched on can cause electrocution, eve explosion. The operator is required to ensure the equipment is not wet, there is no water ingress, the switch and plug are dry. Once satisfied, the appliance should be switched on. If the appliance is fused use the PPEs to change the appliance.
4	Nonfunctioning of the appliance or gauge	The appliance can be damped due to humidity or rain water if left outside. Hence it is mandatory the appliance is inspected, tested, and once satisfied, then switched on for usage. If the gauge or needle is not working, the competent person should inspect it.
5	Current leakage to the outer body	Due to damping or short circuit the body can be earthed and current can leak to the outer surface. Hence it is mandatory the equipment is earthed properly by a competent person.
6	Earth Leakage Circuit Braker (ELCB) & other Earthing arrangements malfunctioning	It must be ensured due to humidity and rain water ingress into equipment, the appliance can cause electrocution, hence testing is mandatory.
7	Extension malfunctioning and joints failure	Extensions used for power supply can cause electrocution, and fire as well. Short circuit is possible. It is recommended the suitable extension should be used. For long range, a

S/#	Unsafe Condition	Action to take
		continuous wire extension usage is mandatory. Joints are not recommended at all.
8	Power tools usage during rain	Usage of power tools during the rain is not recommended. In covered areas, usage is suggested, but in open areas don't operate the power too.
9	Welding in rain	Welding in the rain is not recommended, should be performed only in dry time, as well as on the dry component. The surface should be free of water or humidity.
10	Electrical installations maintenance	The electrical installations should be maintained and well inspected by a competent person on regular intervals. Furthermore, the reach to this installation should be obstacles free.
11	Underground cable surfacing	Identify the underground cable using appropriate equipment, detector, or safe digging.

5.2. Rain Water Logging

S/#	Unsafe Condition	Action to take
1	Invisible trench	Trench/ ditch/ excavation can become invisible due to accumulated water, hence the site manager/in-charge should place the yellow ribbon at height around the ditch to indicate the location.
2	Draining overflowing	The drains should be cleaned before monsoon season, and before rain they should be cleaned properly. All kind of debris and discarded items should be removed.

5.3. Onsite Traffic Management

S/#	Unsafe Condition	Action to take
1	Road condition	The roads at the worksite dedicated for the vehicle movement should be inspected before and after the rain to ensure the pits are filled, and if required refill after rain.
2	Signs and markings	All signs and marking should be in good form, so that the vehicle is moved at the site accordingly.
3	Vehicle parking	Vehicles should be parked at the worksite parking area, and covered properly if loaded vehicle is parked.
4	Break mechanism	The water can ingress in the brake shoes so their dryness and maintenance should be maintained.
5	Road surface slippiness	After rain, the vehicle can slip on the road hence ensure the roads are dry and well maintained.
6	Stop distance increase	Stop distance for the vehicles can increase so the drivers should be trained and experienced to control the vehicle.
7	Skidding	The driver should drive the vehicle slowly on dry path.
8	Driving during rain	The vehicle should be provided with vipers in functional state, as well as the headlights should be switched on.
9	Driving near fragile excavation edges	The edges of the excavation are fragile and rain water makes it soft further, hence driving at a distance is recommended.

10	Invisible ditches/ excavation/ pits	The invisible ditches pose a serious threat to the vehicle and everyone, so before rain the pits should be filled, and if not possible, clearly marked or barricaded.

5.4. Work At Height

S/#	Unsafe Condition	Action to take
1	High winds	The working at height e.g., at ladder, scaffolding during high wind or rain is not recommended. The work should be stopped during the high winds at the height.
2	Unbalance	The working platform can topple and become unbalance so the working platform should be properly secured, and if it is ladder then it should be retracted and placed on a safe location.
3	Emergency situations	The worker can encounter the emergency situation and unbalance at the work platform at height is possible, so the workers should be trained to stay calm, assess the situation, and take corrective action out of the available possible actions.
4	Roof working	The workers should be instructed to stop the job at the roof in high winds and retreat to the safe location.

5.5. Lifting Activities & Equipment

S/#	Unsafe Condition	Action to take
1	Lifting Activity	The lifting activity at the worksite with lifting equipment e.g., mobile crane, or tower crane should be stopped.
2	Exposed controls	The exposed controls e.g., controls of tower crane should be properly insulated.
3	Rusting of the parts	The unpainted parts can become rusted due to rain; hence they should be regularly painted to avoid any structural decay.
4	Soft ground	The soft ground can be a hazardous area for vehicle, so avoid operating or moving the equipment on soft ground.

5.6. Material & Equipment Storage and Stacking

S/#	Unsafe Condition	Action to take
1	Material storage	The material stored at the site can get contaminated with rain water, so stacking on the pallets is recommended, at a dry and safe location.
2	Power Tools	The power tools should be placed at a safe location after shutting down and switching off the power supply.
3	Metal catches the rust	Due to humidity level in the air during monsoon, the metal surface exposed to the air can get rusted. Storage should be moisture free of, if possible, paint the exposed surface.
4	Drawings and documents	The documentation should be placed in a safe location at the worksite.
5	Lifting accessories	Check before use and if defect is found, report it.

S/#	Unsafe Condition	Action to take
6	Reactive chemical storage	The chemicals reactive to the moisture should be stored in a safe manner, the proper PPEs should be used.
7	Labelling and marking	All chemicals and substances should be labelled and properly marked to ensure their easy identification.
8	Emergency Arrangements	The emergency arrangements e.g., spill containment kit, fire extinguisher should be available at the storage location.
9	Stored waste liquid, oil, substance collection pits, overflow	The pits should be vacated at reasonable time, and disposed of at the government collection facility or handover to the approved government collection contractor.
10	Chemical vats overflow	The chemicals should be disposed off frequently.
11	Chemical's reaction to moisture	All of the chemicals should be stored in a dry place. The storage should be as per Material Safety Data Sheet (MSDS).

5.7. Lightning

S/#	Unsafe Condition	Action to take
1	Movement during lighting	The individuals shouldn't be allowed to move or go out when it is lightning.
2	Sheltering near the metal structure or touching it	Lighting can strike any metal object anywhere even the individual so never take refuge near the metal structure or touch it at all.
3	Tree toppling	The lighting can hit the trees and they can collapse or catch fire, maintain safe distance.
4	Metal structure grounding/earthing	A competent person should inspect the structure and do the grounding activity.
5	Lighting strike	No loitering in the open area.

5.8. Inspects, and Animals

S/#	Unsafe Condition	Action to take
1	Inspects and venomous serpents	Insects and venomous serpents or snakes can get out of their hideouts during the rainy season, be careful. Use of long safety shoes is recommended.
2	Unknown Hideouts	Inspects and snakes take refuge in the hideouts like pits, corners, discarded items, under the objects, or storage tanks hence they should be kept cleared, open, and when working nearby lighting arrangement should be proper, the long wood sticks should be used to move the objects when inspecting the area.
3	Insect bite	Use proper PPEs, and check them properly before use. Enter the area with lights and wood sticks of good length.
4	First Aid	Ensure the worksite is provided with first aid arrangements, and anti-venom vaccine is available at site. A trained first aider and General Physician should be available onsite during the work activity.
5	Buckets Usage	Inspects and snakes should be captured by a trained person using a properly manufactured bucket and long stick built for this purpose.

		If no one is trained enough to perform this task, a safe distance should be maintained and monitor the insect or snake movement, while other staff members should notify the relevant authorities using the emergency number, for safe removal of the insect or snake from the site.

5.9. Water-borne Diseases & Hygiene

S/#	Unsafe Condition	Action to take
1	Contaminated low quality water drinking	Drinking contaminated water can cause diarrhea, hepatitis, cholera. The water of good quality should be used. The containers should be fully covered and sealed. On regular basis, the articles should be cleaned on regular basis.
2	Disease spreading	The water of good quality should be used. It must be ensured the workers are vaccinated.
3	Sanitation	The toilets, and sewage lines should be maintained properly.
4	Water borne diseases	The high level of cleanliness should be maintained.
5	Food quality	The food quality should be of good standard. The food should be kept in a safe place to avoid contamination.
6	PPEs usage and medical screening	The PPEs recommended for monsoon season should be used properly. During and after the season, regular medical screening should be performed.
7	Bare-foot movement	No one should be allowed to the enter the worksite or move around bare foot. If there is any infection due to soil, avoid going on site. The workers should be screened medically on periodic basis.

5.10. Emergency Response

S/#	Unsafe Condition	Action to take
1	Flood at site	Ensure the water drains are not blocked. The water levels in the deep areas are marked and properly measures. The workers should be evacuated to safe location.
2	Delayed Rescue service	The rescue service can arrive late at the worksite due to blocked passage, or entry gate. The entry points should be labelled and clearly marked.
3	Difficulty in approaching accident location	The worker familiar with the areas should be hired as emergency response team member or as a guide.
4	Power outage	The power outage is possible during emergency situation; hence an emergency backup system should be provided with main supply.
5	Liquids spillage	The liquids spillage is possible; hence the escape routes should be provided away from the liquid spillage spot. Spill containment kits should be available. If the spill is massive, inform the emergency services.

6. Instruction

- The whole team should be trained for the working activities during the monsoon season.
- All kind of incidents, spills, emergency situations should be reported to the higher management for proper investigation & adaption of controls.
- All of the work force should be provided with the relevant information, instruction, guidelines, and Personal protective equipment of approved standard for job execution.
- First aid kit and trained first aider should be deployed at the worksite for routine job.
- First aid arrangements with proper equipment and accessories should be made.
- Anyone who doesn't comply with the rules should be held accountable for breach of rules.

7. Documentation Required

1. All of the work activities requiring PTW should be commenced after acquiring PTW.
2. The work areas should be inspected for using checklist.
3. All of the chemicals should be provided with the MSDS.
4. All of the equipment and appliances should be inspected by competent person.
5. Incident and investigation reports should be issued to relevant authorities.

8. Emergency Response Plan

A comprehensive Emergency Response Plan should be developed by a competent team and all activities should be included in it so that relevant controls are adapted. The ERP should be documented, approved, and delegated to everyone.

The emergency Response Plan shall contain the following information as well;

1. Worksite Name
2. Worksite Manager Name
3. Worksite Engineer Name
4. Worksite Administrator Name
5. Worksite Safety Officer Name
6. Security Guard Head & Team Name
7. Contact Details
8. Emergency Services Contact Details

A copy of the plan shall be placed at the worksite for record while the master copy will be available at the head office. The emergency response plan shall be reviewed at regular intervals and accidents, so that it is always active. The changes in the Emergency Response Plan shall be recorded and record shall be maintained.

9. Training

All of the work activities which required training should be performed only after worker's training. The training record shall be maintained, and on regular intervals refresher courses shall be conducted.

10. Annexures

1. Inspection Checklists
2. Work Permits

3. Emergency Response Plan
4. Equipment List
5. Workers List
6. Workers Training Record & Certificates
7. Toolbox Talks