



HSE PROCEDURE

FOR EMERGENCY PREPAREDNESS & RESPONSE

HSE PROCEDURE
FOR
EMERGENCY PREPAREDNESS AND RESPONSE
(HSEP: 06)



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BHARAT HEAVY ELECTRICALS LIMITED
INDUSTRIAL SYSTEMS GROUP



HSE PROCEDURE FOR EMERGENCY PREPAREDNESS & RESPONSE

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Terms and Definitions

The following terms, abbreviations and definitions are used in this plan:

Terms	Explanation
HSEP	Health, Safety and Environment Plan
EPRP	Emergency Preparedness and Response Plan
CM	Construction Manager who heads site construction team
Assembly Area	A safe pre-designated open space where persons must assemble after evacuation
Emergency	Any unplanned and unwanted event generated internally or externally, which has caused or has potential to cause significant damage to personnel, the public, product, property, plant, equipment, the environment and / or the Business and requires an immediate response.
Emergency Response Team (ERT)	A structured organization of staff that organizes and supervises the response and safe movement of staff in an emergency.
Emergency Response Coordinator (ERC)	The person in charge of evacuating a site and heading the Emergency Response Team (ERT).
Main Evacuation Point	A place of safety outside the building where persons evacuating the building or the part are expected to assemble under the building's Emergency Response Plan. This area is established to check that persons are accounted for, to brief persons evacuated on future action, and to prevent re-entry.
Evacuation	Evacuation is the movement of people from immediate danger to safety in a quick and safe manner.
Evacuation Route	The designated route to the final place of safety. To be maintained clear at all times.
First-Response Evacuation Instructions	Instructions and training in the method of operation and use of manually operated evacuation alarms and firefighting equipment on the site.



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1.0 Purpose

The objective of this EPRP is to ensure incident planning and response procedures are managed effectively during construction and outlines the general procedures for initiating an emergency response that could occur as a result of project construction works or natural causes.

This plan will also provide guidance on the subsequent management and communications in response to, potential and actual emergencies which may occur on or impact the project site.

During construction some specific areas may require alterations to the planned control measures due to changing circumstances. In these situations, the planned control measures will be reviewed, risk assessed and, where appropriate and practical, amended as necessary prior to commencing new or modified activities.

This EPRP aims to satisfy the following objectives:

- Address the requirements outlined in the site HSE plan
- Address the requirements of the relevant legislation as it applies to this project
- Documents operational control procedures to control potential impacts on Health, Safety and Environment

Incident Planning & Response

Minor incidents defined as non-critical, regarding both Safety and Environment are managed through the Site HSE Plan and their related procedures.

An emergency situation is an event that could present significant risk to the environment, personnel or the community, property as determined by the site HSE Manager or the HSE Representative.

All incidents will be reported immediately to a Supervisor who will contact the HSE Manager or appointed HSE Representative. All incidents with significant impact or potential significant impact will be investigated and the appropriate course of action will be taken to address the issues.

The HSE Representative has the authority and independence to require reasonable actions to avoid or minimize unintended or adverse impacts, and failing the effectiveness of such actions, to instruct that relevant actions be ceased immediately should an adverse impact be likely to occur.

This document is auxiliary to the site HSE plan wherein the EPRP is briefly discussed. This document is reasonably elaborate on salient points of EPRP. It shall be noted that in any construction site, location of facilities and road layout are, by and large, temporary. In addition, access to the main project road and subsequently public road may not be as convenient as in case of a permanent installations (post-commissioning). Hence the condition at site is always dynamic and so will be the evacuation route, assembly point. Exact identification of these routes and assembly points, fire points on a map is not realistic. However, the same shall be regularly updated and notified suitably among the construction team and the customer.

Off-Site Emergency Plan

This document details the emergency planning where affected area is limited to project site. In case any emergency can potentially affect the nearby areas, availability of an “offsite emergency Plan” in consultation with customer and local regulatory bodies to be ensured.

2.0 Scope

This procedure is applicable to all activities, products and services of BHEL Industrial systems group

Procedure

Emergency Response Team Formation

An Emergency Response Team, consisting of following members is to be identified at each site as per Format No. **HSEP06:F01**:

Role	Name
Site In-charge (Site Main Controller):	To be identified
Section In-charge (Area Controller):	To be identified
Fire officer /shift Fire in charge:	To be identified
Medical Center/ First aiders	To be identified
HR / Admin and HSE Teams:	To be identified
Emergency Response Coordinator	To be identified
Assistant/Deputy Emergency Response Co-coordinator	To be identified
Local Area Controller	To be identified
First Aider	To be identified
Security Head	To be identified

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3.2 Roles and responsibilities

All concerned to be apprised of their responsibilities as per following table:

	Agency	Detailed Responsibilities w.r.t. Emergency Preparedness & Response
1.	Site Construction Manager (Site Main Controller)	- Immediately on receiving message regarding emergency, will proceed to their cabin and fill their role as Main Controller and activate the Emergency Control Room and Emergency Management Team. - Take strategic and technical decisions in line with the incident scenario to mitigate the cause of emergency. - Provide leadership and guidance to the Emergency Management Team. - As soon an emergency call is received they shall inform respective Section In-charge. - Call for available resources Fire, Medical, Security as needed based on emergency situation. - Stay in contact with Section In-charge for coordination efforts of resources and evacuation of personnel. - Ensure head count is conducted and received. - Notify Owner representative of situation and plan.
2.	Section In-charge (Area Controller)	- To identify Local Area Controllers in their area - If not at the location, once notified of an emergency will proceed to the area and act as an incident controller if safe or as appropriate based on the nature of emergency. - Will be overall in-charge of the area situation in consultation with emergency responding offices and mobilized resources in coordination with Main Controller. - Will assess the situation and take necessary action to control the emergency and give necessary instruction to site personnel as necessary and appropriate. - Will evaluate if fire emergency and attempt to extinguish if safe and in incipient stage and assist injured as applicable. - Shall instruct the sub-contractors and ensure that all non-essential employees are moved to safe assembly point and organize head count. - Ensure safe evacuation of site personnel to safe assembly point in coordination with Main Controller. - Shall keep in contact with Main Controller keep them informed about site situation and seek directives for mitigation of emergency. - Communicate with shift Fire Officer of fire condition and rescue measures. - Communicate with shift Security Officer Assist in barricading the affected area. - Communicate with shift Medical for transporting of casualties, if any.
3.	Fire Officer / Shift Fire in charge	- Respond to the emergency call with fire crew in first turn out. Report to Incident controller at site of emergency. - Decide line of control action in consultation with Section In-charge/Incident Controller for firefighting and other control actions including evacuation of trapped personnel. - Deploy auxiliary fire squad for assisting fire crew.



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		• Ensure safety of the crew members • Keep in constant contact with Emergency Control Room and Team. Security officer / In charge. • Instruct and deploy security personnel at security posts/gates and around the affected area. • Communicate with the auxiliary fire squad at emergency site immediately on receiving emergency call to ensure their mobilization. • Cordon off the affected area and guide traffic /emergency vehicles and manage crowd control by dispersing unnecessary persons from the area. • Ensure vigilance at security posts /gates and be in contact with area manager and other members connected with firefighting or rescue operation. • Mobilize for evacuation of personnel to safe locations/assemble point.
4.	Medical Center	• Upon receiving notification of an emergency, anticipate the casualties and prepare accordingly as per medical response plan. Inform Medical Staff and nearest Hospital in advance. • Dispatch ambulance to incident site along with necessary staff. • Provide medical treatment/first aid as necessary.
5.	HR / Admin and HSE Teams	• Coordinate with Main Controller and all other Emergency Management Team members and Government agencies as per requirement. • Identify appropriate Assembly Points at project site, provide directions and marked areas clearly. • Assist with arrangement of necessary PPE and use of such PPE's. • Support the Emergency Management Team as directed and/or necessary based on situation.
EMERGENCY RESPONSE TEAM		
6	Emergency Response Coordinator	On becoming aware of an emergency, the emergency response coordinator shall take the following actions: • Raise the alarm for an emergency response Contact / communicate with emergency services • Coordinate emergency response and monitor the effectiveness; • Communicate with area / floor controllers • Coordinate the activities of all personnel in the emergency response team and make further directions as required by the situation; • Give the all clear when authorized to do so by the emergency services, if appropriate; • Chair the operational debrief on completion of the emergency situation; • Assist with the completion of the incident reporting and notification • Arrange deputy when absent; • Schedule emergency drills for all shifts and conduct debriefing of the results. An initial evacuation drill shall be carried out within 3 months of site possession. Ongoing evacuation drills will be conducted – frequency / timing to suit varying stages of construction, however not to exceed 6 monthly intervals. • Coordinate training requirements for the emergency response team and all other site personnel.



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		Where the emergency response coordinator is unable to perform these tasks, the deputy chief controller is to carry out this function
7	Assistant /Deputy Emergency Response Coordinator	The deputy emergency response coordinator shall assume the responsibilities normally carried out by the emergency response coordinator if the emergency response coordinator is unavailable and otherwise assist as required.
8	Local Area Controller	On becoming aware of an emergency, the area / floor controller shall take the following actions: • Conduct a search sweep of the designated area, ensuring all persons have cleared the area; • Report to the emergency response coordinator that search sweep is complete and advise of any area or room unable to be searched, any persons unaccounted for; • After completion of the search sweep, assemble at the designated emergency assembly area; • Confirm that activities of the controllers are completed and report this to the emergency response coordinator; • Await roll call and / or further directions as given by the emergency response coordinator; • Assist the emergency response coordinator as requested and attend de-briefing of the ERT.
8	First aiders	Apply and record first aid treatment where required.
9	Security Head	On hearing an alarm or at the direction of the emergency response coordinator: • Proceed to the site entry point; • Ensure that no vehicles enter or exit the premise and that emergency vehicles have clear access to site; • Manage the evacuation of truck drivers on site at the time of the emergency; • Control movement and/or placing of all vehicles. • Attend de-briefing of the ERT. • Participate in emergency drills and attend debriefing; • Attend scheduled ERT meetings and training as required



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Detailed Planning

1. Interface with Customer and local authorities

The customer being the occupier of the site in legal parlance shall co-ordinate with the local authorities (records as per **Format No. HSEP:06-F03**). However, BHEL shall keep the customer in the loop while taking major steps and decisions in response to the emergency. BHEL shall also try to take assistance/service of external facilities, if any available.

2. Evacuation routes

Evacuation routes will be developed for each area as the project progresses as per Format No. **HSEP:06-F02**. All personnel are required to follow the safest route to the Main Evacuation point.

All changes to evacuation routes are to be recorded on the site layout plan and communicated to the workforce via pre start meetings/ toolbox talks.

3. Emergency equipment

The site must have readily available the correct equipment to effectively respond to all possible emergency situations.

Emergency equipment must be maintained through preventive maintenance procedures (inspection and testing) in accordance with the manufacturer's recommendation to ensure that equipment is in ready condition for use. Record of maintenance to be maintained as per Format No. **HSEP:06-F05**.

Subcontractors providing their own requirement emergency equipment must maintain equivalent inventories and inspection protocols.

Safe work method statements shall identify emergency equipment required for that task.

The inventory should be completed and an inspection of emergency equipment shall be conducted on a monthly basis to ensure that equipment is available and functioning properly.

The type of emergency equipment available on site should be reviewed periodically and form part of the 3 monthly review to reflect changing site conditions.

4. Fire prevention and control measures

In order to control the risk of a fire, several measures must be taken.

These include:

- The enforcement of hot works permits. No hot work is to take place outside of a controlled hot works zone without first seeking authorization from the concerned authority, completing a hot work permit and following the correct procedure. A fire spotter must be present with suppression devices in the event of a fire breaking out.
- Scheduled electrical inspections of all machinery and wiring throughout the site. This is conducted by approved, authorized electricians with site experience.



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- The provision of portable firefighting equipment shall be in line with the Building Code. All emergency equipment including portable fire extinguisher, hose reels, hydrants are maintained and inspected by a qualified contractor in accordance with the relevant legislation and standards.
- Current evacuation signs and diagrams for the building or site that are compliant to relevant state legislation and appropriately located, in a conspicuous position, on each evacuation route.

5. Training

i **Workers**

All site workers must be trained on site-specific emergency procedures. This training should be done as part of site induction training and shall include the following:

- Alarms and other emergency communications used on the site.
- Evacuation procedures including routes and assembly areas to be used.
- Initial emergency response actions
- Location of first-aid kits and identification of first-aid providers.
- Location of spill contamination kits
- Emergency response team members

ii **Visitors**

Visitors are to be accompanied by an inducted person at all times. Visitors will receive emergency procedure training via the visitor's induction at the sign in register located at reception.

iii **Site Security**

The entire site will be secured by secured fencing/ boundary wall. The site security personnel will be conducting daily routine inspections of these areas to ensure the fencing has not been compromised.

iv **Gate Security**

The only designated access point into the site will be manned by professional security guards at all times, whilst construction activities are present.

v **Re-direction of Unauthorized Vehicles**

A Security Personnel hut would be posted at the entrance. Security would check identification and log all vehicles entering the site. Security will be on site 24 hours a day for the duration of the project.

Security would direct any vehicles to turn around and leave the site. Direction would be given prior to entry to the site and a turning area will be provided.



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vi *Emergency Response Teams Coordination Training*

Emergency Response team members must receive specific training for the duties they are to undertake. Training for emergency response team personnel will include relevant topics related to their role including

- Training in the content of the EPRP
- First aid and CPR for those identified as first aiders in this plan.

Emergency Evacuation and Response exercises are to be held as training activities to a schedule prepared by the Project HSE Head

vii *Evacuation Practice*

An initial evacuation drill will be undertaken within 3 months of taking possession of the site and at intervals not exceeding 6 monthly. A record of the drill is to be kept as per Format No. **HSEP: 06-F04**.

6. Reporting

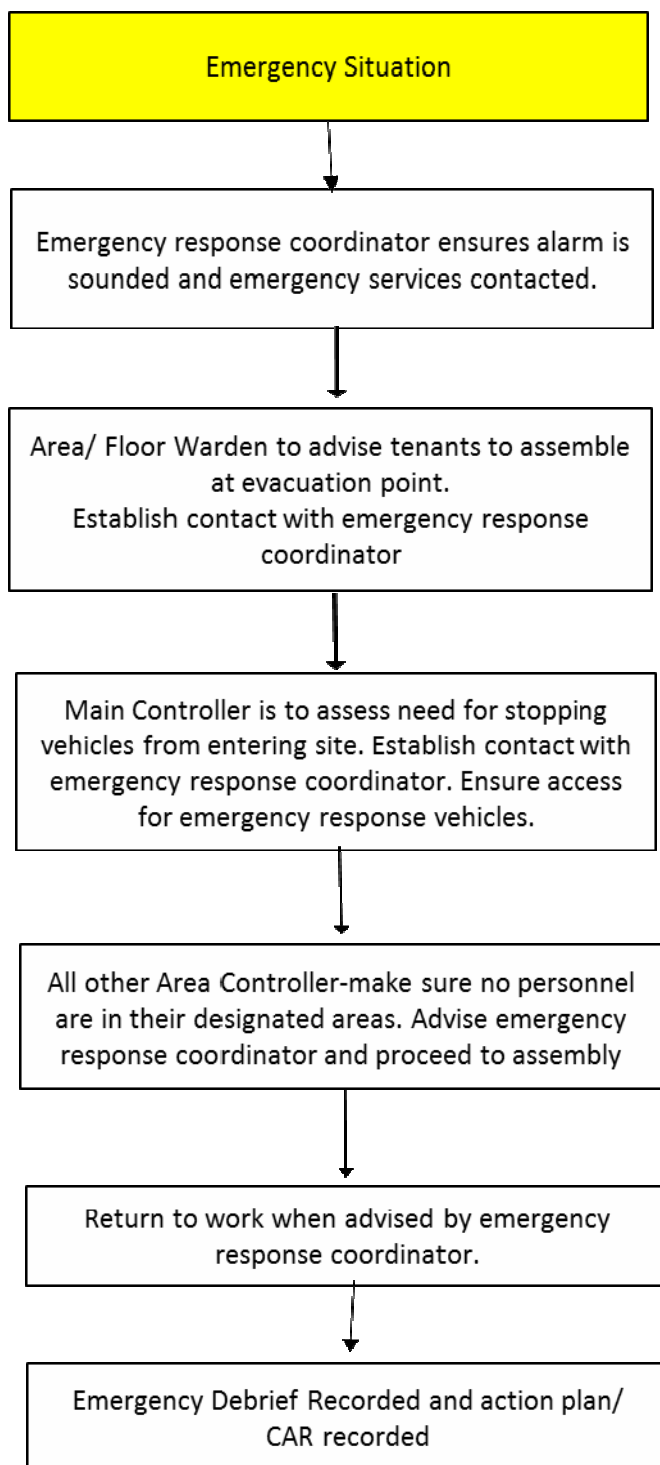
The site CM must be informed of any incidents on site by the quickest possible means.

In turn, the incident, if reportable as defined by the law, must be reported to the concerned authority within the prescribed time limit.

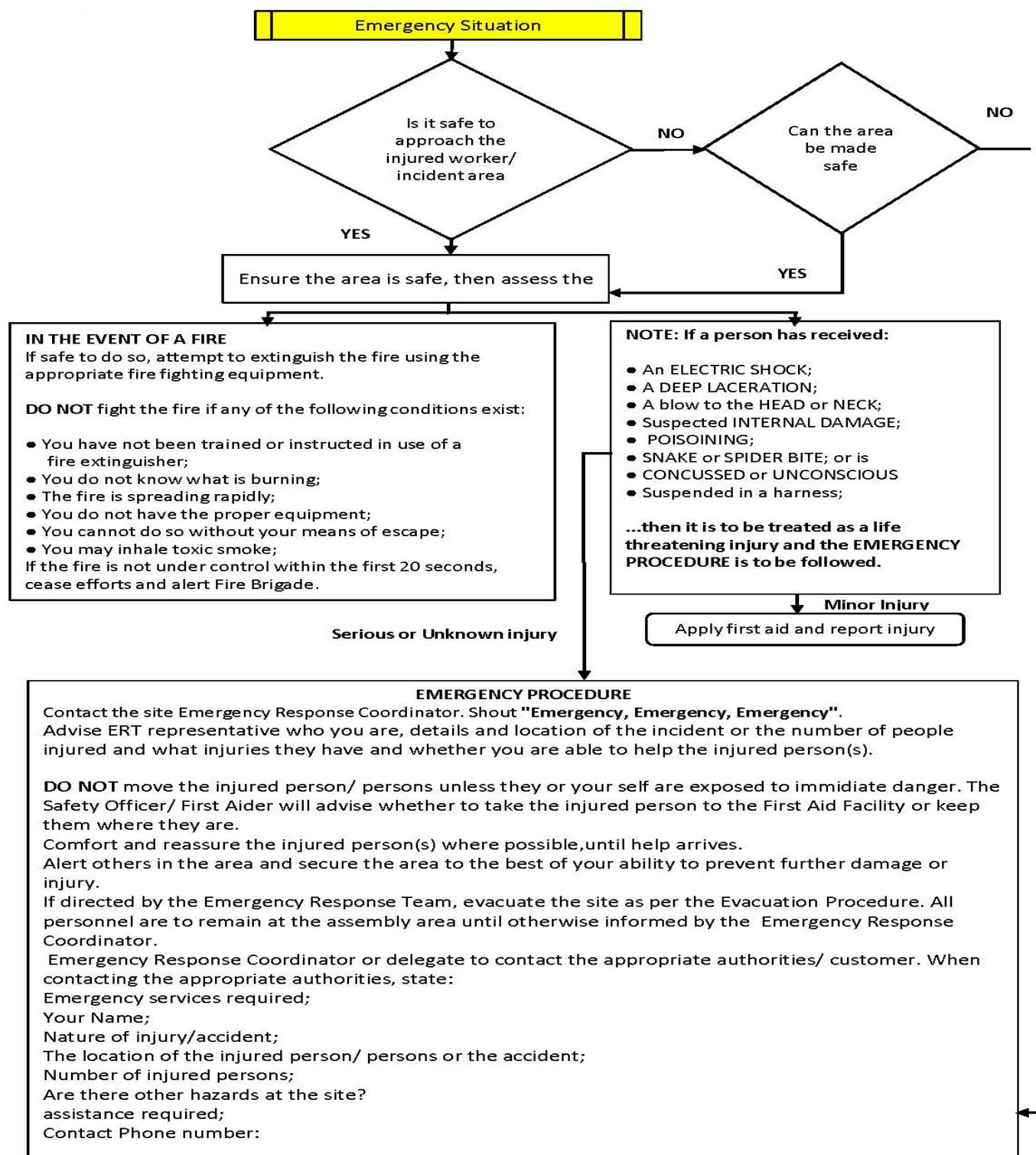
7. EMERGENCY RESPONSE PROCEDURES (FLOWCHARTS)

- **Emergency Evacuation Procedure**
- **Response Procedure – Fire / Medical**
- **Response Procedure-Chemical Release or Explosion
(Spill/ Gas Leak)**
- **Response Procedure – General Evacuation**
- **Response Procedure – Natural Disaster / Storm / Adverse Weather**
- **Response Procedure – Civil Disobedience & Site Invasion**
- **Response Procedure – Terrorism**
- **Response Procedure – Previously unidentified emergency**
- **Environmental Spill Response-Decision Flow Chart**
 - o Environmental Spill Response – Spill on Water
 - o Environmental Spill Response – Spill on Land

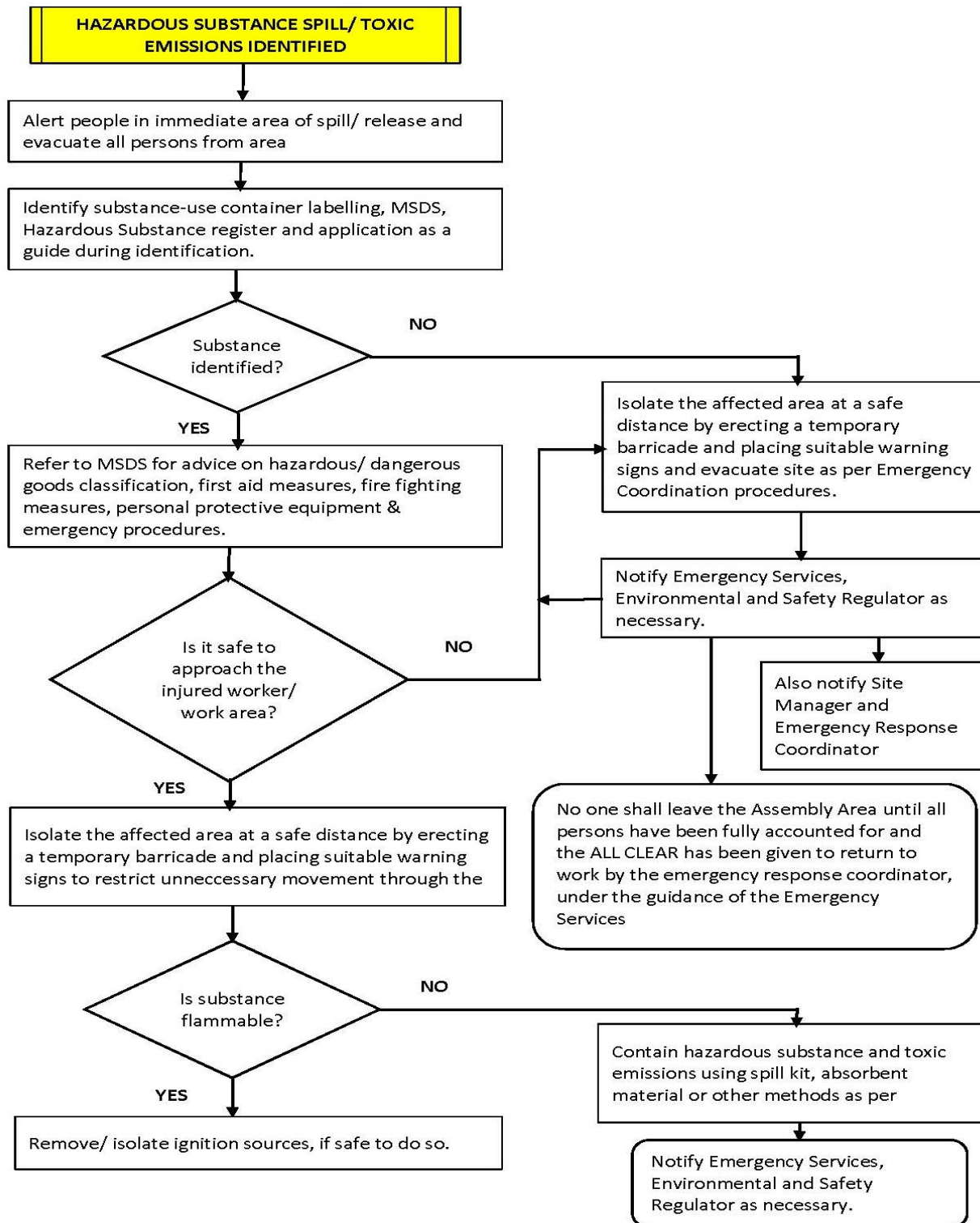
1. Emergency Coordination Procedure



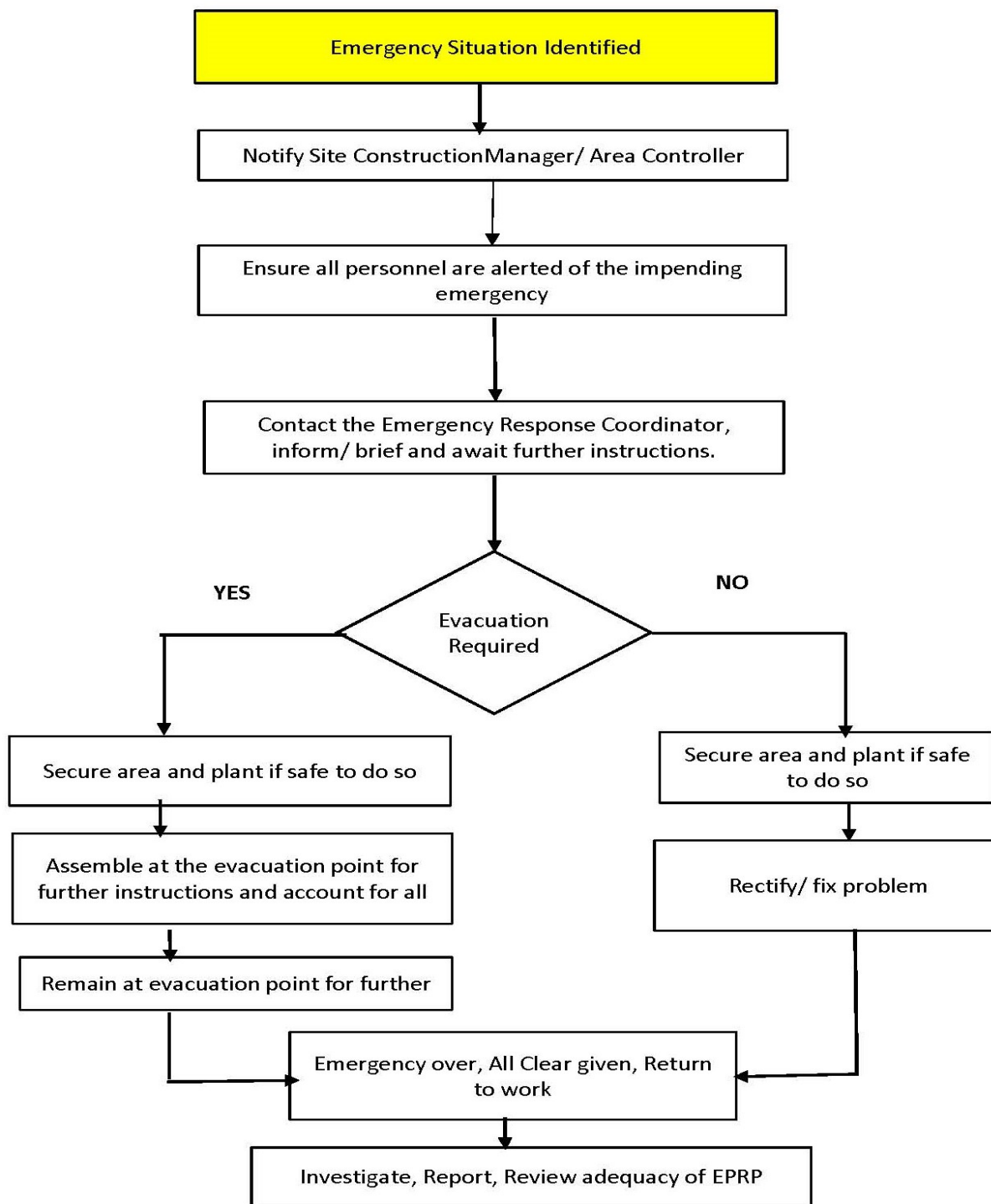
2. Response Procedure-Fire/ Medical



3. Response Procedure-Chemical Release or Explosion (Spill/ Gas Leak)



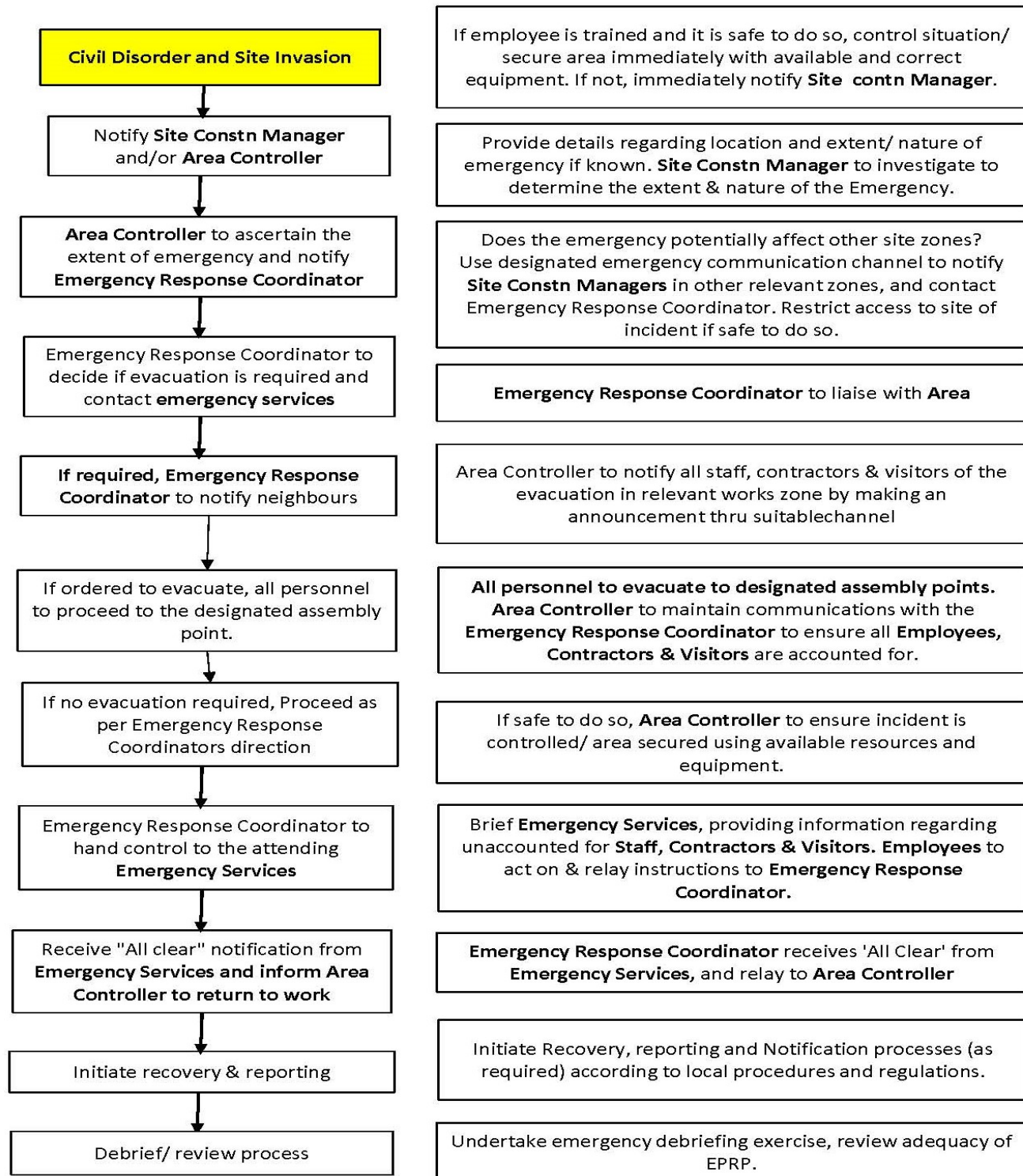
4. Response Procedure- General Evacuation



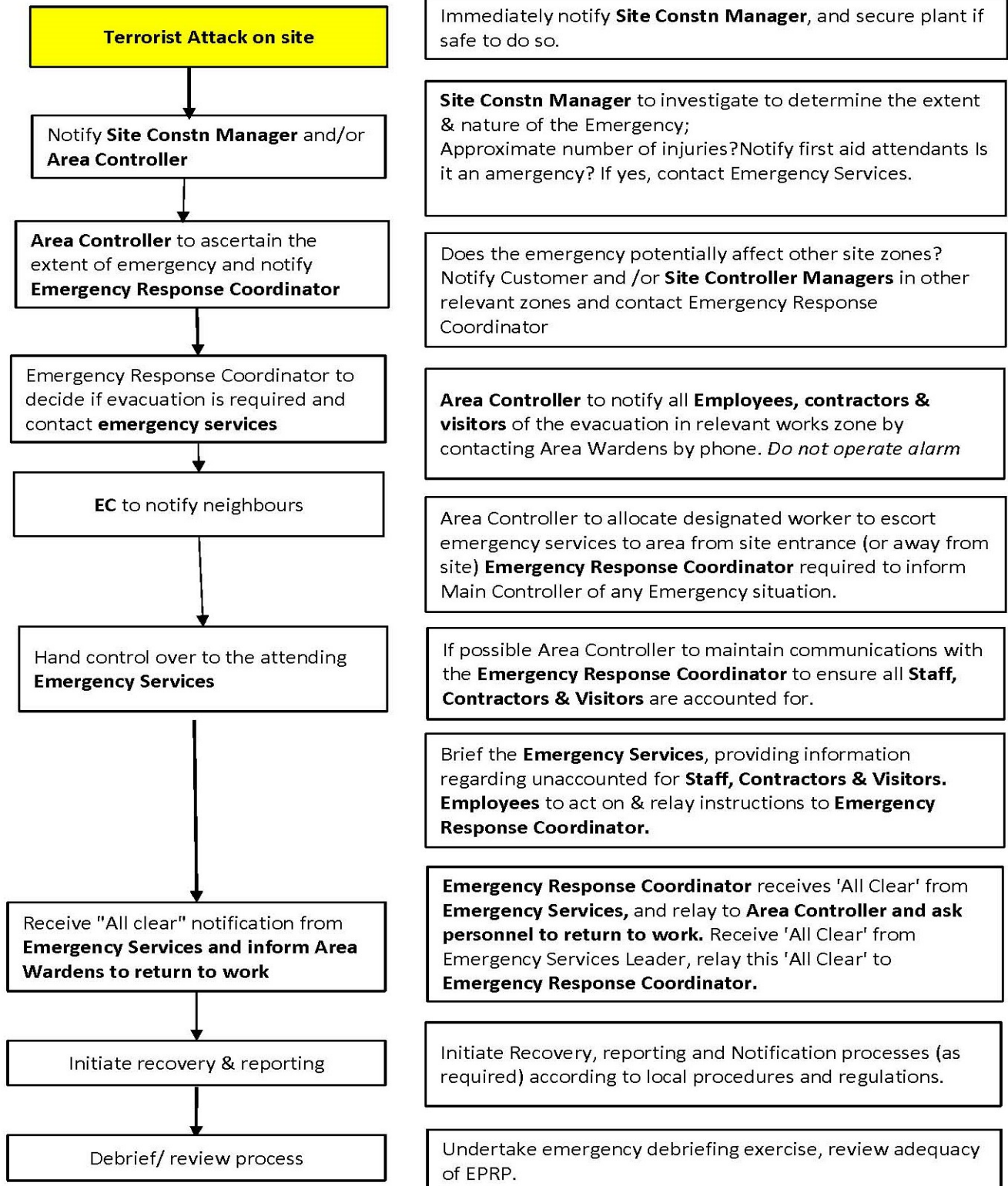
5. Response Procedure – Natural Disaster / Storm / Adverse Weather



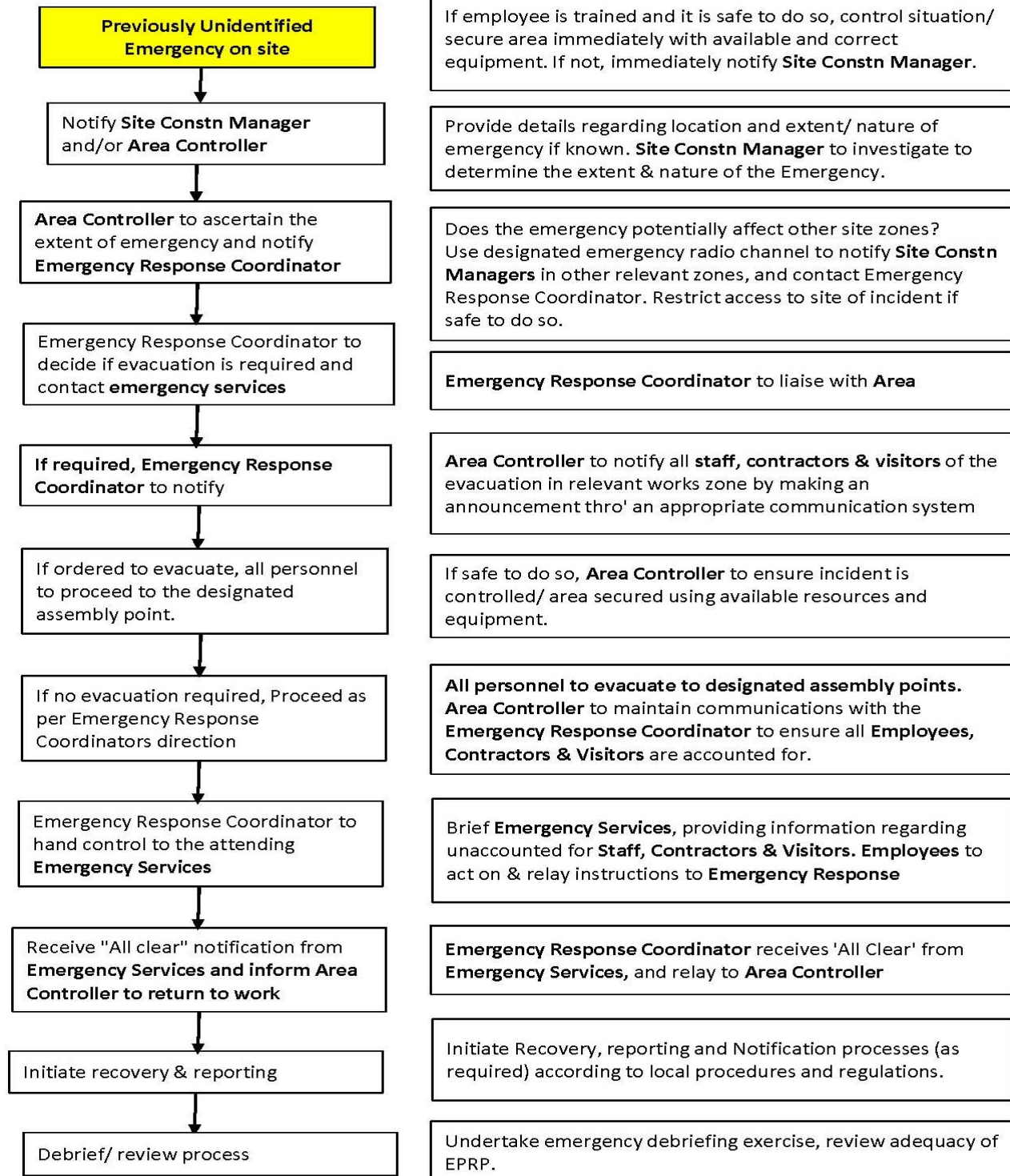
6. Response Procedure- Civil Disorder and Site Invasion



7. Response Procedure- Terrorism

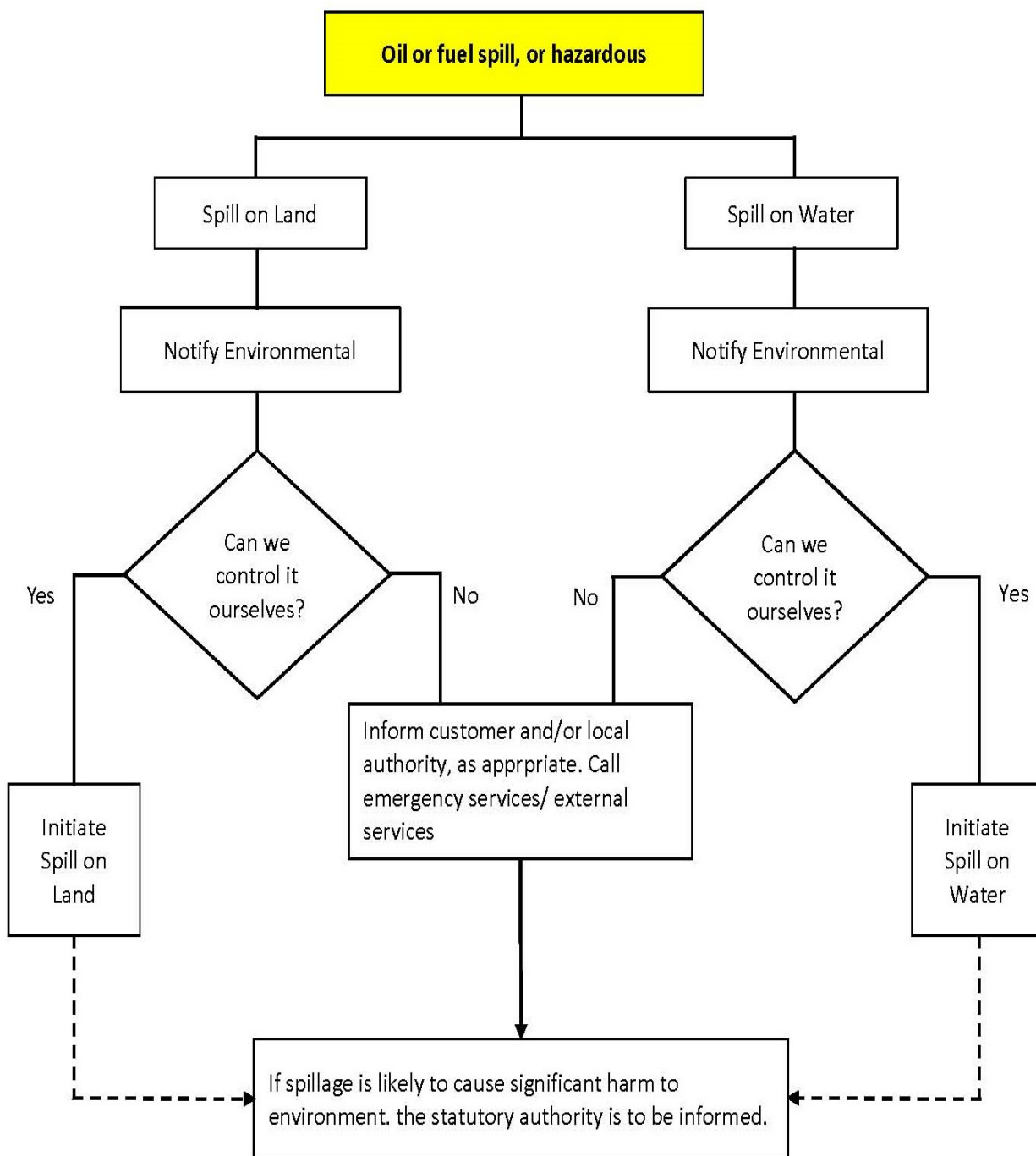


8. Response Procedure- 'Previously Unidentified' Emergency

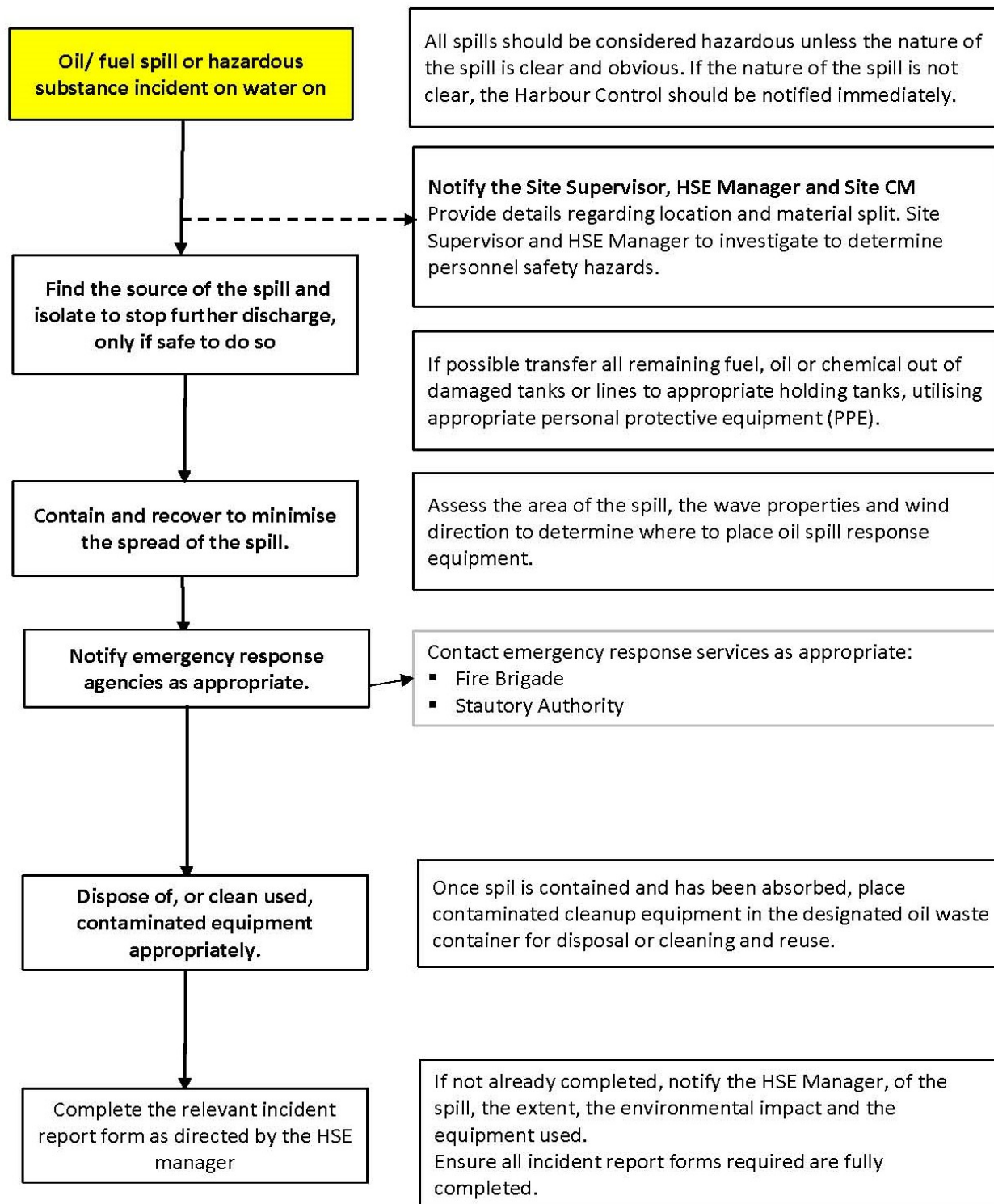


9. Environmental Spill Response-Decision Flow Chart

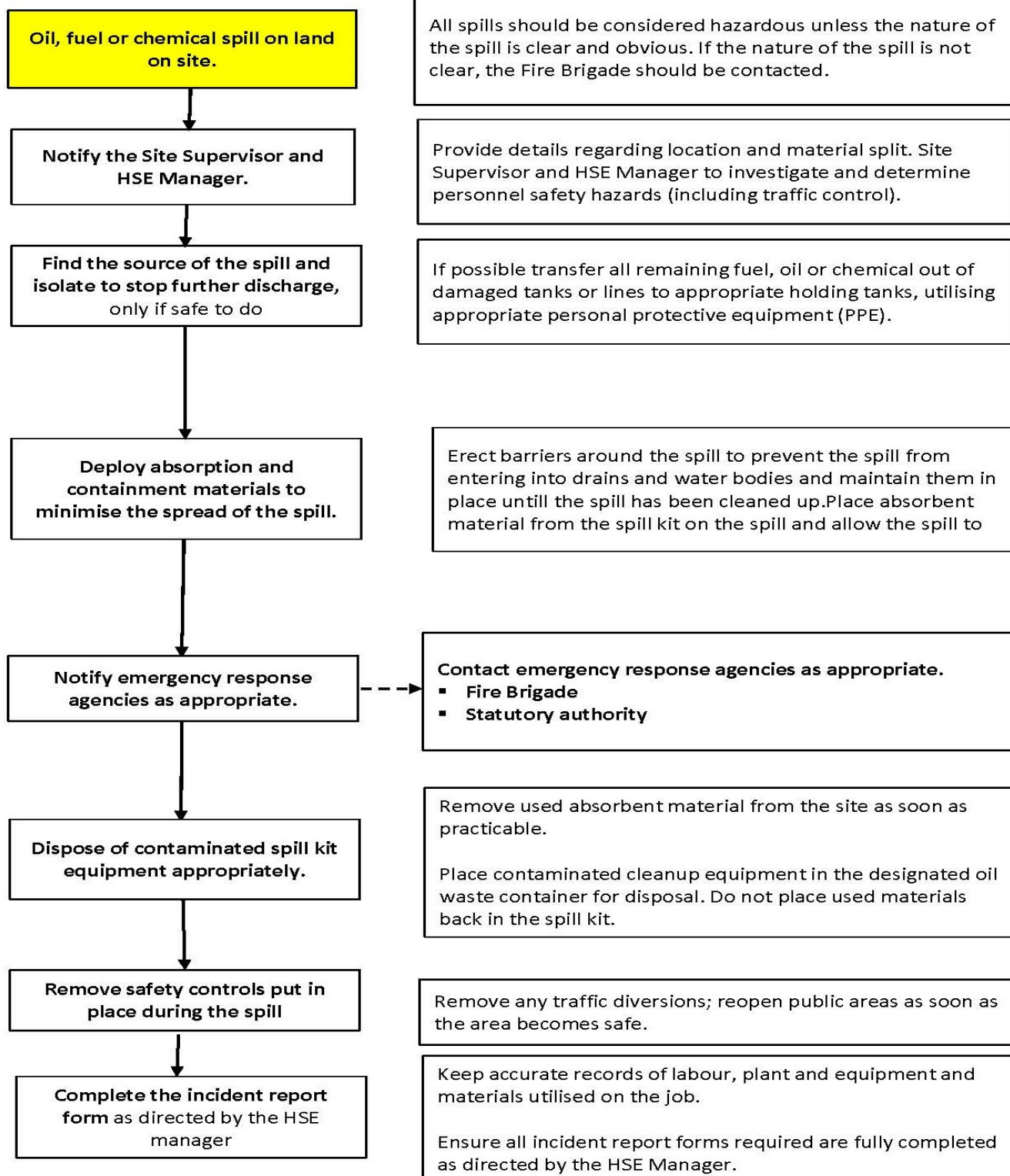
This decision making flow chart and associated procedures describes how to manage an oil spill of various surfaces



9.1 Environmental Spill Response-Spill on Water



9.2 Environmental Spill Response-Spill on Land





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8. Documents & Records:

Apart from the updated HSE Management System Documents, following Records need to be maintained at all times:

- ✓ An authorized and continually updated Emergency Preparedness & Response Plan
- ✓ Constitution Letter and Details of Emergency Preparedness & Response Team (**HSEP06:F01**)
- ✓ Quick response Evacuation Routes (**HSEP06:F02**)
- ✓ Contact details of authorities for notification of accidents / incidents (**HSEP06:F03**)
- ✓ Contact details of nearest hospital authorities for intimation of accidents (**HSEP06:F03**)
- ✓ Records of Training Programmes and Mock Drills (**HSEP06:F04**)
- ✓ Records of maintenance of Emergency Equipment (**HSEP06:F05**)
- ✓ Offsite Emergency Plan (As per Requirement)
- ✓ Any other records as required by this procedure or otherwise

9. Review

A review shall be carried out to ensure the content of this procedure is still applicable, current and practicable. A review should take place:

- a. Whenever the process/equipment changes
- b. At a periodic frequency (every two years)
- c. Whenever required in course of operation.

whichever is earlier

Any proposed changes to this procedure shall be brought to the notice of Head, HSE, ISGHQ through Head, HSE, ISG



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Format No. HSEP06:F01

EMERGENCY RESPONSE TEAM

Site:		Region:		
Role	Name	Designation	Contact No.	E-mail ID
Site In-charge (Site Main Controller):				
Section In-charge (Area Controller):				
Fire officer /shift Fire in charge:				
Medical Center/ First aiders (Attach List):				
HR/Admin and HSE Teams (Attach List):				
Emergency Response Coordinator				
Assistant/Deputy Emergency Response Co-coordinator				
Security Head				
Prepared by:		Approved by:		Date:
Name/Designation:		Name/Designation.:		

Format No. HSEP06:F02

Quick Response Evacuation Routes (Attach the planned routes)

Site:		Region:	
Doc. No.	Emergency Type	Responsibility	
Prepared by:		Approved by:	Date:
Name/Designation:		Name/Designation.:	



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Format No. HSEP06:F03

Emergency Contact List (External)

Site:

Region:

Authorities to be intimated in case of Emergency

Name, Designation & Institution

Purpose &
Remarks

Contact Details

External Hospitals / Medical Agencies with whom Tie up is there for getting help in case of all possible emergencies

Name, Designation &
Institution

Purpose & Remarks

Contact details

Prepared by:

Approved by:

Date:

Name/Designation:

Name/Designation.:

Format No. HSEP06:F04

Records of Mass Mock Drills & Emergency Training Programmes

Site:

Region:

Date

Programme
Name

Conducted
by

Attended By (Agencies,
No. of Persons – Attach
List)

Coordinator



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Records of Maintenance of Emergency Equipment

Site:		Region:			
Equipment Number	Equipment Details	Last Maintained			Maintenance Due On
		Date	Agency	Overseen by (BHEL)	



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HSEP:06 - Record of Revisions

Clause	Rev. No.	Brief of Revision	Authorized by	Date
	00	First Issue		



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