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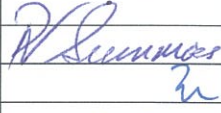

# EMERGENCY RESPONSE PLAN

TAKREER Project No. : 5578

**TAKREER**


**Ruwais Refinery Expansion Project**

DISTRIBUTION	
TAKREER	
SEOUL	
SITE	v
PMC	
SEOUL	
SITE	v
CONTRACTOR	
PROJECT	v
PROCESS	v
PIPING	v
ROTATING	v
STATIONARY	v
ELECTRICAL	v
INSTRUMENT	v
CIVIL	v
ARCHITECTURE	
PROCUREMENT	v
CONSTRUCTION	v
QA / QC	v
HSE	v
IT	v

Rev	Date	Description	Orig by	Chk'd by	App By	COMPANY App
0	05/01/13	For Construction	G.T.W.	Y. H YANG	I.H.Hur	
C	20/12/12	For Approval	KO Y. D	Y. H YANG	I.H.Hur	
B	4/12/12	For Approval	KO Y. D	Y. H YANG	I.H.Hur	
A	22/09/12	Issue for Review and Comments	KO Y. D	Y. H YANG	I.H.Hur	

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**Revision List**  
**(5578-E3-HSE-HU-00044)**

Rev. No.	Date	Description	Page no.	Remark
A	22. Sep. 12	Originally issued for Review and Comment	All	
B	4. Dec. 12	Comments Incorporated	All	
C	20. Dec. 12	Comments Incorporated	All	
0	05. Jan. 13	For Construction		




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### AGREEMENT

By EPC CONTRACTORS Seal and EPC CONTRACTORS representative signature hereunder attached, it is recognized and covenanted by the Parties hereunder that a formal Agreement has been made regarding the works as described in this Common Water Flushing Procedure. This Agreement has been mutually signed and agreed

	EPC 1	EPC 2	EPC 3	EPC 4	EPC 6	EPC 7
Name						
Position						
Signature						
Date						




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Appendix A : Example of Emergency Classification  
Appendix B : Oil Spill Categories



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## 1. Purpose

The objective of the Emergency Response Plan is to provide to CONTRACTOR, Sub contractor, Visitors, Service Providers and any person who wishes to enter the RRE 3 Project (construction site, temporary facilities areas and accommodation camp) with a detailed and comprehensive procedure to be followed during any emergency that may occur.

Although CONTRACTOR is expected to be essentially self sufficient in terms of arrangements, equipment and resources to provide an effective first response to any foreseeable incident, including adequate first aid and medical facilities, the present Emergency Response Plan has been developed in line with the COMPANY's Response Plan to ensure consistency in arrangements and practice.

The Plan shall be followed for all emergencies on the assumption that any minor event may escalate to a major one. It must never be assumed that an incident would remain in the minor category.

This document aims at:

- defining roles and responsibilities that are to be followed in case of emergency so that key-role persons can execute their emergency action in a timely and effective manner
- defining resources and other means immediately available on site to control and contain incident in a professional and effective manner at all times
- ensuring that the information of this Plan is adequately communicated to every personnel involved, according their grade of responsibility, and it is available for easy reference for designated personnel at strategic locations
- providing close coordination and establishing solid liaisons in order to obtain the assistance of the COMPANY and provide for an orderly and legal evacuation in case of major events.

In responding to an incident, the following objectives shall have the priority:

- Protection of personnel
- Protection of environment
- Limit damage/loss of property/assets
- Minimise secondary damage by preventing escalation
- Ensure business continuity
- Protection of CONTRACTOR's and COMPANY's Reputation


During the course of project execution when technical/organizational changes occur. Names and contact numbers provided in this Emergency Plan shall be revised accordingly in order to assure that they are always respondent and adequate to the risks and manpower present on site.

## 2. Scope

This document shall be applied to the whole of RRE construction & commissioning worksite and accommodation areas and adopted by all personnel, contractors and their subcontractors, visitors and vendors. The present plan covers the main emergency scenarios, including, but not limited to:

- Occupational Injury
- Release of Toxic gas
- Fire & Explosion




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The procedure will be applicable during commissioning.

### 3. Definitions

Accident / Incident	An event or chain of events, which has caused or could have caused fatality, injury, illness and/or damage (loss) to assets, the environment, company reputation or third parties.
COMAH Report	The Control Of Major Accident Hazards Report, is a report compiled by a major hazard site operator and submitted to ADNOC, as part of the HSEIA process, which demonstrates that the site operator has taken all steps necessary to prevent major accidents and to reduce their consequences. It is a facility or operation-specific demonstration of the HSE Management System in action, documenting that, risks have been, or will be reduced to 'acceptable' or 'as low as reasonably practicable' (ALARP) as defined in <u>Chapter 4 HSE Risk Evaluation and Management</u> of the TAKREER HSE MS Manual.
Emergency	A sudden, abnormal or unplanned situation that requires immediate attention and may endanger human life, the environment or have an adverse effect on the RRE or third party assets. An emergency can be associated with a major hazard as identified in the COMAH Report, such as; oil spills, fire/ explosion, medical case, and third party intervention. An emergency can also be associated with an incident in an office building.
Evacuation	Is the planned method of leaving the installation in an emergency.
Hazard	Any substance, physical effect, or condition with the potential to harm people and the environment, cause damage or loss of assets, and to adversely impact on COMPANY's reputation.
ERT	Emergency response team; This is a group of people who responds to the incipient stage of an emergency and normally comprises of the On-Scene Commander, OSC Support, Rescue Team, Medical Support & Security Support.
Major Accident	Is an "Uncontrolled Occurrence" in the operation of a site, which leads to severe or catastrophic consequences to people, the environment, COMPANY's reputation or assets. The consequences may be immediate or delayed and may occur outside as well as inside the site. There will generally be a high potential for escalation.
CMT	Crisis Management Team (Same as Emergency Response Team)
COMPANY	TAKEER
IC	Incident Commander
OSC	On-Scene Commander
ECC(ECR)	Emergency Control Center (Emergency Control Room)



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POB	Persons on Board
MPTS	Muster Point (Safe Refuge Area)

#### 4. OVERVIEW-NEED FOR EMERGENCY MANAGEMENT

EPC E&C EMERGENCY RESPONSE PLAN implies a concerted focus to reduce the scale and frequency of the hazards. Nevertheless, there remains for any hazard a finite possibility that it will be realised. It is necessary, therefore, to plan for such emergencies in order to contain and control accidents so as to minimise the effects and to limit damage to persons, the environment and property.

Emergency management is an integral part of the HSE risk management strategy; its objective is to mitigate the consequences of any emergency that can occur.

The guiding principles of effective emergency management are as follows.

##### 1. To identify potential emergency situations

I.e. to create awareness if emergency situations and how they could arise from operations. The basis of effective emergency planning, whether onsite or offsite of the RRE worksite, is a suitable set of accident scenarios.

It is important to select the scenarios at the site level of severity and for a suitable spread of events. The emergency planning should address the largest events that can reasonably be foreseen, but detailed planning should concentrate on those events that are most probable.

The process of identifying a set of representative potential emergency situations is discussed in Section 6.

##### 2. To adopt an emergency strategy


In dealing with an emergency, EPC E&C should address all parts of the response concurrently, but apply the following priorities:

- Human life;
- Environment;
- Protection of Facilities; and,
- Business Continuity.

##### 3. To develop an emergency response organisation

Based on EPC E&C corporate and site organisation, and supporting teams and individuals.



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This emergency response organisation should be based on the existing line of organisation, with clearly defined responsibilities, and should, where appropriate, have clearly defined linkages to COMPANY, external authorities and industry organisations. There should be adequate resources required to fulfil these responsibilities and support all aspects of the emergency response.

(see the section 5 and attachment-3).

#### 4. To develop and define procedures

That will deliver an effective and appropriate level of response. These emergency response plans should include general instructions on mobilisation and requires tiered actions with contingency plans for specific response situations. The procedures must provide practical directions for emergency response at that location and in specific emergency situations. Communication to relevant parties (e.g. COMPANY Management, employees, contractors, the public, police, civil defence, other relevant government departments, agencies) must be addressed.

#### 5. To provide and maintain resources

That will support the successful deployment of the emergency response plans. The emergency response measures necessary to protect persons, environment, assets and reputation from the effects of an emergency must be detailed.

In particular the necessity to have emergency response centres and suitable emergency response equipment must be mentioned.

Details on necessary emergency response facilities are given in Section 8.

#### 6. To conduct training, practice and review activities on a regular basis

In order to provide learning and feedback of experience (see Sections 10 and 11). This can be then used to amend the list representative potential emergency situations, to change the emergency response organisation, or to make improvements to the emergency response plans.


## 5. RESPONSIBILITY

### 5.1 General

This chapter gives an overview of the persons who are responsible for the execution of this procedure.

In general, it is the responsibility of all line personnel with assistance from corporate HSE department to ensure that all staff are suitably selected and trained in emergency response procedures. It is also their responsibility to ensure that all staff are competent to carry out emergency responsibilities.



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In case of an emergency, the following personnel in RRE Site are involved (always or occasionally) in ERT to deal with the situation :

- Project Manager who is the ERT leader,
- HSE Manager,
- Commissioning Manager
- Area Operation Manager
- Maintenance Manager
- Head of Administration,
- Area Supervisor,
- Head of Security,
- Any other person if necessary.

The Emergency Response Team will be assisted by

- Safety engineers and Supervisors,
- Fire Fighting team and Search & Rescue team
- Doctor,
- Support personnel from other sections as appropriate

## 5.2 Project Manager (IC: Incident Commander)


The Site Manager is accountable for the development, testing and implementation of EPC E&C Emergency Response Plan and as the ERT leader shall support this procedure in the following manner :

- To assess the situation and ensure that the correct members of the ERT are nominated.
- Ensuring that the necessary means required by ERT are put in place.
- To nominate the On-Scene Commander.
- Provision of adequate resources in terms of personnel, time and finance for implementation of the requirements for providing an emergency response service on site.
- To liaise with external authorities and sub-contractors as necessary.

(Note: when the serious accident cases such as fire, explosion, toxic gas release occur more than category 1, external authorities need to be contacted for support)

- To proceed to Emergency Control Center.
- To nominate Duty Secretary (event logger) and to ensure that a clear unambiguous log of events is started.



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- To keep Duty Secretary informed of all contacts, etc.

### 5.3 HSE Manager

The HSE manager is responsible for ensuring that all provisions are put in place for emergency response, including :

- The updating of this document.
- Muster points.
- Arrangement, through site management for the resources for conducting head counts.
- Identification and Mobilization of emergency response teams.
- Briefing of emergency response teams.

In the event of any emergency, the site HSE manager shall take the following actions with full assistance from other members of the project management team.


- When first informed, he/she should inform EPC E&C Project Manager and help him to assess the situation,
- To go to the Emergency Control Center,
- To liaise with the On-Scene Commander and keep ERT informed on developments,
- To ensure the correct functioning of ERT, i.e. reminding the members of their roles, etc.
- To evaluate the scale of the incident and decide whether additional resources are required to adequately deal with it.
- To give direction to the site emergency response teams.
- Liaise with site supervision for the mobilization of any plant and equipment necessary for dealing with the emergency.
- To make the area safe by barriers or other means of preventing unauthorized access.
- Prepare a full report.

### 5.4 Maintenance Manager

The Maintenance Manager is responsible to :

- Proceed to the Emergency Control Center (ECR: Emergency Control Room)
- Continuously assess the situation in a technical point of view and recommend a course of action,
- Assess the extent and type of the damage or pollution and the loss of production,
- Mobilize any necessary resources as required,



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- Check that contact is made with sub-contractors who have been involved,
- Ensure that means on his site are available and in good condition,
- Request the assistance of technical specialists as appropriate.

### 5.5 Head of Administration

Emergency duties of the Head of Administration are to :

- Proceed to the Emergency Control Center.
- Arrange for duty secretary assistance,
- Arrange for EPC E&C POB information,
- Prepare statements (along with Project Manager) to keep all staff informed and respond to relative enquiries.
- Liaise for administration purposes with authorities, sub-contractors, etc.
- Arrange for communication, (e.g. divert all emergency related calls to the ECC, collect all originals of faxes, notes, and log sheets, etc. and forward to ERT.)
- Arrange for evacuation, logistics and transportation means etc.
- Liaise fully with all other port and transport agencies to facilitate the movement of any necessary materials.

### 5.6 Camp Boss

In case of an emergency in the accommodation areas, the camp boss will act as the **Maintenance Manager's** responsibilities.


### 5.7 On-scene commander (Commissioning Manager)

The on- scene commander shall be nominated with his name clearly by the ERT Leader, and is the person immediately responsible for handling the incident at the scene. He will take such action as is necessary to prevent the continuation of the incident and to recover the activities back to normal operations. He will be supported closely by the HSE supervisors and contractors personnel to ensure that the recovery is affected as efficiently as possible.

He shall :

- Take overall charge of the situation on location of the emergency.
- Attend the site of the emergency, assess the situation and issue direction to the concerned parties and supervision of the Emergency Response Team.
- Ensure that the messages and information have been correctly communicated to the ERT and interested parties.



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- Account for all personnel and assign search and rescue team in the event of a missing person.
- Anticipate possible escalation of the situation.\

During the recovery of the incident to the normal state of operation, the priorities are:

- Reservation of life;
- Prevention and treatment of injured personnel;
- Minimization of damage to RRE assets;
- Return to normal operations with the minimum downtime.

#### 5.8 Sub-Contractor(s) representative

The sub-contractor's representative is responsible for :


- Organizing themselves to take care of their personnel in case of emergency, with the support of EPC E&C as necessary.
- Providing the site with adequate personnel and equipment in order to deal with any emergency situation.
- Complying with EPC E&C's requirements as contained in the contract.

#### 5.9 Search & Rescue Team (SRT)

The Search and Rescue Team will be directed by HSE manager to support the on-scene commander and specifically they will have the following responsibilities :

- As soon as the warning alarm is sounded, they shall check all areas to confirm that, all persons have left the premises; if they find a victim they shall immediately inform the leader of the team.
- The leader of SRT shall assist the on-scene commander by maintaining a muster count and keep a record of all persons present.
- The team shall be fully trained in different rescue techniques and procedures e.g. removing a victim from toxic gases affected areas or electrical sources, different types of handling techniques, breathing apparatus wearing, first aid techniques and etc.
- The team shall be responsible for recovering a casualty and getting them to the medical centre without aggravating the casualty's injuries.
- Search and rescue team may include safety, clinic, fire fighting and security personnel will be assigned before commissioning.



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### 5.10 Fire Fighting Brigade

The fire fighting team will be established and trained to deal with most eventualities. All the members of the fire team shall report to the fire team leader and shall work according to his direction as per the fire fighting procedures. The fire team leader will be directed by HSE manager to support on-scene commander on the emergency site. The fire team will also attend in search and rescue team, if necessary. The fire fighting equipment such as fire hydrant system, sprinkler, deluge system, fire extinguisher and fire detector, alarms will be installed and activated before commissioning.

### 5.11 All personnel

All personnel should familiarize themselves with the locations of all emergency exits at their work area and the location of the nearest Muster Point.

## 6. Emergency Situations

### 6.1 Identification of Emergency Situation


A hazard is the potential to cause harm, including ill-health or injury, damage to property, plant, products or environment, production losses or increased liabilities.

Hazards can be controlled through elimination, improved design, improved operating procedures, deployment of competent staff, or reduced exposure. However, not all operations can be made hazard free – and these residual hazards or failure of control systems to eliminate other hazards, can give rise to emergency situations.

The list of emergency situations should be defined based on COMPANY's hazard identification and risk assessment process, hence no attempt is made for the provision of hazards in this Procedure. However, because of the nature of the activities, dangerous events which could be anticipated in refineries (and which should be reviewed to define their emergency situations) are:

- Release of flammable vapour clouds which may give rise to fires or explosions;
- Release of flammable liquids/mists followed by pool or flash fires;
- Release of toxic gases;
- Internal fires/explosions due to air ingress into equipment containing hydrocarbons;
- Internal explosions due to hydrocarbon ingress into air systems;
- Water/hot oil explosions;
- Fires from pyrophoric matter, oil soaked lagging and other spontaneously combustible material;
- Spillages of heavy hydrocarbons with soil/water contamination;
- Pollution by toxic liquids and lead alkyls;
- Oil spills at jetties, subsea pipelines or offloading buoys;



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- Fire at EPC E&C Site office & Camp etc..

These events could be caused by corrosion, equipment failure or malfunctioning, design deficiencies, human factors (human error or deliberate act), or natural conditions (storm, flood, earthquake).

## 6.2 Classification of Emergency Situations

The nature, location and scale of the emergency should determine the level of response required to recover control of the incident and to initiate the restoration of activities required to return the operations to normal.

The escalation potential of any emergency situation must be recognised and evaluated. Key decisions on response strategy need to be taken in the early minutes/hours, and it is essential to assess the situation on the basis not only of what has happened but on what could happen. The level of response should correspond to this assessment, ( See the attachment-1: Example of Emergency Classification )

### 6.2.1 Emergency on RRE

The emergency response strategy must be flexible, with the ability to scale up or scale down the response depending on the severity of the incident. There must be a tiered approach in terms of involvement of onsite and corporate emergency response teams and external parties (e.g. mutual aid, governmental bodies). Hence a tiered response strategy should be adopted to allow for all available resources (i.e. from the COMPANY, or external parties via mutual aid) to be effectively utilised during and after an onsite or offsite emergency.


Classification of emergency situation is given in the attachment-1, which is based on the incident classification given in COMPANY's Crisis Management & Communication Plan (CM & CP).

### 6.2.2 Oil and Chemical Spill Response

For oil and chemical spill response planning a three level tiered approach should be adopted, in line with international guidelines of the IPIECA (International Petroleum Industry Environmental Conservation Association) or equivalent. More details are given in the attachment-2.

## 7. EMERGENCY RESPONSE ORGANISATION



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## 7.1 General

In order to carry out and support the emergency response to the incidents identified and defined in Section 6, a formal emergency response organisation should be adopted. The organisational structure required for managing an emergency response shall be described, and shall include names and positions of persons approved to initiate emergency response actions and the person(s) in charge of and co-ordinating response actions. The roles and responsibilities of key personnel should be clearly defined, (see section 5)

EPC E&C must maintain a team comprised of asset or operating area level personnel responsible for managing the safe and rapid response to incidents occurring at or threatening their operations.

The role of the Emergency Response Team is to:

- Size up the incident, its potential, and the nature and status of tactical response operations.
- Establish 'Command and Control' through the development of an overall strategy and objectives for emergency response operations.
- Initiate mutual aid, through a Mutual Aid Coordinator. In order to provide adequate resources to deal with large-scale emergency situations, it may be necessary to rely on assistance from governmental bodies or nearby sites of other companies. Sharing of emergency response resources should be agreed upon, and detailed in a Mutual Aid Agreement. This includes the roles, responsibilities and capabilities of each partner.
- Direct response actions of personnel to control and mitigate the emergency.
- Restore normal operations while minimizing impacts to people, property, and the environment.

The Emergency Response Team is made up of a team of personnel, some with coordinating roles, others with direct response roles and others with supporting roles. These roles need to be defined and responsibilities need to be assigned. (See the Attachment 3 : Origination of Emergency Response Team)

## 8. Emergency Response Resources

### 8.1 General


Communication is a crucial factor in handling an emergency. When an incident occurs, it is necessary to immediately raise an alarm, to declare an emergency, to inform the Emergency Response Team and COMPANY as well as threatened areas (onsite or offsite) and possibly outside agencies. It may also be necessary to contact relatives, media, etc.,

If necessary.

Hence there will be a build-up of a large volume of two-way communications that can overload the system, unless this has been provided for.

In this context specific attention needs to be paid in establishing Emergency Response Centres, (see Section 8.2) and developing a suitable Alarm System (see Section 8.3)



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## 8.2 Emergency Control Center

Each site must have designated centres/facilities for the purpose of emergency response. These Emergency Control Centres (ECC) may comprise either dedicated facilities or a suitable suite of rooms, which can be quickly adapted for use in an emergency. On the RRE, the ECC will be the conference room at the administration office.

The ECC must have the capability to maintain effective communication links with responsible personnel in the field as well as senior management.

responsible personnel in the field as well as senior management.

As a minimum the ECC should be equipped as indicated in **Attachement 8**.

## 8.3 Alarm System

A major emergency goes through three main stages :


- (1) Raising of the alarm,
- (2) Declaration of the emergency, and
- (3) Implementation of the emergency procedure. For each of these stages, clear and unambiguous

signals should be applied. Also, different signals should be used for these distinctive stages.

At the RRE area the alarm system will have 2 different types of alarm :

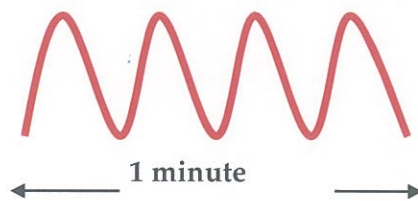
The first is a Modulated audible alarm, ie in case of fire, gas leakage and for evacuation. The other one is a straight alarm for ALL CLEAR, when the emergency area is inspected, fully satisfied and guaranteed that ,plant area and equipment are safe for normal work to resume.



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### Emergency Sirens

- Emergency Warning: Wailing tone for 1 minute



- All clear Signal: Continuous tone for 1 minute



**Note:** Functional tests of emergency sirens are carried out on every Mondays at 1130 hours by the Fire Fighting Station of COMPANY.

#### **8.3.1 Sequence of actions to take upon hearing the emergency Siren ;**

- Stop all work immediately.
- If you are in a vehicle, stop and park at the road side immediately and leave the key in the ignition hole.
- Observe the wind direction and proceed to the nearest assembly point, at directions right angle to the wind direction.
- Furthermore follow the instructions of the on-scene commander.

**Note:** The predominant wind direction is from North to West.


### **9. Communication**

Effective communication is a crucial factor in handling an emergency, so the Key ERT members will be issued with radio (including mobile phones etc) and rehearses the basis of good emergency planning.

A public address and alarm system will be used to communicate actions to be taken during an emergency. A hand held megaphone will also be available on site for use in emergencies that do not involve the release of toxic gas.

Communication will at all times be done in English



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## 10. Training

The Incident Commander and HSE Manager will ensure that proper training and drills are carried out. Basic requirements will be included in the Safety Induction Training for new employees.

All Key persons of the ERT will receive the specific training on the Emergency Response Procedure before Commissioning.

## 11. Drills and Exercises

### 11.1 General

EMERGENCY DRILLS are used as a means of training specific personnel and teams to carry out emergency procedures and to give instruction in the use, handling or operation of any emergency equipment which may be appropriate. In doing so, emergency equipment is regularly tested and any shortcomings can be rectified.

Also a new or revised procedure can be easily introduced without the need for extensive retraining. Emergency drills include the following, but not limited:

- Gas leakage (toxic and flammable)
- Fire fighting
- Search and rescue i.e. within the site area
- Casualty handling, and treatment.

EMERGENCY EXERCISES are used to make all personnel aware of the actions required of them in an emergency situation.

This usually means going to the appropriate muster point. It is then important to identify if any persons are unaccounted for.

As many drills as possible, compatible with the ongoing function of the site, should involve the total complement of personnel on site. i.e. drills and exercises should be held at the same time. Where this is not possible or desirable, drills should be undertaken by individual departments on an opportunity basis, but within the maximum intervals permitted.


Each drill should introduce a specific type of emergency based upon the types of hazards present on site

### 11.2 Drills and Exercise

For operational sites with process facilities, drill to test and training personnel with specific duties should be performed every 2 months i.e. Spills, rescues from height, pits, confined spaces, fires, entrapment.

The drill will be conducted by HSE Manager as per Incident Commander's (Site Manager) instruction.



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## 12. References

- ADNOC HSE Risk Management Guidelines
- HSE-CP19: EMERGENCY AND CONTINGENCY PLANNING


## 13. Attachment

- Attachment- 1 : Example of emergency classification
- Attachment- 2 : Liquid spill categories
- Attachment- 3 : Crisis Management Team/Contact No, Emergency Response Team/  
Contact No
- Attachment - 4 : Site Muster Point
- Attachment - 5 : Site office Muster Point
- Attachment - 6 : Emergency Evacuation Flow Chart
- Attachment-7 : Event Log Sheet
- Attachment - 8 : Facilities to be prepared in Emergency Control Center.

### Attachment - 1 : EXAMPLE OF EMERGENCY CLASSIFICATION

CATE-GORY	TITLE	DEFINING EFFECT	TYPICAL ASSOCIATED ACCIDENTS <sup>(2)</sup>
0	MINOR ACCIDENT	Accident, which may involve injury or damage to plant – controllable by personnel on the spot.	Small fire Small hydrocarbon onsite spill or process leak
1	SERIOUS ACCIDENT	Accident, which may involve injury, death or serious damage to plant - controllable by site emergency services.	Serious fire or explosion Serious hydrocarbon onsite spill or process leak Minor marine pollution <sup>(3)</sup>
2	MAJOR ACCIDENT	Accident involving injury, death or major damage to plant or environment - mutual aid required.	Major fire or explosion Serious toxic gas cloud Serious hydrocarbon onsite spill or process leak Serious marine pollution <sup>(3)</sup>



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3	DISASTER	Escalating accident involving large-scale injury, death or damage beyond resources of mutual aid and site emergency services threatening civilian population.	Catastrophic fire or explosion Major toxic gas cloud Major hydrocarbon onsite spill or process leak Major marine pollution <sup>(3)</sup>
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**Notes :**

- (1) This classification is similar to the incident classification adopted for COMPANY's Crisis Management & Communication Plan (CM&CP).
- (2) For the refineries the incidents/accidents should be based on the outcome of the hazard identification and risk assessment process for the site (e.g. based on accidental scenarios considered in HSEIA Report). The accidents can be site based or made specific for units within that site.
- (3) The oil spill emergencies can be defined based on an internationally accepted classification system.

**Attachment - 2 : LIQUID SPILL CATEGORIES**


CATE-GORY	TITLE	DEFINING EFFECT
Tier 1	SMALL SPILL	An operational type spills that may occur at or near RRE's own facilities, as consequence of its own activities. RRE would typically provide resources to respond to this type of spill.
Tier 2	MEDIUM SPILL	A larger spill in the vicinity of RRE 's own facilities where resources from other companies, industries and possibly government response agencies in the area can be called in on a mutual aid basis. RRE may participate in a local cooperative where each member pools their Tier 1 resources and has access to any equipment that may have been jointly purchased by a cooperative.
Tier 3	LARGE SPILL	A large spill where substantial further resources will be required and support from a national (Tier 3) or international cooperative stockpile may be necessary. It is likely that such operations would be subject to government controls or even direction. A spill which could require a Tier 3 response may be close to, or remote from, company facilities.



<b>Spill Size</b>	<b>Large</b>			<b>Tier 3</b>
	<b>Medium</b>		<b>Tier 2</b>	
	<b>Small</b>	<b>Tier 1</b>		
		<b>Local</b>	<b>In vicinity</b>	<b>Remote</b>
		<b>Proximity to Operations</b>		

**Note :**

(1) Courtesy of IPIECA (International Petroleum Industry Environmental Conservation Association), "A Guide to Contingency Planning for Oil Spills on Water", IPIECA Report Series - Volume Two, 2<sup>nd</sup> edition, March 2000

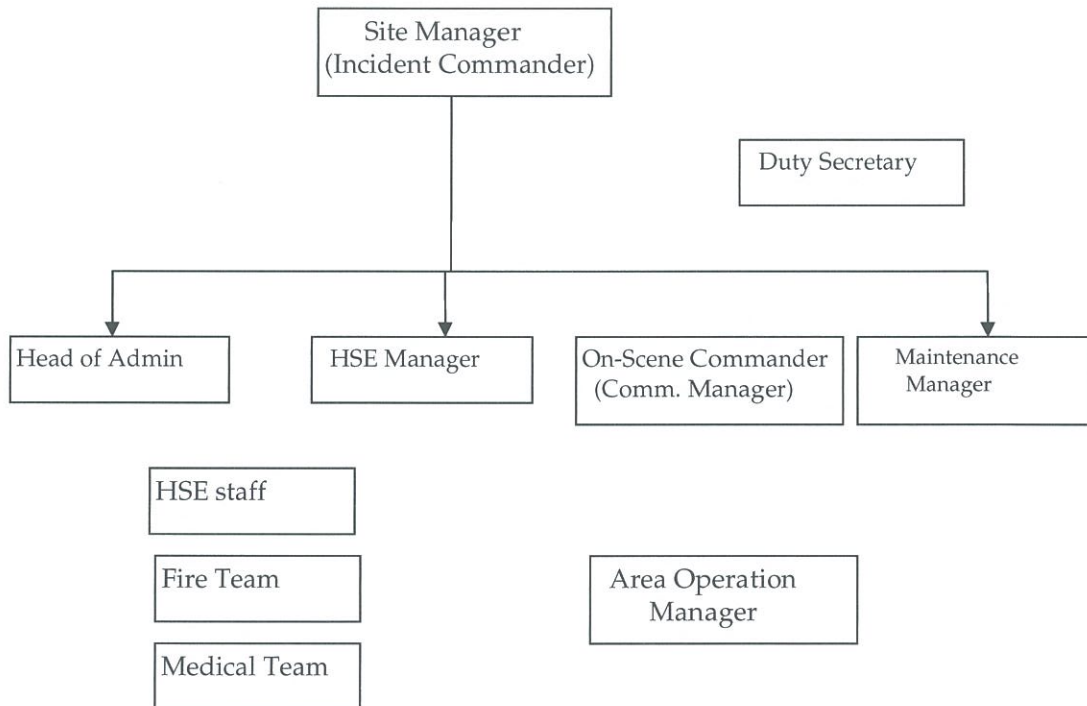
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**Attachment - 3 :**

**A. Crisis Management Team /Contact No.**

Plan To be Inserted

**B. Emergency Response Team/Contact No.**





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#### Attachment - 4 : Site Muster Point

Plan To be Inserted

#### LEGEND:

-  : MUSTER POINT  
 : ESCAPE ROUTE




Note: M.P will be changed according to the site condition.

#### Attachment - 5 : Site office Muster Point

Plan To be Inserted

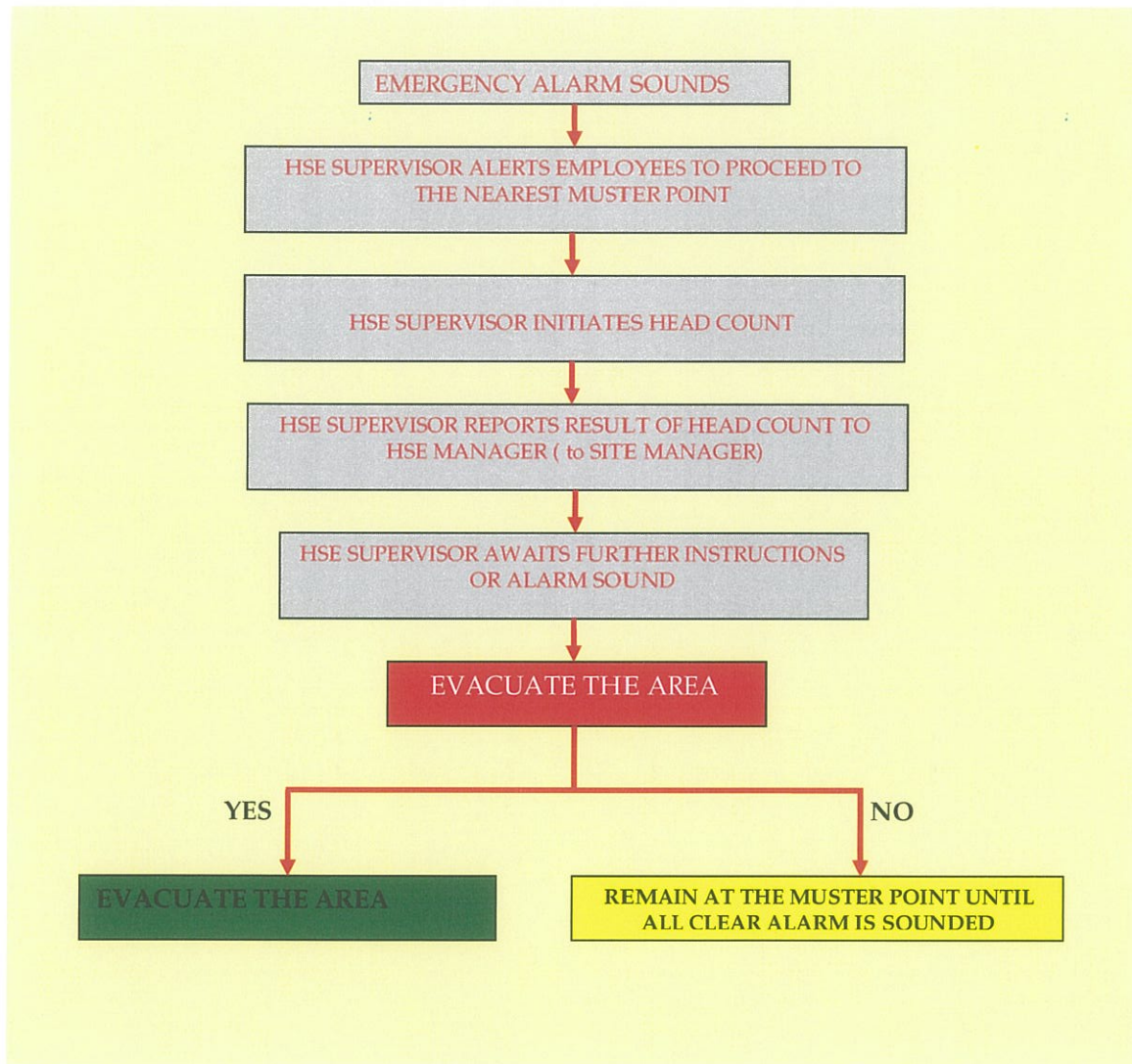
#### LEGEND:

- S.S: Smoking Shelter  
 P.G: Power Generator  
 F.A: First Aid  
 P.R: Prayer Room


-  ESCAPE ROUTE  
 FENCE  
 MUSTER POINT



**Attachment - 6 : Emergency Evacuation Flow Chart**





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**Attachment - 8 : Facilities to be prepared in Emergency Control Center.**

RESOURCE	CONTENTS/ REQUIREMENTS
Arrangements and fittings	<ul style="list-style-type: none"> <li>• Boardroom-style chairs and tables</li> <li>• Stationery and marker boards or flip charts, to record specific categories of status information such as personnel at site, casualties, external agencies notified etc.</li> <li>• Working maps which can be marked up during the emergency</li> <li>• Dedicated software for incident command response</li> </ul>
Communication	<ul style="list-style-type: none"> <li>• Recording facilities for telephones (individual or multi-track)</li> <li>• Radio equipment on an emergency frequency</li> <li>• Personal Computer for word processing, electronic mail, telex, etc.</li> <li>• Access to photo copier and scanner</li> <li>• Telephone/address lists of key personnel</li> <li>• Telephone/address lists of external emergency services</li> <li>• List of important telephone and telex numbers, radio frequencies and call signs</li> </ul>
Site information	<ul style="list-style-type: none"> <li>• Site emergency procedures</li> <li>• Facility plot plans and area maps showing access/exit roads</li> <li>• Facility pictures</li> <li>• Process Flow Diagrams</li> <li>• Assembly points, refuge rooms</li> <li>• First aid stations and medical centre</li> </ul>
Site working plan (updated/ drafted prior to or during the emergency)	<ul style="list-style-type: none"> <li>• Impassable or blocked roads</li> <li>• Areas affected or endangered by the incident</li> <li>• Evacuated areas</li> <li>• Roster for duty</li> <li>• Roll of employees</li> <li>• Mutual aid call out list</li> </ul>