

2013

# GENERAL GUIDELINES FOR EMERGENCY RESPONSE PLAN

For (Company's Name) at (Company's Address)

This emergency response plan is developed by (Company's Name) and is to be handed over to SCDF responders in times of emergencies

(Name of Author)  
(Appointment)  
(Date of Issue)



# SINGAPORE CIVIL DEFENCE FORCE



## GUIDELINES FOR EMERGENCY RESPONSE PLAN (ERP)

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## TABLE OF RECORDS OF EMERGENCY EXERCISES CONDUCTED

S/N	Date of Exercise	Name and Appointment of Conducting Personnel	Signature of Conducting Personnel	Comments
01	01012013	Mr Tan Tee Siong		

**Note:**

*Emergency Exercise shall be conducted at least once a year to validate this emergency response plan.*

# EMERGENCY RESPONSE PLAN

## 1 AIM

The aim of this emergency response plan is to detail the various measures and operational actions that need to be undertaken by the company in the event of any fire or other emergencies such as Hazmat that occur within the installation in order to minimize injury to personnel and damage to property.

## 2 SITUATION

This section contains the company's background information which includes its nature of business, location, neighbours and its inherent risks and hazards.

### 2.1 INTRODUCTION

To state the ownership and management of the installation. Give a write-up of the **nature of business, products and methods** of the installation's activities and the other various companies involved (if any) in the operation such as supplying raw material, etc.

*Eg: ABC's plant is owned and managed by XYZ company*

*(Multi National Company – consist of UK, US and Dutch).*

*The main business of the plant is to produce chlorine gas for supplying to consumers all over the island of Singapore.*

*MNE company (local company) supplied all the raw materials.*

## 2.2 AREA OF OPERATIONS

### 2.2.1 LOCATION OF PREMISES AND ITS MAIN ACCESS ROAD

To state the address of the installation and list all the possible entrances to the installation from the main access roads. Indicate the entrances on the site plan (to be inserted as **Annex A**). Surrounding lands should be included in the site plan.

*Eg: ABC Pte Ltd located at No: 12 Ubi Ave 4. The main access to ABC Pte Ltd is from Ubi Ave 4.*

### 2.2.2 GENERAL DESCRIPTION OF THE SURROUNDINGS AND NEIGHBORING PREMISES

To identify, describe and provide the contact numbers of the neighboring occupancies surrounding the installation.

*The surrounding and neighbouring companies are as follow:*

- a) Ubi One - Industrial Building*
- b) Toppan - Printing Company*

### 2.2.3 LAYOUT OF PREMISES

To provide a brief description of the layout of the site (such as the location of the admin block, process plants,



tank farm, storage warehouse, etc) with the aid of a schematic layout plan (to be inserted as **Annex B**).

To describe the location, quantity stored and the storage conditions of petroleum, flammable materials (P&FM) and hazardous materials (Hazmat) at site (to be inserted as **Annex C**). Location(s) of the the P&FM and Hazmat must be indicated clearly on the layout plan(s).

To provide a summary table of the processes, operations and other activities such as hot works carried out within the process areas. State the duration of each of the processes and operations (24 hours daily or only normal office works, etc)

**Note:**

*The Safety Data Sheet (SDS) of the hazardous materials used / stored at the premises need not be included in this ERP. However company must ensure that the SDS be located in an easily accessible area and that they must be handed to the SCDF responders in times of emergencies.*

## 2.3 SPECIAL HAZARD AND RISK ASSESSMENT

To state the main hazards (flammable, toxic chemicals, hazardous agents etc) and the Safety / Emergency Control Measures which are in place to handle the hazards.

(to be inserted as **Annex D** as Premises Emergency Data)

*Eg. Releases from XXXX Handling*

*(1) Hazards*

*The two principal potential hazards following a release of XXXXX are evaporation of the volatile liquid leading to the formation of a flammable vapour*

*cloud in the atmosphere, and radiation from an ignited pool fire. Ignition of the cloud might also lead to a vapour cloud explosion.*

*If XXXXX were spilled onto open, flat ground, it would spread out to form a shallow pool. If the releases were not stopped, the pool would continue to spread until it reached an equilibrium size where the spill rate was equal to the evaporation rate (for unignited releases) or burning rate (for ignited releases)*

**(2) Emergency / Mitigation Measures**

*XXXXX vapour is 1.5 times heavier than air at room temperature and the vapour produced as XXXXX vaporises from the liquid at its normal boiling point is even heavier. Therefore, it will tend to spread along the ground assisted by the visible fog of condensed water vapour created. Ignitable mixtures extend beyond the visible area. Such escape can be controlled by water spray. Water should be applied to fire-exposed tanks and cool surrounding risks. Eliminate all sources of ignition if possible and the flow of gas should be stopped.*

**(3) Safety Control Measures:**

- a. XXXXX gas leak detectors installed to detect gas leaks.*
- b. Automatic water spray system with heat detectors installed to activate and drench the tanks when the temperature is high.*
- c. Daily monitoring by shift personnel for leakage*

## **3 EXECUTION**

This section highlights all main credible scenarios (such as fire or Hazmat incident) and the necessary actions to be taken by the company during emergency.

### **3.1 CONCEPT OF OPERATIONS**

The emergency operation to be conducted in phases is as follows:

<b>Phase</b>	<b>Actions</b>
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I	To notify SCDF and SPF for all emergency and mass casualty (10 or more casualties) incidents. To notify other related agencies (NEA, MOM, etc) and surrounding companies if necessary.
II	a Company personnel to conduct evacuation operations.
	b Company personnel to initiate emergency actions to mitigate or contain the emergency and coordinate with SCDF personnel upon SCDF's arrival.
III	To clean up / decontaminate and resume normal operations.

**Note:**

*Phase II (a) and (b) should be conducted simultaneously or as directed by the Site Main Controller / Site Incident Controller or Fire Safety Manager.*

### 3.2 EMERGENCY ACTIONS TO BE TAKEN

#### 3.2.1 (PHASE I) PROCEDURE TO NOTIFY SCDF, SPF. TO NOTIFY OTHER RELATED AGENCIES AND SURROUNDING COMPANIES

To describe the Standard Operating Procedures (SOP) adopted to notify SCDF and SPF in the event of an emergency (**includes incidents such as fire / non-fire & mass casualties**) discovered during and after office hours.

*Eg: During office hour, any occurrence of incident resulting in an emergency alarm, the shift supervisor on duty will activate in house emergency response procedure. The site incident controller (SIC) / FSM will be notified and he will inform SCDF Control Room by telephone after initial assessment of the situation. The SIC / FSM will be the liaison officer with SCDF ground commander. He will provide information and necessary assistance to SCDF ground commander. He will provide information and necessary assistance to SCDF ground commander.*

To describe the notification procedures to related agencies (E.g. NEA, MOM, etc) and surrounding companies depending on the nature of the emergency.

To provide the contact numbers of the neighbouring companies within a given radius (depending on risk and inventory type), whereby in the event of any incident with probability of escalation beyond the boundaries of the installation, the company will have to inform its neighbours.

State the working population during operations hours including Sunday and Public Holidays.

### **3.2.2 (PHASE II a) PROCEDURE FOR EMERGENCY EVACUATION**

To describe the Emergency Evacuation Plan and the signal/message to occupants to proceed for evacuation from the premises.

To indicate clearly the locations of all control points (CERT Reporting Point, Evacuation Assembly Area, First Aid Point, etc). On the layout plan, explain the purpose of each control point. To also indicate also the evacuation routes on the layout map.

To identify and describe the tasks of key appointment holders for evacuation (CERT members, FSM, fire wardens, security personnel, etc) and describe the communication protocols to update any unaccounted personnel.

To consider and include measures devised to facilitate the evacuation of Persons with Disability (PWDs) in the premises.

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### **3.2.3 (PHASE II b) EMERGENCY ACTIONS TO MITIGATE OR CONTAIN THE EMERGENCY**

#### **3.2.3.1 Emergency Shutdown Procedures**

To describe briefly the emergency shutdown procedures for various processes and equipment (such as the gas leakage, loss of containment storage tank etc) during an emergency.

To describe briefly the estimated duration for the whole emergency shutdown procedures to be completed during an emergency.

#### **3.2.3.2 Fire Fighting, Hazmat Containment & Monitoring, and Rescue Procedures**

To describe the fire fighting, hazmat containment and monitoring (from spill, leak, vapour release, etc), rescue and any other procedures which will be carried out to mitigate the incident.

To tabulate the information (Type, quantity, general function/purpose and location) of the portable/deployable fire fighting, hazmat containment/monitoring and rescue equipment (e.g. fire hoses, fire nozzles, fire engine, foam concentrate, spillage kit, portable gas detectors, harness, ropes, etc) and fixed fire safety provision (e.g. fire hydrant, fixed monitor, etc) that are available in the installation.

#### **3.2.3.3 Procedure to Implement In-Place Protection (IPP)**

*The signal for IPP will be broadcast over radio or TV after the sounding of important message signal through the Public Warning System. The authorities may also conduct a door-to-door notification.*

To describe, upon receiving advice from the authorities to initiate IPP, the communication means to signal to occupants to proceed with IPP.

To identify on floor plans, rooms allocated for IPP and the equipment available in the rooms set aside for IPP. Describe the roles of the coordinators and fire wardens to assist in setting up of IPP.

To highlight the mechanical ventilation systems that needs to be isolated in the event of implementing IPP.

Refer to guidelines:-

[http://www.scdf.gov.sg/content/scdf\\_internet/en/community-and-volunteers/community-preparedness/community-programmes/cd-emergency-handbook.html](http://www.scdf.gov.sg/content/scdf_internet/en/community-and-volunteers/community-preparedness/community-programmes/cd-emergency-handbook.html)

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### **3.2.4 (PHASE III) TO CLEAN UP / DECONTAMINATE AND RESUME NORMAL OPERATIONS.**

#### **3.2.4.1 Clean up Operations**

To describe the clean-up procedures that will be carried out by the company at the recovery stage.

To provide the information (Name, Address, Contact Person and number, type of the clean up actions to be taken) if external clean-up contractors are employed.

#### **3.2.4.2 Other Emergency Plans**

To describe any other premises-specific emergency measures such as Arson Prevention Plan and etc. (**Annex E**)

To describe the Standard Operating Procedures (SOP) adopted and the tasks of key appointment holders in the event of an emergency.

### 3.3 GROUPING AND TASKS

To state the role and responsibilities of various groups for example, the Site Main Controller (SMC), Site Incident Controller (SIC), Company Emergency Response Team (CERT) members, Fire Safety Manager (FSM), Fire Wardens and Security Personnel, etc. (To be inserted in **Annex F** ) and their respective Grouping & Tasks (To be inserted in **Annex G** )

### 3.4 KEY PERSONNEL EMERGENCY CONTACT NUMBERS

To include the contact numbers of Key appointment holders (eg, CERT personnel) during office and after office hours. Individual hand phone or home contact number should be listed to ensure the key personnel can be contactable at all time.

## 4 SERVICE SUPPORT

This section describes the facilities and equipment that are available to assist the company in mitigating an emergency.

## **4.1 FIXED INSTALLATIONS**

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### **4.1.1 FIRE / HAZMAT PROTECTION FACILITIES**

#### **4.1.1.1 Detection System**

To give a description of the fixed detection system such as smoke, fire fighting monitoring and gas detection, leakage detection system, etc available at the installation. Indicate the location of detection system on the layout plan.

#### **4.1.1.2 Extinguishment System**

To give a description of the fixed extinguishing systems (such as sprinkler system, drencher system, hydrant, carbon dioxide and foam system) available at the installation. Indicate the location and quantities (if any) of the various extinguishment system on the layout plan.

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### **4.1.2 SAFETY AND FIRST AID EQUIPMENT**

To tabulate the information (type, purpose, quantity and location) of the safety and first aid equipment such as breathing apparatus, resuscitators, stretcher, first aid box, etc.

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### **4.1.3 OTHER PROTECTION AND GENERAL EQUIPMENT**

To tabulate information (name, quantity and location) of any other protection and general equipment used in the



installation.

## **5 COMMAND AND SIGNAL**

This section describes the command and communication structure of the company during an emergency.

### **5.1 COMMAND STRUCTURE**

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#### **5.1.1 INCIDENT ORGANISATION CHART**

To show the incident organisation chart. Describe the roles and responsibilities of the key personnel in the incident organisation chart.

To provide enhanced incident organisation chart should the incident / situation escalate.

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#### **5.1.2 LOCATION AND COMPONENT OF COMMAND CENTRE**

To indicate the location of the command centre on the layout plan.

## **6 PLAN REVIEW & MAINTENANCE**

This section details the plan review process. The plan review is to be conducted on an annual basis.

### **6.1 COMMUNICATION OF PLAN**

To describe how the employees and various stakeholders within the premise are made aware of various parts of this plan that they are involved in.

### **6.2 TABLE TOP EXERCISE**

To tabulate key findings from the conduct of table top exercise for future reference and improvement.

### **6.3 CONDUCT OF EMERGENCY DRILL**

To tabulate key findings from the conduct of yearly emergency drill for future reference and improvement.

### **6.4 REVIEW OF HAZARD RISK ASSESSMENT**

To tabulate key findings from the regular review of Hazard / Risk assessment for future reference and improvement. Gaps in the current plan should be identified and addressed.

