Emergency Response Planning Guidelines Sample Report
SCOPE

- Introduction
- Emergency Response Plan (ERP)
- Guidelines for ERP
- Duties and responsibilities of Fire Safety Committee
- Action to be taken in the event of fire
- Conclusion
Learning Objectives

• Able to explain the need of ERP
• Able to explain the fundamental requirements for the formation of a Fire Safety Committee
• Able to formulate an ERP
What is a Emergency Response Plan?
A plan which contains information on:

-- Types of fire safety measures provided for in designated premises
-- Duties and responsibilities of the FSC
-- Actions required from FSC
-- Floor layout plans
-- Evacuation planning guidelines
Emergency Response Plan

Owner of the building or his designated official will be responsible for the preparation & implementation of the ERP
Requirements of a Emergency Response Plan

• Prepare ERP within 6 months from commencement of operation
• Prepare in accordance with guidelines
• Form a Fire Safety Committee to assist to plan, organize & conduct fire safety programme
• Review annually or as and when required by Commissioner
• ERP kept at FCC or other place easily available
Why organise for fire emergencies?

- Dangerous operational practices
- Combustible & smoke producing materials
- Indecisive, delay & lack of responsibilities
Emergency Response Plan needed to

- avoid panic
- evacuate safely and orderly
- tackle incipient fires with available fire-fighting equipment
- provide good information and assistance to firefighters
- effect timely protection of machineries and property
Guidelines for ERP
Contents of ERP

1. Aim
2. Situation
3. Execution
4. Service Support
5. Command and Signal
6. Plan Review and Maintenance
7. Annexes
AIM

• Detail the various measures and operational actions that need to be undertaken by the company in the event of any fire or hazmat emergencies
• Minimize injury to personnel and damage to property.
SITUATION

• Introduction
• Area of operations
  – Location – Annex A
  – Surroundings
  – Layout – Annex B & C
  – Special Hazard and Risk Assessment – Annex E
EXECUTION

• Concept of Operations
  – Divided into 3 phases - overview

• Emergency Actions to be taken
  – Phase 1
    • Notify SCDF + Relevant agencies
    • Contact number of neighbouring premises
    • Working population size during Sundays/Public Holidays
  – Phase 2A
    • Conduct evacuation
EXECUTION

• Emergency Actions to be taken
  – Phase 2B
    • Emergency Shutdown Procedure
    • Fire Fighting, Hazmat Monitoring, Containment and Rescue
    • IPP
  – Phase 3
    • Clean up/decontaminate
    • Other Emergency Plans eg APP – Annex D
    • Grouping and Tasks – Annex F and G
    • Key personnel emergency contact numbers
SERVICE SUPPORT

• Fixed installations
  – Detection/Extinguishing system
  – Safety/First aid equipment
  – Others
COMMAND AND SIGNAL

- Incident Organisation Chart
- Location of Command Centre
PLAN REVIEW AND MAINTENANCE

- Communication of Plan
- Table Top Exercise
- Conduct of Emergency Drill
- Review of Hazard Risk Assessment
ANNEXES

COMPANY SITE PLAN

We Set the Standards
ANNEXES

COMPANY LAYOUT PLAN

We Set the Standards
## Annexes

**Inventory of Petroleum & Flammable Materials (P&FM) / Hazardous Chemicals & Agents**

<table>
<thead>
<tr>
<th>Type of P&amp;FM / Hazardous Chemicals &amp; Agents</th>
<th>UN Class</th>
<th>Physical Form</th>
<th>Location Stored</th>
<th>Unit Capacity of Packaging / Container (Metric Tonnes / Kg)</th>
<th>Total No. of Packaging / Container</th>
<th>Maximum Qty Stored On-site (Metric Tonnes / Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eg: Diesel</td>
<td>1202</td>
<td>Liquid</td>
<td>Beside guard house</td>
<td>5000 MT (Ltrs)</td>
<td>2 Units</td>
<td>10000 MT (Ltrs)</td>
</tr>
</tbody>
</table>
FOR INSERTION OF EVACUATION PLANS AND OTHER PLANS SUCH AS:

1) **EVACUATION PLAN**
2) **ARSON PREVENTION PLAN**

* Refer to guidelines:
  

3) **In Place Protection Plan**

^ Refer to guidelines:
  
### PREMISES EMERGENCY DATA

**Reference No:**

**Name of Premises:**

**Address of Premises:**

**Date of Last Survey:**

**Conducted By:**

### 1. THREAT ASSESSMENT

- **HRI Class:**
  - [ ] HFLP
  - [ ] ISP
  - [ ] TCP
  - [ ] FMP
  - [ ] BAP
  - [ ] RAP
  - [ ] Non-HRI

- **Risks present:**
  - [ ] Sensitive Installations
  - [ ] Flammable Materials
  - [ ] Biological Agents
  - [ ] Radiological Agents
  - [ ] TICs
  - [ ] (Tick where applicable)

- **Mixed Use Premises:**
- **Is the building IPP ready?** Yes/No

### 2. OCCUPANCY LOAD

<table>
<thead>
<tr>
<th>Location</th>
<th>Peak Hrs</th>
<th>No. of Occupants (Peak Hrs)</th>
<th>Non-Peak Hrs</th>
<th>No. of Occupants (Non-Peak Hrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block 1</td>
<td>XXXX.XXXX hrs</td>
<td>AAAA.BBBB hrs</td>
<td></td>
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<tr>
<td>Block 2</td>
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<tr>
<td>Tower 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tower 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Premises Occupancy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 3. OCCUPANCY USAGE & KEY ACTIVITIES

<table>
<thead>
<tr>
<th>Block / Tower</th>
<th>Level</th>
<th>Usage &amp; Key Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block 1</td>
<td>Basement 1-3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Level 1-10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Level 11-20</td>
<td></td>
</tr>
<tr>
<td>Warehouse</td>
<td>Level 1-2</td>
<td></td>
</tr>
<tr>
<td>Chemical Plant</td>
<td>E</td>
<td></td>
</tr>
</tbody>
</table>
ROLES AND RESPONSIBILITIES OF CERT

SITE MAIN CONTROLLER (SMC)

SMC is the senior member of the installation management. He is the person who is overall in-charge of the emergency response operations in the installation and liaises with senior officials of government agencies such as SCDF, SPF, NEA, etc. Under circumstances whereby the SMC is unable to leave the plant, he/she may appoint another suitable representative to link up with the Incident Manager at TACT HQ.

THE KEY RESPONSIBILITIES OF THE SMC INCLUDES:

(a) Coordinate the activities of external emergency organizations and work closely with the Incident Manager at TACT HQ during consequence management;
(b) Provide TACT HQ with the following information:
   i) Site Layout Map;
   ii) Building plan;
   iii) Company Emergency Response Plan;
   iv) Company’s hazmat inventory and location of hazmat inventory;
   v) Overall workers population;
   vi) Incident resources available at site;
(c) Provide the Incident Manager with the necessary information and decisions to any actions that concerns the company SOPs and policies;
(d) Authorize the shutdown of operations in the installation;
(e) Authorize the release of information to the media and government agencies; and
(f) Assist the Incident Manager in determining the termination of the emergency and authorizing re-entry upon complete recovery.
## ANNEXES

### Detailed Grouping and Tasks

<table>
<thead>
<tr>
<th>S/NO</th>
<th>GROUPING</th>
<th>GENERAL TASKS</th>
<th>PHASE</th>
<th>DETAILED TASKS</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Site Main Controller</td>
<td><em>Eg: Overall in-charge of emergency response operations &amp; liaise with government agencies.</em></td>
<td>I</td>
<td>Carry out initial Response &amp; call SCDF / SPF</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>II</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>III</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Site Incident Controller</td>
<td><em>Eg: Overall in-charge of actual ground response operations.</em></td>
<td>I</td>
<td>Activate on-site CERT</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>II</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>III</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Emergency Response Team</td>
<td><em>Eg: Responsible for fire fighting, rescue &amp; first aid.</em></td>
<td>I</td>
<td>Conduct basic emergency response such as fire fighting, Hazmat mitigation, containment, rescue &amp; first aid.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>II</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>III</td>
<td></td>
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</tr>
</tbody>
</table>
Evacuation Model (course project)

- The 3 models you will choose 1
- Explain why you use the model
Fire Evacuation

- <8-storey
  - a single stage alarm
  - evacuate immediately
  - total evacuation upon hearing the alarm
We Set the Standards

Fire flr

< 8-storeys

Total Evac upon 1st alarm
Fire Evacuation

- >8-storey & < 30-storey
  - two stage alarm
  - 1st alarm alert signal & standby for total evacuation
  - 2nd alarm is activated on all floors upon confirmation of fire
Fire flr

Total Evac upon 2nd alarm

8 - 30-storeys
Fire Evacuation

- 31-storey & >31-storey
  - 2 stage alarm & phase evacuation
  - 1st alarm will sound to alert
  - 2nd alarm will sound to evacuate by phases
  - 1st phase, occupants on the fire floor, 2 floors above & 2 floors below
  - 2nd phase, occupants on all floors above fire floor
  - 3rd phase, all floors below the fire floors
  - [2-A-B]
We Set the Standards

Phase 1

Fire flr

Phase 2

2 flr above

> 30 - storey

Phase 3

2 flr below
## Current Evacuation Guidelines - 3 Basic Models

<table>
<thead>
<tr>
<th></th>
<th>Low-Rise</th>
<th>Medium-Rise</th>
<th>High-Rise</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Height</strong></td>
<td>Less than 8 storeys</td>
<td>8-30 storeys</td>
<td>More than 30 storeys</td>
</tr>
<tr>
<td><strong>Alarm type</strong></td>
<td>Single-stage alarm</td>
<td>2-stage alarm</td>
<td>2-stage alarm</td>
</tr>
<tr>
<td><strong>Evacuation Strategy</strong></td>
<td>Total Evacuation</td>
<td>Total Evacuation</td>
<td>Phased Evacuation</td>
</tr>
</tbody>
</table>
## Revised Evacuation Guidelines - New Model

<table>
<thead>
<tr>
<th>Height</th>
<th>Low-Rise</th>
<th>High-Rise</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No EVCS</td>
<td>With EVC &amp; Compartmented Floors e.g Industrial Building</td>
</tr>
<tr>
<td></td>
<td>With EVC But has Atrium Space e.g Dept Stores</td>
<td></td>
</tr>
<tr>
<td>Less than or equal 24m</td>
<td></td>
<td>More than 24m</td>
</tr>
<tr>
<td>Alarm type</td>
<td>Single-stage Alarm</td>
<td>2-stage alarm</td>
</tr>
<tr>
<td>Evacuation Strategy</td>
<td>Total Evacuation</td>
<td>Total Evacuation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phased Evacuation</td>
</tr>
</tbody>
</table>

We Set the Standards
Selecting AA

- Identify at least 2 or 3 alternate locations outside
- Familiar and readily accessible
- Able to accommodate the full occupant load (or evacuees)
- Far enough to avoid falling debris, collapsing structures and/or spread of the fire.
- A distance at least equal to height of the building, and no less than 20m away is recommended or alternately, it can be in a protected area shielded from the burning building by a fire barrier or fire wall, or it may be in an adjacent building if it offers sufficient protection and is able to accommodate the evacuees.
- The AA shall not interfere with the fire fighting operations and/or its responding forces.
- Where AA is located across any road, there shall be someone designated to control traffic so that no traffic accident will occur due to occupants crossing the road to the AA.
Consideration for Evac model

- As fast as possible/as many floor as possible (rules of thumb apply, not more than 20 floors each time)
- Stampede
Duties & Responsibilities of Fire Safety Committee
Fire Safety Committee

• Coordinator / assistant,
• Fire Wardens / assistant,
• Chief Security Officer / assistant,
• Telephone Operator,
• CERT
Action to be taken in the Event of Fire
Action to be taken in the event of fire

• Informant
  – Raise alarm
  – Note what they see, if possible
  – Fight fire, if it is an incipient fire

• All occupants
  – lock important files, cash, shutdown machineries, etc
  – Remain alert
  – Evacuate immediately by FW
  – Guide customers/guests/visitors
  – Do not use lift
Action to be taken in the event of fire

- Coordinator/Asst
  - SCDF notified
  - Proceed to FCC
  - Mobilize CERT
  - Silence the alarm bell (not to reset!)
  - Do evacuation where necessary
  - Make correct announcements that suit the situation
  - Monitor building evacuation using building evacuation status chart
  - Report condition of fire & number of persons missing to SCDF
Action to be taken in the event of fire

- Fire Warden/Asst – on hearing 1st stage alarm
  - Check sub alarm panel
  - Conduct physical check
  - Prepare for evacuation if fire not on his floor
  - Report to FCC if fire on his floor & effect evacuation immediately
Action to be taken in the event of fire

• Fire Warden/Asst – on hearing evac announcement
  – Check all rooms & evacuate everyone on his floor
  – Pay attention to the disabled, children, pregnant women
  – Report to FCC
  – At AA, conduct roll call using floor register & hand-over to Chief Security Officer
Action to be taken in the event of fire

- Chief Security Officer/Asst – Deploy Guards
  - At ground floor staircase exit, main entrance & exit
  - Patrolling
  - Direct SCDF to FCC
  - Direct traffic
  - Monitor status at AA & report to FCC
Action to be taken in the event of fire

CERT – on hearing 1st stage alarm

• Ascertain location of fire
• Use Fire Lift to 2 floors below fire floor
• Bring Fire Lift to ground floor & wait for SCDF
• Extinguish fire
Action to be taken in the event of fire

- Telephone Operator – on hearing 1\textsuperscript{st} stage alarm
  - Notify SCDF
  - Proceed to the FCC to man the PA system
# Action to be taken in the event of fire

**Fire Warden/Asst**

**Floor Register**

<table>
<thead>
<tr>
<th>Unit No.</th>
<th>Name of Occupants &amp; contact</th>
<th>Evacuation Status.</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Present</td>
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</tbody>
</table>
Fire Occurring Outside Office Hours

SECURITY PERSONNEL

- Confirm with SCDF
- Notify Coordinator/Asst
- Fight fire
After operating hours..

• Who to appoint?
  – Transfer of responsibility
  – By appointment eg Duty Officer; or
  – Someone that is always there
  – Must be trained
CONCLUSION

The formulation of Emergency Response Plan is important to ensure that all staff and occupants are ready to react effectively to a fire situation.