CERT Response – A Key Element to Emergency Preparedness
Scope of Presentation

1. Introduction (Video - Overview of CERT)
   a. What is CERT?
   b. Regulatory Requirements
   c. Emergency Preparedness

2. CERT Audit System and Evaluation Methodology

3. Conclusion
When things go wrong?

- Fire at Somerset Sub Power Station, 2 Jul 08
- Fire at Factory Complex at Sungei Kadut, 3 Aug 08
- Fire at Essential Oils Warehouse at Woodlands Terrace, 12 Jun 08
- Shipyard Accidents, Jun 08
- Tank fire at JB, 17 Aug 08
- 3 weeks, 4 accidents, 5 dead: An explosion on the Rainbow Star on June 8 killed three and injured 12.
When the Problem is Nipped in the Bud......

**Intervention Measures to Prevent Incident**
- Up-right overturned drum
- Clean up spill

**Intervention Measures to Minimize Loss**
- Use of fire extinguisher
- Activate sprinkler system
- Remove surrounding drums

Spill from drum → Pool fire from spill → Fire spread to entire factory

All Full-Blown Events Starts With an Initiating Event!
4 Key Elements of Emergency Management

Prevention

Recovery

Response

Preparedness
Effective Emergency Preparedness

- Acquiring Essential Equipment and Systems
- Planning of Mitigation Approaches

Preparedness

- Recognizing Credible Scenarios
- Developing an Emergency Response Plan (ERP)
NEW!!! – CDA will be conducting a new half-day Emergency Response Planning Course to assist the industry on the following dates:

- 30 Jul 2009
- 02 Sep 2009
Components of ERP

- Worst Credible Scenario
- Area of Operations
- Concept of Operations
- Emergency Response Equipment
- Incident Command and Organisation
CERT AUDIT

- Document Records check *(graded)*
  - Validation of ERP
  - CERT Training
  - In-house Emergency Response Equipment

- Assessment of P&FM material storage security *(not graded)*

- Practical Assessment for emergency response *(graded)*
A “3 + 6” standard evaluation checklist method is used:

1. Activation and response
2. Incident size-up
3. Fire-fighting and mitigating operations
4. Support Activities
5. Linking up with SCDF upon arrival
6. Ongoing operations and recovery

Scenario Discussion

- Worst credible scenario in Company’s ERP is used for assessment
Desired Outcomes

- Initiation of emergency response system
- Quick dispatch and arrival of the CERT
- NEW - Submission of inventory data via Live Inventory Portal (LIP)
- Assessment of incident scene, communication of the situation, requests for appropriate resources
- Notify authorities/neighbors
- Response activities conducted competently, effectively and safely to contain threats in accordance to ERP
CERT Audit Guidelines for Document Records Check
CERT MANPOWER

- Minimum manpower required is 6 (1 SMC, 1 SIC, 4 ERTs)

- Coys who fail to meet the minimum requirements are subject to audit as well.

- A case by case evaluation is done by SCDF to ensure in lieu of the minimum CERT manpower to ensure that the premises has proper fire and HazMat protective systems to prevent an initiating event to escalate into a major incident.
Roles and Responsibilities

- **Site Main Controller (SMC)**
  - Senior member of the company’s management
  - Overall person-in-charge of emergency response operations in the company and deals with govt agencies

- **Site Incident Controller (SIC)**
  - Leader of the company emergency response team
  - In charge of the incident response

- **Response Team (RT)**
  - Consist of personnel trained in basic emergency response actions such as fire fighting, HazMat mitigation, first aid, IPP and evacuation
  - Response under the command of SIC
CERT Training

Site Main Controller (SMC)

- Incident Management
  - Appreciation of Situation
  - Emergency Scene Management
  - Developing Contingency Planning (CP) for High Risk Installations
  - Overview of SCDF Incident Management System
  - Information Management During Emergencies
CERT Training

Site Incident Controller (SIC)

- Incident Management
- Fire-fighting Response
  - Fire-fighting with extinguishers/hose reel
  - Safety precautions
  - Basic first aid and CPR
  - Evacuation
  - Use of breathing apparatus
- HazMat Response
  - Classification of hazardous materials
  - Primary hazards associated with different hazardous materials
  - Mitigation and containment
CERT Training and Exercises

Response Team (RT)
- Fire-fighting Response
- HazMat Response
- First Aid
- Scenario-based field exercises will provide realism
In-house Emergency Equipment

- Equipment used by a company’s CERT must be sufficient to manage the worst credible scenarios identified.

- Equipment should be regularly maintained and stored in accessible locations.

- Main types of equipment:
  - Personal protective equipment (PPE)
  - Emergency response equipment
  - Communication equipment
CERT Audit Guidelines for Practical Assessment
Online Submission of Inventory Data

**FM Regulation 18 (Part 4) : Register of Inventory**
- Licensee is to keep and maintain a register of all petroleum and flammable materials stored or kept at the licensed premises;
- Register to be kept for 2 years
- Furnish register either electronically or otherwise for inspection when required to do so

**Register to contain**
- List of all petroleum and flammable materials stored
- Total quantity stored at licensed premises
- Actual quantity stored in each tank and container
- MSDS
- Records of movement of materials

**NEW Audit Requirement:**
Upon activation of the practical assessment, the company must submit real-time inventory data via the Live Inventory Portal within 10 minutes.
Activation and Response Time

A target of **1 minute** is set for **activation to Assembly Area**

A target of **5 minutes** is set for **response to incident site with appropriate equipment**
Donning Personal Protective Equipment (PPE)

- CERTs must be equipped with basic PPE – based on threats they are exposed to
- They must be competent in donning PPE in a quick timeframe
- They should not enter hazard zones without proper donning of appropriate PPE
Incident Verification/Notification

- SICs must go to incident site donning appropriate PPE to:
  - verify the incident
  - size up the situation - make an assessment of risk, damage, casualties, etc
  - prioritise actions to be taken
  - deploy ERTs to:
    - conduct snatch rescue
    - mitigate the leak/fire
    - determine isolation zone
  - Report to SMC

- Notify SCDF and neighbouring premises upon verification
Conducting Mitigation Operations

- CERTs must be:
  - Competent in using **correct tactics for mitigation operations**
  - Able to deploy their in-house emergency equipment fast and effectively
Conducting Mitigation Operations

- CERTs must also be competent in **tactics employed**
  - Use appropriate extinguishing medium
  - Ensure effective containment
  - Swift rescue and evacuation of casualties safely

- Ensure equipment readiness for swift and successful mitigation
Casualty Evacuation

- First Aid Point must be set up away from incident site/other workstations, sheltered and accessible to ambulances
- All casualties must be:
  - Handled properly to prevent further injury
  - Treated away from risk area
  - Evacuated to FAP for treatment
  - Decontaminated before sending to FAP
Linking Up With SCDF

- SCDF must be swiftly guided into the incident site by company staff.

- SIC must link up with SCDF ground commander upon arrival & provide information as follows:
  - Description of the incident, risks and hazards
  - CERT deployment
  - Casualty Status
  - Methods of mitigation
  - Layout plans, MSDS, resources available to assist SCDF
CERTs must continue to conduct support operations after handing over operations to SCDF:

- First Aid
- Casualty Evacuation
- Support SCDF with Resources
- Conduct joint operations with SCDF where possible
Audit Evaluation & Follow-Up Actions

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>80 – 100 %</td>
</tr>
<tr>
<td>Pass</td>
<td>50 – 79 %</td>
</tr>
<tr>
<td>Fail</td>
<td>0 – 49 %</td>
</tr>
</tbody>
</table>

Audit Grading Scale

- **Incentive** - Companies that achieve a score of 80% will be exempted from audit in the following year.

- **Penalty** - Action against company that fails to meet the audit requirement:
  - A fine will be imposed and a re-audit will be conducted;
  - License will be revoked or not renewed if the company fails the re-audit.

- **Grace period for new companies** - A 1-year grace period will be given from April 2009 till March 2010 with no actions if a company fails.
Assessment of Storage Security

- **FM Regulation 26 (Part 4)** Liceneree may be directed to adopt security measures when the need arises:
  - Installation of security equipment including close circuit cameras at appropriate locations within the licensed premises
  - Taking of reasonable measures to prevent any unauthorised person from gaining access or performing unauthorised activity on those premises
Assessment on Storage Security

Identify possible scenarios/gaps (if any) on: Deterrence, Detection and Response
Stages of CERT Audit

Stage 1
(Before Audit)
- Sending Notification letter to company
- Approval Of ERP
- CERT briefings to Industry

2 Months before Audit

Stage 2
(Actual Day)
- Briefing on Audit Reqs and Scenario
- P & FM Storage License Inspection
- Ex Scenario Discussion cum Ops Survey

1 Week before Audit

Stage 3
(After Audit)
- Conduct of on-site Practical Assessment
- Debrief to Company
- Send Post Audit Report to Company

3 Weeks After

Total duration: 3 hrs
Conclusion

Emergency Management

Preparedness

ERP
- Fire / HazMat Safety Installation
- Good Housekeeping and Inventory Management
- Safe Work Procedures

CERT
- Well Organised
- Proper Training
- Fully Equipped