

## **COMPANY BACKGROUND**

Premise: Chemical Process Plant

Occupancy: 50 Admin Staff, including Managing Director, General Manager, Head Human Resource, Fire Safety Manager

30 Plant Operators, including Plant Manager, Plant Engineer, Shift Supervisor

20 Support Staff, including Technicians, Security Officers, Warehouse Assistants

Equipping:

Emergency Response Equipment: Fixed Monitors, Foam Monitors and Equipment Cart containing Fire Hoses, Nozzles, Breaching, Portable Monitor as well as staff aids for the Field Incident Command Post. Staff aids include plant layout plan, inventory list, MSDS, casualty chart, etc.

Fire Protection System: Sprinkler, Drencher, Fire Alarm, Smoke & Heat Detectors

Personnel Protective Equipment: Fire Helmets, Jackets, Gloves, Self-Contained Breathing Apparatus (SCBA), Gas Detectors,

## **WORST CREDIBLE SCENARIO**

Time & Day: Approximately 0900hrs, Monday

On Wednesday, 13 July 2010 at 0900 hrs, a bulk solvent storage tank containing highly flammable liquid - Methanol developed a leak from a manifold. The Methanol vapour which leaked out came into contact with sparks from hot works conducted by a small group of contractors and caused a flash fire. The flash fire immediately developed into a fire on the leaked pipe and the fire impinged on the Methanol storage tank.

As a result, 2 workers became injured within the bund wall and another two outside the bund wall while trying to escape. A manual call point was activated by those who escaped to raise the alarm and alerted the FCC.

## SOLUTIONS

### CERT STRUCTURE

- SMC (x1) – Managing Director
- SIC (x1) – Plant Manager
- ERT (x8) – Plant Operator
- FA (x4) – Warehouse Operator
- Evacuation IC (x1) – FSM, assisted by Fire Wardens
- Traffic Controller (x2) – Security Guard / Traffic Wardens

### 6 CORE ACTIVITIES

Activities	Details	Sequence of Actions	Time Sequence
1	<b>Activation and response</b>	Workers working near the incident site shall immediately raise alarm and inform the Security Guard at FCC.	<b>H Hour</b>
		On receiving call on the fire, the Security Guard shall confirm the exact location with the informer	<b>H – H + 30 secs</b>
		Security Guard shall contact the SIC through walkie-talkie to mobilize CERT members to the incident site; notify SCDF, SPF and neighboring premises.	
		CERT shall gather at CERT Assembly Area.	<b>H – H + 1 mins</b>
2	<b>Incident size-up</b>	SIC shall assess the situation with full PPE and report to SMC.	<b>H – H + 5 mins</b>
		SIC shall instruct the ERT to don the necessary PPE and respond to incident site with the emergency response equipment.	
		SIC shall instruct the Technician in Control Room to stop all pumps, stop feed and supply to columns, stop tankers from loading/unloading, stop all contractors working in the affected area.	
3	<b>Fire-fighting and mitigating operations</b>	ERT set up monitors to cool and protect the adjacent tanks, at the same time conduct snatch rescue with protection jets.	<b>H – H + 8 mins</b>
		SIC shall conduct full fire fighting operations and direct efforts in conducting search and rescue operations and ensure the safety of all the ERT members throughout the operations.	

		SIC shall ensure that the hazard zones are properly demarcated	<b>H – H + 12 mins</b>
		SIC shall setup the Field Incident Command Post and assign the first-aid team to setup the First Aid Post.	
		SIC shall maintain constant communication with the ERT and update the situations to the SMC and Control Room regularly.	<b>Updated whenever changes occur or workstation set up</b>
<b>4</b>	<b>Support Activities</b>	Security personnel or traffic wardens shall be deployed to prevent unauthorized access to the incident site and lead SCDF appliances to incident site	<b>H – H + 5 mins</b>
		Fire wardens shall conduct evacuation of admin staff and support staff to the Evacuees Assembly Area and account for personnel.	<b>H – H + 10 mins</b>
		First aiders shall set up the FAP and administer medical treatment to the evacuated casualties.	<b>H – H + 15 mins</b>
<b>5</b>	<b>Linking up with SCDF upon arrival</b>	SIC shall hand over command to SCDF upon arrival, give an update on the situation, operations conducted, CERT deployment, casualty and evacuation status and handover the necessary documents (e.g. Layout Plan, MSDS, inventory list, etc.)	<b>H – H + 20 mins</b>
<b>6</b>	<b>Ongoing operations and recovery</b>	SIC shall continue to support fire fighting operations such as hose relay, manning of protection jets, first aid and casualty evacuation.	<b>H – End of Ops</b>
		SIC shall conduct proper recovery of the personnel and equipment and clean up the incident site after the end of operation.	<b>Recovery</b>