



**SCDF**  
The Life Saving Force

# Emergency Response in Singapore

Perspectives from the SCDF Incident Management System

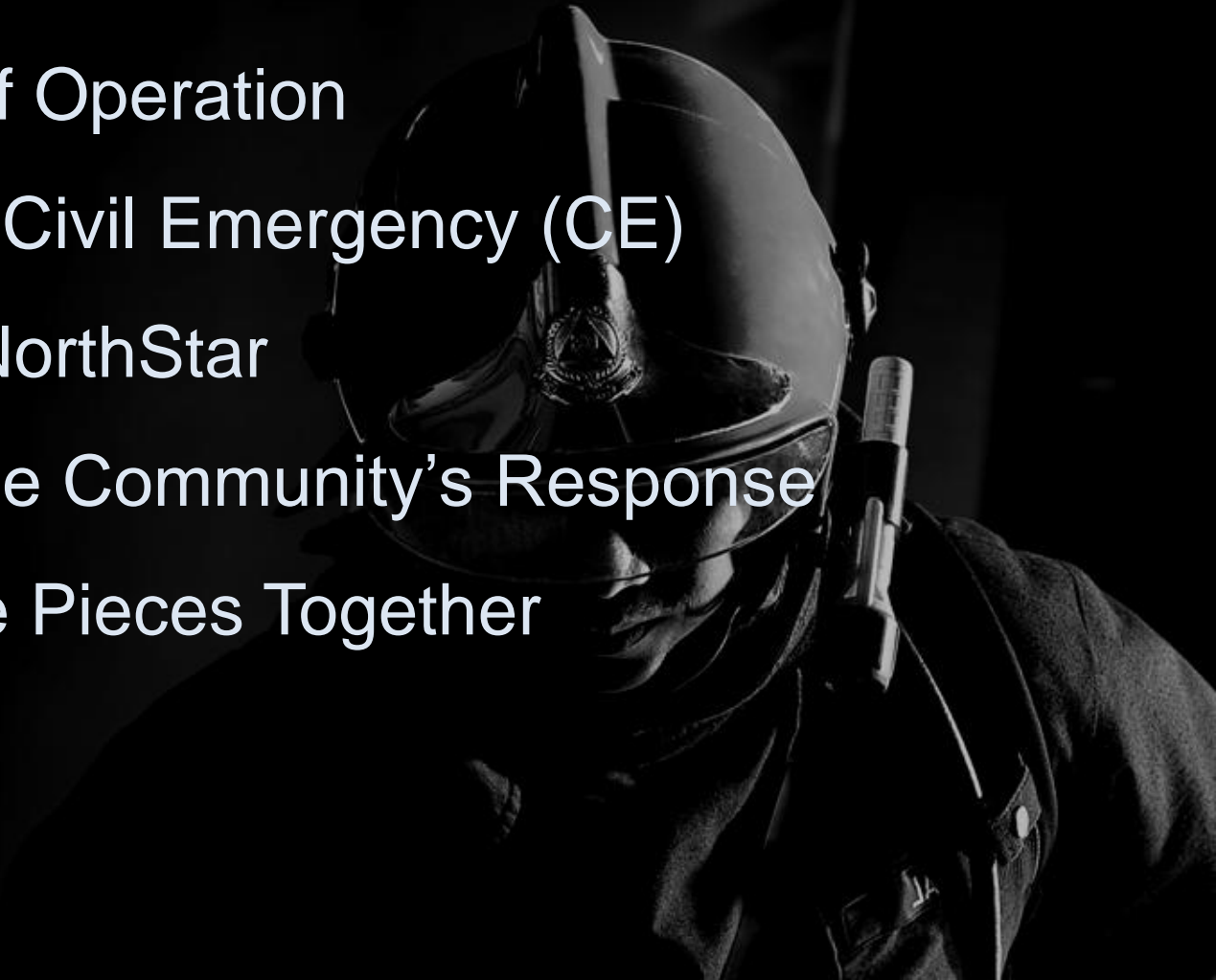
Sharing by Kwok Shun Yung  
Operations Department  
HQ Singapore Civil Defence Force

Oct 2012



# SCOPE

- SCDF Organisation and Structure
- Concept of Operation
- Operation Civil Emergency (CE)
- Exercise NorthStar
- Building the Community's Response
- Putting the Pieces Together



A black and white photograph showing the silhouettes of several firefighters in full gear, including helmets and oxygen tanks. They are positioned in the foreground, facing away from the camera towards a large fire in the background. The fire is bright and intense, with thick smoke rising from it. The scene is dark, with the primary light source being the fire itself, which creates a dramatic contrast with the dark silhouettes and smoke.

# Organisation & Structure

# Ministry of Home Affairs

Singapore Civil Defence Force (SCDF) is one of 10 departments under the Ministry of Home Affairs

## Mission

To Protect and Save Lives and Property for a Safe and Secure Singapore



# Primary Responsibilities



Emergency  
Response



Fire Safety  
Enforcement



Public  
Protection



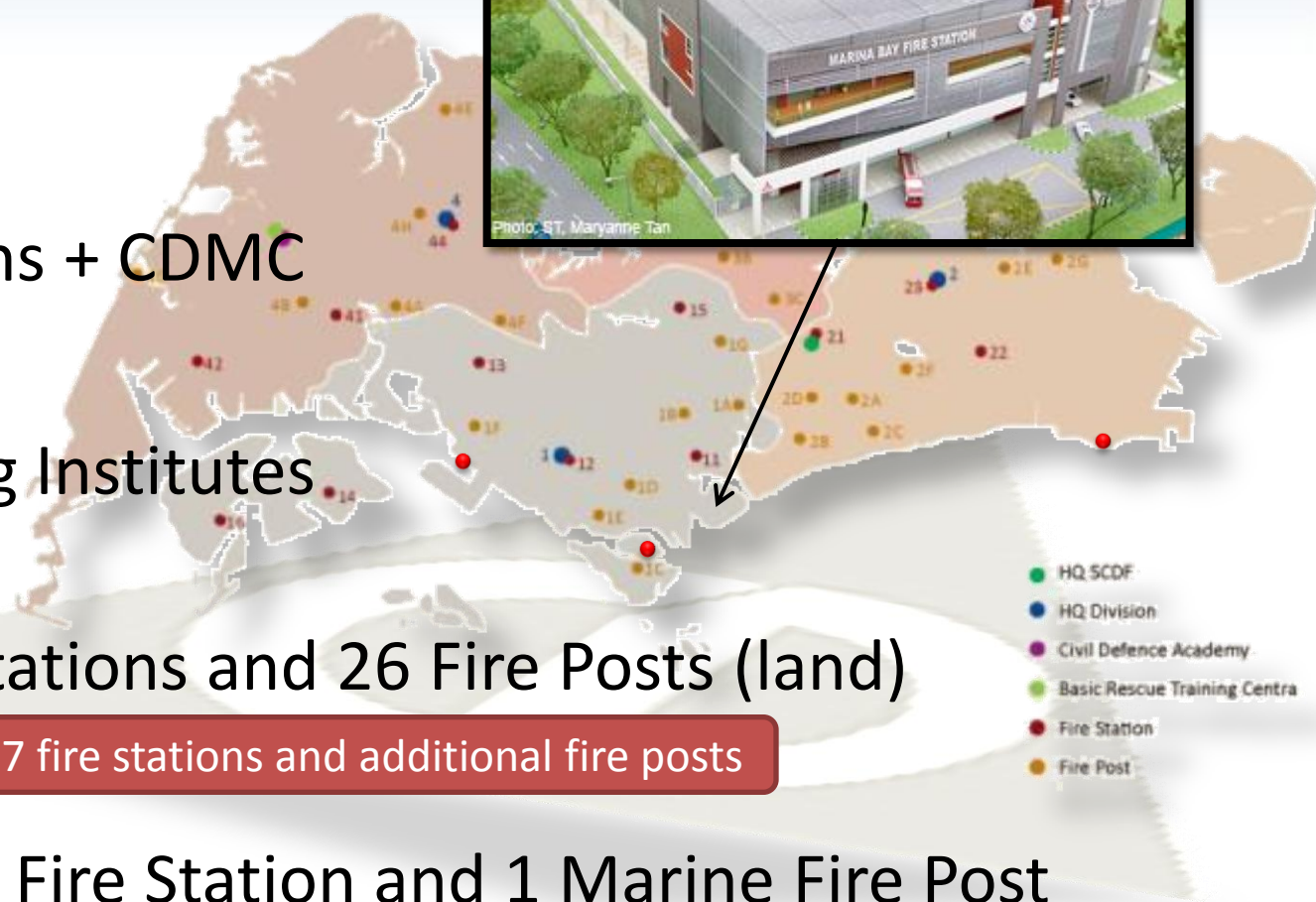
Community  
Engagement



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# SCDF Establishments

- HQ SCDF
- 4 Divisions + CDMC
- 2 Training Institutes
- 16 Fire Stations and 26 Fire Posts (land)  
Soon to be 17 fire stations and additional fire posts
- 1 Marine Fire Station and 1 Marine Fire Post  
Eventually 3 MFSs in the Western, Southern and Eastern areas



# HazMat Response Capabilities

- Alexandra Fire Station
- Jurong Island Fire Station
- Tampines Fire Station
- Tuas Fire Station
- Banyan Fire Station (Mar/Apr 2013)
- Tuas View Fire Station (2015)



A black and white photograph showing the silhouettes of several firefighters in full protective gear, including helmets and oxygen tanks. They are positioned in a dark, smoky environment, likely at a fire scene. In the background, a bright fire is visible, casting a glow on the scene. The overall atmosphere is dramatic and intense.

# Concept of Operation



# SCDF ACTIVATION & RESPONSE

Incident Occurs



700 calls daily; Ops centre operator engages caller for detailed info



Activation of Task Force (BTF/ETF)

Despatch  
(1 min activation from base)



Resources can come from different fire stations and fire posts

Response time zoning forms basis for the establishment of the fire stations/posts

Ops Centre operator provides information to responding forces (e.g. hydrant information, hazard type, eye-witness accounts, FSM details, etc)

Fire & Rescue Appliances  
Ambulances



# Ops Terrain Mapping (OTM)

View Record - Windows Internet Explorer provided by SCDF - Internet Enabled  
 https://otm.intranet.scdf.gov.sg/SCDF\_OTM/web/Records/viewRecord.aspx

**SINGAPORE CIVIL DEFENCE FORCE**

Home Record Report Search

Home > Record > View Record

### VIEW RECORD

#### 4. KEY PERSONNEL CONTACT DIRECTORY

NAME	DESIGNATION	TO INDICATE EMERGENCY APPOINTMENT (SITE MAIN CONTROLLER OR SITE INCIDENT CONTROLLER OR CERT MEMBER)	TEL NO. (DAY)	TEL NO. (NIGHT)	HP NO.
LIM HEE KHENG	MANAGER	FSM	67721314	-	97489788
JAMES HENG	SECURITY	SECURITY	67721746	-	97693167

#### 5. IN-HOUSE ERT RESOURCES

##### a. Manpower Details

S/NO.	MANPOWER	CAPABILITIES
N/A		

##### b. Equipment Details

S/NO.	EQUIPMENT	QUANTITY
N/A		

##### c. Appliance Details

S/NO.	APPLIANCES	CAPABILITIES



LOG

System:

Portal

Submit

Force

# Graduated Incident Management

## PHASE I

Initial Response

Basic Task Force

Deployment of predetermined appliances

Fire Stn Comd as Ground Comd



## PHASE II

Enhanced Response

Enhanced Task Force

Deployment of additional support appliances and Div Forward Command Vehicle

Div Comd as Ground Comd; FSC as Sector Comd



## PHASE III

Declaration of Ops Civil Emergency

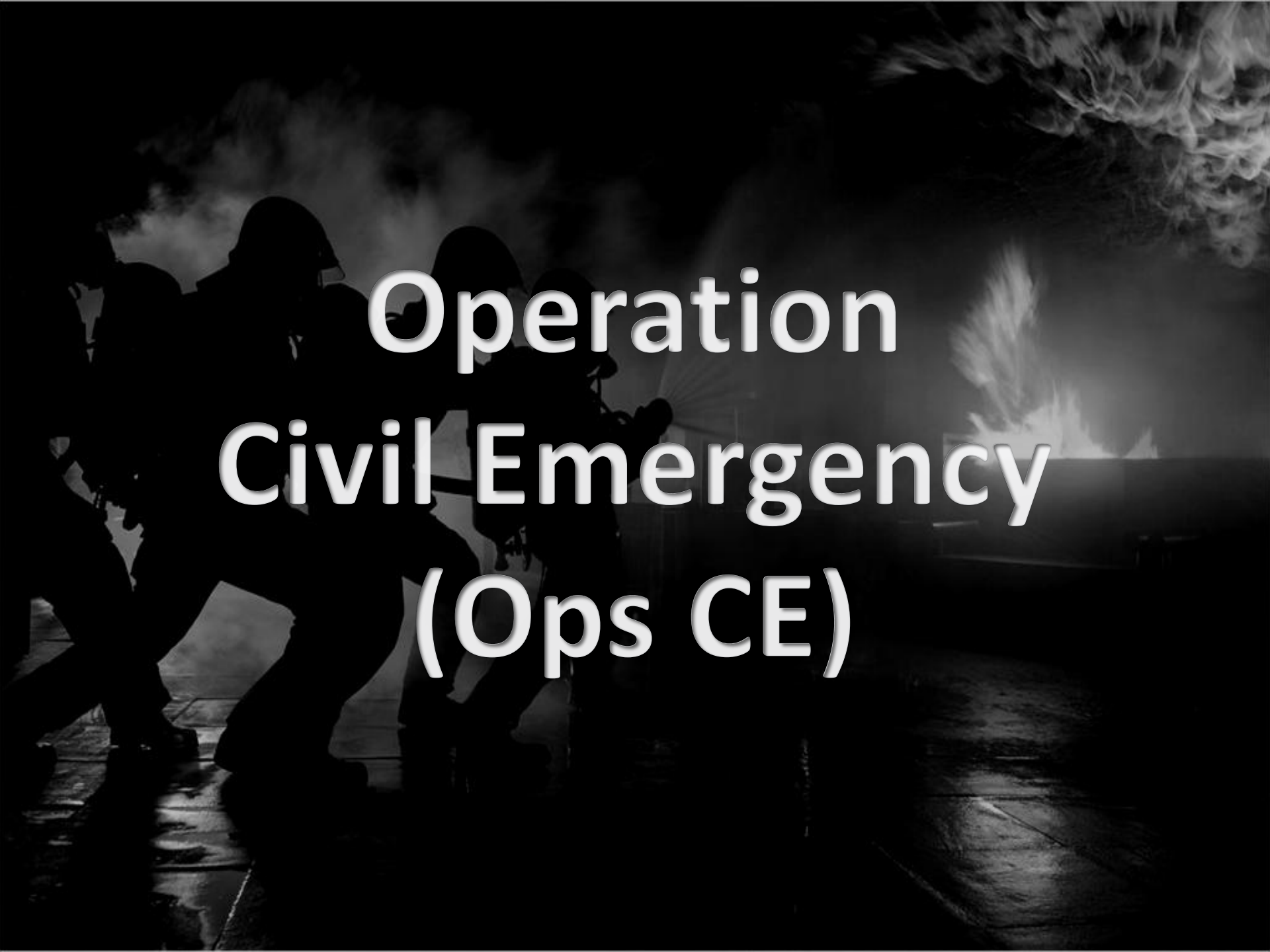
Declaration of Ops CE

Full set up of SCDF TACT HQ and activation of Joint Planning Staff (JPS)

Commissioner SCDF as Incident Manager



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The background image shows several firefighters in full protective gear, including helmets and masks, working in a dark, smoky environment. They are silhouetted against a bright light source, likely a fire, which is visible in the upper right corner. The scene is filled with thick smoke and steam, creating a dramatic and intense atmosphere. The firefighters appear to be engaged in a task, possibly extinguishing a fire or managing a hazardous situation.

# Operation Civil Emergency (Ops CE)

# Civil Emergency (Definition)

- Sudden incidents involving large-scale loss of lives or damage to property
- Major incident with potential to escalate in scale
- Grave national, diplomatic or political implications
- Require multi-agency response to manage the entire spectrum of events arising from the incident



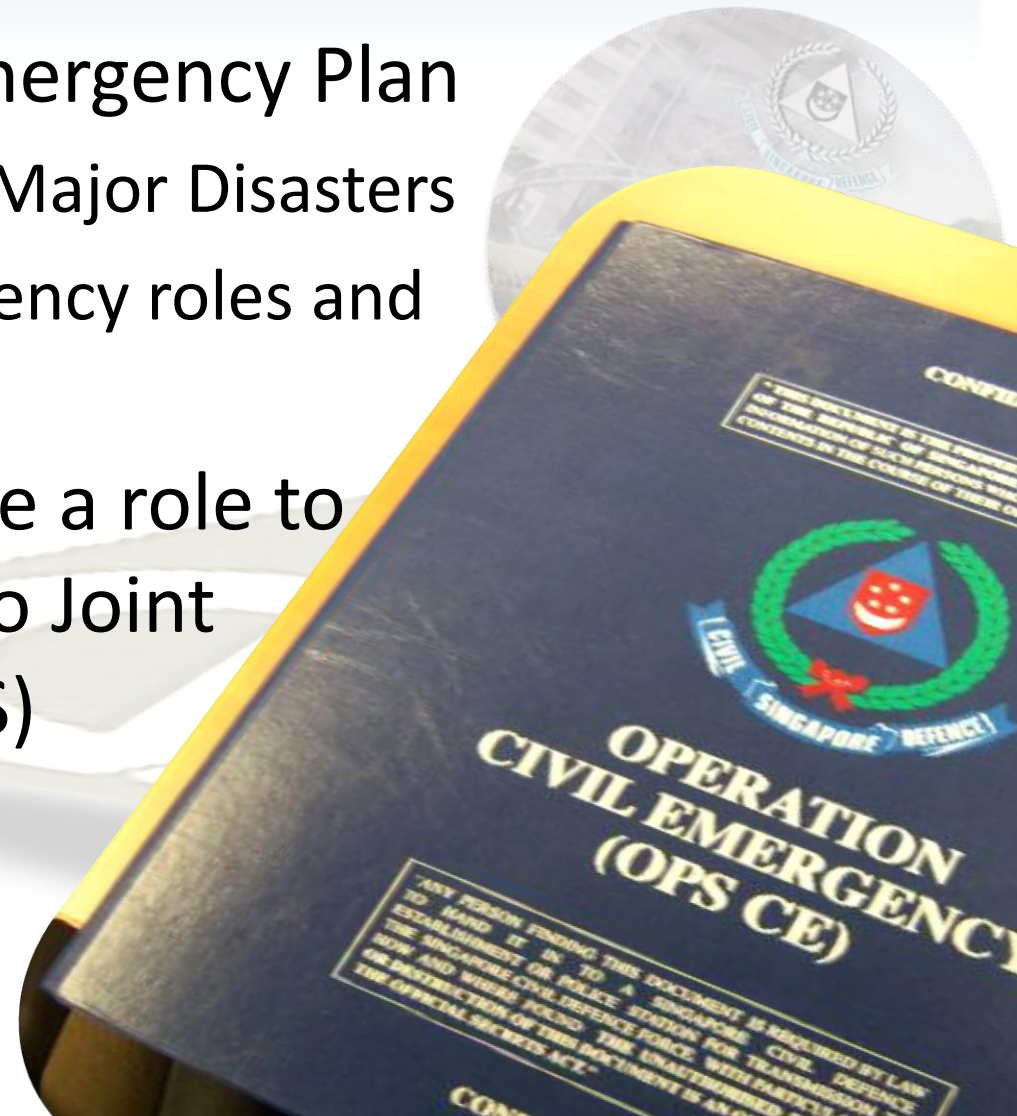
# Operation CE

- SCDF as Incident Manager (IM) for Civil Emergency:
  - Role assigned in 1997
  - Undertake pre-emergency planning
  - Coordinate responses during civil emergencies
  - Reports to a Ministerial-level committee for policy guidance



# Operation CE (Plan)

- Operation Civil Emergency Plan
  - National Plan for Major Disasters
  - Pre-determine agency roles and functions
- Agencies who have a role to play organized into Joint Planning Staff (JPS)



# OPS CE Plan - Key Scenarios

- Structural Collapse
- Aircrash
- Hazmat Incidents
- Acts of Terrorism involving Chemical, Biological, Radiological and/or Explosive (CBRE) agents
- Accidents related to radioactive materials
- Major fires
- Maritime fire (involving cruise ship)

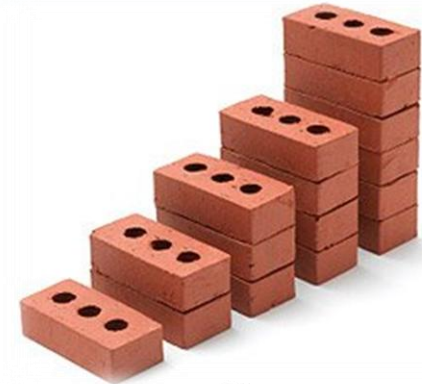




# OPS CE Plan – 3 Levels of Response

- **Phase I (Initial Response)**

- First Response (Basic Task Force)
- Enhanced Response (Enhanced Task Force)
- Div in command



- **Phase II (Ops CE)**

- Incident escalates - Requiring a multi-agency response
- Comr SCDF declares Ops CE
- Full set up SCDF Tactical HQ and various control points

- **Phase III (Stand down)**

- Agencies to continue with post Ops CE activities in accordance to their respective statutory duties

# Regular Meetings with JPS

Quarterly JPS Meetings at  
HQ SCDF



Annual JPS Refresher  
Workshops

'Specialist' JPS-SCDF Forums

SCDF-SPF  
Forum

SCDF-SAF  
Forum

SCDF-AES  
Forum

Wildfire  
Taskforce



# Agencies involved during CE



# Operational Standbys

- IMF World Bank Gp Annual Meeting
- ASEAN Summit
- F1 Singapore Grand Prix
- Asian Aerospace (AA)
- IISS Asia Security Conference
- 117th IOC Session
- World Economic Forum (WEF)
- Global Security Asia (GSA)
- Asian Youth Games
- APEC
- National Day Parade
- Youth Olympic Games



Singapore 2006  
International Monetary Fund  
World Bank Group  
Boards of Governors Annual Meetings



# Nicoll Highway Collapse (2004)

- 3.30 pm, Tuesday, 20 Apr 2004;
- 4 workers killed; 3 bodies recovered from site; and
- SAR called off after 5 days due to structural instability.



# Nicoll Highway Cave-In (2004)



- Forward deployment of Tactical Comd HQ of SCDF;
- Joint Planning Staff activated to assist IM (LTA and BCA played critical roles); and



- IM framework and prompt support from RAs were key to the success of the 5-day operation.

# Shell (Bukom) Fire Incident – 2011

- 1.18pm, Wednesday, 28 Sep 2011
- 6 people injured
- Fire-fighting operations lasted 32 hours before total extinguishment



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# Shell (Bukom) Fire Incident – 2011

- Offshore Island
  - Accessibility
  - Insertion & movement of forces
- Complex Operating Terrain
  - Hazardous materials & gases
  - Network of pipelines
  - Proximity of storage tanks with flammable materials
- Environmental Effects
  - Runoff into sea
  - Impact of smoke
- Prolonged operations





# Shell (Bukom) Fire Incident – 2011

- Forward deployment of Tactical Command HQ of SCDF
- Joint Planning Staff activated to assist IM
- Provide specialist advice to the IM and ensure proper execution of the orders by their respective ground forces
- IM framework and prompt support from relevant agencies were key to the success of operation



A black and white photograph showing the silhouettes of several firefighters in full gear, including helmets and oxygen tanks. They are positioned in a line, facing right, in a dark, smoky environment. In the background, a fire is visible, with bright light and flames breaking through the smoke. The overall scene is dramatic and high-contrast.

# Exercise NorthStar

# Exercise Northstar

- National-level multi-agency exercise used to validate the various Ops CE plans as well as the Government's level of preparedness overall to new threat scenarios that develop over time.
- Started in late 1990s as platform for testing peacetime civil contingency preparedness.

# Exercise Northstar VI

- Fire on board Star Aquarius heading towards Harbourfront Ferry Terminal;
- Full evacuation of 850 role players inclusive of 290 casualties; and
- Testing of landing point conversion and evacuee management plans



# Exercise Northstar VII

- Simulated Mumbai style terrorist attacks scenarios (involved more than 10 coordinated shooting and bombing attacks);
- Posed new dimension of challenge to SCDF; and
- Build up of new capabilities to neutralise the threats posed by terrorists



# Exercise Northstar VIII

- Latest in series of exercises – 25 Nov 2011 over two weeks;
- Launch of National Maritime Security System, a WoG framework for early detection and coordinated response to maritime threats;
- Testing of JICP for a major chemical leak and terrorist attack at the Checkpoint (includes testing of PWS, JIEP and IPP); and
- 1,200 personnel from 18 government agencies, and nearly 30 companies on JI doing IPP.



A black and white photograph showing the silhouettes of several firefighters in full protective gear. They are positioned in a dark, smoky environment, likely inside a burning building. In the background, a bright fire is visible, casting a glow on the scene. The overall atmosphere is dramatic and emphasizes the hazardous nature of firefighting.

# Building the Industry's Response

# Big Things have Small Beginnings...

David, *Prometheus*, 2012

## Intervention Measures to Prevent Incident

- Up-right overturned drum
- Clean up spill

## Intervention Measures to Minimize Loss

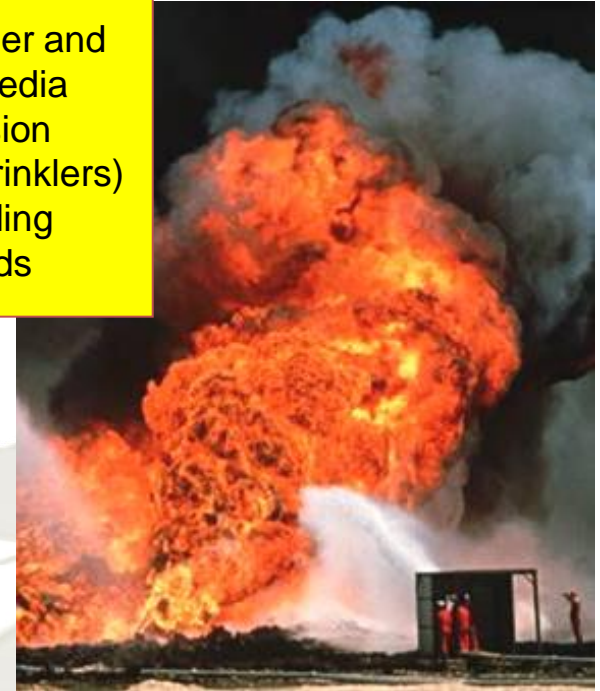
- Use of fire extinguisher and other fire-fighting media
  - Activate suppression systems if any (e.g. sprinklers)
  - Remove surrounding drums and hazards



Spill from drum



Escalates to pool fire



Fire spreads and engulfs premises

Preventive Actions

Operational Response



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# Requirements for P&FM Premises

- Minimum configuration of at least **6** CERT members required (1 SMC, 1 SIC & 4 RT members)

*Strategic level – Senior member of company overall in charge & deals with govt agencies*

**Site Main Controller (SMC)**

*Tactical level – Leader & in charge of the first incident response by the CERT*

**Site Incident Controller (SIC)**

*Operational level – First responders trained in basic fire-fighting, HazMat & First-Aid*

**Response Team (RT)**

- Manpower requirement should be sufficient to address Worst Credible Scenario

# In-House Emergency Response (Key Components)



Documentary  
&  
Administrative  
Support

- Emergency Response Plan (ERP)
- Training Support
- Equipment Readiness

**3 + 6 Formula**

On-Site  
Response  
Capabilities

- Activation & Response
- Incident Size-Up
- Operational Mitigation
- Linking up with SCDF
- Support Activities
- Recovery



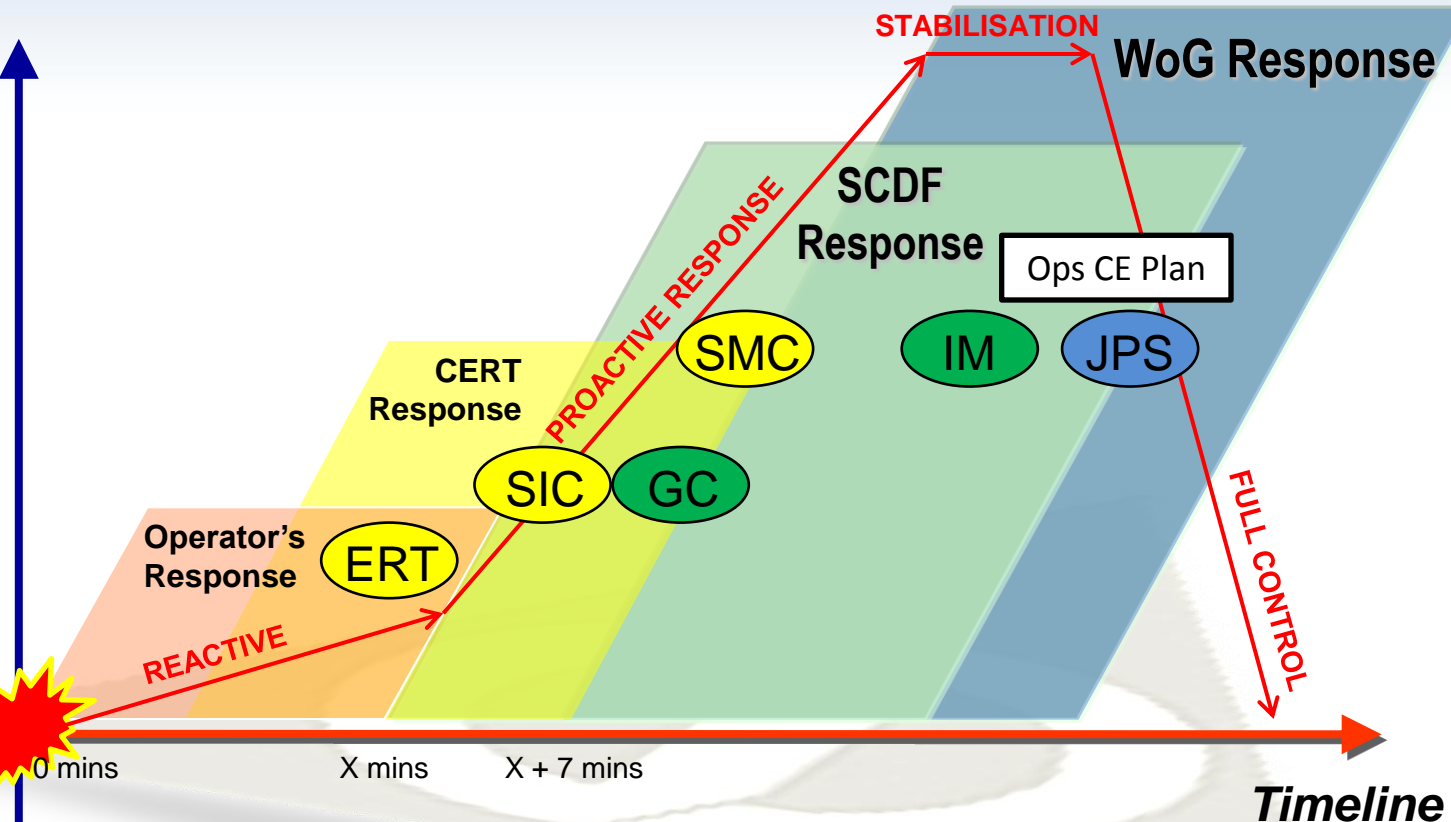
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A black and white photograph showing the silhouettes of several firefighters in full protective gear. They are positioned in a line, moving through a thick, dark plume of smoke. In the background, a bright fire is visible, casting a glow on the scene. The overall atmosphere is one of intense action and teamwork.

# Putting the Pieces Together

# Putting the Key Pieces Together

Scale of incident



**PREVENTIVE**

*Pre-Incident*

*Contingency planning, CERT Audit, training, maintenance etc*

3+6

Emergency Response Plan

# Conclusion

- No individual agency can 'do it all' when it comes to incident management.
- Vital to harness a WoG response to avoid duplication, establish swift C2 and ensure all critical areas are addressed to return scene to normalcy.
- Overall response is incomplete without confident and competent CERTs in the industries and wider community, which form a critical part in the full response chain.
- Readiness is our Only Protection. Everyone has a Role!

# THANK YOU

