



Health & Safety for CERT Response: 10 Golden Rules

Derek Christopher Tan

CERT Seminar
20 May 2026



Derek Christopher Tan MScRM, MIFireE, IAAI-CFI, CSFSM, GDWSH, WSHO, AMBCI, ACLP

- > 30 years of experience as Practitioner & Trainer of Fire Safety, EHS, ERCM, and BCM

Operational and Training Experience (SCDF)



- Director (Assistant Commissioner), Fire Safety Department
- Commander, Marine Division
- Chief Fire Investigator, Fire Investigation Unit
- Commander, Changi Fire Station 2nd CD Division

Industrial Contributions



WSH Lecturer



Workplace Safety & Health Officer



Senior Consultant



Senior FSM



IAAI - CFI



MIFireE



Photo Credit: The Straits Times



DEREK TAN
Commander, Marine Division

FOLLOW



Key Sharing Points

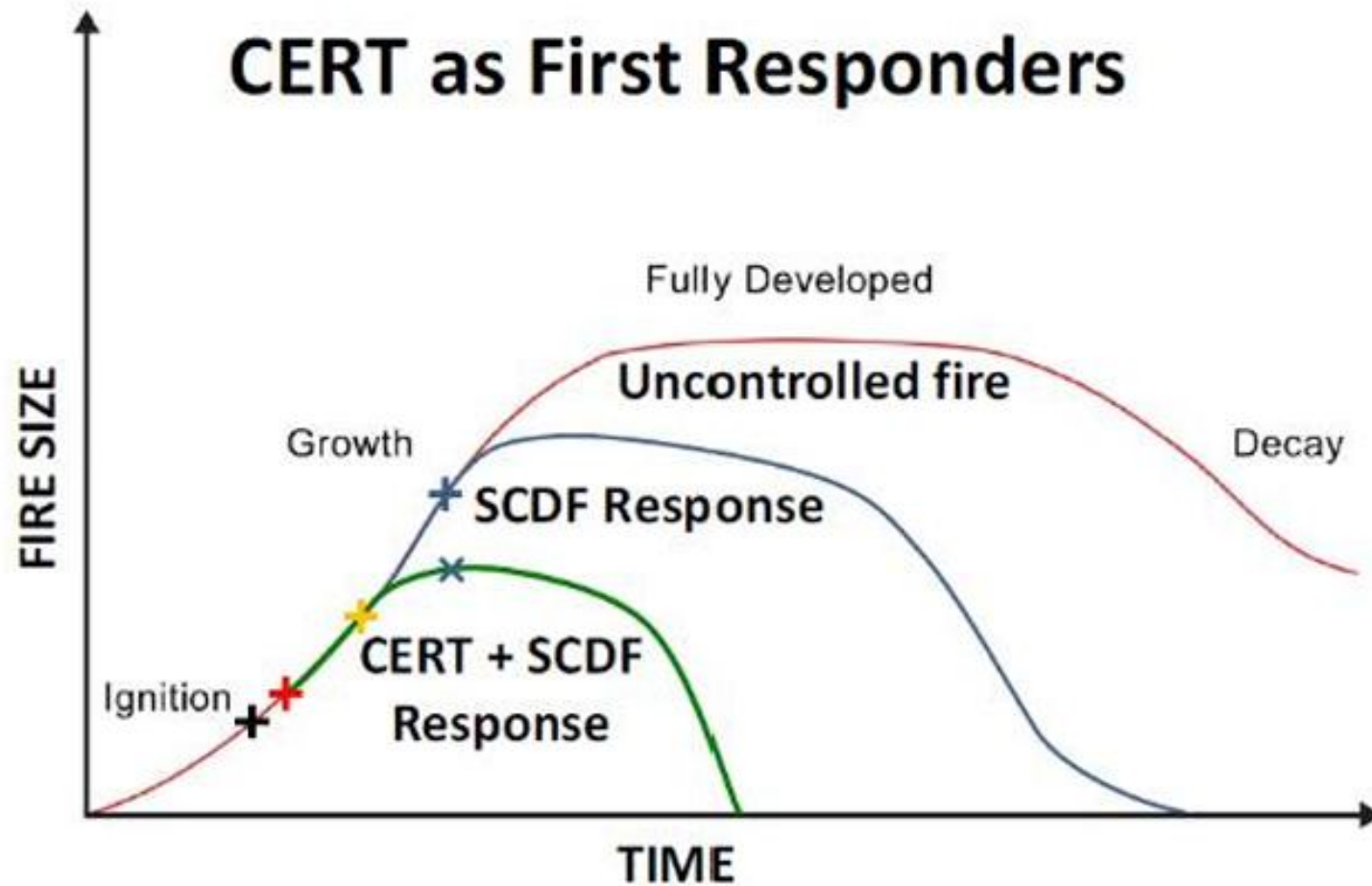
- **Importance of CERT**
- **Key health and safety risks facing CERT responders**
- **10 golden rules for keeping CERT effective yet safe**

Importance of CERT

- **Important Aspect of Business Continuity and Crisis Management Systems**
- **Employer's ESG Responsibility**
- **Integral Part of Emergency Preparedness**

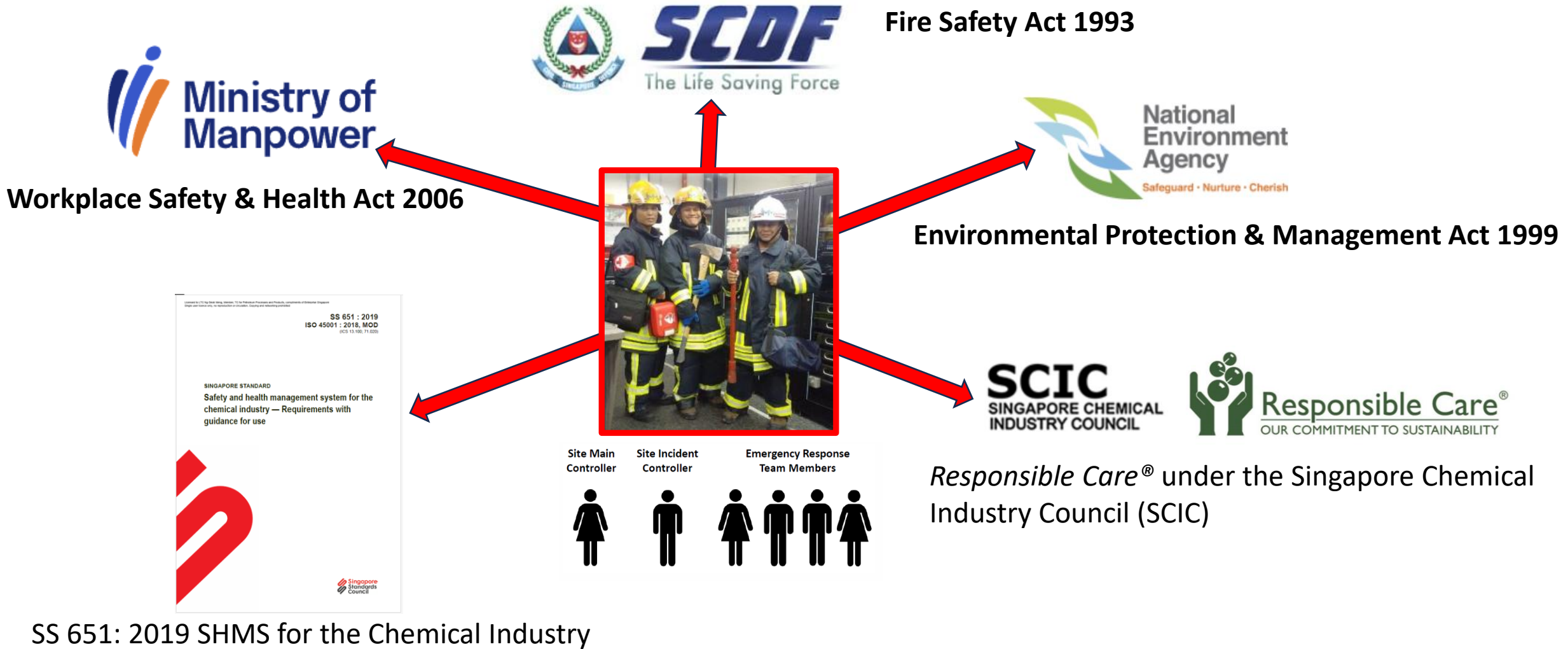


An effective CERT saves the day.....



Info from www.scdf.gov.sg

Legal and Other Requirements for CERT



SS 651: 2019 SHMS for the Chemical Industry



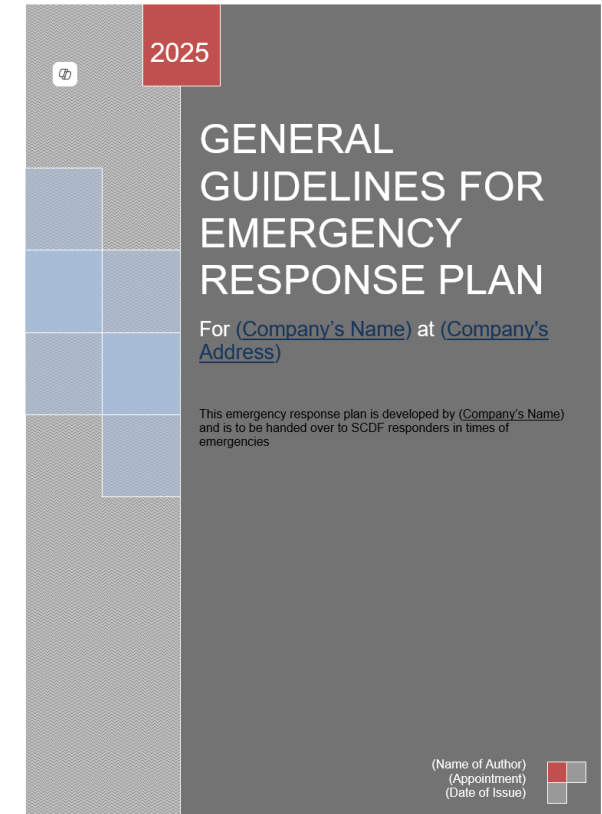
“The 10 Golden Rules...”



Rule 1: Safety First Always

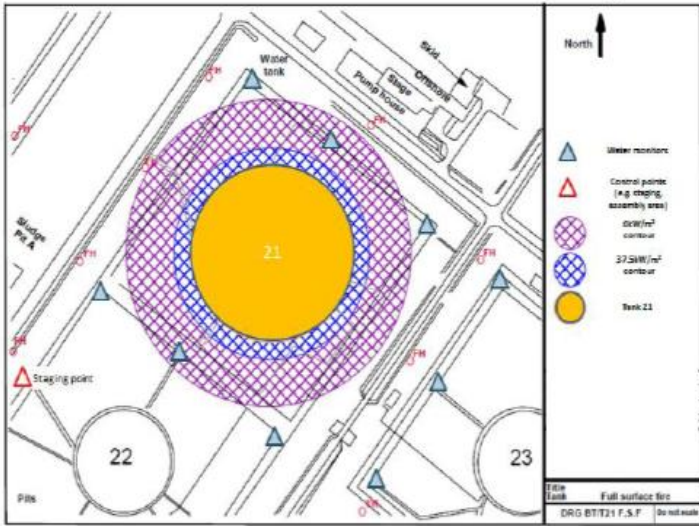
“If you become the casualties, the situation gets worse..”

- Follow risk assessments
- Execute ERP and SSEPs
- Allow premises passive fire protection systems to work
- **Apply safety mindset**



ANNEX E1

Example of Hazard Effects Map for Scenario-Specific Emergency Plans



NATIONAL CERT STANDARD

	CLASSIFICATION OF CERT PREMISES	MINIMUM TRAINING	MINIMUM EQUIPPING				BASIC TASKING
			PPE ¹	MITIGATION	FIRST AID	COMMUNICATION	
P&FM Premises	Tier 1 P&FM	WSQ Respond to Fire & Hazmat Emergency (3 days) CERT First Aider Course (1 day)	<ul style="list-style-type: none"> Chemical suits² Rubber gloves² Rubber boots² Firefighting suit Firefighting helmet Goggles / Face shields Firefighting gloves Firefighting boots Breathing apparatus 	<ul style="list-style-type: none"> HazMat absorbents² Leak sealing devices² Overpack drums² Fire extinguishers (appropriate class) Firefighting nozzles & hoses 			<ul style="list-style-type: none"> Contain HazMat leaks² Prevent spread of HazMat² & fires Activate HazMat² & fire protection systems Contain and mitigate incipient stages of HazMat² & fire incidents Perform first aid, CPR & use AED Implement In-Place Protection Conduct mass evacuation Assist emergency responders
	Tier 1 HRI	Public & Industrial premises with FSM and classified as High Risk Installations by SCDF	WSQ Respond to Fire Emergency in Buildings (2 days) CERT First Aider Course (1 day)	<ul style="list-style-type: none"> Fire retardant coveralls Safety helmets Goggles / Face shields Safety gloves Safety boots Breathing apparatus 		<ul style="list-style-type: none"> First aid kit Foldable stretcher Casualty Blanket (Optional) AED 	<ul style="list-style-type: none"> Loud hailer Walkie-talkie¹
Fire Safety Manager Premises	Tier 2	Public & Industrial premises with FSM and storing 5 or less metric tons of P&FM ²	<ul style="list-style-type: none"> Fire retardant coveralls Safety helmets Goggles / Face shields Safety gloves Safety boots 	<ul style="list-style-type: none"> Fire extinguishers (appropriate class) Fire Blanket 			<ul style="list-style-type: none"> Contain and mitigate incipient stages of fire incidents Perform first aid, CPR & use AED Implement In-Place Protection Conduct mass evacuation Assist emergency responders
	Tier 3	Public & Industrial premises with FSM	WSQ Respond to Fire Incident in Workplace (1 day) CERT First Aider Course (1 day)	<ul style="list-style-type: none"> Fire retardant coveralls Safety helmets Goggles / Face shields Safety gloves Safety boots 			

Rule 2: Size Up Well

“Don’t rush in blindly, find out what is happening first..”

- Determine casualties, occupancy and exposures
- Adopt defensive posture where required
- **Be situationally aware**





Hazard Category	Examples of Threats to Look For	Immediate Action / Consideration
Environmental	Steep/uneven terrain, water bodies, ice, extreme temperatures, high winds, poor visibility, airborne particles	Establish safe footing, consider weather effects on the incident, monitor air quality, wear proper PPE.
Physical (Structural)	Cracks in walls, sagging roofs, partial collapse, smoke/fire damage to supports	Establish a collapse zone, limit entry, monitor for changes, consider alternate access points.
Physical (Utilities)	Downed power lines, leaking gas meters, damaged water mains, arcing wires	Assume all lines are live, request utility company shut-off, secure the area, identify ignition sources.
Physical (HazMat)	Placards, leaking containers, vapor clouds, unusual odors, dead animals/vegetation	Approach from upwind, identify the substance if possible (from a safe distance), call for HazMat team.
Human-Related	Aggressive bystanders, combative patients, signs of violence (weapons, struggle), panicked crowds	Maintain situational awareness, request law enforcement backup, use de-escalation techniques.

Rule 3: Know Your Hazards

"You can't manage what you don't understand.."

- Premises familiarity
- Process / operations familiarity
- Hazardous substances and SDS familiarity



TABLE OF MARKINGS, LABELS AND PLACARDS
USE THIS TABLE ONLY IF MATERIALS CANNOT BE SPECIFICALLY IDENTIFIED BY

For Divisions 1.1, 1.2, 1.3 and 1.5, enter division number (**) and compatibility group letter (*), when required.

For Divisions 1.4 and 1.6, enter compatibility group letter (*), when required.










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Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Singapore

The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

GHS Classification Pictograms

 Oxidiser	 <ul style="list-style-type: none"> • Flammable • Aerosols • Self-reactive • Pyrophoric • Self-heating • Emits flammable gas 	 <ul style="list-style-type: none"> • Explosive • Self-reactive • Organic peroxide
 Acute toxicity (severe)	 Corrosive	 Gases under pressure
 <ul style="list-style-type: none"> • Carcinogenicity • Respiratory sensitiser • Reproductive toxicity • Target organ toxicity • Mutagenicity • Aspiration Toxicity 	 Environmental toxicity	 <ul style="list-style-type: none"> • Irritant • Skin Sensitiser • Acute toxicity • Narcotic effects • Respiratory tract irritation • Hazardous to the ozone layer




For more information, please visit the GHS website at <http://www.wshc.sg/ghs>



Acknowledgements:
 This card was prepared by the National GHS Task Force comprising representatives from HSA, MOM, MPA, MTI, NEA, SCDF, WSHC, SCIC, SISO, CAAS and SPF.



A Typical GHS Label

Isopropyl Alcohol ←		Product Identifier	
Danger ←		Signal Word	
 		Pictograms	
<ul style="list-style-type: none"> • H225*: Highly flammable liquid and vapour • H319*: Causes serious eye irritation • H336*: May cause drowsiness or dizziness ← • H305*: May be harmful if swallowed and enters airways. 		<ul style="list-style-type: none"> • P210*: Keep away from heat/sparks/open flames/hot surfaces - no smoking • P243*: Take precautionary measures against static discharge ← • P271*: Use only outdoors or in a well-ventilated area • P261*: Avoid breathing vapour/mist/spray • P280*: Wear protective gloves/protective clothing/eye protection/face protection 	Precautionary Statements
Empty uncleaned drums can still be dangerous, keep labelled until decontaminated, then remove or deface the label. For further information on this product, refer to Safety Data Sheet. ←		Supplemental Information	
United Nations Chemical Company Ltd. ← 1-1, Peace Avenue Jurong Island Annex A, Singapore 123456.		Supplier Information	
Contact number: 65 6000 0000 Emergency Contact number: 65 6123 4567			

* Code numbers for hazard and precautionary statements are optional.

Disclaimer: Label is produced not to scale and with the available known data at the point of print.

Rule 4: Use the Right Equipment

“You can’t control any situation without the right tools..”

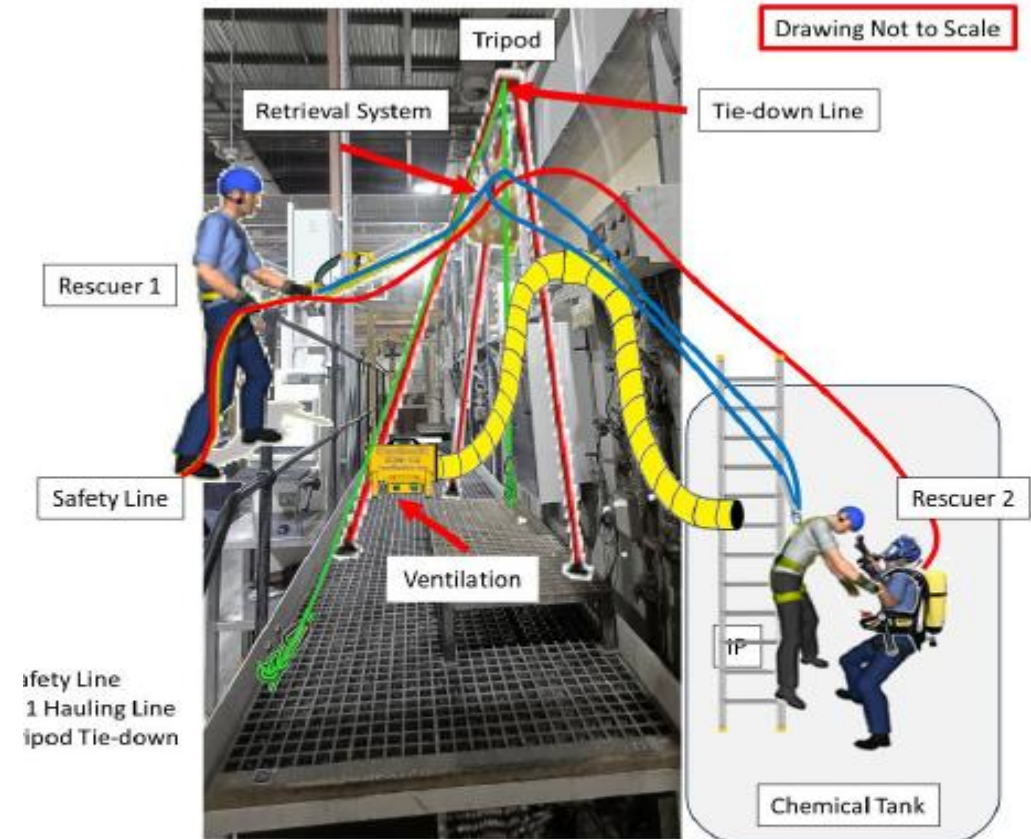
- Operate active fire protection systems safely
- Use correct extinguishment medium(s)
- Acquire competencies and equipping for unique scenarios or premises specific risks



NATIONAL CERT REGULATION EQUIPPING Company Emergency Response Team (CERT)			
PPE – Personal Protective Equipment – TIER 1			
FIRE FIGHTING SUIT EN469:2005, c/w: Fire Helmet, EN443:2008 Fire Glove, 659:2003 Fire Boots, EN15090:2006	SCBA, TYPE 2 EN137:2006	CHEMICAL SUIT Level A Bio-Tight / Level B	HAZMAT EQPT Sorbent Soil Kit Over Pack Drum
PPE – Personal Protective Equipment – TIER 2 / 3			
FIRE RETARDANT GARMENT NOMEX 111A	HELMET c/w: VISOR & Neck Curtain	SAFETY GLOVE Fire-Resistant Cut-Resistant Level 5 (Allergy Free)	SAFETY BOOTS Fire & Chemical Resistant
MITIGATION / FIRST AID / COMMUNICATION			
FIRST AID KIT	LOUD HAILER	FOLDABLE STRETCHER	AED
FIRE BLANKET	FIRE EXTINGUISHER	DIVIDER BREACH FIRE HOSE	FIRE NOZZLE

Confined Space / Depth Rescue

- Modes: Self-rescue, rescue team non-entry rescue and **rescue team entry rescue** according to Rescue Plan
- **Side portal entry** and casualty extraction
- **Top portal entry** and casualty extraction



CONFINED SPACE EMERGENCY RESPONSE COURSE

COURSE OBJECTIVE

- To provide participants with knowledge and skills to understand confined space hazards and rescue roles, and perform safe and effective confined space emergency response operations

COURSE OUTLINE

- Understand legal and ACOP requirements for CSRP and CSRT
- Recognise the roles and responsibilities of personnel involved in confined space rescue
- Identify psychological effects of oxygen deficiency and toxic exposure
- Use of rescuer PPE, rope rescue equipment, and mechanical advantage systems
- Apply appropriate rescue strategies, including self-rescue, non-entry, and entry rescue techniques
- Inspect, maintain, and correctly set up and use fall arrest harness and connection systems
- Tie and apply essential rescue knots
- Execute confined space rescue scenarios including side portal scenarios
- Perform safe entry and exit techniques while using SCBA
- Conduct patient rescue and transport

Personnel

Emergency Response Team

ATION

Participants will receive an e-certificate of participation



Quote: CERT10 to enjoy 10% off...

EMERGENCY RESPONSE SERVICES (ON-SITE)



Company Emergency Response Team



Confined Space Rescue Team
(incl. Confined Space Safety Assessor)



Fire Safety Enforcement Team



Post-Incident Fire Watch Team

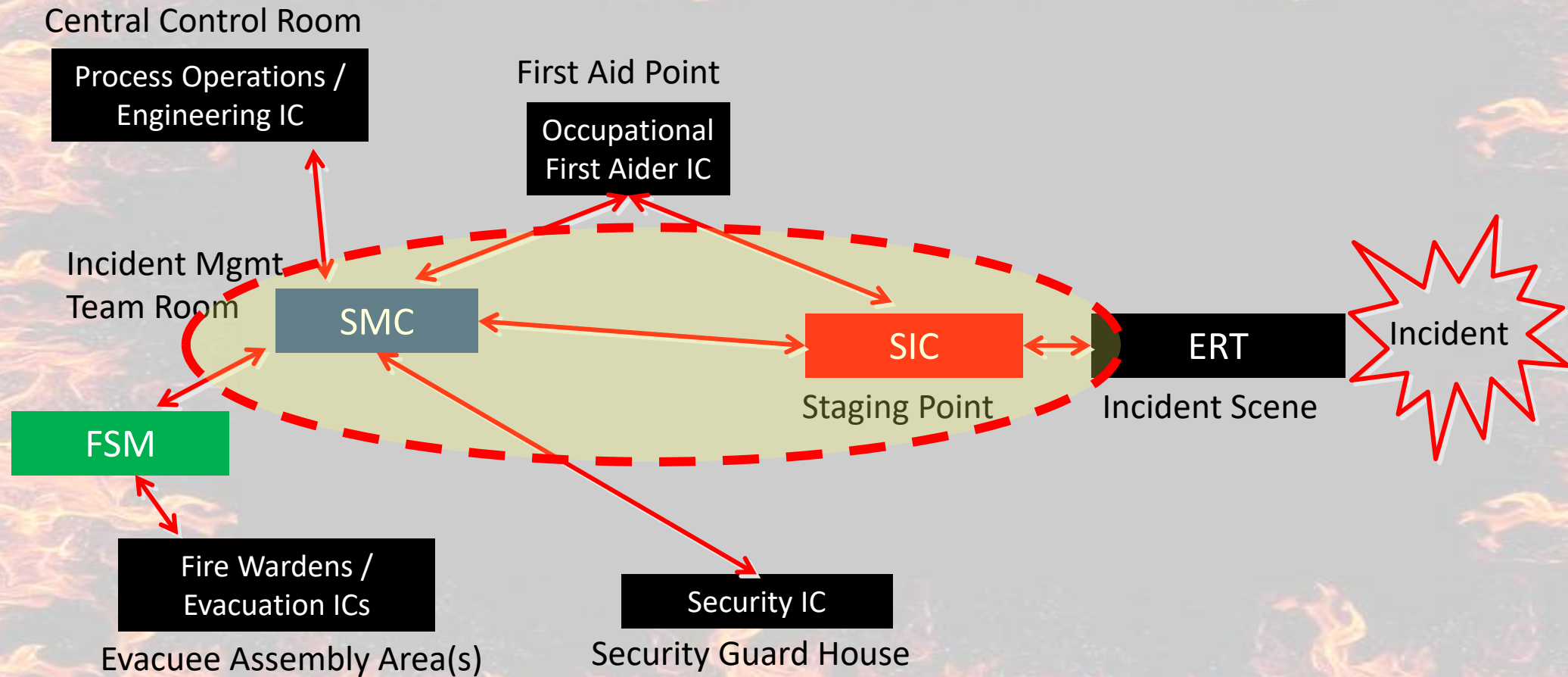
Rule 5: Employ Effective Communication

“Without effective communications, all operations are doomed to fail..”

- Have clear chain of command
- Use direct and clear communication
- **Constant linkage between SMC and SIC**



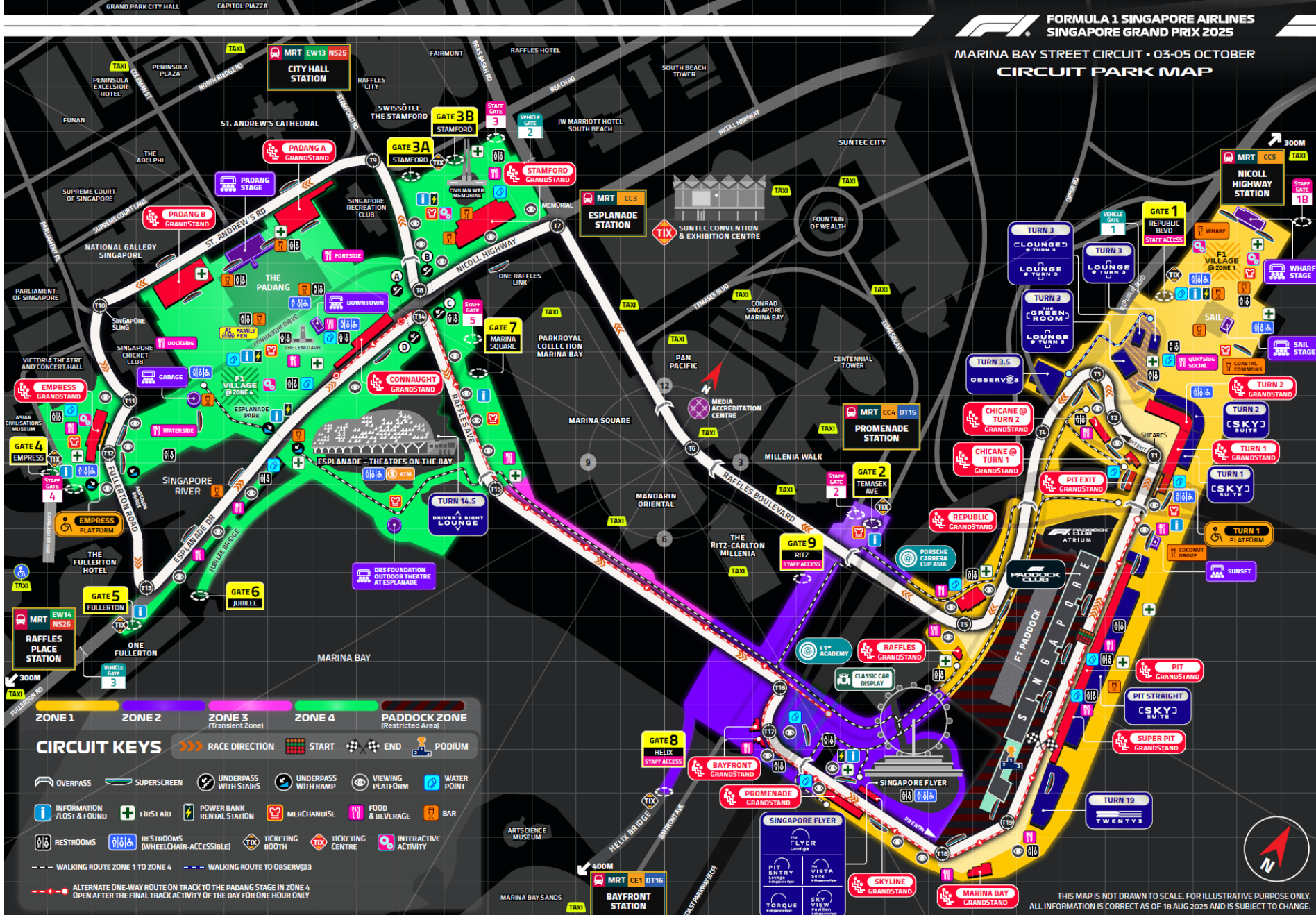
Communications between Control Points



Singapore Grand Prix F1 Night Race (2019 to 2028)

Trusted as CERT, Fire Safety Managers, and Incident Managers





THIS MAP IS NOT DRAWN TO SCALE. FOR ILLUSTRATIVE PURPOSE ONLY.
ALL INFORMATION IS CORRECT AS OF 18 AUG 2025 AND IS SUBJECT TO CHANGE.



Singapore Grand Prix F1 Night Race (2019 to 2028)

Supply of Race Ops Rescuers and Fire Trucks



Rule 6: Work as a Strong Team

“CERT is never a one-man show..”

- Assign buddy system
- Implement control points and OICs
- **Ensure accountability of ALL personnel**



Site Main Controller



Site Incident Controller



Emergency Response Team Members



INCIDENT MANAGEMENT

Site Main Controller (SMC)

Site Incident Controller (SIC)

EVACUATION

Company Security Team

EVACUATION

Fire Safety Manager (FSM)

Fire Wardens

Emergency Response Team

Occupational First Aiders

Containment Team (Spill / Release)

CCR Team (Process Safety / Operations & Engineering)

Facilities Team (Plant Maintenance)

Rule 7: Control Scene Effectively

“The first 10 minutes managed well usually saves the day..”

- Employ effective area isolation
- Activate emergency shut down remotely
- **Prevent escalation**



Scene management uses control zones to protect responders and others on-scene.



Photos Open Sourced from Straits Times

Rule 8: Know when to Withdraw

“Life safety over property preservation..”

- Fire growth beyond control
- Toxic exposure risk
- Structural instability
- **Rapid evacuation when required**



Rule 9: Select CERT Members Carefully

“Health and fitness always matters..”

- Fitness for physically demanding roles
- No underlying medical conditions
- Age / seniority factor
- **SCDF requirement for medical screening**
- **Periodic medical checks for CERT members required to don BA sets**



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¹ A minimum of 5 sets of PPE are required, for 1 SIC and 4 ERT members. ² If applicable.

CERT classification for diesel only FSM premises with underground diesel storage tanks will be in tier 3 and premises with aboveground diesel storage tanks will be in tier 2*

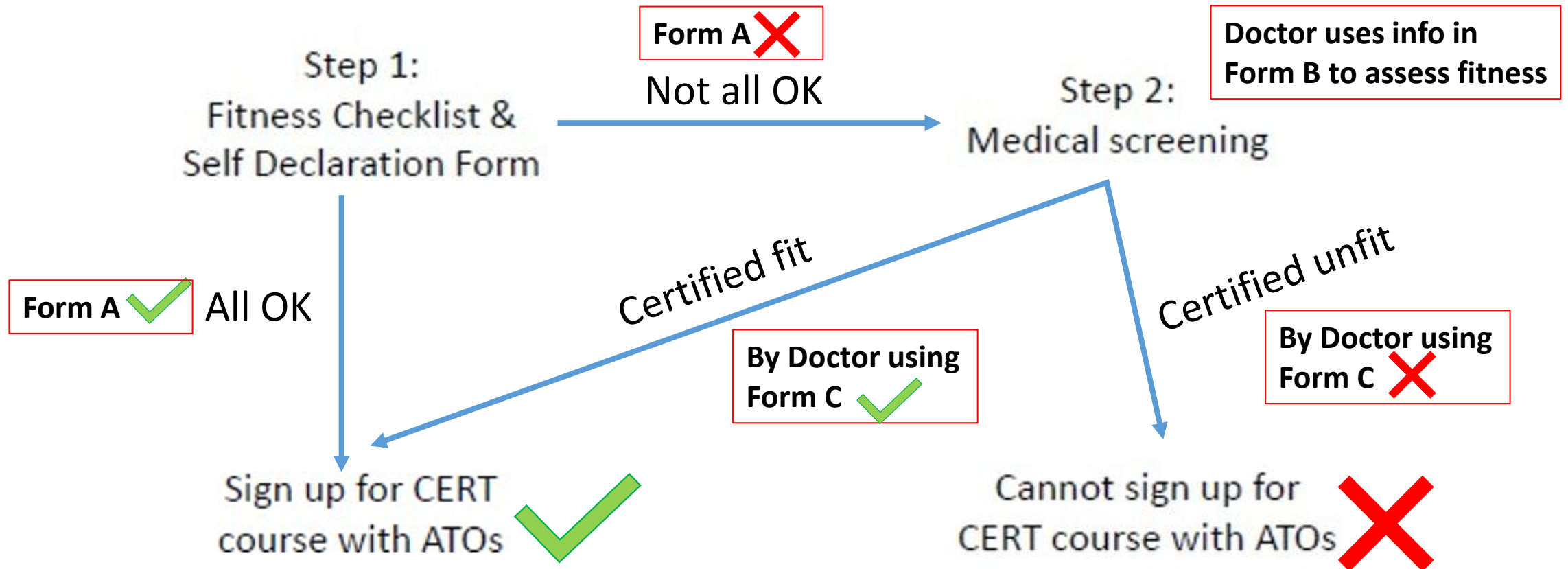
There should be periodic medical checks to ascertain the fitness health and safety of CERT equipped with BA sets*

*(These provisions may not be applicable to all premises)

Updated 01/08/2025
Fire Safety Department
Singapore Civil Defence Force

Medical Screening Requirement

- New 2 step process



Info from www.scdf.gov.sg

MOH Cluster Hospitals

Competency Development of HDS Decontamination Teams



Singapore General Hospital (SGH) Campus staff participating in a Hospital Decontamination Station (HDS) training exercise at the new SGH EM/NNI building on Feb 20, 2025. The training involves the post-decontamination transfer of a mannequin from a stretcher to a patient bed trolley.



Photos Open Sourced from Straits Times

Public Healthcare Cluster Hospitals

Competency Development of HDS Decontamination Teams



Photos Open Sourced from Straits Times



FIRST RESPONDER MENTAL HEALTH & WELLNESS

Rule 10: Refresh and Drill Regularly

“Practice makes perfect..”

- Achieve role familiarity and muscle memory
- Proper CERT performance evaluation
- **Regular and relevant refresher training**



- Conduct refresher training for CERT based on **fire risk assessments, major accident scenarios** and **incident management** / command and control

Premises	Tier 1 P&FM	Tier 1 HRI/Tier 2/Tier 3
Re-certification programme	All CERT members (SIC and ERT) must attend once annually	Not required
Refresher training	Not mandatory as CERT members must attend the re-certification programme. However company can still conduct additional trainings for the CERT members.	Training for the CERT members can be conducted internally or externally.

Info from www.scdf.gov.sg

Rule	Fire / Explosion	Toxic Exposure	Physical Hazards	Equipment Risk	Human Factors
Safety First	✓	✓	✓	✓	✓
Size Up Well	✓	✓	✓		✓
Know Your Hazards	✓	✓			✓
Use the Right Equipment	✓			✓	✓
Effective Communication	✓	✓	✓	✓	✓
Work as a Team	✓	✓	✓	✓	✓
Control Scene Effectively	✓	✓	✓	✓	✓
Know When to Withdraw	✓	✓	✓		✓
Select CERT members carefully		✓	✓	✓	✓
Refresh & Drill	✓	✓	✓	✓	✓

“A ready and effective CERT is a safe and healthy CERT”

Thank You....

christophertan@ercmconsultancy.com



ERCM ACADEMY

www.ercmconsultancy.com

3 Depot Close
#01-03 TBC Building
Singapore 109840

Upcoming New Courses...

CERT EMERGENCY RESPONSE FOR EV, BESS & SOLAR PV SYSTEMS

COURSE OBJECTIVE

- To provide participants with essential knowledge and response strategies to manage Photovoltaic (PV) Panels, Battery Energy Storage Systems (BESS), and Electric Vehicle (EV) fire incidents safely

COURSE OUTLINE

- Introduction to PV, BESS and EV Fire Risks
 - Overview PV Systems, BESS and EVs
 - CERT roles and limitations
- EV Fire Fundamentals and Response
 - Battery fire behaviour and hazards
 - Scene size-up, isolation, and safety measures
- PV Systems and BESS Fire Fundamentals and Response
 - PV and BESS hazards and fire considerations
 - Safe approach, shutdown principles, and roof safety
- Incident Management and Escalation
 - Communication and coordination with SCDF
 - Post-incident considerations
- Case Studies/ Scenario Discussion
 - Lesson learnt from real incidents

COURSE AUDIENCE

- CERT Members
- Fire Safety Managers
- Fire Wardens
- Safety Personnel
- Facilities and Operations Staff

CERTIFICATION

Participants will receive an e-certificate of participation

CONTACT US

Call/ Whatsapp **88747878**
Email inquiry@ercmconsultancy.com

