HONG KONG
FIRE SERVICES DEPARTMENT

Emergency Preparedness Plan for Aircraft HazMat Incidents

AT THE HONG KONG INTERNATIONAL AIRPORT

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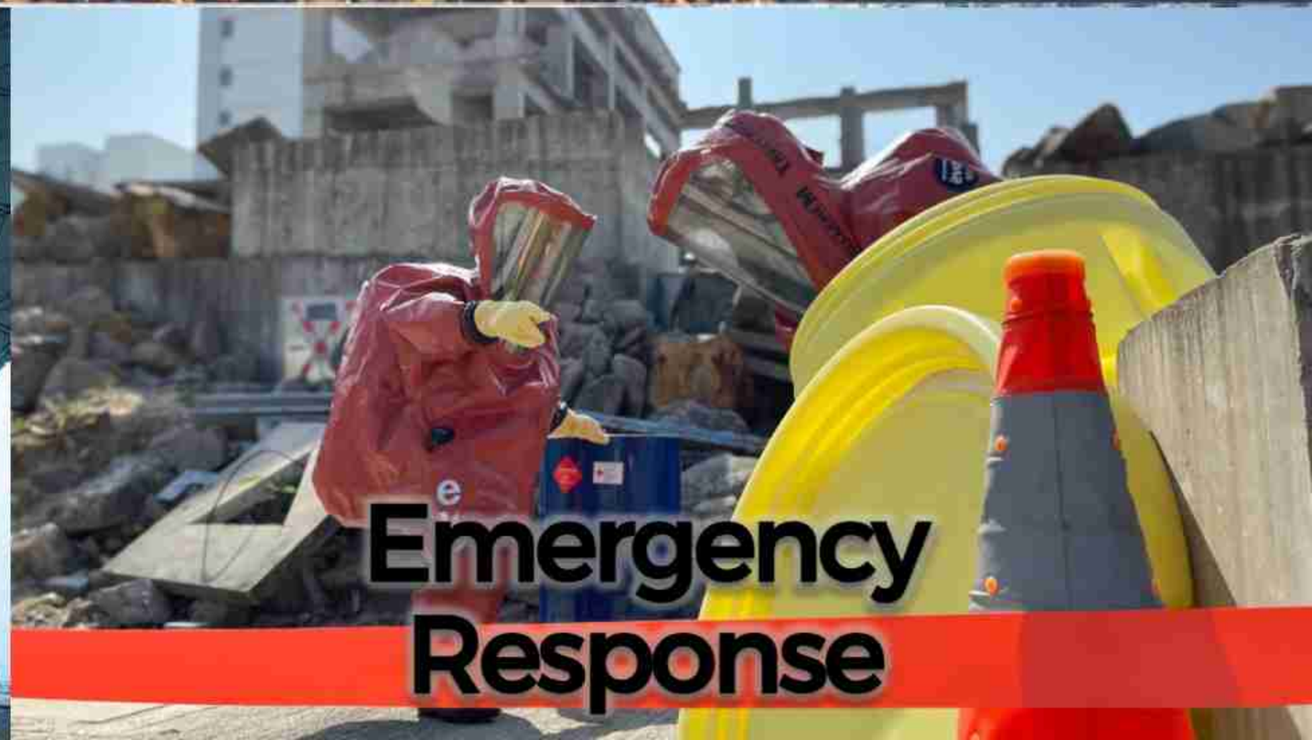
Background


Hong Kong - a Global Hub


香港國際機場
Hong
Hong Kong
International Airport


Emergency
Response

Classification of Aircraft HAZMAT Incidents

Accidental CBRN Incident

- It results from accidental leakage or spillage of Chemical, Biological, Radiological, or Nuclear (CBRN) agents aboard the aircraft.
- Incident Commander will be the Rescue Leader of HKFSD.

Chemical

Biological

Radiological

Nuclear

Classification of Aircraft HAZMAT Incidents

Deliberate CBRN Attack

- the use or suspected use of CBRN agents for Terrorist or Criminal purposes involved aircraft.
- Incident Commander will be The Explosive Ordnance Disposal (EOD) Bureau of the Hong Kong Police Force.

Chemical

Biological

Radiological

Nuclear

Explosives

Duties of HKFSD in Aircraft HAZMAT Incidents

Conduct rescue operations and contain the leakage of HazMat substances involving the aircraft.

Perform on-scene decontamination of affected casualties.

Conduct pre-hospital treatment and convey the casualties to hospitals.

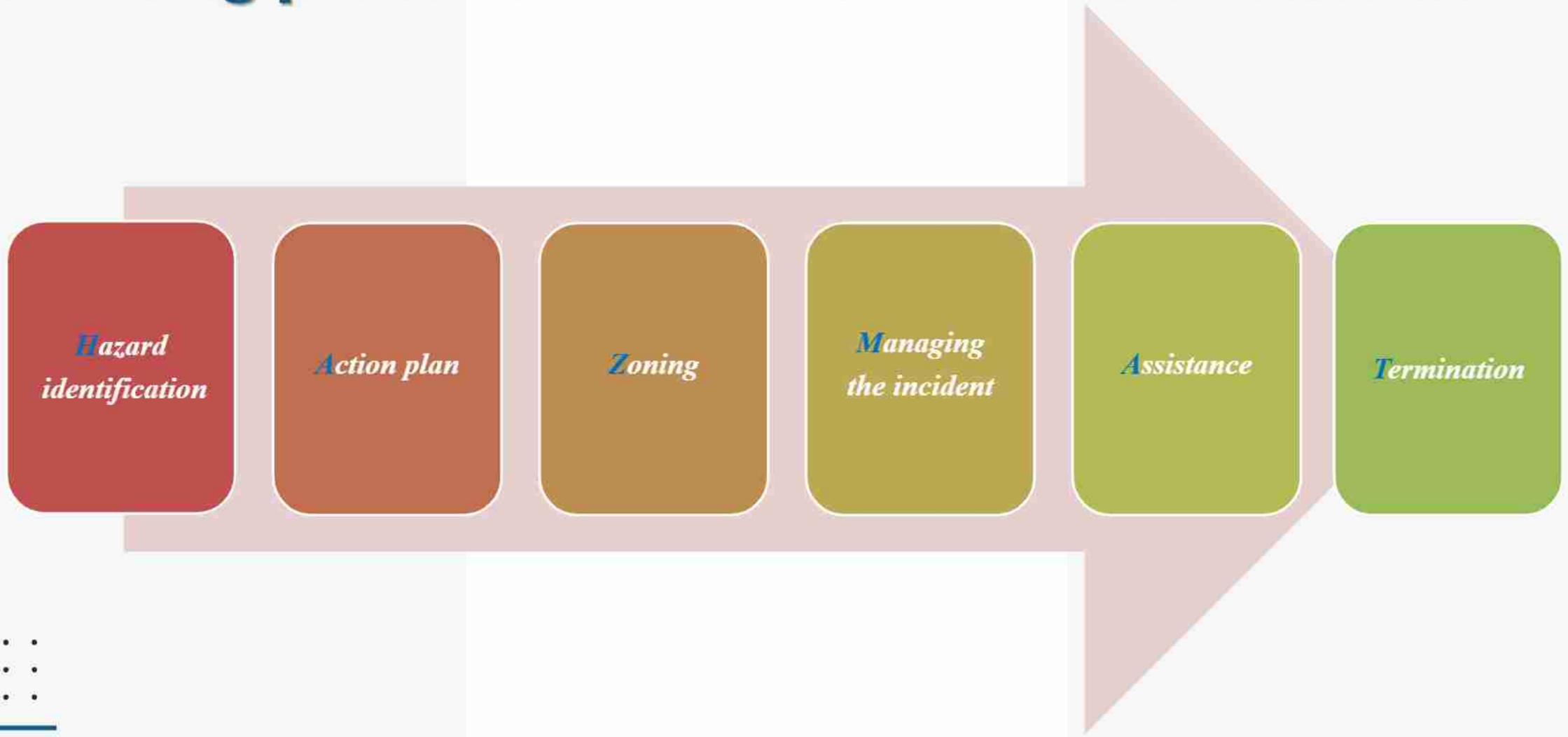
Operational Preparedness and Strategic Response Planning for HazMat Incident

1. To ensure swift and effective responses to HazMat incidents

2. The Airport Division provides its members with HazMat awareness training alongside basic Aircraft Rescue and Firefighting (ARFF) training

3. This training delivers the foundational knowledge required to identify and initiate responses to HazMat incidents, enhancing operational readiness and safety awareness

Handling procedure for Aircraft HAZMAT Incidents



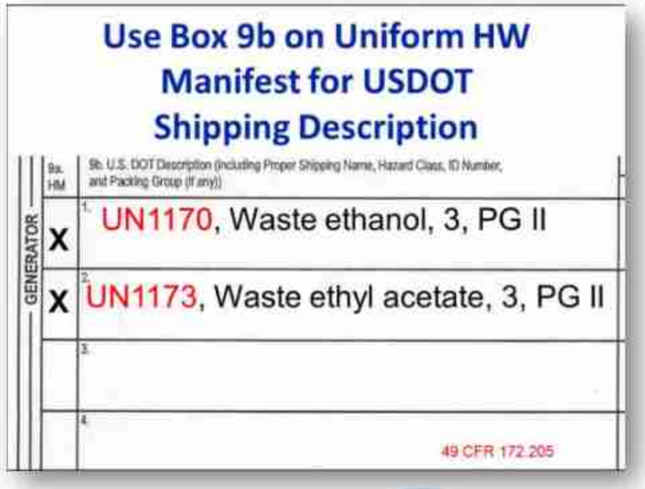
Step 1 :Hazard Identification

Goal:

Identify the scope and nature of the problem, including the type and nature HazMat involved

Identity of the materials involved:

- Name of the materials
- Check Markings, Placards and labels
- Monitoring by detection equipment
- Check Safety Data Sheet



Step 2 :Action Plan

Non-intervention Tactics :
Initially employed when awaiting specialized resources. Priority on passenger evacuation and hazard area isolation. Limited containment may be applied to passive leakage.

Defensive Tactics :
Implemented to control material spread using containment/absorption methods when direct intervention is inadvisable.

Offensive Tactics :
Initiated with appropriate equipment for source containment when conditions permit direct leakage cessation.

Step 2 :Action Plan

- When HazMat incidents exceed the capabilities of fire fighters from airport division, additional support will be provided by the HazMat Fire Station.

- The HKFSD HazMat team equipped with the latest firefighting appliances and specialized equipment are designed specifically for handling HazMat Incidents.

- HazMat team will be turnout from nearby HazMat Fire Station enables it to quickly respond to emergencies within the airport's restricted areas.

Step 3 : Establish Zoning

Hot Zone : Contaminated area, Proper PPE with SCBA

Warm Zone : Gross decontamination for contamination reduction

Cold Zone: Support zone, Medical Triage and Treatment Area

Step 4 :Managing the incident

Tactical Approach: Firefighters approach from upwind to minimize vapor exposure and avoid hazardous positioning

Staging Area: Establish dedicated zones for arriving personnel and equipment

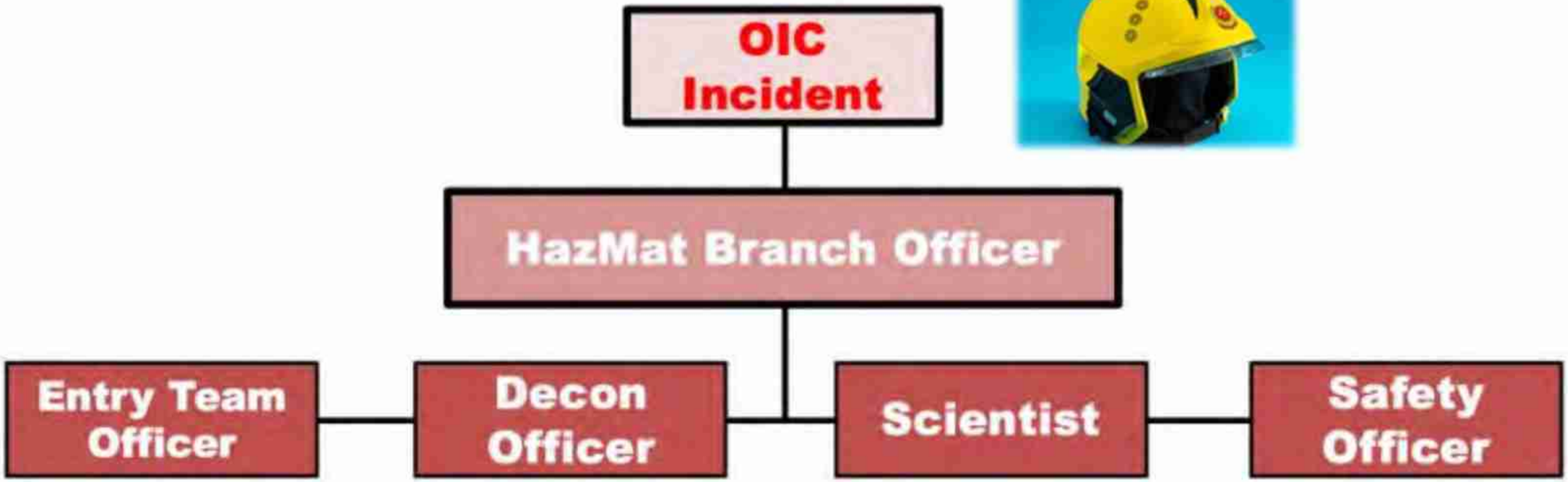
PPE Enforcement: Mandatory respiratory/skin protection required before ANY hazard zone entry

Civilian Management:

- Immediately evacuate uninjured civilians
- Isolate all potentially contaminated persons pending emergency decontamination.

Step 4 :Managing the incident

- To ensure coordinated rescue operations, we implement a structured Incident Command System (ICS).
- The framework as below:



Step 5 : Assistance

Hong Kong Police Force

- Crowd control
- Assemble victims at Holding Area
- Property Collection & ID Record

Department of Health

- Deploy medical team for medical response

Government Laboratory

- Deploy chemist to provide technical support (Identify potential hazard)

Ambulance

- Set up Casualty triage
- Convey casualties to Hospital

Step 6 : Termination

Responder Decontamination

Conduct decontamination triage (for mass casualty incidents)

Casualty Decontamination

Objective of decontamination

- Mitigating Exposure
- Ensuring Responder Safety
- Containment and Prevention

Classification of decontamination

- Emergency decontamination
- Technical decontamination
- Mass decontamination

Emergency Decontamination

- Immediately reducing contamination of aircraft passenger in potentially life-threatening situations

- Either conduct for emergency responders or civilians

- Use large volume and low pressure monitor or mini-branch to conduct emergency decontamination

Technical Decontamination

- A planned and systematic process of reducing contaminants to a level As Low As Reasonably Achievable (ALARA)
- Required to use specific resources and equipment
- Decontamination team (well-trained) use brushes to scrub and wash persons

Mass Decontamination

The Decontamination & Rescue Facility

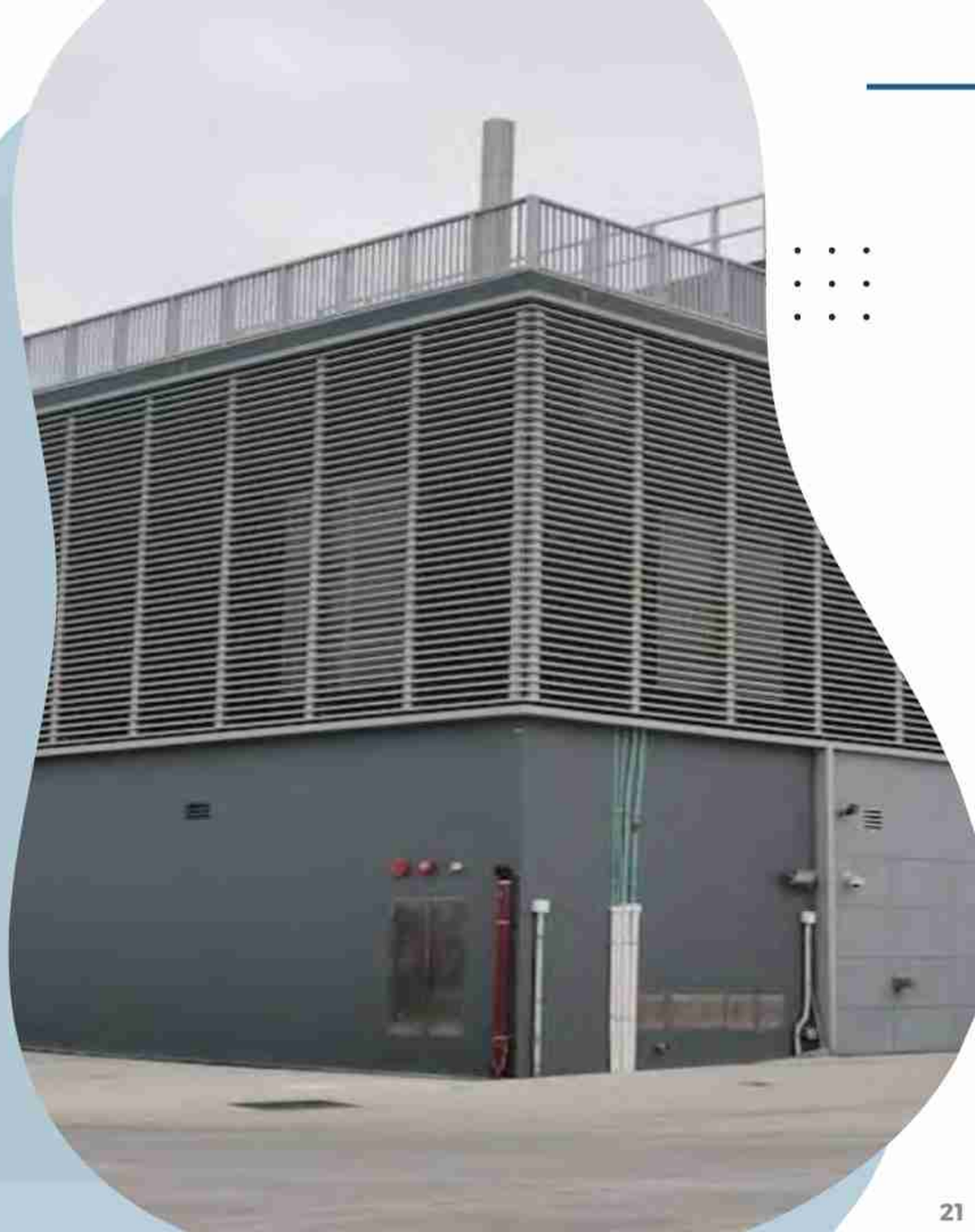
First Decontamination Facility in Airport Restricted Area

- Operation since **2024**
- Strategic located near **North Runway**
- Capacity: **280 ppl/hr**

Mass Decontamination

Key Features

- **Structure:**
  Two-storey building with a basement
- **Facility Area:** 600 m^2
- **Wastewater Storage Capacity:** 150,000 L
- **Decontamination Corridors:**
  - 10 standard corridors
  - 2 specialized corridors for immobile individuals
- **Advanced Technology:**
  Equipped with **N**egative **P**ressure **S**ystem



Decontamination Process Flow

1. **Arrival & Assembly:**
   Personal belongings secured
2. **Kit Distribution:**
   Include cloak, brush, soap & PPE
3. **Decontamination:**
   Conduct in separate corridors
4. **Post-decontamination Checks:**
   Ensure no residual contaminants

Post-Decontamination Procedures

- Medical checks & continuous monitoring

- Ambulance services for further care, if needed
- Ensuring safety and well-being

Key Benefits

Strengthens Hong Kong's status as a **Global Aviation Hub**

Enhanced Readiness:
Prepared for CBRN incidents

Efficient Response:
Streamlined mass decontamination for large aircraft

Community Protection:
Safeguards passengers, staff, and the wider community

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