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*International Civil Aviation Organization***Ninth Meeting of the Aerodromes Operations and
Planning Sub-Group (AOP/SG/9)***Bangkok, Thailand, 30 June to 4 July 2025*

Agenda Item 4: Provision of AOP in the Asia/Pacific Region**THE NEW DECONTAMINATION & RESCUE FACILITY
AT THE HONG KONG INTERNATIONAL AIRPORT***(Presented by Hong Kong, China)***SUMMARY**

Amid a modest rise in global terrorism threats, the Hong Kong Fire Services Department (HKFSD) has enhanced the response capabilities by introducing a Decontamination & Rescue Facility in the Hong Kong International Airport. This facility, a pivotal emergency response element of the new Three-runway System (3RS), is specifically designed to offer mass decontamination services for passengers, significantly boosts the airport's readiness to handle chemical, biological, radiological, and nuclear (CBRN) threats.

1. INTRODUCTION

1.1 Hong Kong, China, as a dynamic global hub, exemplifies a seamless integration of people, goods, capital, and information. This openness, while a testament to the city's global stature, also poses potential vulnerabilities. As a world-renowned metropolis with extensive travel networks, Hong Kong's accessibility could unfortunately be exploited for nefarious activities.

1.2 Among the city's diverse facilities, the Hong Kong International Airport (HKIA) stands out as a particularly sensitive target. Airports, due to their symbolic and functional significance, are globally recognized as high-profile venues and attractive targets for actions aimed at causing widespread disruption and fear.

1.3 In response to the mentioned threats, the establishment of the new Decontamination & Rescue Facility at the HKIA marks a significant advancement in the city's emergency response infrastructure. Primarily designed to mitigate the impacts of CBRN threats, this facility significantly reduces the potential harm of such attacks, though it does not eliminate these dangers entirely. This strategic development helps safeguard both the local populace and international visitors, reinforcing the HKIA's status as a resilient global gateway.

1.4 Building on this development, this paper also details various features implemented by the Hong Kong Fire Services Department (HKFSD) at the HKIA, aimed specifically at protecting passengers from CBRN threats.

2. DISCUSSION

Part 1: The feature of Decontamination & Rescue Facility

2.1 To strengthen Hong Kong's status as an international aviation hub and to cater to the city's long-term air traffic demand, the HKIA is being developed into a Three-runway System (3RS). In response to the expanded scope of the 3RS, HKFSD has introduced new airside fire stations and supporting facilities. Notably, the world's first Decontamination & Rescue Facility within the airport's restricted area was completed and launched last year. This facility provides mass decontamination services to passengers on contaminated aircraft, further enhancing public safety.

2.2 The Decontamination & Rescue Facility is strategically positioned near the North Runway of the HKIA, where the majority of passenger flights land. This location ensures immediate access for the first-time decontamination of affected passengers if necessary.

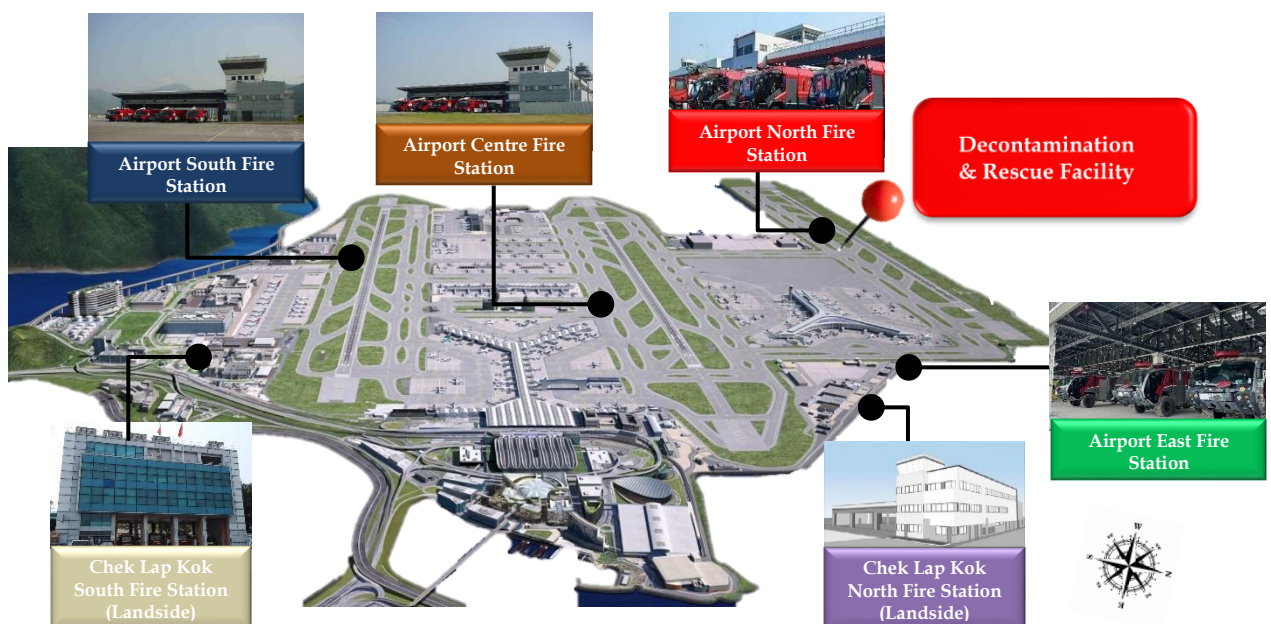


Figure 1 – Siting of the Fire Stations and Decontamination & Rescue Facility at the HKIA

2.3 The facility is a two-story building with a basement, spanning approximately 600 square meters. It is notably the world's first decontamination facility located within an airport's restricted area. Designed to efficiently manage emergency situations, the facility can accommodate up to 280 individuals per hour for decontamination processes. This capacity is particularly significant for handling large aircraft efficiently; for example, the largest Airbus model A380, with a capacity of about 545 passengers, can be fully processed in under two hours.



Figure 2 – External View of the Decontamination & Rescue Facility

2.4 The Decontamination & Rescue Facility features ten decontamination corridors, with an additional two corridors specially equipped for immobile individuals who require assistance from firefighters during the decontamination process. This setup allows a large number of people to undergo decontamination simultaneously. Each corridor is equipped with hot water, and contaminated passengers are instructed to use the soap and brushes provided in the decontamination kits to thoroughly wash away any contaminants.

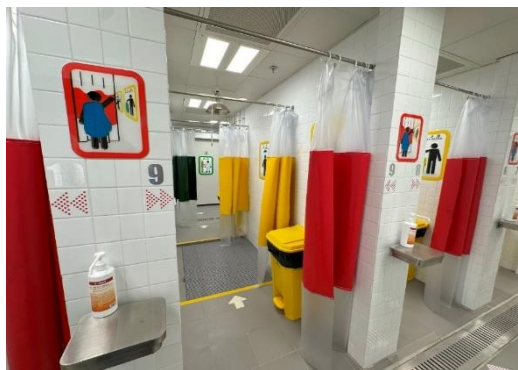


Figure 3 – Decontamination Corridors

2.5 The Decontamination & Rescue Facility is equipped with a Negative Pressure System, a critical feature for controlling the spread of contaminants and ensuring a safe environment both within and around the facility. This system works by creating a lower air pressure inside the decontamination zones compared to the surrounding areas. As a result, air flows into the controlled area but not out, preventing any potentially contaminated air from escaping into other parts of the airport or the external environment.



Figure 4 – Negative Pressure System

2.6 Firefighters would also utilize advanced detection devices to continuously monitor the overall status of the Decontamination & Rescue Facility, focusing on crucial aspects such as the flow of decontaminated individuals and the quality of indoor air. These devices are integral to maintaining safety and operational efficiency, ensuring that the facility adheres to the stringent standards required for handling hazardous situations.

2.7 The basement of the facility houses a substantial water tank with a capacity to hold 150,000 liters, specifically designed to manage the wastewater produced during the decontamination processes. This capacity is based on the facility's operational needs during a two-hour period, ensuring that all wastewater can be securely contained without the need for immediate disposal. Once the decontamination process is complete, the contained wastewater can be safely transferred to chemical

waste treatment vehicles for professional disposal conducted by specialized companies. Alternatively, if the wastewater passes rigorous safety tests and is deemed non-hazardous, it can be directly discharged into the sewage collection system, thus ensuring both environmental safety and operational efficiency.

Part 2: Operational Preparedness and Strategic Response Planning for CBRN Threats at the HKIA

2.8 Beyond enhancing infrastructure, HKFSD has implemented a comprehensive framework to address CBRN threats at the HKIA. This strategy prioritizes public safety and efficient incident management.

2.9 In the event of a CBRN attack, HKFSD collaborates effectively with the Explosive Ordnance Disposal Bureau of the Hong Kong Police Force. The police are responsible for cordoning off the affected area, containing the CBRN device, and conducting thorough searches for any possible secondary devices. Concurrently, HKFSD focuses on executing rescue operations, which include decontaminating casualties, ensuring their safe transport to medical facilities, monitoring the spread of hazardous substances, and performing thorough area decontamination.

2.10 Specifically, if a CBRN incident occurs on an aircraft, the Airport Division's firefighters are swiftly deployed to the scene to conduct search and rescue operations within the aircraft. They are also tasked with coordinating the transportation of contaminated passengers to the Decontamination & Rescue Facility.

2.11 Members of the Airport Division are equipped with basic detection tools and personal protective equipment (PPE) to detect leaks, initiate confinement and carry out snatch rescue operations. When HazMat incidents exceed the capabilities of airport members, additional support is available from the Chek Lap Kok North Fire Station. As a designated HazMat Fire Station, it is outfitted with specialized HazMat teams, which equipped with the latest specialized equipment designed specifically for managing HazMat incidents.

2.12 Additionally, the HazMat Support Unit (HSU), staffed with HazMat Specialists, would also be deployed alongside the landside support to enhance response capacities. The HSU is integral in providing technical support and expert advice during HazMat incidents, ensuring comprehensive management and safety during emergencies. This collaborative approach ensures a robust and efficient response to hazardous material incidents, reinforcing safety and operational continuity at the airport.

2.13 Beyond providing essential support throughout the emergency response, HazMat team members from landside fire stations, in collaboration with specialists from the HSU, manage the facility and oversee the decontamination process of casualties. This unified approach ensures a comprehensive and cohesive response during CBRN emergencies, facilitating efficient and effective management of these critical situations.

Part 3: The Decontamination Process in the Decontamination & Rescue Facility

Initial Procedures at the Decontamination & Rescue Facility

3.1 Upon arrival at the facility, passengers suspected of contamination are directed to an assembly area where they hand over their personal belongings to the police. Each passenger is provided with a transparent plastic bag to secure valuables such as wallets and jewelry. The police will include personal identification with each bag to ensure items are returned to their rightful owners after decontamination.

Decontamination Kit and Process

3.2 During the decontamination process, firefighters equipped with appropriate chemical protection suits will direct the ambulatory individuals to decontamination corridors and distribute decontamination kits to them. Each kit includes essential items such as a cloak, brush, soap, disposable towels, protective clothing, and slippers. Additionally, there are specially designated chemical waste barrels for collecting contaminated clothing, which will be processed separately to prevent further contamination.

3.3 Non-ambulatory individuals, who may be incapacitated or require significant assistance, receive immediate attention based on their medical and physical needs. These individuals are prioritized and handled by a dedicated team of firefighters at two specially equipped non-ambulatory decontamination corridors.

Post-Decontamination Procedures and Monitoring

3.4 After receiving their decontamination kits, contaminated ambulatory individuals are instructed on how to use the items effectively to cleanse themselves. Once the initial decontamination is completed, they are required to don protective clothing and proceed to a monitoring area. Here, firefighters inspect each individual for any residual contaminants. If contaminants are still detected, the individual undergoes the decontamination process again. Once cleared, they move to a waiting area where firefighters continuously monitor their condition.



Figure 9 – Post-Decontamination Checks for Residual Contaminants

Medical Assessment and Transportation

3.5 In the waiting area, medical personnel conduct thorough examinations of the decontaminated individuals. Ambulance services are prepared to transport those requiring further medical attention to hospitals. This comprehensive approach ensures that all health aspects are addressed promptly and efficiently, enhancing the safety and well-being of all individuals involved.

4. ACTION BY THE MEETING

4.1 The meeting is invited to:

- a) note the efforts made by the HKFSD in bolstering the department's capability in handling chemical, biological, radiological and nuclear incidents;
- b) share the experience of the HKIA in the application of the Decontamination & Rescue Facility to enhance the capability and efficiency of mass decontamination in handling chemical, biological, radiological, and nuclear incidents; and
- c) discuss any relevant matters as appropriate.

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