

Introduction to International Airport Water Rescue Working Group (IAWRWG)



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World Population - 2016

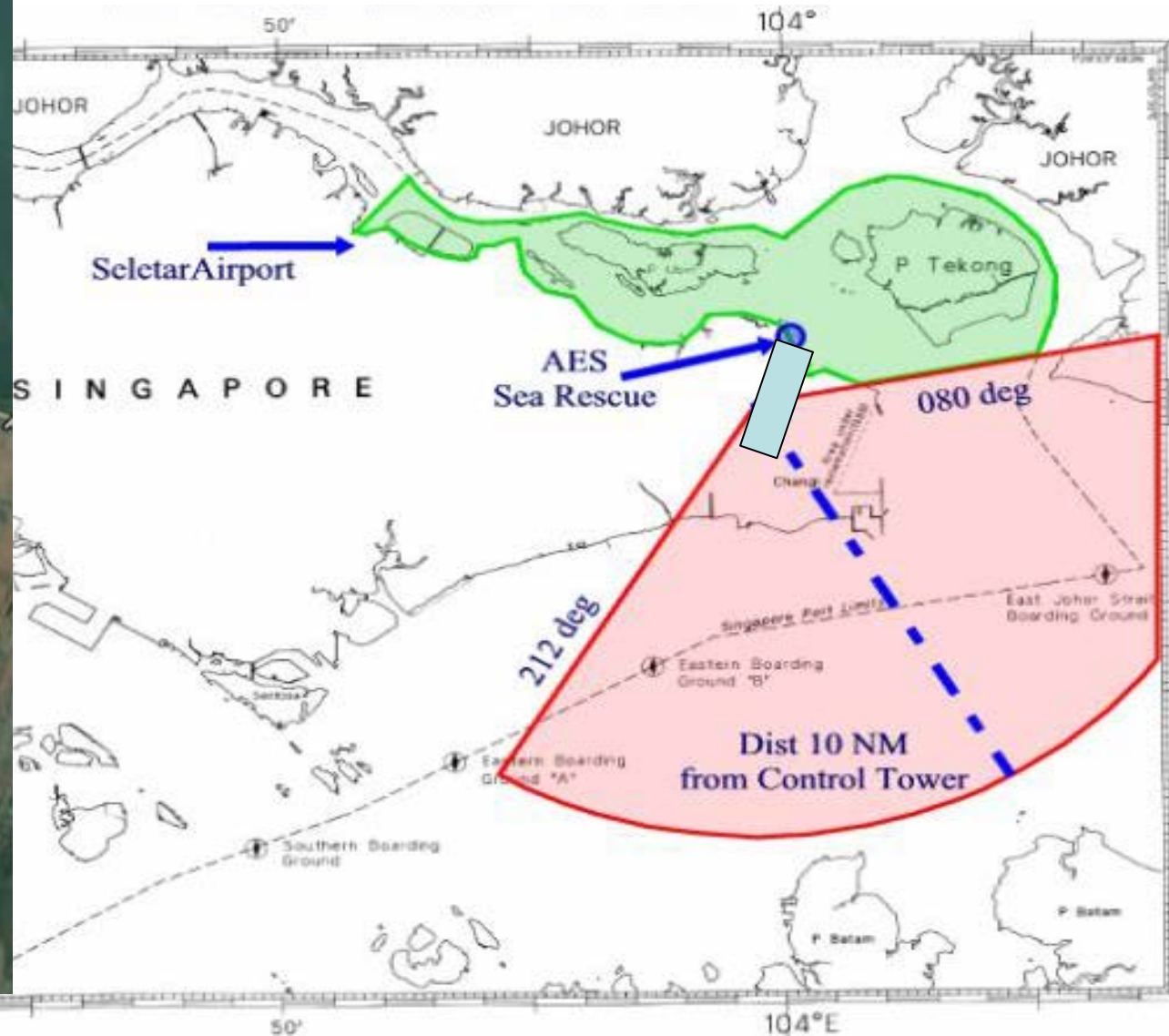


*Yellow spots represents a high population center

Coastal Airports, the way forward

- About 80% of the world population lives within 100km of the coastline and the percentage is increasing
- 8 out of 20 busiest airports are situated within 10km of the coast: Los Angeles (4th), Tokyo Haneda (5th), Hong Kong (8th), Shanghai Pudong (9th), Istanbul (14th), John F Kennedy Airport (16th), Singapore (17th), Seoul Incheon (19th)
- With the lack of land space, it is expected that more airports will be built near the coast or on reclaimed land
- Risk of aircraft accidents occurring near coast or in the marine landscape is **very real!**

Difference between land and marine ARFF



Terrain Comparison



Equipment Comparison



Gear Comparison



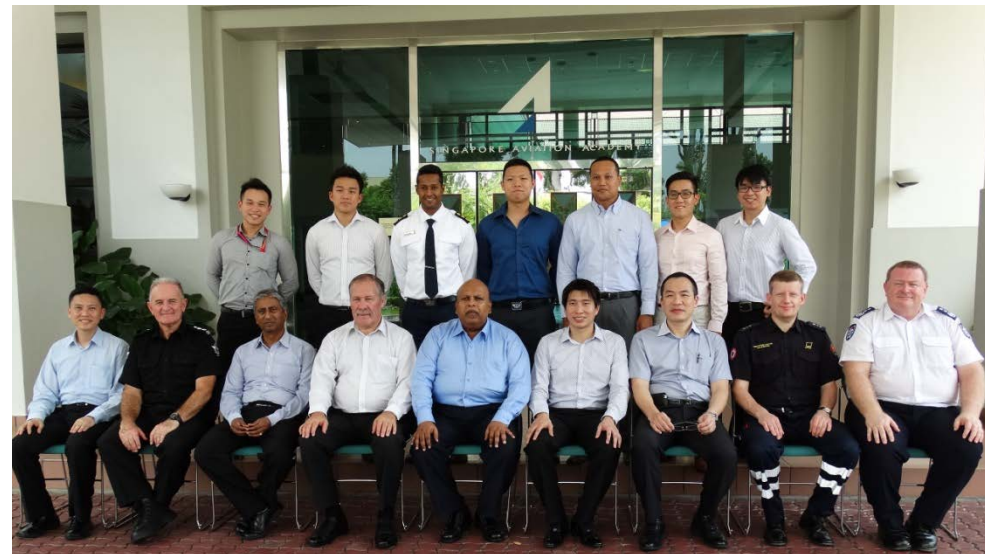
Changi Airport Crash at Sea Ex 2014

Origins of IAWRWG

- Group of like-minded coastal airports got together to form the first IAWRWG – Airservices Australia, Auckland Airport, Boston Logan Airport, Copenhagen Airport, Hong Kong Airport and Singapore Changi Airport
- First meeting in April 2014 in Singapore and had subsequent meetings in Auckland, New Zealand (Nov 2015) and Copenhagen, Denmark (May 2017)
- Group focuses and shares on:
 - Best Practices
 - Lessons Learnt from aircraft accidents
 - Improvement of overall aviation safety by proposing additional guidelines to ICAO Airport Services Manual

1st Meeting – April 2014 (Singapore)

- Hosted by Changi Airport Group (Singapore) Pte Ltd
- Sharing of concept of operations which includes resources planning and siting of base in response to the different working terrains by Auckland and Singapore Changi Airports



1st Meeting – April 2014 (Singapore)

- Conduct of Table-top exercise to test out each other's plan
- Sharing of Hong Kong Ferry Collision on 1 Oct 2012
- Sharing of Lion Air 904 Crash at Bali Airport on 13 Apr 2013
- First floated the idea of including additional guidance materials into ICAO Airport Service Manual for airports planning their own resources for difficult/marine terrain



2nd Meeting – Nov 2015 (Auckland)

- Hosted by Auckland International Airport Limited
- Sharing of marine concept of operations and standards of response by Airservices Australia on its 26 airports
- Sharing of new Water Rescue Course at Copenhagen Airport with conceptual floating mock-up



2nd Meeting – Nov 2015 (Auckland)

- Sharing of lessons learnt from Transasia 235 crash into Keelung River, Taiwan on 4 Feb 2015
- Sharing of lessons learnt from Air Asia 8501 crash into Java Sea, Indonesia on 28 Dec 2014
- Discussion and finalizing of additional materials to be included in the ICAO Airport Services Manual to aid airports in planning for response to difficult/marine environment



Additional guidance materials proposed for ICAO Airport Services Manual

- A. A marine rescue plan should be formulated for aerodrome with coverage area that includes water, swampy or difficult terrains. The plan should include the following considerations:
- Command and Control Structure
 - Marine Environment
 - Fit for purpose design vessels/vehicles
 - Functions of vessels specified
 - Risk Management
 - Support agencies; and
 - Responders Safety and Well-being

Additional guidance materials proposed for ICAO Airport Services Manual:

B. Formulation of list of equipment to be established and acquired after detailed studies by the airport with consultation with subject matter experts with regards to its functions to rescue operations on water and other difficult terrains and deployed according to an operational strategy as established by the airport. The list of equipment for considerations include:

- Floating platforms
- Mud Mats
- Rescue cradles
- Survival suits; and
- Mud lances

Additional guidance materials proposed for ICAO Airport Services Manual:

- C. Deliberate siting of a base of which the airport's specialized vehicles/equipment can be deployed with the intention of achieving a reasonable response time
- D. Deliberate pre-designated landing points for passengers to be brought to shore with considerations to
 - Within reasonable distance from the airport
 - Accessible roads for responding agencies
 - Staging/parking area for supporting agencies; and
 - Permanent/temporary structure to accommodate the expected activities (triage, casualty clearing, etc...)
- E. Setting up of a pre-planned deployment time standards internally for regularly conducted tests

Additional guidance materials proposed for ICAO Airport Services Manual:

- F. Notice to Airmen (NOTAMS) should be issued if marine rescue service at the aerodrome could not be provided
- G. Setting up of responders' proficiency requirements on the equipment and operations to be aligned to relevant state authorities and tested at reasonable time intervals

**The guidance materials are proposed for the 3rd round of discussion with ICAO Aerodrome Design and Operations Panel (ADOP), Rescue and Fire Fighting Group (RFFWG) for 1st Quarter 2018*

Thanks

- Feel free to contact me to join and participate in future IAWRWG meetings to share on your airport's best practices and lessons learnt
- Next meeting is tentatively planned for Nov/Dec 2018 (every 18 months)
- Consolidating database of coastal airport resources, concept of operations and challenges

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