



Runway Safety at Hong Kong International Airport An Air Traffic Control Perspective

by

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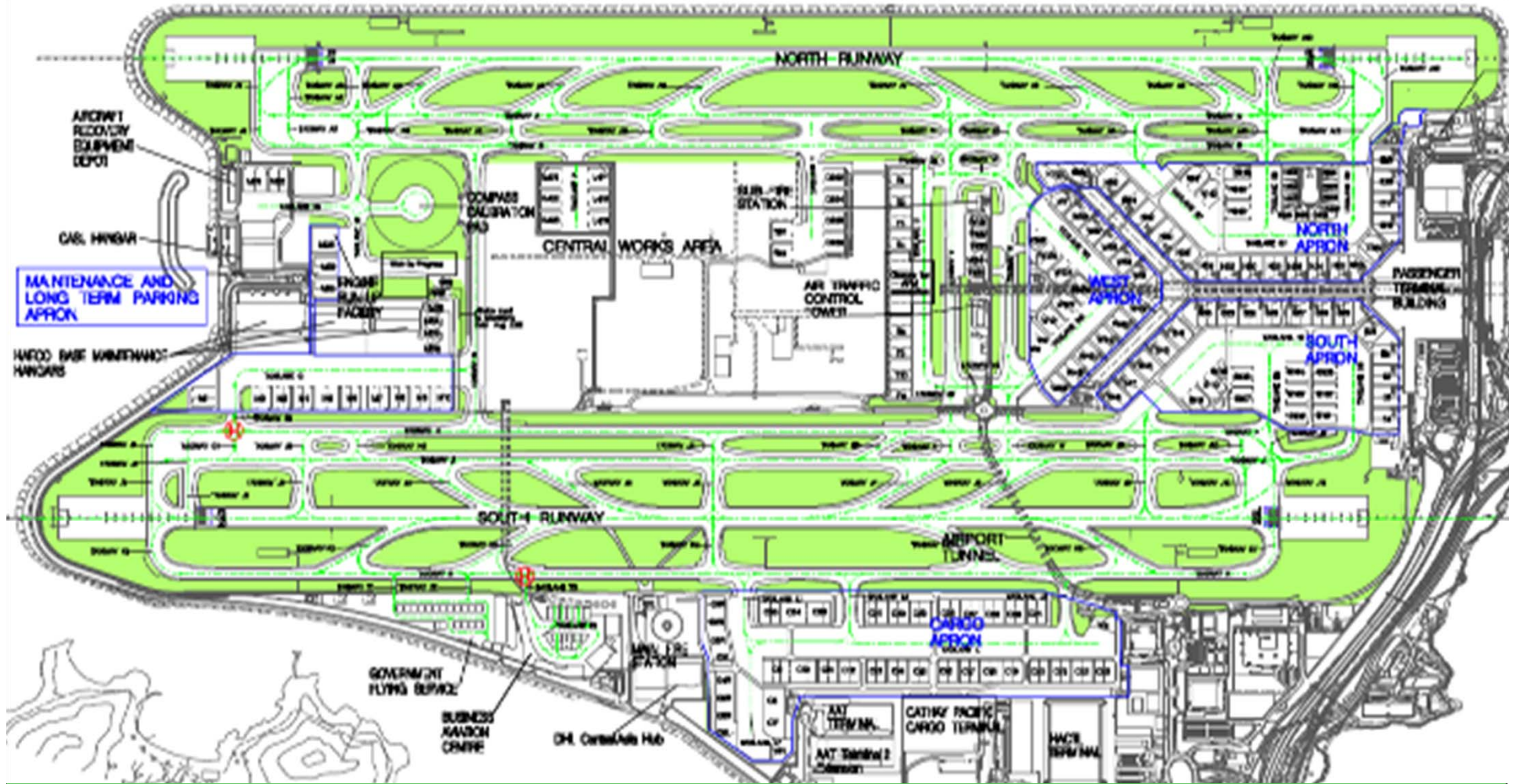


Presentation

- Safety Culture
- Operations
 - Airfield Surveillance
 - Operational Management
 - Communication
- Case Studies
- Measures Taken



Apron Layout of HKIA



Safety Culture

- The top management of an Air Navigation Service Provider (ANSP) should make full commitment in promoting runway safety.
- ANSP shall implement the necessary Safety Management provisions and practices and make hard efforts to arouse the safety awareness of its staff and motivate a safety culture within the organization.
- One of the primary objectives of air traffic control is to prevent collision on the ground between aircraft and between aircraft and vehicles.

Operations

- Airfield Surveillance

- Training or periodic briefing on the importance of visual surveillance with particular emphasis on vigilance in determining aircraft and vehicle positions.
- Surveillance equipment (Advanced Surface Movement Guidance and Control System) is provided as aids to controllers in determining aircraft and vehicle positions.
- Daily RWY inspection (5 times for each RWY)



Operations (Cont'd)

- Operational Management
 - Oversight of daily aerodrome operation should be exercised by competent supervisory staff.
 - Daily Runway Inspection Team
 - Bird Control Unit
 - Airfield Operation Safety Committee (Runway Safety Team)
 - HK CAD, HK Airport Authority, Airlines Representative, Ramp Operator Representative
 - The workload of individual Aerodrome Control positions should be closely monitored to ensure that it is within the manageable limit.
 - Aerodrome Control staff shall be familiar with the Low Visibility procedures through refresher training, periodic briefing or discussion during proficiency examinations.



Operations (Cont'd)

- Communication
 - Radio equipment should provide adequate coverage for runway operation.
 - Standard radio-telephone phraseology should be used as far as practicable.
 - Instructions for aircraft or vehicles to enter/exit the runway shall be issued in a clear and unambiguous manner. Full callsign of aircraft or vehicles and runway designator should be used to avoid confusion.
 - All clearances for operation on the manoeuvring area should be read back by the receiving parties.
 - For long and complex taxi routes, controller should use where applicable progressive taxi instructions to reduce pilot workload and the likelihood of confusion.
 - Where practicable, en-route clearance should be passed before leaving the gate to avoid distraction to pilots during taxiing.



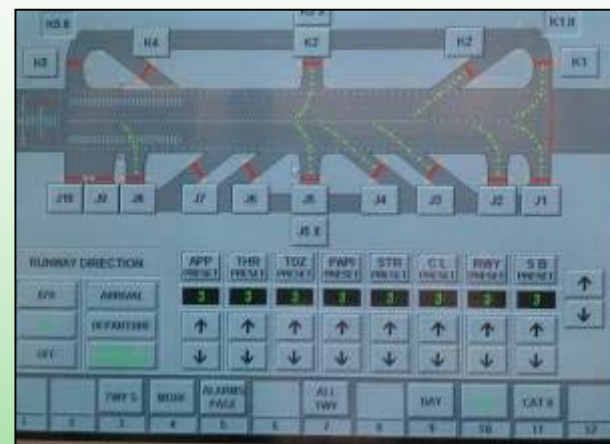
Operations (Cont'd)

Other equipments in Control Tower

AMOS



Lighting



WTWS



Communications



Case Studies

- Three incidents of attempted take-off on TWY A at HKIA since 2007.
 - Transmile Air (May 2007)
 - Hong Kong Airlines (Sep 2008)
 - Finnair (Nov 2010)
- In the incidents, the pilots either realized their errors and aborted the take-off or were immediately instructed by the air traffic controller to stop the take-off roll.

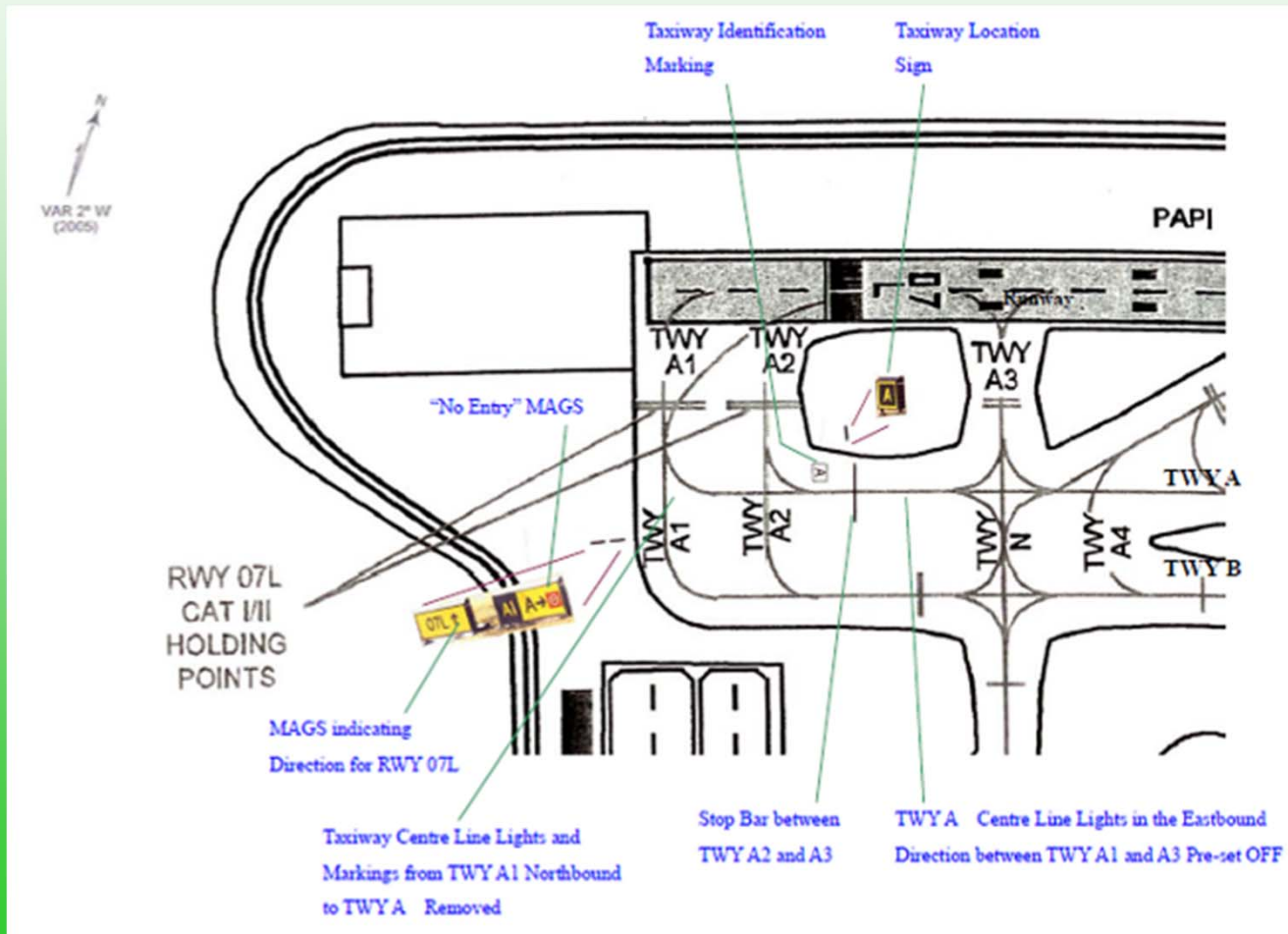


Case Studies (Cont'd)

- The incidents took place under the following conditions:
 - After midnight
 - Good visibility
 - During period of slack traffic when there was no time pressure to initiate the take-off
 - All ground equipment and lightings were serviceable
 - The aircraft taxied along TWY B to join TWY A1 for take-off
 - The take-off clearance was issued before the aircraft reached TWY A1

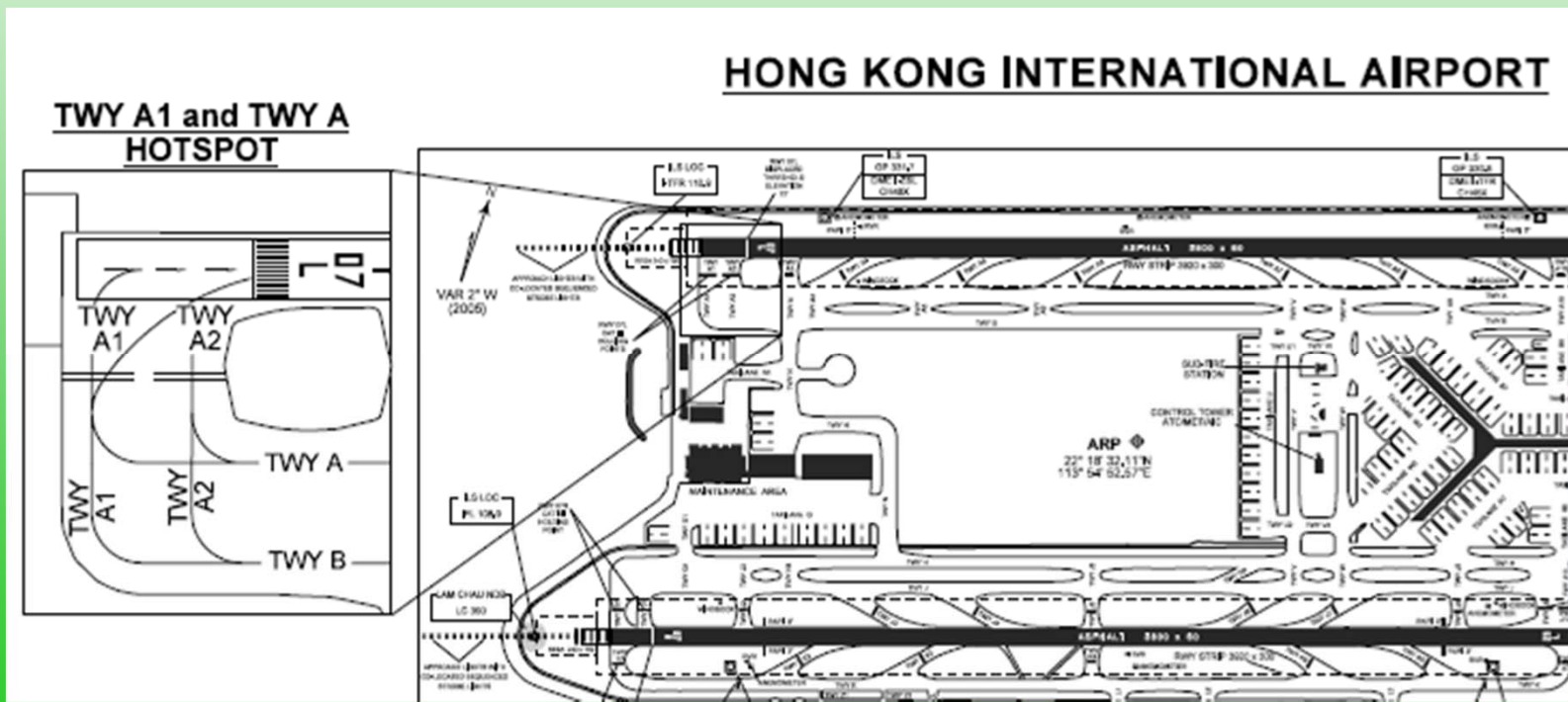
Measures Taken

- Improvement to guidance for aircraft in the vicinity of TWY A1, TWY A2 and RWY 07L to provide safeguard against pilots inadvertently making a pre-mature turn onto TWY A instead of RWY 07L.



Measures Taken (Cont'd)

- The area was designated as a hot spot and was promulgated in AIP Supplement in April 2009. The hot spot was incorporated into the Aerodrome Chart attached to the AIP Supplement and marked by a rectangular box, warning pilots to be particularly alert to the latent threat when taxiing in that area.
- The contents of AIP Supplement A10/09 have been subsequently incorporated into the Hong Kong AIP since 7 April 2011.



Measures Taken (Cont'd)

- Reinstatement of the procedure for the issue of take-off clearance such that during night time operations, take-off clearance for RWY 07L should be withheld until ascertaining that the departure aircraft has either passed TWY A or entered RWY 07L.
- TWY A should be used as far as practicable for aircraft departing on RWY 07L, thus eliminating the possibility of mistaking TWY A as the runway.

Thank You

