ATC-oriented procedures and training

Session 7
Presentation 4

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Communication

- Provide awareness and refresher training, that includes
  - Situations *requiring* mandatory read back
  - Ensuring what is said or heard *is really* what is said or heard not what you or the pilot *expected* to hear
  - Clarifying/avoiding similar sounding call-signs
  - Not assuming that pilots are familiar with local operations

- Establish outreach programs that include
  - Providing runway safety materials to foster collaboration
  - Encouraging the use of standard phraseology between controllers and pilots
  - Airfield vehicular tours to familiarize controllers with aerodrome signage, markings and taxiway/runway layout from a pilot's perspective

Communication

Simplify complex communication and frequency congestion

- Non-standard taxi-routes
    - Instructions reference points that appear on aerodrome charts
- Conditional clearances
    - Limited use: only on taxiways, never on runways, and always using required delivery sequence
- Progressive clearances
    - Time consuming, but effective in special cases
- Try to reduce simultaneous communication and coordination requirements between local, ground and radar controllers
- Manage radio frequencies
    - Reduce number of multiple tower/ground frequencies in use
    - Reduce occurrences where single controller uses multiple frequencies

Construction

- Manage movement numbers during capacity constraints
- Manage and coordinate increased number of runway crossings
- Develop SOPs for use during airport works including
  - Operations on shortened runways
  - Using intersection departures
  - RFF procedures
  - Providing information to pilots on available runway lengths
- Develop memory aids to prevent departures and landings on closed or shortened runways
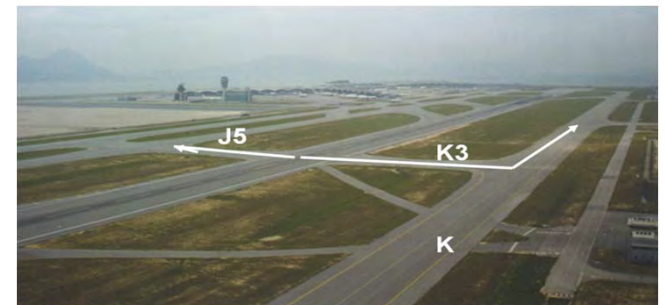
Airport Design

- Identify and publish hotspots
  - Develop controller awareness of high risk areas
- Consider increased use of end around taxiways
  - There is a correlation between the number of runway crossings and runway incursions
- Recurrent training and procedures to address risks associated with complex layout + capacity enhancing procedures
  - Intersecting runway operations
    - Land and Hold Short Operations
    - Timing (when runway occupancy time is contrary to controller expectations)
  - Closely spaced parallel runway operations
    - Monitoring hold short clearances, particularly for high-speed turn-offs after landing

Visibility

- Identify blind spots
  - Develop mitigation procedures
    - Reports clear of runway
  - Use Surface surveillance equipment including CCTV if needed

- Utilize low visibility procedures
  - Manage traffic levels to maintain situation awareness and avoid frequency overload

Operational

- Strategies to enhance situational awareness
  - Develop memory aids
    - Visual indicators for runway closures, intersection departures, etc
    - Position Relief Procedures and Checklists to highlight any high risk situations
  - Staffing
    - Provide adequate numbers to manage traffic surges
    - Prevent split attention/multi-tasking particularly during periods of low-level traffic
  - Re-Current training
    - Focus on local operations and runway safety issues
  - Tower cab & equipment configuration
    - Perform human factors assessment of cab environment
- Implement CRM training
  - Foster a culture of teamwork. Awareness of other controllers' activities.
- Foster a Safety Culture
  - Implement SMS

Operational
Additional Surface Issues

- Runway Closures
  - Develop memory aids to prevent departures and landings on closed runways
- Vehicle traffic operating near runways
- Emergency response
  - Alert Levels (1-3 levels, 1=can use taxiways but not runways, 2 = allowed to cross runways other than runway being used by emergency a/c, 3 = full access to aerodrome surface responding to an accident)
  - Halting movement of all other surface traffic

Operational
Radar Operations

- Unstable Approach
  - Awareness training on ATC contributors
    - Vector to short final
    - Vectors above the glideslope
    - Speed control
    - Last minute approach/runway clearance changes
    - Accurate weather and runway state conditions
    - Runway selection
      Consider aircraft type, wind/operational suitability
      Avoid runway selection based ATC preferences or noise abatement requirements instead of technical best practices.
  - Go-around vs. fast approach
    - Simultaneous landing & departures vs. Increased risk of runway excursion

Signage

- Report unserviceable signage
- Advise flight crews of unserviceable signage
- Amend affected procedures when signage is unserviceable

THANK YOU