



6 Months on...

We were overwhelmed by the positive responses we received to our first issue of "On the Leading Edge", distributed earlier in the year, and we would like to thank all of those who wrote to us. Circulation of Issue 1 by email ran into hundreds, and our database is expanding.

For our second issue, we are again covering a range of topics in the areas in which we work, but are starting the first of a series of safety-related awareness items.

We welcome feedback and comment on any of the topics discussed. Please feel free to contact us at: info@leapp.com

May we wish our Hindu friends Happy Deepavali.

Victor Craig – President and Managing Director
(victor.craig@leapp.com)



Fagali'i Airport, Samoa - Typical of the smaller airports in the South Pacific, where retro-fitting commercial uses and security screening present space and congestion problems.



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Project Updates...

Angola

- Huambo International Airport
Rehabilitation Feasibility Study & Airport Master Plan

Cambodia

- Mekong Region Tourism Development Airports
Airport Inspections & Feasibility Studies for Upgrading

Eastern Caribbean

- Montserrat - New Airport Development
Assessment of Alternative Airport Sites & Safety Review

Ireland

- Dublin International Airport
*Terminal Master Plan Project –
Pier "D" Wind Turbulence Assessment*
- Donegal Airport
Inspection for Annex 14 Compliance & Licensing

Recent Conferences

ACI Small Airports Conference – Rarotonga, Cook Is

Current issues of space use, level of service and development of small terminal buildings were the topic of the paper "Planning Techniques for Small Terminal Buildings", presented by LEAPP Director, Philip Craig, to the recent ACI Conference in Rarotonga. Focussing on the dramatic effects on congestion that can occur under flight-specific peaking, and where commercial uses and security screening have to be accommodated in areas originally planned for public use, the presentation demonstrated how passenger flow simulation can be used effectively to test the impact of such changes. The presentation was illustrated by simulation of an actual case where checked baggage screening was retro-fitted into the public check-in area of a small terminal building.

5th Aviation Insurance Conference in Asia – Singapore

LEAPP Managing Director, Victor Craig, addressed the Conference on the topic of "Critical Issues in Risk Management of Airports". Using photographs of safety hazards observed at airports, this paper focussed on areas where airports may contribute to aircraft accidents through failure to comply with safety standards, inadequate operational practices, and in some cases lack of attention to aircraft operations and safety in airport planning and design.

Incheon International Airport moves towards Phase 2



The new 44-gate Terminal Building at Incheon International Airport, Korea



Opened in March 2001, Phase 1 of this state-of-the-art airport offers capacity for 170,000 annual flights, 27 million passengers and 1.7 million tons of cargo using two 3750m close-spaced parallel runways. When fully developed, Incheon International Airport is designed to serve 100 million annual passengers from 4 parallel runways.

The Phase 1 Terminal Building is already the largest complex in South Korea – apparently 60 times bigger than the Jamshil Soccer Stadium used for recent World Cup events!

Anticipating continued strong growth, the Phase 2 expansion has already been initiated by the Incheon International Airport Corporation. Planning for the first of four 32-gate satellite piers and a third wide-spaced runway has been completed, and the plan is now moving into the engineering design process.

LEAPP provided Master Planning services for the Phase 2 expansion, carrying out the following elements:

- Review of air traffic forecasts to confirm capacity requirements
- Simulation of airside capacity to establish when a 3rd and 4th runway would be needed
- Computer simulation of passenger terminal capacity to determine future processor capacity needs
- Terminal airspace flight procedure design to minimize the impact of restricted national airspace, and ensure airspace capacity to support the ultimate 4-runway airport.

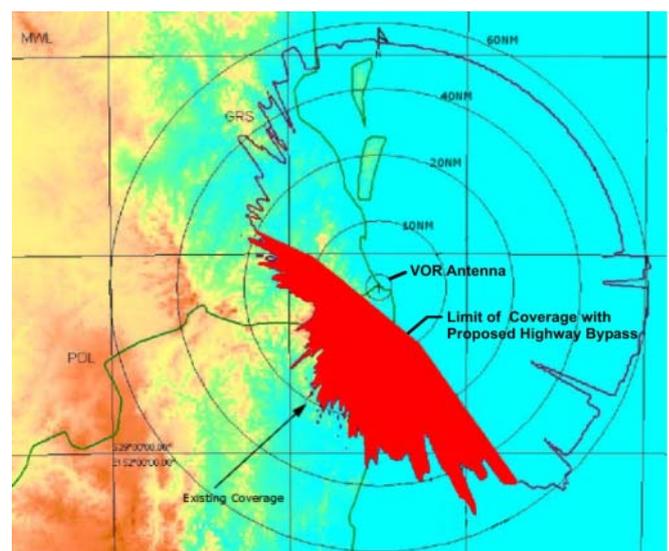


LEAPP-ing into Australia's Gold Coast

LEAPP hopped into Australia, providing specialist assistance to Australian engineers PPK. A proposed highway and rail alignment around the side of the Coolangatta Gold Coast Airport on the New South Wales - Queensland border, raised concerns for the integrity of the airport's air navigation facilities. Electromagnetic interference from vehicles and trains passing close to the airport was predicted to affect the VOR signal coverage for the airport's instrument approaches.

Relocation of the airport's VOR further from the highway, and use of Doppler equipment, was concluded as the only way to satisfy VOR coverage for straight-in IFR approaches to the primary runway. VOR siting was complicated by a need to avoid shifting the existing northern approach because of high ground to the west, and the need to minimise changes to flight paths from the south to avoid increasing aircraft noise exposure.

LEAPP examined the issue of electromagnetic interference to the VOR signal, established the criticality of re-siting the VOR, and defined alternative VOR sites that could ensure both the integrity of signal coverage, and enable straight-in instrument approaches to be preserved within the defined operational and environmental criteria.



Reduction in VOR Signal Coverage from the Proposed Highway and Railway alignment bordering Coolangatta Airport

Masterplanning Kaohsiung International Airport

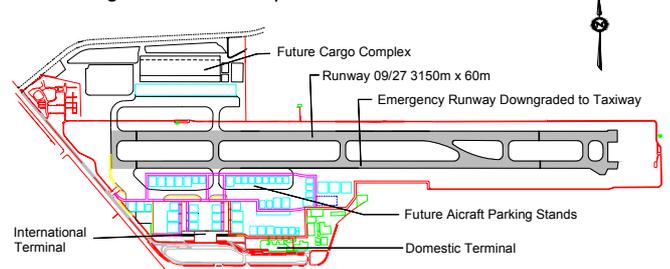
From its rather modest terminal facilities, Taiwan's second international airport, at Kaohsiung in the south of the island, serves 9 million passengers annually. Some 6 million of these are domestic travellers. Direct international flights serve 15 cities in Asia and the Pacific, while connections through Hong Kong and Macau enable access to cities in Mainland China. Its distance from Taipei ensures a strong domestic air service between Kaohsiung and Taipei.

Equipped with a single operational runway, the airport handles some 300 daily flights by aircraft ranging from MD80's to B747-400. A severely constrained site, and mounting pressure to expand the passenger terminal and aprons, provide air cargo processing facilities, and improve airside capacity, has led the Taiwan Civil Aeronautics Administration to commission a new Master Plan for the Kaohsiung International Airport.

Aimed at accommodating 20-year air traffic and facility requirements on the existing restricted site, the Airport Master Plan was prepared by Asian Technical Consultants Inc. of Taipei with specialist assistance from LEAPP. In this project, LEAPP optimised the airside capacity enhancement plan through computer simulation, and provided planning services in the development of the aprons, and the future air cargo facility.



Kaohsiung International Airport Terminal



Kaohsiung International Airport Master Plan with Proposed Airside Improvements, Additional Aircraft Parking Stands and Air Cargo Complex.

Safety Issue

What is wrong with this photograph?



Runway Visual Range Transmissometer in the runway strip at a major international airport

Answer:

Annex 14 recommends that "an object situated on a runway strip which may endanger aeroplanes should be regarded as an obstacle and should, as far as practicable, be removed". While the RVR Transmissometer pictured here is a frangible item, the concrete steps constructed for maintenance access, are a hazard within the runway strip.

(Following an airport inspection by LEAPP that noted this as a hazard, the Airport Authority promptly removed these concrete steps to comply with the Annex 14 recommendation).

Are you ready for Airport Certification..?

By way of Amendment 4 to Annex 14, which became effective on 1st November 2001, ICAO now recommends that contracting states certificate all public use aerodromes. It also makes mandatory the certification of international aerodromes by 27th November 2003, and implementation of a safety management system by 24th November, 2005.

The new ICAO Manual on Certification of Aerodromes (Doc 9774-AN/969), providing guidance to states in establishing regulation and carrying out inspection and certification of aerodromes, was published in October, 2001.

As part of the process to ensure that international aerodromes are certificated in accordance with Annex 14, the 33rd session of the ICAO Assembly approved the expansion of the ICAO Universal Safety Oversight Audit Program to include Annex 14, with audits to commence in January 2004.

LEAPP's Safety Flyer is Now Available!

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for
Your Copy
TODAY!

info@leapp.com

