

Managing Safety in a Start-Up Low Cost Carrier

Mike Innes 1st June 2008

Abstract

Only a decade ago, the term “Low Cost Carrier” was used in reference to a few niche operators in North America and Europe. Considered a nuisance by some legacy carriers, they were never expected to gain a significant market share, especially in the Asia Pacific region. New start-up airlines which based their structure on the LCC model were expected to fail within two years of inception. Times, and perceptions, have changed. LCC’s have established themselves as legitimate players. The number of new LCC’s and their market share is growing rapidly and it appears that the previously forecast convergence of legacy/LCC service and cost structure has not occurred.

What does this mean to us, the Safety Professionals? These new airlines need safety management systems just like established airlines. There are manuals to publish, audits to conduct, incidents to investigate and flight data analysis programmes to manage. This adds up to a lot of important work for us.

Establishing safety management systems and a healthy safety culture in a new airline presents many challenges. Resources are limited and there is an almost obsessive focus on the AOC process. Conversely, there are great opportunities when starting from a clean sheet, as the Safety Manager can exercise great influence on the business with simple and clear policies and processes.

This paper will describe the adventures of one Safety Manager who made the transition from legacy carriers to the “dark side”, working on two start-up LCC projects. The challenges, opportunities and lessons learned will be highlighted.

Introduction

For any Safety Professional who has ever bemoaned the difficulties of affecting change in a large, established organization, the opportunity to help start a new airline is very tempting. In late 2006 the writer succumbed to this temptation and decided to join an embryonic new business in Macau SAR. He has since moved on to his next project, helping to start a new airline in the Russian Federation, however this paper will focus on his experiences in **Viva Macau**.

Airline History

The Viva Macau story started in 2003. Following two years of aero-political lobbying and seeking initial business partners, the first five staff started working in a temporary Macau office in 2005. By the end of that year the team had grown to 20, at which time the Head of Safety & Security was recruited.

During most of 2006, the team was busy recruiting and training Staff, drafting operations manuals and working very closely with the Regulator. Following successful attainment of the Air Operator Certificate, the airline commenced commercial operations in December 2006. During 2007, the Management team underwent a significant shift – from start-up mode to running a “real” airline.

Head of Safety & Security

Essential requirements for the Head of Safety & Security position were:

- corporate commitment to safety, both in policy and in practice;
- direct reporting line to the CEO;
- an effective and confidential Flight Data Analysis Programme.

The Head of Safety & Security commenced work in February 2006 and was initially responsible for:

- developing corporate safety policy & “culture”;
- Publishing operations manuals:
 - Flight Safety Manual;
 - Security Manual;
 - Emergency Response Manual;
 - Quality Assurance Manual;

For a new airline, integration of the safety and security management functions is logical and somewhat necessary. While the principles are similar – hazard/threat identification, risk assessment and control – there is an important difference:

SAFETY – protection from accidental harm (injury & damage)

SECURITY – protection from intentional human actions

This distinction requires an adaptive management style. Switching between the openness of safety programmes and the discreet nature of security duties (especially internal investigations) can be rather challenging.

Focusing on the airline’s safety programmes, the priorities were:

- build a healthy “safety culture”:
 - incorporate safety into the company’s core values;
 - people first;
- ensure safety and security are normal parts of the business;
- empowerment and ownership – every team member is responsible.

Initial risk assessment identified three significant corporate threats:

- Expediency
- Operational Bias
- Complacency

A simple risk assessment model was adopted, including a special arbitrary category for extremely low frequency but potentially catastrophic events.

Risk Assessment Model

			} Arbitrary	
S E V E R I T Y	High			
	Medium			
	Low			
		Low	Medium	High
	Probability of recurrence			

Flight Data Analysis Programme

Macau SAR has mandated the use of quick access flight data. In keeping with the business principles of LCC operations, an outsource solution was sought. A UK based service provider, **FDSL** (Flight Data Services Limited) was selected, as was the installation of Micro-QAR technology.



Challenges in a Start-Up LCC Operation

- Very limited resources:
 - Money
 - Time
 - Manpower & experience
- Obsessive focus on AOC & start-up

Opportunities

- Get it right the first time:
 - Healthy safety culture
 - Simple/clear policies & processes
 - Complete involvement in all corporate, operational and commercial development
- Extensive influence throughout the organisation and operation

Case Study 1 – Reactive Safety

Incident:

- January 2007, 4 weeks after commencement of commercial operations
- Macau - Malé, charts missing from cockpit
- Error discovered en-route
- Crew reviewed available data & considered diversion options
- Flight continued to Malé

Background:

- One (of two) aircraft dedicated to Malé route
- Middle East charts carried only on this aircraft
- Captain's first operation on this route
- During pre-flight checks, extra set of charts questioned, eventually resolved
- Charts removed by Engineer
- Crew unaware of removal

Contributing Factors;

- Miscommunication between Crew & Travelling Engineer during pre-flight
- Procedural flaws in the way in-flight documentation is distributed, accounted for & informed to Crew
- Progressive introduction of the "Day Book" (half completed at the time of the incident)

Corrective Action;

- Review of the flight manuals & documents distribution system, to include formal notification of changes
- Review of roles & responsibilities for persons traveling on the jump-seat (incorporated in FOM re-write).

Case Study 2 – Proactive Safety

In June 2007, it was decided that the airline would commence commercial operations to Gimhae Airport in Busan, South Korea. Preparation for this new route included a risk assessment, which included a review of:

- Airline's previous Haiphong start-up experience
- 2002 Air China accident

On 15th August 2002 Air China flight CA129, a B767-200ER, crashed into Mount Dotdae while performing a circling approach to Gimhae Airport RWY 18R. The aircraft was destroyed and 129 of the 166 persons on board died. The Captain and two Cabin Crew survived.

The investigation identified several factors, including:

- Low viz IFR conditions (night-time, strong wind, cloud/fog/rain)
- Poor Flight Crew & air-ground communication (poor read-back, non-standard call-outs)
- Deviation from published Gimhae Airport circling approach procedures (excessive speed, incorrect track, incorrect turn radius)
- Loss of situational awareness by both the Flight Crew and ATC
- The approach was continued after the Flight Crew lost visual contact
- The Captain did not respond to the F/O's "go around" call
- Various air traffic service & ground navigation equipment inadequacies and failures
- Inappropriate categorisation of Gimhae Airport by Management, which led to inadequate Flight Crew training

Busan Airport & Mt Dotdae



Prior to commencement of operations (August 2007), the following Safety Recommendations were implemented by Flight Operations management:

- Formalise the airport categorisation process
- Gimhae Airport – “Category 3”
- Refine stabilised approach criteria for non-precision & circling approaches
- Specific circling approach training and qualification for PUS RWY 18
- Gimhae Airport safety briefing, including CA129 accident
- Emphasise strict compliance with SOP’s:
 - Circling approach minimums
 - call outs
 - checklists
 - “go-around mindedness”
- Day time operations for PUS
- Enhance Crew training, qualification and recording system
- Intensive FDAP review, following commencement of operations

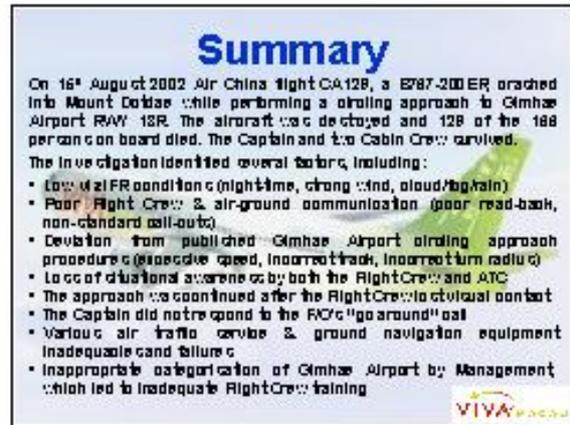
Busan Pilot Briefing



Pilot Briefing
CA129 B767 Accident
Busan Gimhae Airport (PUS)
15 April 2002

Mike Irnie II
Manager Corporate Safety
June 2007

VIVA macau



Summary

On 15th August 2002 Air China flight CA129, a B767-300ER crashed into Mount Deidae while performing a circling approach to Gimhae Airport RWY 18R. The aircraft was destroyed and 128 of the 188 persons on board died. The Captain and two Cabin Crew survived. The investigation identified several factors, including:

- Low visibility conditions (nighttime, strong wind, cloud/bogain)
- Poor Flight Crew & air-ground communication (poor read-back, non-standard call-outs)
- Deviation from published Gimhae Airport circling approach procedures (excessive speed, incorrect track, incorrect turn radius)
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Flight Track

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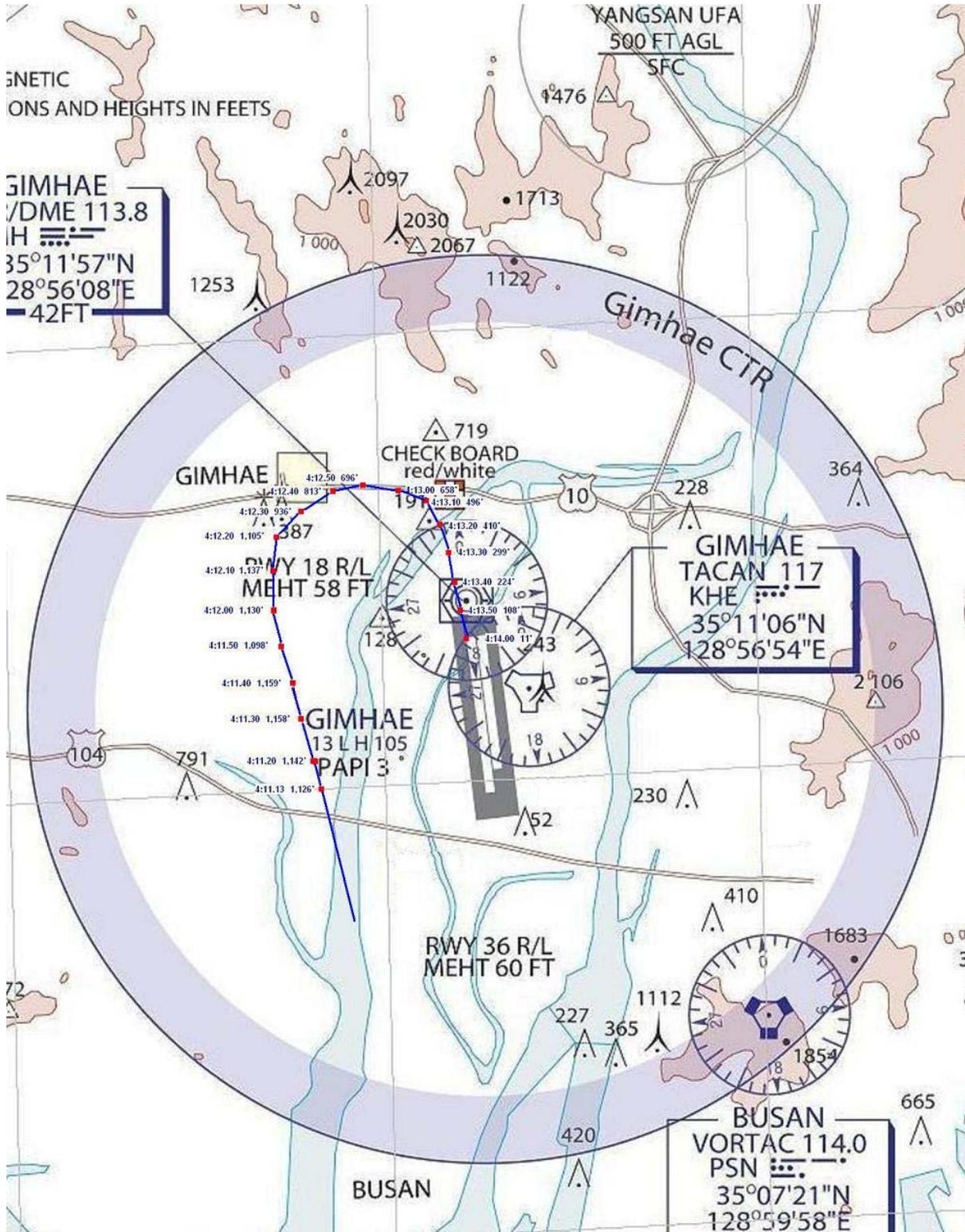


Lessons for Viva Macau

- Formal categorisation of Gimhae Airport (“Category 3”)
- Specific circling approach training and qualification for PUS RWY 18
- Strict compliance with SOP’s:
 - Circling approach minimums
 - GO-AROUND policy

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PUS Operations FDAP Review





Managing Safety in a Start-up – Lessons Learned

- Develop a healthy relationship with the CEO
- Initial investment in “soft” side (eg – safety culture) is critical
- Make the most of the “clean sheet” ... you have one chance
- Get it right ... your policies will be around for years!
- Enjoy !

With thanks to the Management and Staff at **Viva Macau**



About the Author

Mike commenced his aviation career in 1978 as an Apprentice Aircraft Maintenance Engineer. After seven years of swinging spanners, he transferred to the Corporate Safety team where he worked for a further 16 years managing safety in the Engineering & Maintenance department. In 2001 he joined Cathay Pacific's Corporate Safety team in Hong Kong. Following a chance meeting late the previous year, in early 2006 Mike held his breath, jumped into the “deep end” and during the next two years helped to start a new airline in Macau. Managing safety, security and emergency planning, the project was so successful that he decided to do it again. Mike recently moved to Moscow, where he is managing safety, security and quality in what will be Russia's first real Low Cost Carrier. Mike does not have an MBA, nor is he a Psychologist!