



INTERNATIONAL AIR TRANSPORT ASSOCIATION

Incident Review Meeting (IRM)

Report of 9th Meeting

**Hong Kong,
October 25th and 26th, 2010**



IRM Chairman's Introduction

It was with great pleasure to have chaired the meeting in Hong Kong, hosted by Cathay Pacific (CX), and it was especially rewarding to see so many attendees including many who had not attended the IRM before. Some of those new attendees were from the local region and I hope that they will consider the value they gained and continue to attend future events further from home as we move around the regions.

Safety must remain a priority for all IATA airlines and in difficult economic times it can become very easy for companies struggling in tough economic conditions to drop the safety ball. The IATA Operations Committee (OPC) and IATA Safety Group (SG) continue to support the IATA strategy in regards to safety, and the information gathered at the IRM helps to provide input to that strategy. In addition it allows airlines to learn valuable lessons from the incidents experienced by others and to build on industry best practice. The IRM provides an essential input to the SG's discussions, and we have suggested a number of improvements to IATA to make greater use of our developing Global Safety Information Center (GSIC) in enhancing IRM sessions.

The IRM proved very informative and I would like to thank members for sharing safety information in a very professional and open manner.

I would also like to note that Capt Coen Van den Berg (South African Airways) was elected by the Safety Group as the vice chairman of IRM, and would like to personally thank Coen for offering his time in support of this important committee.

I look forward to seeing all of you at IRM-10 on April 11-12, 2011 in Geneva, Switzerland.

Best regards;

Rod Young, British Airways
IRM Chairman



Outcome of IRM/09 Session

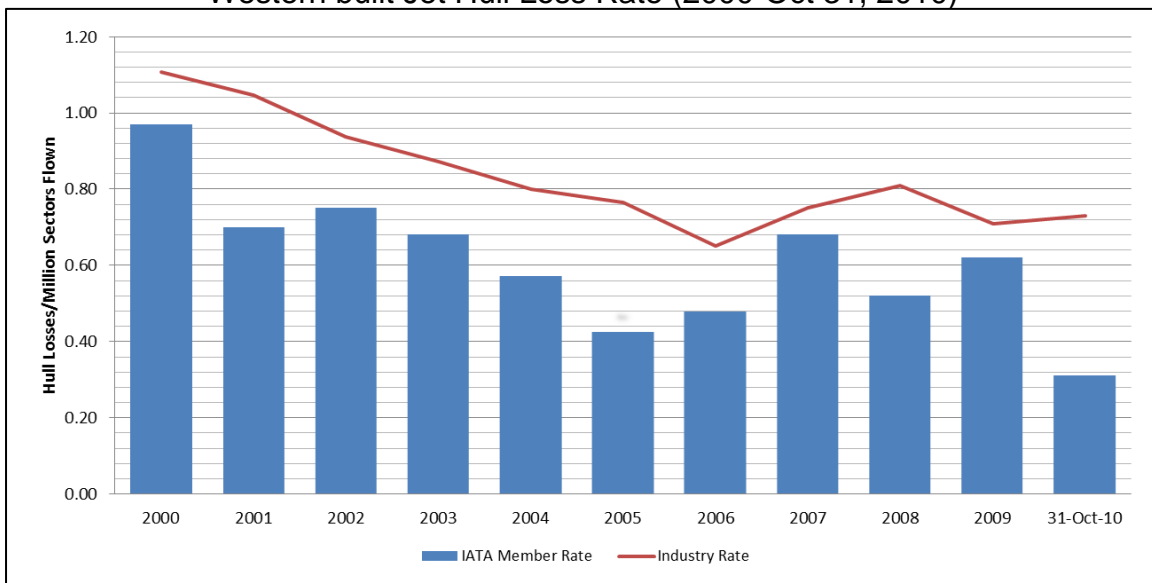
The IATA Incident Review Meeting (IRM) is held twice a year. The second meeting of this year (IRM/09) was held in Hong Kong at the CX City premises on 26-27 October 2010, and was very well attended by airlines, manufacturers and other safety organizations from across the globe. 57 participants from 44 airlines and organizations attended the meeting.

I am very grateful for those who shared incidents at the IRM. Discussing these incidents in a wide group of experts from our industry provides value for all of us. The enhanced learning gained during the subsequent discussions and question sessions provides useful nuggets for individual airlines to take home and focus on, thereby allowing us all to continually improve our own processes and procedures, where required. I would like to emphasize the importance of IRM discussion, as IRM is an essential input for the IATA Safety Group (SG). The SG is comprised of senior safety representatives from many of the world's largest carriers, all global regions, includes representatives from all three major airline alliance safety committees and regional safety organizations.

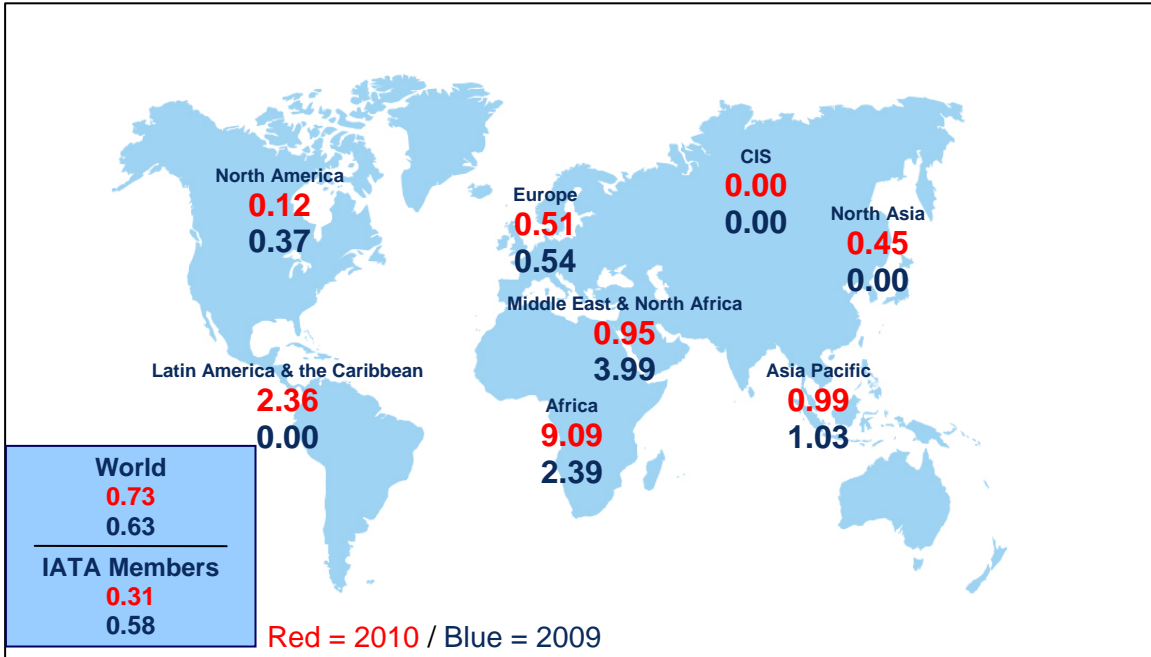
During IRM/09 meetings, member airlines and major aircraft manufacturers discuss occurrences with the potential risk of causing an accident, and all recommendations made at the IRM are fed back to the IATA Safety Group (SG) to base their work on and build a safety strategy. IRM participants agree to ensure that all discussions regarding incidents remain de-identified.

The IRM session started with an overview of the safety performance presenting accident data for Western-built Jet Hull Losses per Million Sectors from 2000 till September. This is with an update through October 31st 2010.

Western built Jet Hull Loss Rate (2000-Oct 31, 2010)



Western-built Jet Hull Loss Rate per Region of Operator As of 31 October 2010



All Accidents Overview: Year to Date as at 31 Oct Vs. same period 2009

	As at 31 Oct 2010	As at 31 Oct 2009
Total Accidents	72	73
Accidents with IATA Members	19	23
Western-built Jet Hull Losses	17	14
Fatal	18	15
Fatalities	681	685

Summary

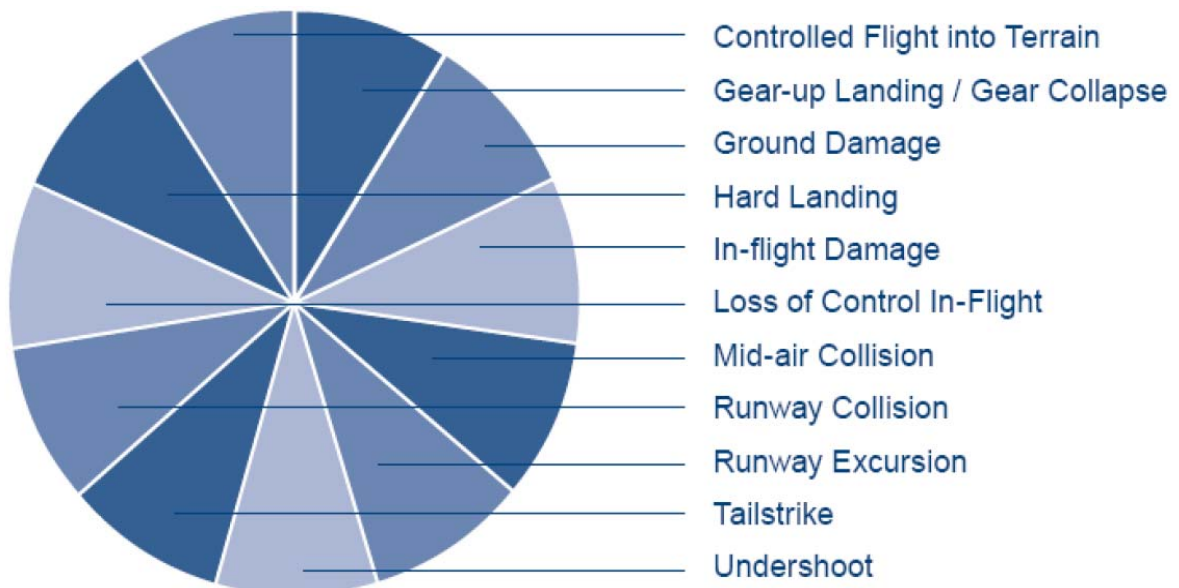
- ↗ Number of accidents is lower for YTD, in comparison to 2009
- ↗ 26% of all accidents so far involved members
 - ↗ versus 32% at the same time last year
- ↗ 24% of all accidents involved Western-built Jet Hull Losses

- ↗ versus 19% at the same time last year
- ↗ 25% of all accidents were fatal so far
 - ↗ versus 21% at the same time last year
- ↗ The number of fatalities is essentially the same as last year's

Main Issues from Incident Review Meeting

During the IRM/09 meeting, member airlines discussed serious incidents, accidents or any occurrence with the potential risk of causing an accident. IATA and the member airlines classify accidents as per the following categories, presented below.

Breakdown Accident Categories

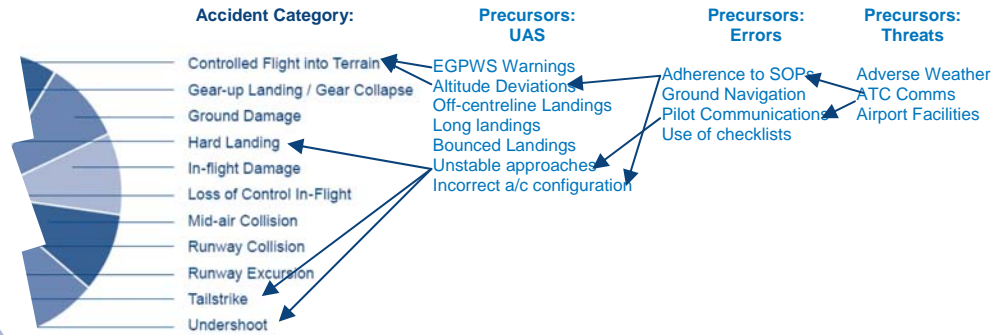


The following section presents the issues discussed at the IRM, and the recommendations noted during the meeting. The occurrences presented at IRM/09 meeting included events associated with all types of aircraft (turboprop, regional jets, narrow body and wide-body jets) and in all regions of the world.

Each section of the Accident Categories was presented with high level analysis of accident category precursors found in STEADES programme.

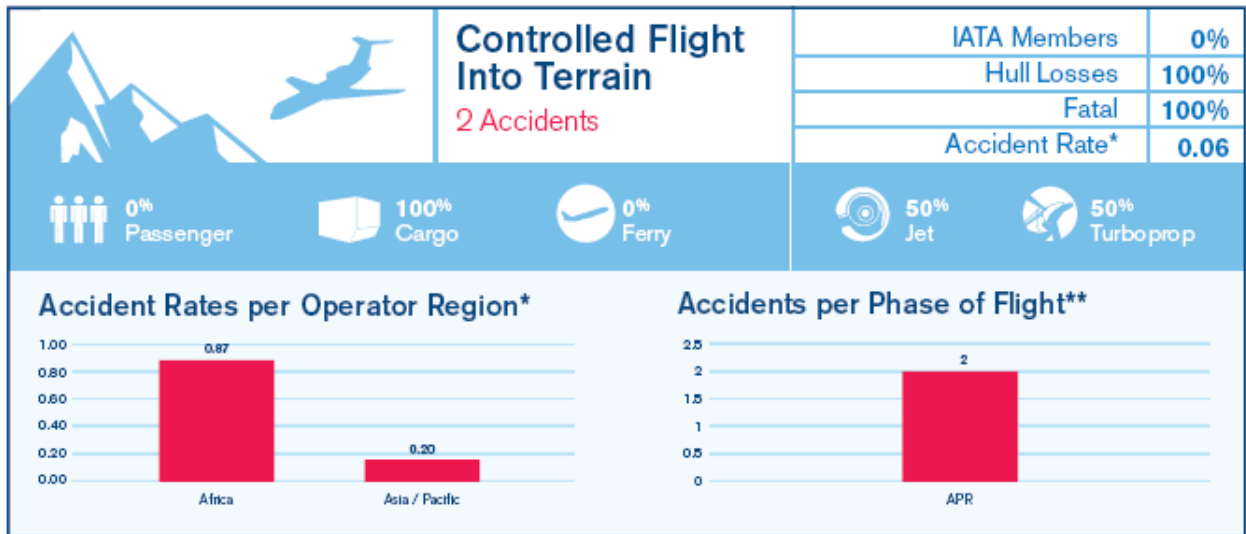
There are 11 accident categories

- Each accident category has several possible precursors
- Precursors overlap accident categories, some examples:



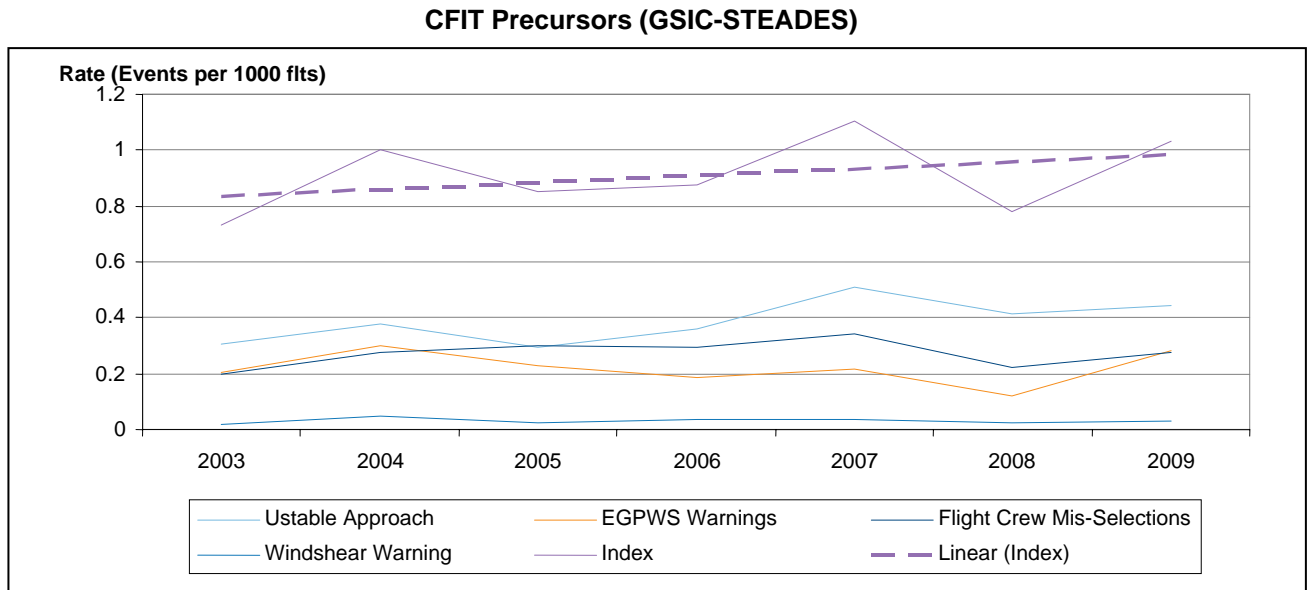
Controlled Flight into Terrain (CFIT)

One event was presented under this accident category. This section must remain closely monitored, especially in light of 5 CFIT accidents with 153 fatalities already in 2010. Airlines are encouraged to present CFIT related events or concerns at the next IRM sessions. Data from the 2009 IATA safety report is shown below:





Data from the 2009 IATA safety report is shown below:



Issues:

- ↗ Aircraft operated well beyond normal parameters

Recommendations:

- ↗ ATC defenses delivered must support operations

Hard Landings

Members discussed several cases related to Hard Landings and main issues and recommendations identified were:

Issues:

- ↗ Hard landings, not reported by crew
- ↗ Bounced landing
- ↗ Late autopilot disconnection in crosswind
- ↗ MD11 Trend in hard landings resulting in accidents
- ↗ Incorrect bounce recovery techniques

Recommendations:

- ↗ Airports should install CCTV of touchdown zone / runway in use
- ↗ Response of fire services
 - Improved communication capabilities for fire crews



- ↗ Improved manufacturer detection of what is defined as a level of landing that maintenance should be informed of – human detection unreliable
- ↗ Go Around training must educate crew on what is the safest course of action - in the right circumstance
- ↗ Effective crew training to deal with a hard landing / bounce
- ↗ Improved simulator software for realism
- ↗ Crosswind landing techniques and data sharing with manufacturers

In-Flight Damage

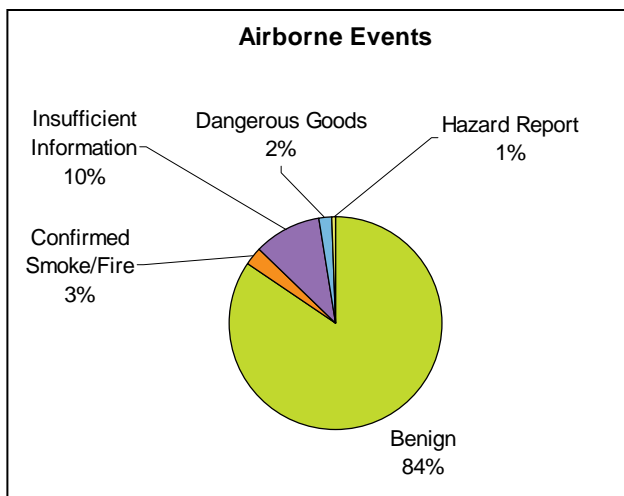
Fuel Issues

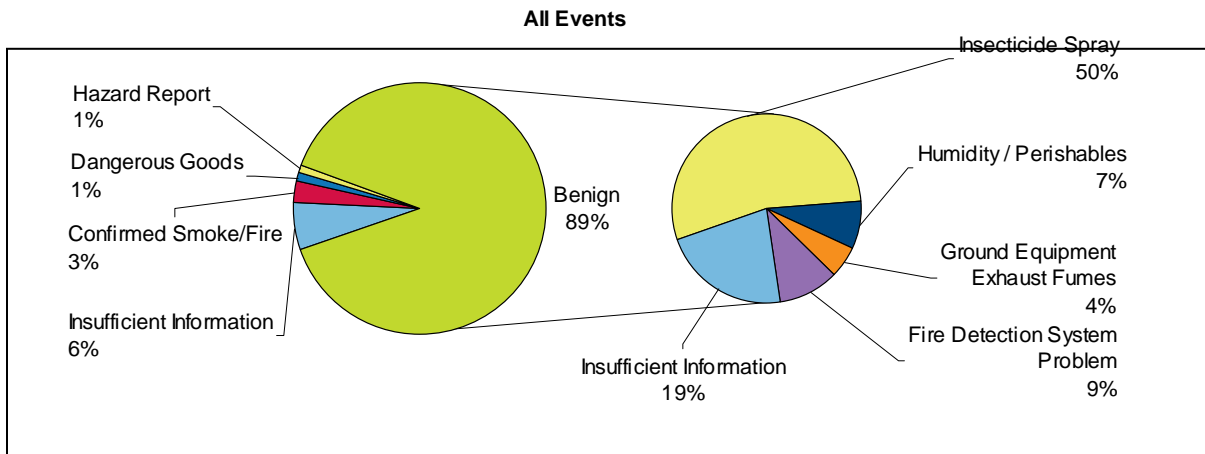
- ↗ A recent event involving contaminated fuel on a wide body aircraft was discussed. The contaminated fuel resulted in one engine rolling back below idle thrust, with the other engine stuck at a high thrust setting. Issues identified include:
 - ↗ Fuel supply and Fuel services oversight
 - ↗ Monitoring of fuel delivery pressure differentials via consistent fuel quality training standard, reporting, awareness
 - ↗ Filter manufacturers should ensure super absorbent material should not get into the fuel supply

Improve IATA and airline oversight of fuel and fuel services

Cargo Smoke Issues

A GSIC- STEADES analysis of Cargo Smoke events revealed that approximately 4 events occur per day globally, with 89% being false warnings. However, it was noted that flight crews always assume smoke warnings are valid.





The full analysis is available to GSIC-STEADES members at www.IATA.ORG/STEADES.

From the occurrences presented under this category, the issues and recommendations identified were:

Issues

- ⌘ Cabin crew training must be as realistic as possible
- ⌘ Flight Operations should be involved in Service Bulletins (SB) decision processes in airlines

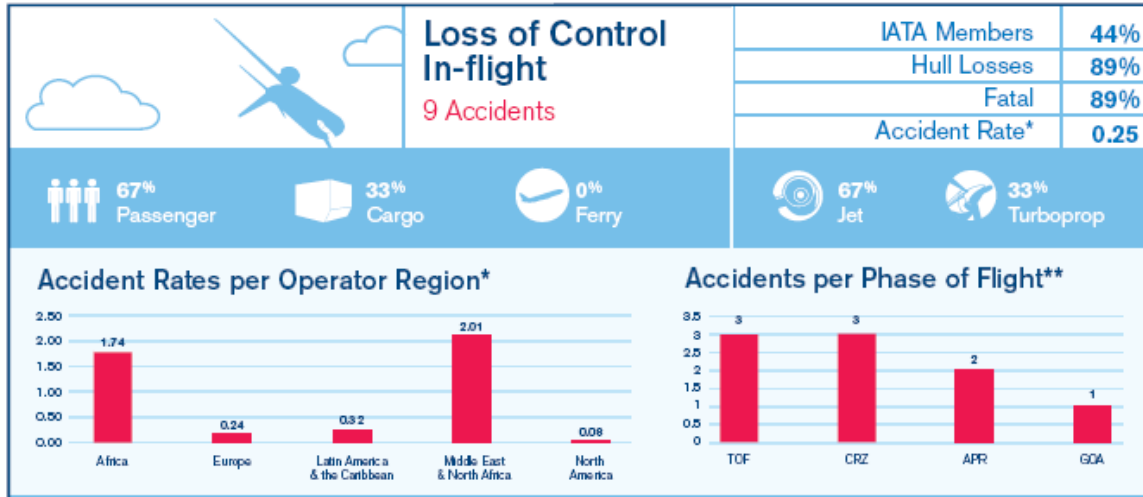
Recommendations:

- ⌘ Cabin Training to be realistic using actual equipment
- ⌘ IATA Flight Operations Group (FOG) to work on advice for Flt Ops / Maintenance
- ⌘ The change of Stall Recovery Procedures
- ⌘ Post incident crew debrief recommended
- ⌘ Risk assessment for change in suppliers
- ⌘ Clear communication with ATC – not just pilot use of English Realistic smoke training / use of O2 masks

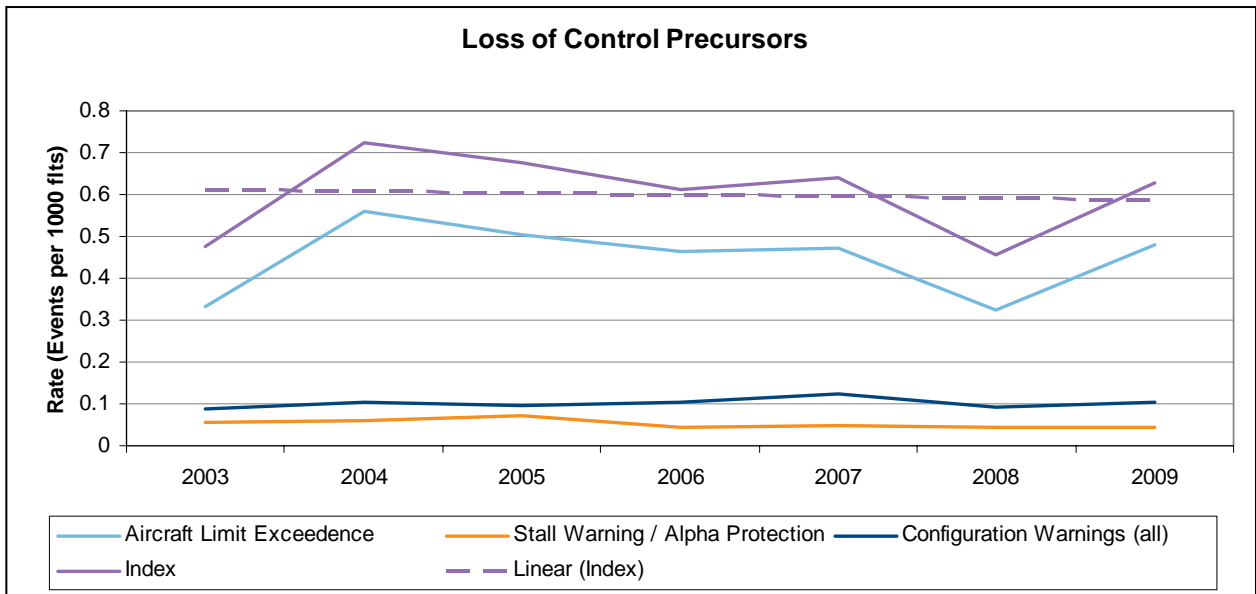


Loss of Control

Data from the 2009 IATA safety report in this category is shown below:



Data from Global Safety Information Center (GSIC) Safety Trending Evaluation Analysis Data Exchange System (STEADES) is shown below:



Members discussed several cases related to Loss of Control and the main issues and recommendations identified were:

Issues:

- ↗ Unexpected stall
- ↗ Inappropriate stall training



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- Rare event – (pitch down)
- Critical items/software certification standards – item may still not be safe

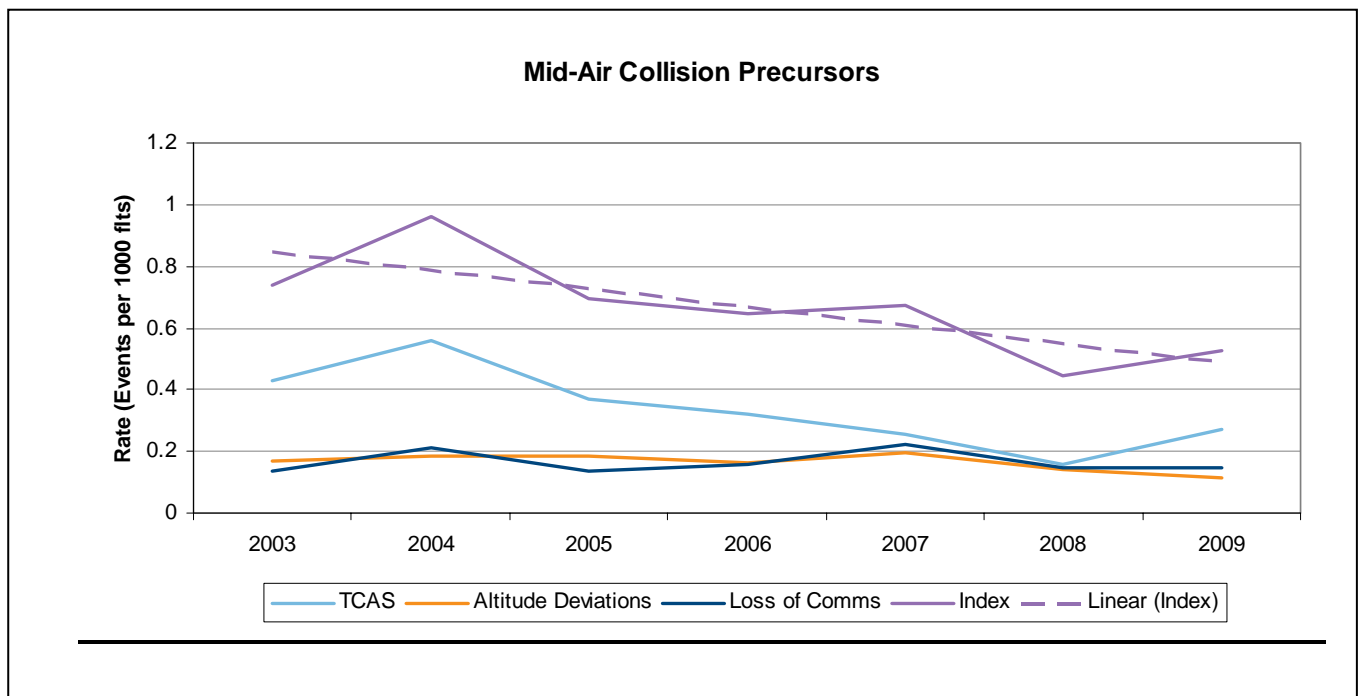
Recommendations:

- Improve training standards /effectiveness of stall training
- Deliver realistic stall training [autopilot, landing config. etc.]
- Support stall recovery handling awareness for pilots, not just stall recognition
- Promote common compliance with a standard stall recovery policy
- Promote effective learning from significant incidents that occur

Mid Air Collision

This accident family must remain closely monitored, and there are serious concerns regarding the effects of increased traffic and non-compliance with TCAS Resolution Advisories. Many serious events occur near airports, with go-around coordination a very serious problem. Airlines were encouraged to present Mid-Air Collision related events or concerns at IRM sessions

Data from GSIC-STEADES is shown below:



From the occurrences presented under this category, the issues identified are:



Issues:

- ↗ ATC coordination or lack of coordination between APP and TWR during Go Arouns
- ↗ Visual vs. IMC Go Arouns
- ↗ Automatic change of ATC frequencies
- ↗ ATC coordination between sectors
- ↗ Lack of published Visual go-around procedures, and confusion regarding the use of an IFR procedure during a VFR go-around
- ↗ Intentional selection of TCAS to TA on approach and TCAS selected off issues

Recommendations:

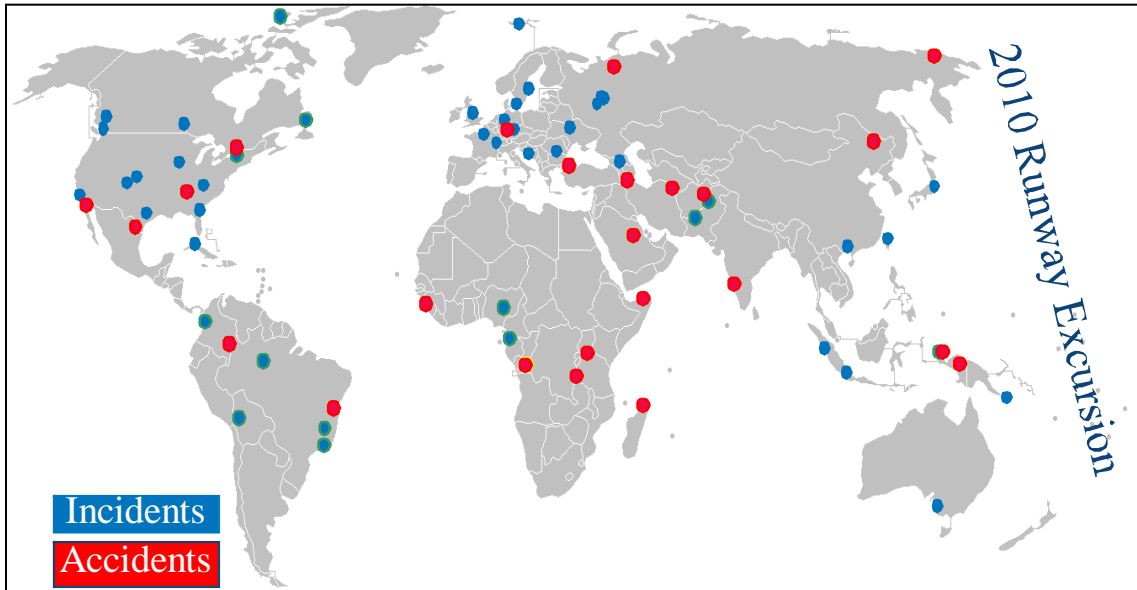
- ↗ Review automatic TWR to DEP frequency change
- ↗ ATC coordination between sectors for aircraft with altimeter problems
- ↗ Rules for altimeter standards within airspace where large jets operate
- ↗ Improve ATC coordination between TWR and APP

Runway Collision

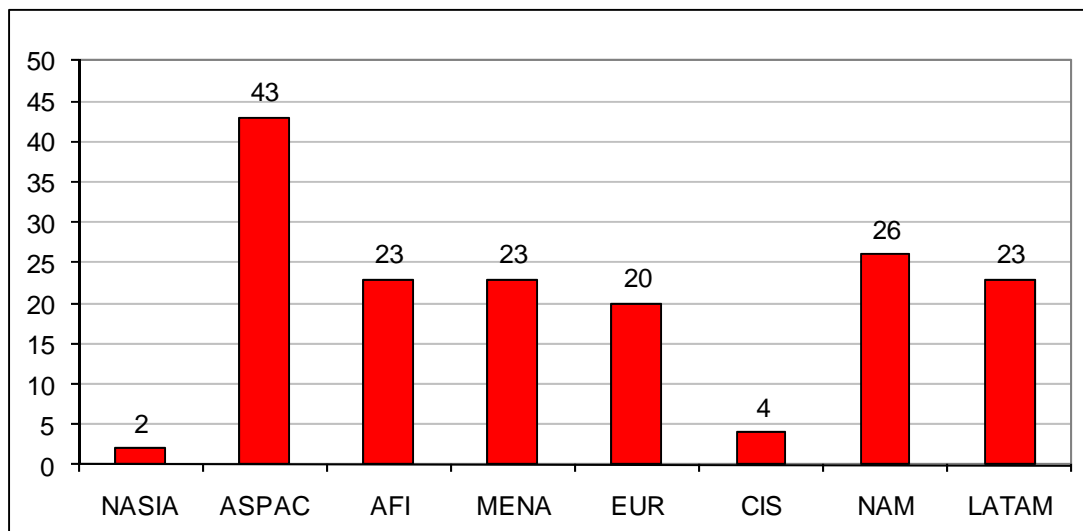
There were no presentations under this accident category. However this accident family must remain closely monitored. Airlines are encouraged to present Runway Collision related events or concerns at the next IRM sessions.

Runway Excursion

GSIC data on runway excursions is shown below (thru Sep 30, 2010):



Regional runway excursion accidents, by IATA regions, is shown below (2004-2009):





From the occurrences presented under this category, the issues identified are:

Issues:

- ↗ SOP Compliance
- ↗ Crew mental models differ
- ↗ Perceived fuel situation
- ↗ Runway surface – grooved surface etc.
- ↗ Crew locked into landing commitment
- ↗ De-stabilized approach below 500 ft and the lack of a timely go-around decision
- ↗ ATC awareness of take-off risk on short runways for large aircraft

Recommendations:

- ↗ Review compliance with SOPs and importance of doing so
- ↗ Improve training on risk of low fuel perception vs. safe landing
- ↗ Review of most beneficial runway surface condition
- ↗ Technology to support crew Situation Awareness at high workload
- ↗ Briefing threats

Tailstrike

Members discussed events that raise Safety concerns and Lessons Learned from this accident family:

Issues:

- ↗ Tailwind landing
- ↗ G/A after tailwind landing
- ↗ Recency and skill

Recommendations:

- ↗ Awareness that Go Arouns are a mitigation, but are not without risk, so must be trained
- ↗ Effective training in regards to crew control changeover.

Performance Data

Members discussed incidents involving wrong FMS inputs and other types of data entry errors (e.g., ACARS, EFB, etc). In some instances, this type of event resulted in a tail-strike:

Issues:

- ↗ FMS / data entry error
- ↗ Incorrect intersection take-off
- ↗ Chart errors and airfield infrastructure



Recommendations:

- ↗ Level of protection needs to be improved
- ↗ Independent (external) cross check separate from pilots – numbers on flight plan printed for gross error
- ↗ ATC needs to comment to flight crews when they note apparent errors (such as large aircraft using short runways)

Undershoot

There were no presentations under this accident category. However this accident family must remain closely monitored, especially in light of few accidents already in 2010, and a number of off-airport landings were reported. Airlines are encouraged to present such related events or concerns at the next IRM sessions.

General

Recommendations:

- ↗ Encourage ATC to use standards phraseology and avoid ambiguous language
- ↗ Function of extra crew in the flight deck
- ↗ Review infrastructure safety at some African airfields
- ↗ Centralised data sharing to avoid use of multi systems.
- ↗ NOTAMs – effectiveness and process, conflict of information. Estimated end period not being dealt with in the appropriate manner.
- ↗ Encourage Authorities to stick to ICAO recommended practices in the issuance of NOTAMs, especially the validity, expiration and timely cancellation.

Venue of next IRM/10

- ↗ Next Incident Review Meeting on 12-13 April 2011 in Miami



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Dear Colleagues:

I would like to thank every IRM participant for their support of this incident review meeting in Hong Kong, especially considering the difficult economic environment. Also, I would like to extend my thanks to those who provided presentations to the IRM, and especially to Rick Howell and his staff at Cathay Pacific for hosting this excellent meeting. The Asian perspective was extremely interesting and valuable, and we will ensure that the lessons learned from this meeting are brought forward at many industry safety venues, starting with the IATA Safety Group.

The IRM agenda is organized in a manner parallel to the IATA Accident Classification Task Force (ACTF) accident classification methodology. The ACTF provides data for the IATA annual safety report. The IRM presentations and discussions contribute in a significant manner to the actions taken by the IATA Safety Group and the IATA Safety Department.

At this IRM, we started presenting new indexes from the Global Safety Information Center (GSIC) Safety Trending Evaluation Analysis Data Exchange System (STEADES), which now has over 115 airlines contributing operational safety reports, and more than 20 airlines contributing cabin safety reports, along with data from the IATA annual accident report. IATA member carriers can also join the GSIC at <http://gsic.iata.org> -- we currently have just over 100 IATA members in GSIC, with a constantly improving website.

I was particularly pleased that representatives from major aircraft manufacturers, the SkyTeam, Oneworld, and Star airline alliance safety committees, the UK Flight Safety Committee, ALTA safety committee, Gulf Safety Committee, and the AAPA safety office, were able to participate with representatives from more than two dozen airlines.

I look forward to seeing all of you again at IRM-10 in Geneva, Switzerland on April 11-2, 2011, and sincerely appreciate your support for safety. We will be sending out a notice shortly regarding that date and venue.

Chris Glaeser, IATA
Director, Global Safety



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Participant List

Representative	Organization
Yury Mochalin	Aeroflot
Alvin Liaw	AAPA
Zhu He	Air China
Bertrand de Courville*	Air France
Georges Merkovic	Air France
Alan Bradbury	Air New Zealand
Harry Nelson	Airbus Central Entity
Gianluigi Guanzioli	Alitalia
Masahiko Kimura	All Nippon Airways
Mark Draper	American Airlines
Un-Sook Lily Lee	Asian Airlines
Dieter Reisinger	Austrian Airlines
Tom Lange	Boeing
Wiley Moore	Boeing
Rod Young* Chairman IATA IRM	British Airways
Tobias Klitsch	British Airways
Mattias Pak* Vice-Chair IATA SG	Cargolux
Thomas Auer	Cargolux
Richard Howell* Chairman IATA SG	Cathay Pacific
Peter Hunt	Cathay Pacific
Jun Wei Tsay	China Airlines
Lisa Brockenbrough	Delta Airlines
Shannon Masters	Delta Airlines
Basem Gohar	Egyptair
Tim Jenkins*	Emirates
Dragica Stankovic	EuroControl
Colin Lampard	Fedex
Yasuo Ishihara	Honeywell
Chris Glaeser	IATA
Hanada Said	IATA
Hideaki Miyachi	Japan Airlines
Ruud Wittebol	KLM
Won-Kwan (David) Lee	Korean Air
Jaime Silva*	LAN Airlines
Tomasz Wiecek	LOT Polish Airlines
Kazimierz Szostak	LOT Polish Airlines



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Werner Maas*	Lufthansa
Dato' Shamsuddin Khalid	Malaysia Airlines
Idris Othman	Malaysia Airlines
Lee Kok Chen	Malaysia Airlines
Masashi Kitada	Nippon Cargo
Stephen Guetta	Pilots Association -STAR
Susan DÁth-Weston	Qantas Airways
Ashish Jain	Qatar Airways Group
Morten Ydalus	SAS
Coen Van den Berg*	South African Airways
Mohammed Aldeeb	Saudi Arabian Airlines
Thamer Alkhuwaitir	Saudi Arabian Airlines
Peter Wong	Singapore Airlines
Pete Egler	Swiss International Air Lines Ltd.
Daniel Ramalho Guillaumon	TAM
Joao Romao	TAP Air Portugal
Jate Muangkroot	THAI Airways International Public Company Limited
Bhudhibhuntu Teinwan	THAI Airways International Public Company Limited
Pachon Thanasumitr	THAI Airways International Public Company Limited
Mustafa Afacan	Turkish Airlines
Rich Jones	UK Flight Safety Committee
* Member IATA Safety Group (SG)	