INTERNATIONAL AIR TRANSPORT ASSOCIATION

Incident Review Meeting (IRM)

Report of 8th Meeting

Montreal May 4th and 5th, 2010

IRM-08 Report
May 4-5, 2010
Montreal

IRM Chairman's Introduction

It was with great pleasure to have chaired the meeting in Montreal, hosted by IATA, 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 a 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 airline 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.

Best regards;

Rod Young, British Airways
IRM Chairman

Outcome of IRM/08 Session

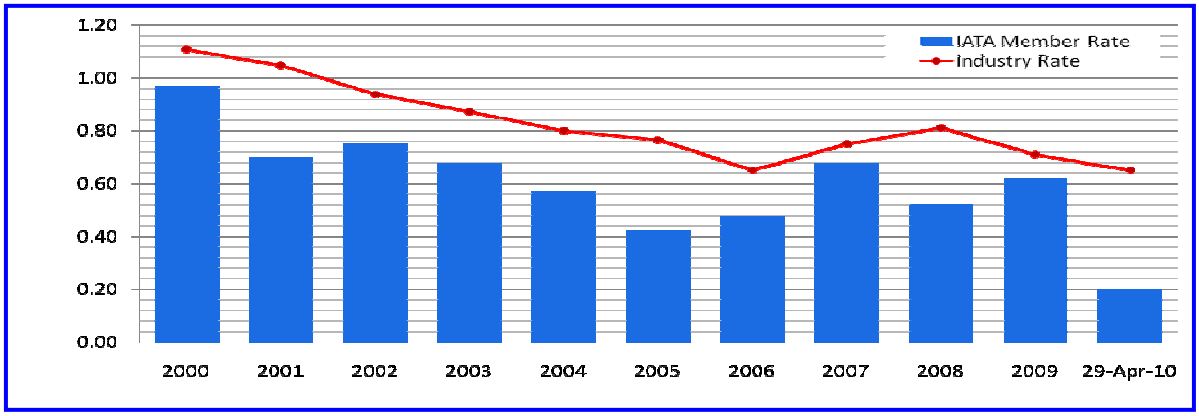
The IATA Incident Review Meeting IRM) is held twice a year, with venues rotating between Geneva, Montreal and Singapore. IRM/08 was held in Montreal at the IATA Headquarters on 4-5 May 2010 and was very well attended by airlines, manufacturers and other safety organizations from across the globe. 76 participants from 54 airlines and organizations attended the meeting.

It has been proven in the past that discussing 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 knowledge for individual airlines to take home and focus on, thereby allowing us all to continually improve our own processes and procedures, where required. The IRM is also 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.

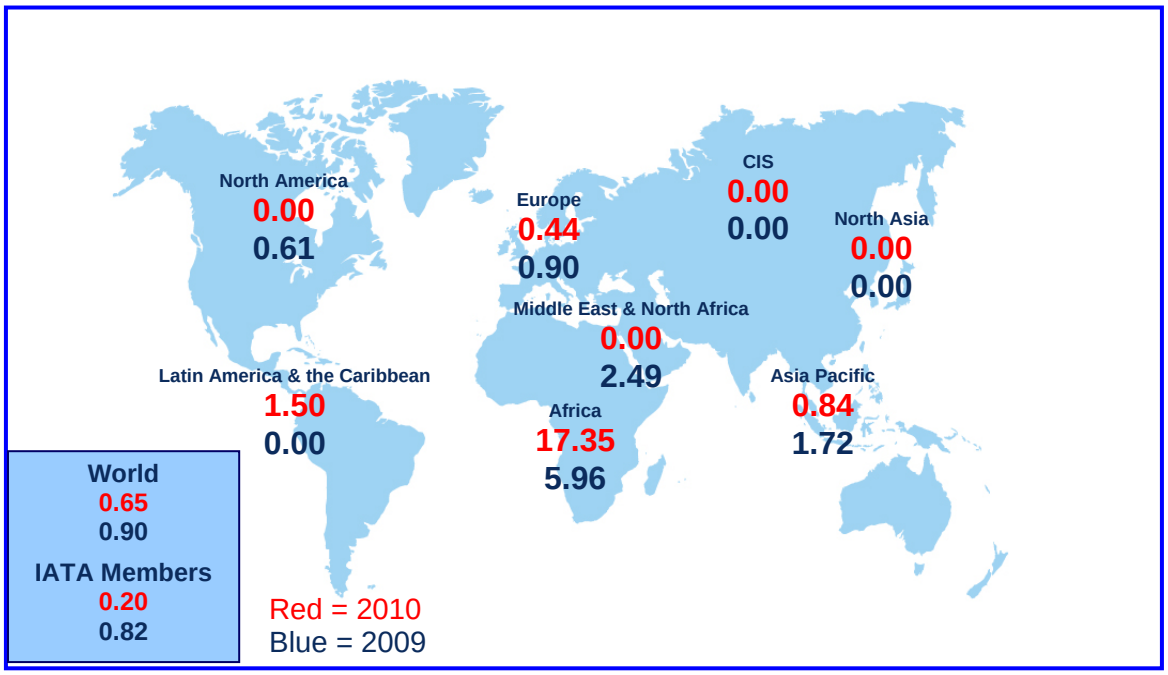
During IRM/08 meetings, member airlines and major aircraft manufacturers discuss occurrences with the potential risk of causing an accident, and all recommendations made at the IRM are fed back to the IATA Safety Group (SG) to base their work on and build a safety strategy. IRM participants agree to ensure that all discussions regarding incidents remain de-identified.

The IRM session started with a briefing on 2009 accident data, as provided by the IATA Accident Classification Task Force (ACTF), and on 2010 performance thru the end of April.

Western-built Jet Hull Loss Rates (2000 – YTD 2010)



Western-built Jet Aircraft Hull Loss Rate per Operator Region (as of 30 April 2010)



It was noted that 27% of the accidents in 2009 were runway excursions, with other landing related accidents (hard landings and landing gear collapses) resulting in nearly 50% of all accidents occurring during landing.

Note that the preceding graphics only include western built-jet hull loss accidents (6 in 2010 thru Apr 30th), while the table below includes all accidents (including those with repair costs exceeding $1 Million US Dollars).

All Accidents Overview: Year-to-date 2010 (as at 30 April)

	As at 30 Apr 2010	As at 30 Apr 2009
Total Accidents	**32**	**30**
Accidents with IATA Members	**9**	**8**
Western-built Jet Hull Losses	**6**	**8**
Fatal	**5**	**6**
Fatalities	**102**	**98**

Summary

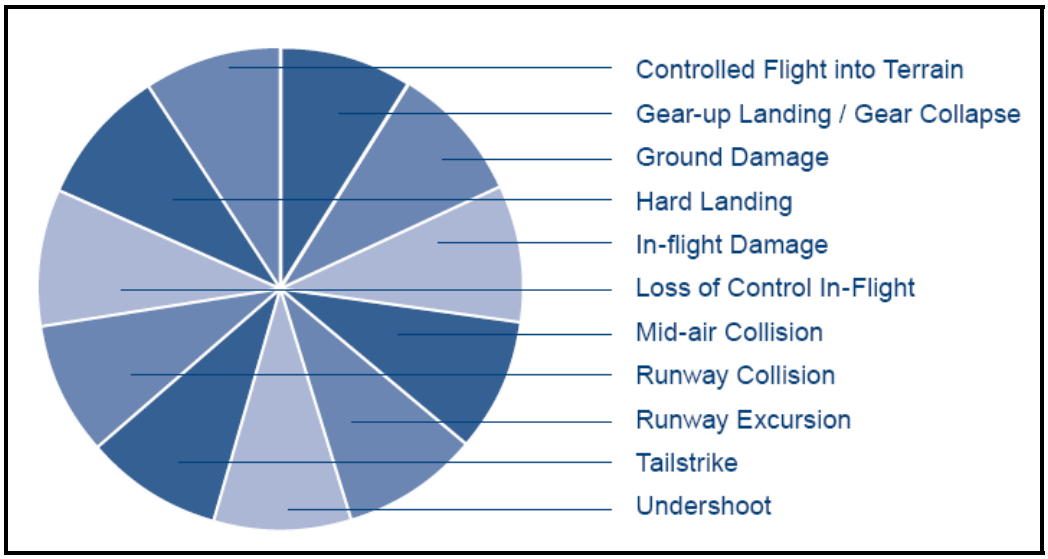
- ↗ Number of accidents is higher for YTD, in comparison to 2009
- ↗ 28% of all accidents so far involved IATA members
  - ↗ versus 27% at the same time last year
- ↗ 19% of all accidents involved Western-built Jet Hull Losses
  - ↗ versus 27% at the same time last year
- ↗ 16% of all accidents were fatal
  - ↗ versus 20% at the same time last year
- ↗ The number of fatalities is higher than last year's at this time

To obtain a copy of the IATA Safety Report 2009 (released in May 2010), please visit: www.iata.org/ps/publications/safety_report.htm.

Main Issues from incident Review Meeting

During the IRM/08 meeting, member airlines discuss 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/08 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.

In support of this approach, STEADES analysis of threats to each accident category will be presented at future IRMs. The on-going revision of the STEADES taxonomy shall take this requirement into account.

Controlled Flight into Terrain (CFIT)

There were no presentations under this accident category. However this accident family must remain closely monitored, especially in light of two CFIT accidents already in 2010. Airlines are encouraged to present CFIT related events or concerns at the next IRM sessions.

Loss of Control

↗ ***Issues:***

- During the IRM, members discussed aircraft upset events linked with:
  - Severe turbulence as a result of un-forecast oceanic weather (twin engine wide body), followed by excessive manual flight control inputs
  - Incorrect handling of aircraft following a simple aircraft over speed
  - Wake turbulence as a result of jet wash during RVSM cruise (twin engine RJ) caused by opposite direction 4-engine wide-body 1000' higher with zero lateral offset. This is a developing category of incidents that has also occurred with the higher aircraft crossing the flight path; characteristically is a very aggressive roll in one direction, followed by a worse roll in the opposite direction
  - ~~o~~ Post maintenance ferry / test flights: one stall during approach
  - Rejected take-off - deice fluids on the elevators Q100/200/300
  - Multiple reports of an inadvertent autopilot engagement on takeoff resulting in high speed abort (2-engine wide body)

↗ ***Recommendations:***

- IATA to involve its Training and Qualification Initiative (ITQI) department to identify means to improve training standards /effectiveness of pilot monitoring skills
- IATA awareness and involvement with global/regulator activity to drive a common solution
- Airlines should train pilots in high level altitude handling awareness. Note: While this can be achieved in a full simulator, the fidelity limitations of such training must be highlighted. In addition, particular emphasis should be placed on correct aircraft VMO over speed handling and the appropriate use of automation
- Airlines should promote crew compliance with operational policies and Standard Operating Procedures
- IATA to work with ICAO to influence ATC policies in RVSM airspace to mitigate the effect of wake turbulence using offset track procedures.
- Airlines should promote effective internal learning from significant incidents that occur to other operators
- Post maintenance / Test flight procedures should be flown by appropriately qualified pilots and in accordance with defined maintenance / test schedules
  Only essential test crew should be on flight deck or on-board aircraft.
  - It was noted that the FSF will be hosting a symposium on Flight Testing in SIN or YVR 26/27 in Jan 2011

Mid Air Collision

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

Runway Excursion

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

↗ ***Issues***

- Engineered Materials Arrestor System (EMAS) is only installed at 48 runway ends world wide, but has already resulted in 6 saves. However, EMAS is not required to be depicted on airport charts
- ATC not intervening when appropriate (noticing flight crew errors without making a radio call). For example, 2 events occurred on the same runway when wide body aircraft took off towards a 6 ft high blast fence (with no departure ATIS announcement)
- Runway construction is a serious hazard, especially when coupled with poor NOTAMS or ATIS notifications
- Poor airfield signage: non-ICAO compliance
- Multiple runway changes and lighting differences: a concern was identified regarding extremely bright LED lights on taxiways being misidentified as white runway lights
- Inaccurate runway conditions or winds passed to crew
- Runway confusion especially following construction
- Braking action measurement procedures

↗ ***Recommendation:***

- 2nd edition of IATA RERR (full) to include ATC best practices to support operators in facilitating stabilized approaches & correcting errors such as approach to wrong runway
- ICAO monitoring of runway condition, physical state /flooded patches etc.
- ATC to improve transmission of vital runway surface information (i.e. slippery, flooded) to pilots
- IATA to evaluate developing an airport audit pool to present airport audit data
- IATA inspections to communicate audit information to members
- Use of Flap 25 (e.g., maximum landing flap settings) and/or reverse thrust for safety reason must not to be driven by environmental restrictions or engineering considerations. Incidents were discussed where pilots failed to use more than idle reverse, even when required, due to developing bad habits. Airlines need to ensure that pilot muscle memory is not degraded in this and other potential areas
- IATA, airlines to establish a closer coordination with ANSPs to ensure comprehension of stabilized approach criteria and the implications of not being stable are totally understood (e.g. late RWY changes, severe track shortening etc)
- IATA is recommending EMAS depiction on Aerodrome Charts

Runway Incursion / Confusion

Members discussed several cases related to runway incursion and confusion:

- There were a number of reports of taxiway landings (14 in 10 years total were identified), and 2 recent taxiway takeoffs
- One landing event involved a maintenance vehicle on a runway during actual Cat II landings
- Another event described a maintenance vehicle performing routine (not required) maintenance on a runway centerline during Cat II visibility was discussed with an aircraft cleared to takeoff

↗ ***Issues***

- Aircrew preconceptions were a significant contributing factor
- Changes in normal taxi routings contributed to two taxiway takeoff events
- New taxiways, and inoperative or non-existing approach guidance were both significant factors;
- Failure to use all available navigation aids was a significant contributing factor
- Inaction or delayed action by ATC (failure to notify crew they were taking off or landing on the wrong runway)
- ATC: last minute runway changes (takeoff or landing) were significant factors
- Inadequate signage for taxiways/runway exit and entrance points were significant factors
- ATC testing lighting on closed runways, and lighting not-illuminated on active runways, were both contributing factors to taxiway landings
- Ineffective taxi/arrival briefings by crew
- Varying light intensity / brightness levels between the newer LED lights and old style lighting.
- Rules applied on sidestep minimum altitude increases the risk; potential best practice in applying a minimum sidestep altitude
- ATC allowing routine runway maintenance during low visibility operations and a lack of monitoring of vehicles on runways during low visibility

↗ ***Recommendation:***

- ATC should provide timely information rather than issue an instruction, so the crew can make the decision (e.g., during takeoffs, issue a warning about a runway incursion instead of an abort command)
- IATA to work with ICAO to Influence best practice for lighting maintenance / servicing and testing etc.
- IATA support for installation of systems such as RAAS / Smart Runway, transponders on airfield vehicles, etc
- Airlines should consider implementing an appropriate minimum altitude for sidesteps
- Improved reporting and distribution of airport signage issues by airport
- Airlines should consider the concept of positive runway identification before any takeoffs and landings

Volcanic Activities

The recent volcanic eruption in Iceland, and its dramatic effect on European flight operations, was discussed in detail. Approximately 29% of all global traffic was affected during the first 5 day shutdown

↗ ***Issues:***

- Four different types of charts were issued for volcanic ash concentrations
- Lack of common global standards for volcanic ash and NO FLY zones
- Lack of adequate science
- Lack of harmonization of national restrictions
- Lack of coherent flight planning information (forecasts, NOTAMs, etc) at Eurocontrol
- Lack of operator input regarding resumption of flight operations

↗ ***Recommendation:***

- The upcoming ICAO International Volcanic Ash Task Force (IVATF) must address these issues in the immediate future

General recommendations

- SG to focus on last few minutes of flight. Of the 90 accidents in 2009, these categories occurred during the final minutes of each flight:
    - Runway excursions-21 (23%)
    - Gear up landing/gear collapse-15 (17%)
    - Hard landing-11 (13%)
    - Undershoot-4 (5%)
    - Controlled flight into terrain-2 (2%)
    - Total: 53 (of 90) or 59%
- Review actions necessary post destabilization on approach
- Awareness that ATC requests can be denied
- ATC challenges at specified airfields (i.e., Madrid [MAD], Manila [MNL], Mumbai [MUM]) were identified as important issues by a majority of participants STEADES provided over 400 reports from 22 operators at MAD to substantiate these issues. Additional STEADES reporting and analysis at these airports was recommended, along with a more aggressive coordination plan
- IATA/ICAO to drive to ensure the issuance of accident investigation reports and updates in a timely manner
- Support efforts to reduce unstable approaches due to ATC issues

Venue of next IRM/08

- Next Incident Review Meeting on 26-27 October in Singapore

I would like to thank every IRM participant for their support for this incident review meeting, including those who were not able to attend this particular meeting in Montreal. My thanks also to those who provided presentations to the IRM; this was probably the best meeting yet as a result of the quality and breadth of these 20 presentations.

The IRM agenda is organized in a manner parallel to the Accident Classification Task Force (ACTF) accident classification methodology, and the IATA annual safety report, and can contribute in a significant manner in making substantiative changes in the actions taken by the IATA Safety Group and the IATA Safety Department. Most of the events presented at this IRM were not accidents and would therefore not be captured by the work of the ACTF. However, these events (such as temporary loss of control in RVSM airspace) can easily lead to an accident, and therefore provide essential insight in reducing accidents globally.

I was particularly pleased that representatives from three major aircraft manufacturers, the SkyTeam, Oneworld, and Star airline alliance safety committees, numerous regional safety organizations, and more than two dozen airlines were able to participate, especially in this fiscally restricted climate.

I look forward to seeing all of you again at IRM-09 in Singapore on Oct 26-27, 2010 and sincerely appreciate your support for safety.

Chris Glaeser, IATA
Director, Global Safety

Participant List

Representative	Organization
Yury Mochalin	Aeroflot
Tom Curran	Aer Lingus
Sergey Shipovskikh	Air Astana
Marcel Comeau	Air Canada
Rod Graham	Air Canada
Stephen Guetta	Air Canada Pilots Association
Zhu He	Air China
Bertrand de Courville*	Air France
Georges Merkovic	Air France
Errol Burtenshaw	Air New Zealand
Mont Smith	Air Transport Association
Frederic Combes	Airbus Central Entity
Gianluigi Guanziroli	Alitalia
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Dieter Reisinger	Austrian Airlines
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Basem Gohar	Egyptair
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Mike Comber	IATA
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Anthony Van Der Veldt	IATA

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Mike Goodfellow	IATA
Anna Hakobyan	IATA
Viktor Robeck	IATA
Raja Kabariti	IATA
Hideki Endo	IATA
John Tree	IATA
Atholl Buchan	IATA
Verica Bogdanovic	IATA
José Ramón Fernández de la Morena	Iberia
Yong Wang	ICAO
Hideaki Miyachi	Japan Airlines
Paul Eckert	Jeppesen
Ruud Wittebol	KLM
Won-Kwan Lee	Korean Air
Jaime Silva*	LAN Airlines
Hector Aravena Magaña	LAN Airlines
Pawel Malawko	LOT Polish Airlines
Kazimierz Szostak	LOT Polish Airlines
Michael Wendt	Lufthansa
Jurgen Steinberg	Lufthansa
Ali Moussa	Middle East Airlines
Benjamin Ortiz	Mexicana
John Gissing*	Qantas Airways
Ashish Jain	Qatar Airways Group
Valeriy G. Kulavskiy*	S7 AIRLINES
Jebriel Elrazem	Royal Jordanian Airlines
Morten Ydalus	SAS
Coen Van den Berg*	South African Airways
Peter Wong	Singapore Airlines
Patrick Martin	Swiss International Air Lines Ltd.
Daniel Ramalho Guillaumon	TAM
Antonio Santos Gomes	TAP Air Portugal
Jate Muangkroot	THAI Airways International Public Company Limited
Selman Nas	Turkish Airlines
Nuri Sakarya	Turkiye Airline Pilot's Association
Kubilay Yilmaz	Turkiye Airline Pilot's Association
Rich Jones	UK Flight Safety Committee

Representative	Organisation
Maurice Montgomery	United Airlines
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