

3. UFU Lessons Learned Number 6



Air France Airbus A340-313 (Flt AF358)

Aug 02, 2005 (16:02hrs) Pearson, Toronto, Ontario

- Crew on board: 12
- Pax on board: 297
- Total fatalities: 0

There was heavy rain, lightning and poor visibility and the aircraft was on an ILS approach. Pilots of the preceding aircraft warned ATC of the poor braking action they experienced on landing. The aircraft touched down at the 1158 m mark on a 2740 m runway. Just under half way along. Unable to stop the Aircraft in the 1582 m remaining it left Runway at about 80 knots 150 kph and ended up in the Overshoot area runway 24L Toronto. Aircraft finally stopped in a ravine at 16:02 and caught fire.

All Passengers and Crew survived. 33 survivors were taken to hospital via ambulance.

Two Crew and 10 Passengers were seriously injured, however all injured passengers and crew were still able to evacuate.

The 2 seriously injured crew members still managed to perform their emergency duties effectively.

The TSB Canada report alleged the Pilot and First Officer's actions and omissions directly caused this accident. Air France contested that it was the ATC (Nav-Canada, and the Greater Toronto Airport Authority's (GTAA) fault.



TSB Canada Findings of Note to ARFFS

- Pearson INTL Airport was designated **Category Nine** for ARFFS.
- ARFFS immediate response from the two Airport Fire Stations consisted of 15 staff (11 minimum crewing), one ICV, one RIV, two Urban Pumps and four 12,000L Airport Fire Tenders.
- 8 Vehicles in total two with HRET capability.
- ARFFS first arriving was on scene one minute after crash alarm.
- Significant **Difficult Terrain Access issues** were encountered.
- Initial agent delivered **was 39,500 litres 63% above regulatory requirements.**

- More water was obtained from hydrants located at the airports bus terminal about a 1km away via **a vehicle shuttle.**
- Eventually a Fire Authority water tanker arrived to keep the ARFF vehicles on scene and operating effectively.
- Heavy Rain diluted the foam blankets (AFFF) **causing it to break down** and be less effective.
- It took approximately 1hr 40 mins after the crash before the Passenger manifest arrived and passenger numbers could be confirmed.
- L2 door opened by itself due to crash forces, the chute then failed to deploy.



- In 1978 a similar accident involving a DC9 occurred in the overshoot area of the Toronto Pearson INTL 24L (old runway).
- This resulted in two fatalities and 47 serious injuries.
- The Coroner examining this 1978 incident recommended immediate action to extend the RESA area and place a 300m causeway over the ravine. (It was rejected by the Greater Toronto Airport Authority GTAA due to cost)



Nearly three years after the 2005 A 340 crash, Air France attempted to sue the Greater Toronto Airports Authority (GTAA), which runs Pearson, as well as the Canadian government and Nav-Canada. Nav-Canada is the privatised agency in charge of air-traffic control in Canada. Air France is suing for \$180 million, claiming the runway the plane slid off lacks proper safety margins and did not meet international standards. Specifically, negligence that the GTAA did not enact the recommendations of the Coroner from the 1978 crash, there was no 300m run off area, there were no grooves in the runway to aid water runoff and traction and there were no arrestor beds to prevent an aircraft sliding into the ravine.

The Nav-Canada and GTAA defence is that they might not comply with ICAO but they comply with the Canadian Regulation. **Sound familiar?** Regulations that a cynic might suggest the GTAA helped formulate to reduce their costs rather than to increase safety.

A \$12 million plus Class action law suit on behalf of 184 passengers was settled which included \$10 mil from Air France, \$2 mil from the Airport and \$1.65 mil from Airbus and Goodrich the slide manufacturer. Nav-Canada and Air France also jointly contributed another \$7.1 mil in 2010. In 2011 the Class actions counsel for the class action claimants were also awarded costs of over \$6.2 mil. That's a lot of millions that could have bought a decent size arrestor bed or possibly grooved the runway in the first place.

So what do UFU Members learn from this:

1/ People with safety accountabilities should never be pressured into making decisions that are based purely on costs and not safety consequences. Why did these pilots choose to land when many others had already diverted to safer airports? Why did ATC keep this airport open when the weather was so bad? Why did the airport authority reject the Runway End Safety Area advice and knowingly choose to ignore ICAO recommendations regarding runway safety? Why does Airservices, CASA and DIRD promote and apply the same flawed logic of ignoring ICAO SARPS here in Australia?

2/ Are you relying on Shuttling Trucks to get water to the scene? Have you really considered in detail the practical and time implications of this strategy? Don't be fooled by the old don't get down in the weeds argument. You need to get down in the weeds and you need to take a magnifying glass with you when you are preparing for PPRR. (Prevention, Planning, Response, Recovery)

3/ Primarily Adelaide is our only real Cat 9 airport, 3 trucks on line and a crew of 2 + 8. Our stations at Cat 8 that use remission Coolangatta, Darwin and Cairns have the same vehicles but only 2+6 staff, to protect category 9 aircraft.

- So do you go to the closest hydrants?
- Do you know how much water you can get out of them? Have you checked lately?
- Do you go to the designated hydrants?
- How far are these hydrants from the runway ends?
- How long will it take for the Mk 8 to get there?
- How long to fill up? How long for the Mk 8 to get back?
- Do you follow the ARFFS driving SOP and have two staff return?
- How do you conduct rescue and control the critical area with only 4 firefighters left on a Cat 9 fireground?

4/ So Category 9 and 8 here with Mk8's have 26,700 litres on-board, as well as that we also have the known performance issues of F3 foams. This incident used nearly 40,000 litres just in the initial attack before crews starting to shuttle vehicles for water. The question that should be asked by any safety focussed operations authority is **do we have enough agent on board to actually do the job?** Is that assessment based on research of real aircraft incidents or is it just the minimum agent ARFFS can get away with and not be charged as negligent?

5/ What happens when decisions are not being made with real operational knowledge and depth of understanding is the Canadian situation and defence of 'but we met the minimum regulations required in this country'.

6/ Have you really conducted a proper assessment of all the difficult terrain access on your airports or only the wedge? Wherever it crashes on the airport you will still be expected to attend and operate effectively.

7/ Flight attendants and crew are on-board the aircraft when it crashes. Is it wise to think they will always be fully capable of supporting the evacuation and mustering the survivors to a safe area? In this case 2 were seriously injured.

<http://www.cbsnews.com/pictures/air-france-flight-358-crash/>

<http://www.cbc.ca/news/canada/toronto/air-france-settles-flight-358-class-action-suit-1.854222>

<http://www.citynews.ca/2008/06/04/air-france-sues-gtaa-ottawa-over-2005-crash-at-pearson/>

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<http://www.cfmlawyers.ca/wp-content/uploads/2012/05/Air-France-Nav-Canada-Statement-of-Defence.pdf>

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