



Awakenings

The Newsletter of the International Aviation Safety Association

Global Aviation
Safety—Our Wings
Encompass All

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Seven

Seven is a *special* number. It is culturally significant, for example the Seven Wonders of the World and it is the number denoting completeness and perfection in the Bible.

For IASA, the number Seven attained special significance on September 2nd 2005. It marked the Seventh anniversary of the crash of Swissair Flight 111. IASA would not have existed were it not for the fact that Raymond M Romano was one of the two hundred and twenty-nine people whose lives were brought to an abrupt and violent end that night. Raymond's wife, Lyn, formed the International Aviation Safety Association (IASA) to address not only the death of her forty-four year-old husband but the safety issues that were highlighted as a result of it.

In light of this Seventh Anniversary, IASA has taken the opportunity to see *where* those issues are Seven years later. Have promises been kept? Has real and measurable progress been made? Are the issues that brought down Swissair 111 a thing of the past?

We dedicate this special edition of our newsletter to the two hundred and twenty-nine people that perished aboard Swissair 111. Since the crash the world is a very different place, as is aviation safety. In these post 911 times, unprecedented resources are poured into aviation security. Whether the focus is safety or security, the two have a common goal—the preservation of human life. Swissair 111 is an example of what can go wrong as indeed are the 911 terrorist atrocities. We would be failing

those who lives were cut short if we did not do everything possible to ensure that the issues that robbed them of their lives were dealt with in as final a manner as they were.



IASA Chairman Lyn S Romano at work

This is IASA's ethos, a humanitarian standard that transcends politics and all other vested interests.

Until aviation safety regulators subscribes to this ethos, you can rest assured that we will be there to remind them of its existence.

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In Brief:

September 8th: A design featuring a chapel and wind chimes has been chosen to mark the memory of the 40 passengers and crew who foiled a fourth attack on 9/11.

September 27th: A former head of the French Concorde program has been placed under formal investigation over the Concorde crash of July 2000 in which 113 people died.

Transport Canada Remains on the Transportation Safety Board's "Unsatisfactory" List

For those unaware, Transport Canada is to Canada, what the Federal Aviation Administration is to the United States. They are responsible for implementing (or not implementing) safety recommendations issued by their investigators, the Canadian Transportation Safety Board. That being said I would like to quote the

opening line from an article I recently read, written by Larry Pynn and appearing in The Vancouver Sun (a Canadian based newspaper) on 27 September 2005:

"Transport Canada is resisting demands for the wholesale inspection of planes for the same problem that resulted in the deaths of 229 people in a Swissair crash off

Peggy's Cove, N.S., seven years ago".

Needless to say, the opening line of this article begged me to read on.

The inspection in question refers not to MPET insulation blankets (the type which contributed to propagating

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Transport Canada Remains on the Transportation Safety Board's "Unsatisfactory" List



"How many innocent human beings need to be killed before regulators begin to place greater emphasis on proactive approaches to aviation safety?"

the fire aboard Swissair Flight 111) but to various other types of insulation blankets in use on Canadian aircraft. Simply put, the TSB requested TC to provide information, via inspections; on what other types of insulation blankets installed on Canadian aircraft have failed the Radiant Panel Test (RPT), which is the flammability standard since adopted by the FAA. According to the article (Agencies Squabble Over Air Safety) TC has not provided the information and it does not appear they intend to; thus, the "unsatisfactory" rating.

Although TC agrees a repeat of Swissair Flight 111 is a distinct possibility, and the matter should not be taken lightly, they (apparently) are willing to take the risk - at least it appears that way with the uttering of this statement "it's not a common problem". To make matters even worse? It became painfully obvious, when reading further, that once again the primary focus

seems to be on the financial burden of removing and replacing insulation blankets not meeting the standards as set forth in the RPT.

I have asked a burning question since shortly after the crash of Swissair Flight 111, and have yet to receive an appropriate response. How many innocent human beings need to be killed before regulators begin to place greater emphasis on proactive approaches to aviation safety, rather than the financial, cost effective and reactive positions they have been inclined to take for so many years? The dangers of MPET insulation blankets were well known (and documented) for years. It took until June 2005 to have the Federal Aviation Administration's mandated removal accomplished. Sadly 229 lives were sacrificed before getting their attention.

Transport Canada continues to feel justified in not carrying out inspections to ascertain whether or not other

types of insulation blankets in use on their aircraft are safe, because "it's not a common problem". They argue that materials that failed the RPT are not necessarily unsafe. "Funny" ... that sounds eerily similar to what the FAA's mindset was in regard to MPET insulation blankets, years ago, when they relied on the vertical flame test - which has since been proven inadequate.

I suppose I'm left with a few other questions after having read this article: Is it not better to be safe than sorry? Is Transport Canada not responsible for the safety of the flying public in their country? Is another Swissair 111 just waiting to happen??

Lyn S. Romano
 Chairman
 IASA (International Aviation Safety Association)
 Wife of Raymond M. Romano
 Passenger on Swissair Flight 111
 Seat 9F

A Skeptic Under Pressure

On September 27th 2005 the LA Times highlighted the plight of Joseph Mangan in an article by Peter Pae.

Mangan, former chief engineer for TTech Computertechnik, a Viennese company that supplies the computer chips and software to control the cabin-pressurization system for the A380, which is being assembled at the Airbus plant in France.

Mangan alleges that flaws in a microprocessor could cause the valves that maintain cabin pressure on the A380 to accidentally open during flight, allowing air to leak out so rapidly that everyone aboard could lose consciousness within seconds.

Mangan has been the subject of a 'gagging order' and faces a criminal investigation conducted by Austrian Police. He faces a fine of

\$185,000.00 and up to a year in jail if convicted.

Mangan believes that the European aerospace establishment is whitewashing his claims because of enormous cost savings that will be realized if TTech's chips are approved for the A380.

We shall be keeping a close eye on the outcome of this matter, considering its wider implications.



Giving is Better

By Lisa Novick, Chairman's Executive Assistant

Our unofficial umbrella organization, Heavenly Brickks, deals specifically with charitable and humanitarian issues.

For the past four years we have been associated with the Richmond Children's Center. They provide programs, housing & services for mentally and physically challenged children. It is a true joy bringing hats, scarves and gloves to help keep these children warm in winter months. We also enjoy bringing bags of toys for them at Christmas, and throughout the year supporting whatever events come up. Our support is not merely financial, as I have donated time to assist with mailings as well as taking part in their summer fair.

Another charity we are glad

to give our support to is the Turkey Club Society which helps provide Thanksgiving and Christmas dinners for struggling families in Nova Scotia, Canada. We came to learn about them through their affiliation with the Community Care Network Society, located in Halifax, Canada. The CCNS helps provide food, furniture and clothing (to name only a few things) to those less fortunate. We are proud to support such deserving organizations.

This past year the world has seen horrific natural disasters. We were able to make sizeable donations to both the victims of the Tsunami and hurricane Katrina. We have also given generously to The Families of 9/11.

Support Connection is a wonderful organization which provides support services for women affected by ovarian and breast cancer. We are happy to sponsor their annual Support-A-Walk for the past six years.

A Scholarship Fund was set up in memory of Raymond M Romano at Pace University where Ray had attended. The Scholarship fund helps students in need of financial assistance to realize their personal dreams and career goals.

There are many other charities/organizations that IASA is proud to donate to. We hope to be able to continue supporting all of these deserving charities as well as others we become aware of.



"Our unofficial umbrella organization, Heavenly Brickks, deals specifically with charitable and humanitarian issues."

Alaska Airlines Back in the News

Alaska Airlines is back in the news, only six years after the deadly crash of Flight 261 that killed all 88 people aboard. Mechanics found a jackscrew that had not been lubricated during an inspection of one of its MD-80 aircraft.

The inspection was ordered last week, after The Seattle Times reported that the Federal Aviation Administration was investigating complaints by three mechanics who reported finding an ungreased jackscrew on an

MD-83 on Jan. 10.

The news is ominously familiar considering the circumstances that resulted in the crash of Flight 261.

A report by the National Transportation Safety Board attributed the crash to insufficient lubrication of the jackscrew that moves the horizontal stabilizer up and down, causing it to seize. When the pilots tried to free it, it failed, causing the stabilizer to deflect beyond

its design limit, subjecting it to excessive aerodynamic loads. Ten minutes later, the mechanism that was holding the stabilizer in place failed, causing the leading edge of the stabilizer to deflect even further up, causing the airplane to pitch down to an extent from which recovery was impossible. It is expected that Alaska Airlines will finish inspecting their fleet within the course of the next week.



Alaska Airlines is once again under the microscope.



IASA soon realized that financial interests were stronger than political ones.

"IASA did what the TSB couldn't - transcend the political and other vested interests, knowing that if it were left to those in charge, little or nothing would be done."



Swissair Flight 111: Lessons Not Learned

By Adam Smyth, IASA Europe

It is seven years since the September 2nd 1998 crash of Swissair 111, a crash that resulted in the deaths of 229 people and the demise of a national airline.

In the intervening period, IASA has been at the forefront of the movement to address the issues the Transportation Safety Board of Canada (TSB) uncovered during their four and a half year investigation.

IASA did what the TSB couldn't - transcend the political and other vested interests, knowing that if it were left to those in charge, little or nothing would be done.

As IASA Chairman Lyn Romano would say, the *burning issue* remains the one that caught her attention within days of the crash; Wiring. The problems associated with aromatic polyimide wiring are well documented and yet seven years later after the crash that was supposed to herald a proactive approach, as an organization we are still left with a bitter taste in our mouths. What has actually been done?

On September 2nd 2005,

IASA published a twelve and a half thousand word retrospective, suitably titled "From the Ashes of Horror". The retrospective not only chronicled our work as an organization since our formation in early 1999, but also provided us with an opportunity to document what has and what *has not* been done.

Whilst our retrospective, explored all the issues that the crash raised, the issue of aircraft wiring is typical of the official response to date.

The FAA started in the way they have continued; a piecemeal approach to the problems associated with aromatic polyimide.

In 2004 alone the FAA issued five dockets that all relate to wiring and yet there is no sign of a comprehensive all-encompassing program to eradicate the problem.

October 27th 2004- FAA issued Docket No. 2003-NM-69-AD requiring 'an inspection to detect arcing damage of the surrounding structure of the terminal strips and

electrical cables in the avionics compartment, and repairing or replacing any damaged component with a new component.'

Effective December 14th 2004 - FAA issued Docket No. 2001-NM-54-AD stating the 'actions specified by this AD are intended to prevent moisture from entering through the rear of the connector of the ODUs located in the overhead baggage stowage racks, which could result in a short, damage to the connector pins, and consequent smoke and/or fire in the cabin'.

Effective December 14th 2004 - FAA issued Docket No. FAA-2004-18572 'prompted by arcing between a power feeder cable and terminal board support bracket. We are issuing this AD to prevent arcing damage to the power feeder cables, terminal boards, and adjacent structure, which could result in smoke and/or fire in the cabin.'

Effective December 14th 2004 - FAA issued Docket No. 2000-NM-32-AD 'intended to prevent electrical shorting of

the brake coils of the ATS, which could result in smoke in the cockpit and/or passenger cabin'

Effective December 14th 2004 - FAA issued Docket No. FAA-2004-18573 'prompted by an incident in which arcing occurred between the power feeder cables and support bracket of the terminal strips. We are issuing this AD to prevent arcing damage to the terminal strips and damage to the adjacent structure, which could result in smoke and/or fire in the mid-cabin compartment'.

To put the MD-11 into

context, to our knowledge the MD-11 is the subject of more ADs than any other transport category aircraft in respect of electrical wiring problems and electrically stoked smoke and fire threats.

After completing our retrospective we realized that we still had much work to do and as far as the regulators were concerned, little or nothing had changed in their approach to aviation safety.

We hope to be around when their modus operandi changed.

Some Facts

The TSB issued four Aviation Safety Advisories, an Aviation Safety Information Letter and twenty-three Safety Recommendations.

According to the TSB this investigation was "...the largest, most complex aviation safety investigation the TSB has ever undertaken".

The TSB investigation cost in excess of \$40m



All concerned have been given ample time to implement the TSB's recommendations. Until they do, IASA will continue to force their hand. It is the *right* thing to do.

Our Work Continues...

Extract of recent correspondence to the NTSB's Administrator, Marion Blakey

'We write with reference to a meeting that took place on August 30th 2005 between, amongst others, the National Air Transportation Association (NATA) and several members from the aircraft certification and flight standards services, including Ali Bahrami, Ed Ortiz and Jeff Gardlin. We tender this letter as a formal objection to the granting of a 180-day extension in respect of compliance with regulations regarding aircraft insulation effective September 2nd 2005.

We note that the meeting was held as a result of a correspondence from, amongst others, NATA to you that called for an immediate 180-day extension to the above regulations regarding aircraft insulation. We also note that the objections do not relate to the replacement of insulation blanket material in the air-frame, but to the replacement of such materials in other components as set out in guidance material issued by the FAA.'



Whilst IASA is often a lone voice, this does not deter us from seeking aviation safety improvements.

Trends in Airline Safety since 9/11

By John Sampson, IASA Australasia



'Once the industry is firmly ensconced in "cry poor" mode and making ever increasing losses, there are ready excuses for doing things that support their bottom lines and not doing other things ...'



The 9/11 terrorist atrocities signalled a new era in aviation safety

Before 911 and after the Valujet and TWA800 crashes, the major pre-occupation was with whether or not deregulation had changed the safety paradigm. Deregulation was by that time (1998) twenty years old and all the permitted changes had re-configured the framework of the airline industry. Other countries were closely observing the US model and tentatively making changes of their own.

In the 27 years before US airline deregulation, no airline went bankrupt. That soon changed (see later). But right now the industry is in a state of perpetual flux. Profits are only a memory, loan default is rife and Chapter 11 quasi ersatz bankruptcy has become a means of airlines shedding debt, pension responsibilities and expensive senior staff; courts are helping to extract worker concessions and the airline chiefs are using their unprofitable operations to justify the outsourcing of major maintenance. This Chapter 11 ploy has now become so blatant that European airlines are complaining to the World Trade Organization that US airlines have deviously gained an unfair advantage by way of artificial subsidy. But whether it's Chapter 11 insulation or merger activity, it is now evident that since 911 the whole airline financial operating spectrum has changed fundamentally - despite the largesse of Fed-

eral bail-outs to compensate for 911 itself. Supposedly it's all still about competition being good for the consumer. OK, there's a shake-out going on - but what is all this to do with safety? Well, in short, everything. Call it a knock-on effect. When you're flat on the canvas and the referee is counting you out, the last thing you worry about is a little spilt blood. Welcome to a crash-course in fiscal realities.

Once the industry is firmly ensconced in "cry poor" mode and making ever increasing losses, there are ready excuses for doing things that support their bottom lines and not doing other things (that may be inflicted upon them by the regulator or DoT) that would adversely affect that bottom line. Enough of generalities, let's go probe some specifics (as the proctologist said, picking up his tool of the trade). Firstly, let's look at:

Some impositions in place.

- a. giving up a couple of seats to Sky Marshals (weight penalty and ticket fares foregone)
- b. extra cost, complexity and weight of cockpit door reinforcement and coded locking
- c. check-in time and personalized stress and duress for both passengers and freight-forwarders
- d. arming volunteer pilots as Federal agents (and safely

stowing their guns and ammo in lockboxes)

e. locked cockpits and no company or ATC jump-seat riders - a loss of camaraderie and simpatico, not to mention of front/rear crew CRM (Crew Resource Management) interaction.

f. passenger disaffection - via enroute diversion and ejection if their name happens to be (falsely or otherwise) on a No-Fly List (ask Senator Ted Kennedy and singer Cat Stevens about that)

g. DRVSM (Domestic Reduced Vertical Separation Minima. Qualifying costs were a factor but it's a measure theorized to have long-term advantages of freeing up airspace by cramming the upper flight levels closer together).

h. For European airlines operating anywhere, the EU has mandated passenger compensation for delay and other factors within an airline's control. This expensive measure has already been seen as promoting some "press-on-it-is" (a 747 plowing across the US and North Atlantic with a failed engine, and diverting at the last minute for fuel shortage, is cited as the first such event). The 2nd event occurred in the same airplane doing the same thing the very next week from Singapore to the UK.

h. Enhanced Ground Proximity Warning System (EGPWS) - for those who, unlike the late Pope, are

inclined to kiss Mother Earth inappropriately.

i. Traffic Collision Avoidance System (TCAS) - for those crews who like last minute urgent discussions about whether to "follow the damn machine's call" or comply with the ATCO's frantic bidding.

Some impositions in prospect:

a. MANPADS surface to air missile detection and counter-measures (a favored anti-terror strategy of the US Congress)

b. Carbon credits (enforced purchase of) to make up for the large contribution airlines make globally to Global Warming

c. An ongoing high fuel-cost environment (airlines can abide this in the short term but hedging strategies don't work if the fuel price-hike remains a permanent feature distorting their bottom lines)

d. Signaling mediums (probably wireless devices) for rear-end cabin crew to convey any crisis to the now wholly detached, dissociated and isolated cockpit.

e. CCTV for pilots to be able to view what's going on - on the other side of their closet door

f. Temporary aisle obstructions (secondary security barriers -similar to a cargo-net) to protect pilots coming aft to answer the call of nature from a charging air-rager (or worse).

g. New style cockpit voice recorders and flight data recorders (a very belated

part answer to the many frustrating failures and deficiencies experienced by investigators delving into both devices' data after accidents).

h. Itemized cost recovery (for FAA services rendered)

Some impositions already discarded/delayed/ discredited or voted out:

a. SDR Rule upgrade (special defect reporting, for trend analysis, any failures found not to be due to fair wear and tear). Rule has been in place for years but it was toothless and treated as voluntary. It has now gone from toothless to gummy.

b. Cockpit cameras (most pilots see this technically very feasible proposal as an unacceptable invasion of their privacy, despite assurances that only disembodied limbs, hands and instrumentation would be being recorded - not the pilots themselves).

c. Effective measures to resolve the increasing numbers of runway incursions. Two-plane pile-ups, with at least one full of fuel, can wreak unparalleled carnage. AMASS Radar has been acknowledged to be a failure and the industry awaits with dread a nasty accident to kick-start a meaningful system for avoiding future runway collisions. IASA has been advocating a system that warns pilots directly (just Google the term Dreadle runway). Boston Logan has already had 16 reported runway incidents since Oct 2004 and that's more than double the total for the

prior 3 year period.

d. Effective measures for detecting, fighting and stopping the spread of in-flight fires (especially those in the cabin)

Some liberalizations in prospect:

a. ETOPS. Airbus and Boeing are still arguing over to what extent the reliability of twin-engine long-haul airliners can (or should) be exploited.... and whether it's fair game to apply some of the new strictures to four-engined craft. Despite some ongoing 777 engine incidents, it looks like the new rules and fuel costs will eventually put four-engined aircraft in the fuel-guzzling minority. This is happening despite airline support for mid-ocean emergency whistle stops (such as Midway Island) being withdrawn.

b. Free Flight. Direct routing without the inconvenience of having to abide by the airways system's inflexible tracks will save both fuel and time.

Some Safety Factors overlooked and extant:

a. In the aftermath of the Air France A340 overrun in Toronto, it's suddenly been admitted that a longer runway, runway grooving, wind-shear Doppler radar and prepared overruns (gravel arrestor beds rather than deep gullies) would have been nice. This deadly detractor (non-benign overruns) was also earlier found to be the case at Chicago Midway and Little Rock Arkansas - but only after acci-

dents had made it glaringly evident. To qualify for an upgrade, an exemplar accident is required.

b. Icing accidents that result from supercooled water droplets (aka rain-ice or freezing rain). Mother Nature's frigidity has been reliably bringing down small jets and turbo-props for many years - yet the solutions are unworkable and the accidents keep racking up. Another Cessna Caravan has already gone down, this early in the season (06 Oct). Aircraft icing systems such as inflatable leading-edge rubber "boots" cannot cope and new technology should be developed. IASA has advocated Thermal Laser Wiping (mapping thermal lasers mounted in nose-mounted cupolas that can detect icing formations on wings, tails, props and engine intakes - and zap them).

c. The perils of maintenance, repair and overhaul outsourcing - particularly overseas and outside the ambit of roaming FAA inspectors

d. The imminent retirement of the preponderance of ATC controllers (due to Pres Reagan's PATCO mass sackings of 1981)

The Security Backdrop, the Safety Dropback & the Risk Drawbacks

Between 1978 and 2001, deregulation's predations saw to the demise of nine major US carriers and over 100 smaller regional ones. Liquidations, mergers and acquisitions were the means of attrition. That was in an era of relatively benign se-

Trends in Airline Safety since 9/11

curity threat levels. Up to that point, any hijackings had been (mostly) a Cuba bound opportunity to stock up on Havana cigars - and an adventure for all concerned. Since 911, the emergence of suicide hijacking and a broad spectrum security threat at (and around) airports has suddenly made air-travel very expensive in terms of both time and money. It is becoming the era of the bizjet for hassle-avoidance - but only for those who can afford to pay a little extra. Security is the perceived "real" threat and safety has been playing bit parts (only) in the air-travel survival stakes. However since 911, only Richard Reid (the shoe bomber) has poked his head above the terrorist parapet and the number of terrorist incidents in US airlines has been hovering around zero. Here, for logical argument, we must discount drunken debauchery and air-ragers as being a potent security threat. Security may be the *bête noire* fantasy of our post 911 nightmares but safety breakdown is the perennial *annus horribilis* that will never go away. Accidents, like disease, are an embedded burden of the human condition. "Accidents will happen" is the usual soothing pliant. They may be inevitable but it doesn't mean that they are acceptable. You can deter terrorists by your security posture but budding accidents must be detected and deflected. Adopting a proactive stance has always been the risk-manager's

advice - yet that almost always never happens. Accidents are the only progenitors for safety change. Safety cultures are a figment of wishful thinking. So we must now ask: "When the credits roll, is safety getting its proper time-worn star billing?" Or is it, since 911, playing a cameo role only?

911 Plus - Terrors or Errors?

Apart from 911's shockwave, have there been any other watershed events that have affected airlines' *modus operandi* to any extent? Despite the US not including the 02 Sep 98 Swissair 111 crash in its mortality statistics, obviously crews are now very leery about the sight and smell or report of smoke - thanks to the graphic description of that hapless crew's plight in the Canadian TSB's SR111 report. Weekly accident and incident tables reflect a manifold rise in the number of instances of enroute diversions caused by "smoke in the cockpit". The industry knows that aging airplanes and electrical problems go hand in hand. They also concede privately that the aromatic polyimide wiring insulation that was used to save weight after the 1973 oil crisis would have been better left for applications other than aerospace. NASA agrees with that and most nations' defense forces also. However the latest NPRM on wiring husbandry doesn't look into the undesirability

of certain wiring insulation types. That's too sensitive and just might rock the FAA Casbahso it's forbidden territory. But just like the beekeeper who'd rather have been in on the design of the bee and vetoed its sting, the airlines have nevertheless learnt to live with the flawed redundancy of wiring and its frequent misbehavior. Kapton wiring will slowly disappear over time - however we must note that wiring manufacturers are now once again touting a new even thinner insulation. Quote: Lower weight wiring harness: For wire- and cable-coating for electrical systems, GE's Flexible Noryl (1) resin allows ultra-thin coatings vs. traditional materials that help reduce overall wire bundle size by up to 25 percent for lower weight and mass. Unquote IASA hopes that we aren't about to revisit errors of the past. The catch cry is now MEA (the More Electric Airliner) and the A380 will be one of the first examples of that. Use of electrically driven hydraulic pumps at service sites (i.e. physically located at ailerons, rudders and spoilers) rather than having hydraulic plumbing running throughout airplanes is the name of this game. But at least hydraulic flight controls had triple redundancy. Wiring looms generally have none. In fact running wires alongside each other, albeit necessarily, makes each to the other a "clear and present danger".

Pastoral, Piscatorial and Platitudinous

Besides the FAA, which oft appears to have "gone fishin" on many aspects of safety and security, what about the DoT Inspector General and the Senate's watchdog (the Govt Accountability Office or GAO)? What about POGO? (the Project on Government Oversight). Well, unfortunately, like FEMA (the Federal Emergency Management Agency), it's not until their feet are held to the fire do you hear any squawking about the status quo. Airline safety is very much a *laissez faire* affair. No levees have yet broken and the statistics say that nobody's dying. There's no body count so nobody's counting. So many contingencies, so many conflicting priorities, so little time and where would we start anyway? Well, like a cop on the beat, all the NTSB can do when it's called out and stumbles across a safety situation is to call upon these agencies to stick their fingers in the holes found in the dike. The remedial process is agonizingly slow - but discussion is often rampant, although restrained. The FAA's NPRMs (Notices of Proposed Rule-Making) postulate a solution normally based upon the manufacturer's views (and his non-mandatory Service Bulletin). Then the airline operators are challenged to rebut, refute, fine-tune or reject any proposed fixes and eventually an Airworthiness Directive (AD) is born -

but only if it passes the acid test of cost-benefit. The manufacturer rarely has to pay, it usually just provides the mod-kits at a cost. A great welter of post-SR111 modifications, wiring in particular, spelt the death-knell of the MD-11. Most have now been converted to freighters or are parked awaiting that destiny. Yet all that proved was that the airplane (known in the industry as a MadDog or "the Scud") was only ever a rabid dog to begin with. But note well that the vast majority of industry fixes requiring AD's do arise from an accident or serious incident. The philosophy of learning only at the school of hard knocks is firmly entrenched and embedded. By comparison, the FDA (Food and Drug Administration) cannot pass a new drug beneath a patient's nose without it being tested and trialed, and found to be tried and true.

Never No Safer than Necessary

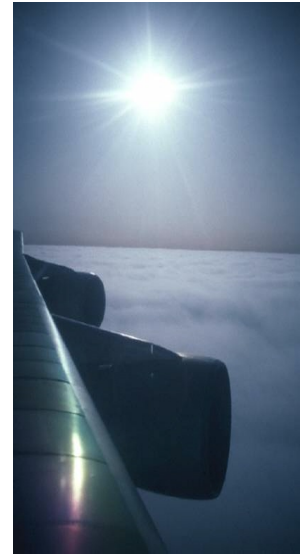
Some say the essential element for aviation safety success is risk management and that the vital action tool in risk management is cost/benefit analysis (i.e. does the end justify the spending on the means?). But isn't that like trying to tighten a nut with a screwdriver? Flight safety is a pilot's responsibility and his tools are his aircraft's serviceability, his training, currency, fitness, fatigue level, operational support and experience. That, by comparison, is a good match. Don't leave home without it. Aviation safety however is a much wider infrastructure con-

cern. Without its sound underpinning, there can be no real flight safety. An example? Well, fuel quality control. Another? ATC Transponder height readouts and altitude alerting. More? Runway inspections. Yet more? Weather briefing. We could go on and on and stitch together a patchwork quilt making up the aviation safety grid. But is the demarcation between safety requirements and security fears now becoming blurred? Are the priorities now too politicized and reactive? Congress has delivered on the desirability of MANPADS countermeasures but the fact that stowaways are successfully hiding in wheelwells sort of makes that high tech concern of laughable insignificance. If a stowaway can be found (and normally only via stench or blood-trails or fallen cadaver) up to three sorties after he/they surreptitiously stowed away, then what are the chances that a small bomb stowed in a wheel-well in Nigeria could be detonated on finals to JFK by a cell-phone three days later? Would that set the cat amongst both the security and safety pigeons or what? Cast your mind back to TWA800 blowing up during the Atlanta Olympic Games, just after the park bombing. That wiring-related crash set in train a security furor that continues to this day..... and that was pre-911. How would such an event go down nowadays? Would it not death-knell the airline industry as effectively as avian flu is expected to if (or rather when) that becomes a global pandemic? Wheelwell stowaway events

are not rare. They in fact average just under one every two months. The ones that fall unseen from the wheelwell over water when the gear is dropped on finals aren't counted of course.

The Advent of Technology (and the Ousting of our Rules of Thumb)

In an advance preview of their crash report for an MK Airlines 747 freighter at Halifax Nova Scotia, the TSB pointed out that the crew had left the gross weight for their prior (much lighter) take-off entered into their Boeing Laptop Tool computers. The software had a built-in and baited trap for fatigued aircrew. Garbage in/garbage out struck again because nobody out of the 7 aboard felt compelled to check that aspect - so they all died (because insufficient reduced thrust was set to get airborne). Luckily there was only woodlands and no populated areas in the overrun where they crashed and burnt. In another accident, when the rear-end crew of a Helios 737 tried to enter the cockpit (where the flight-crew had passed out from hypoxia), they discovered that no-one knew the security code for the reinforced cockpit door. It was only when one of the engines failed for lack of fuel and the electrics dropped momentarily off-line, that the latch dropped and they could enter. But by then their fate was sealed and it was too late to attempt any resolution of their predicament. Before the advent of technology that aircraft wouldn't have climbed to a deadly cruising level and



'The philosophy of learning only at the school of hard knocks is firmly entrenched and embedded. By comparison, the FDA (Food and Drug Administration) cannot pass a new drug beneath a patient's nose without it being tested and trialed, and found to be tried and true.'

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ensured the brain-death of all but the helpless and hapless few F/A's who had portable oxy bottles. If the same warning horn hadn't been used for an oft-heard ground (mal)function and also to warn (very rarely) of loss/lack of pressurization, then the pilots wouldn't have become confused and the accident wouldn't have happened. Explicit and clear automated voice warnings have always been safer when confusion is waiting in the wings. Technology only sucks when it's raining blows upon the excessively trusting.

Whistleblowers are out of Breath

When senior engineer John Liotine tried to warn the FAA and his airline about shonky maintenance practices at Alaskan, he was ostracized. Then came the 31 Jan 2000 crash of AK261 for precisely the reason he was sounding the alarm bell (excessively worn and unlubricated stabilizer jackscrews). Despite a Grand Jury being convened, nothing much happened - that is not until now (Oct 2005). The FAA responded to further Alaskan mechanic complaints, lodged in Feb 2005, about insufficient lubrication on non-redundant flight-control jackscrews. Unsurprisingly they then "tailed" an MD80 and found one themselves. It had been signed off by the same supervisor who had signed off on the Flt AK261 jackscrew (that Liotine had much earlier found to have been worn

beyond limits and wanted changed). Against that background we have journalists being jailed for not disclosing the identity of political whistleblowers. Whistleblowers have been permanently deterred - despite all the pontificating legislation designed to protect them from repercussions. and they don't qualify for the witness protection program either.

Unwanted Redundancy

When it became apparent that Alaska 261 had dropped out of the sky because of failure of a fail-safe flight-control, it was discovered and conceded that jackscrews were a single point of potential failure (supposedly not allowed in flight controls). By chance NASA had invented a failure-proof and fail-safe jackscrew to protect the Space Shuttle's gantries from failing to move back after Main Engine and SRB ignition. However the regulator didn't see that as a solution because not enough people had been killed and so the proposal failed the cost-benefit calculation. Lip-service redundancy is the carrion that promotes aerial safety into a hovering bird of prey.

Aviation English and Effective Communication

One of the root causes of the Helios 737 crash in Greece was that the German captain had insufficient linguistic abilities to communi-

cate with the British Ground Engineer or his own Greek Cypriot copilot. There is a vast difference between parroting the everyday stock standard phraseology of a cross-cockpit checklist litany or ATC radio comms and explaining or comprehending a complex and confusing technical difficulty. The consequences of misunderstandings or frustration arising from such garbled intercourse can be severe. At Paris' main Charles de Gaulle airport in a fatal May 2000 runway collision between a Shorts 360 and an MD83, a large portion of blame attached to a controller who was using a mixture of French and English (not Franglais - he was speaking to some aircraft in French and others in English). It is a practice that continues to this day. On October 05 it was announced that China's chronic shortage of international airline pilots would be resolved in part by the secondment of 60 Swiss Pilots to China's A330/A340 and 747 fleets. The problem of scrambled communications and techno-babble is destined to be with us forever - and a burgeoning background factor in safety. Cooperative Crew Resource Management (CRM) is a phantom wraith wherever and whenever clear comprehension cannot occur because of a language barrier.

Black-listing & White-listing

The EU Parliament is at present debating the publica-

tion of its blacklist of airlines who offend on safety grounds. Passenger rights will include refunds for those who may discover, even as late as the boarding gate, that their airline is on that list (or just been added). This development is considered to be a pointlessly vindictive and disruptive one by IATA (the Intl Air Transport Assn). Others have suggested a "white-listing" instead - but that also makes little sense. The EU move has been based upon the assumption that all crashes are caused by shoddy maintenance and short-cutting on servicings. Politicians know no better. They need to understand the concept of most accidents being rooted in human error and chained to circumstance.

Waiting in the Wings - Outsourcing, Offshoring and the Good Oil

It's not difficult to see why airline bean-counters are trying to cut costs and whittle zeros off their maintenance bottom lines by sending jets away to cheaper climes whenever major maint is due. It's the same philosophy that sees a Saudia 747 only just climb out of Riyadh because it's trying to tanker cheap fuel - and carry enough for a round trip. You cannot blame them, but what's the downside? Well operationally, landing heavy at the other end beats up the airplane and requires a deft hand on the tiller... but maintenance-

wise? Ostensibly an operator will send his representative along to oversee any maintenance that's carried out by a 3rd party and their contractors, whether overseas or not. But that will be a small team, otherwise what's the point and where's the economy? That 3rd party knows that the FAA inspector won't blow in to their Asian or South American hidey-hole and look over their shoulder, so they do merely what has to be done to satisfy the client. They know that their clients will be satisfied just to get their airplane back on time and all signed up - after all, the name of this game is maximal airframe utilization. The AMFA (mechs Union in the USA) doesn't like this so they complain bitterly about it and sound dire warnings. But it ends up plainly being more about "never mind the quality, feel the width". Transparently, the AMFA see their jobs) flying out (and away from) their windows. The reality of what's happening in Asian and South Asian economies is that labor is cheap and efficient and that jobs have "flown away". The reality of this and the end-game impact, like the fuel crisis, is yet to sink in. The growth in the Chinese, Indian and Russian economies means that oil is being spread more thinly and that consequently national wealth is being reapportioned by the remorseless commercial gouging of those who have the oil.

And what is that to do with safety? As the economy contracts and new obstacles to profitability arise, such as ever-rising fuel costs that will lead to a final "energy crunch", the need to survive as an industry becomes paramount. Then the necessity of taking "acceptable" risks rises to the fore. Planned fixes are abandoned and corporate and government apologists find ways and means to defer

hard decisions. This is not unfamiliar territory. The significant difference is that we are now proceeding into unfamiliar territory and a modus operandi for which no contingency planning has ever been seen to be necessary.

Those Safety Bottom Lines (are trending down)

Safety is not the absence of accidents, it's a state of grace derived from the resolute and proactive trimming of risks. Pragmatists have long realized that you can never eliminate risks but you can minimize them and at times even isolate them. The recent spate of crashes was sufficient proof that hazards can and do overwhelm us from time to time - and for a myriad of reasons. For every accident that happens, about ten are narrowly avoided or become unpublicized incidents. The FAA and NTSB tout low numbers of crashes and fatalities as being proof of safety (and of that, by extension, being the status quo). That is naught but a dangerous self deception.

This is no doomsday outlook. The proof is as close as the 170 feet and 3 seconds at Boston Logan Airport (see box "NTSB agrees"). 16 such incidents since October 2004 and by comparison that's over twice the number there for the last three years. Eventually, as with all intemperate risk-taking, your luck will run out.

The NTSB Agrees

'The System Was of Little Use When It Was Needed Most'

Sept. 13 Remarks of NTSB Acting Chairman Mark Rosenker

"We've had about two of these most serious incidents every month for the past two years. Any one of these events has the potential to be a very significant accident. ...

"On June 9 of this year at Boston's Logan International Airport, an Aer Lingus Airbus A330 and a US Airways Boeing B737 nearly collided at the intersection of runway 9 and runway 15R. Because of an air traffic control coordination error, both pilots were issued near simultaneous takeoff clearances. The aircraft passed through the intersection at flying speed with about 170 feet of lateral separation. The Aer Lingus flight was airborne, and only a quick decision by the US Airways crew to delay lift-off and pass beneath the Airbus prevented what could easily have been a terrible accident.

"The air traffic control tower at Logan is equipped with the FAA's AMASS ... However, the system did not alert tower controllers of their mistake. Investigation revealed that because of nuisance alert problems identified during system development, the AMASS software is not configured to detect conflicts between aircraft operating on converging runways at Logan or any other airport.

"On July 6 at John F. Kennedy airport in New York, a pilot deviation occurred when Israel Air flight 102, a B767, was instructed to taxi to runway 22R via taxiway H, and then turn left onto taxiway B. [The aircraft] did not turn left onto taxiway B and crossed runway 22R without authorization. [An] Airborne Express DC-8 freighter had been cleared for take off on the same runway ... According to the [Airborne Express] pilot, his aircraft did overfly the B767 with clearance of less than 75 feet at the nose and as little as 45 feet at the tail.

"AMASS did not alert the controllers to the mistake that was made by the [Israel Air] pilot because it was raining heavily at the time. Under such conditions, the radar that supplies surveillance data to the AMASS processor generates excessive amounts of false targets because of the precipitation. To compensate for this, AMASS is placed into 'limited mode,' which disables much of its conflict detection and warning capability in order to prevent nuisance alarms. As a result, the system was of little use when it was needed most."

Source: NTSB

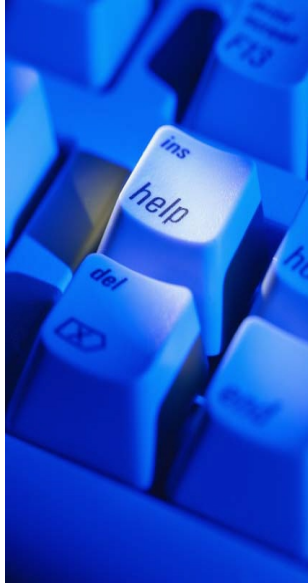
Defining the word Final

When you think of the word final, what comes to mind? If you look it up in the dictionary all definitions refer to the end of something. A few examples would be: reaching a goal, a student taking a final exam or a parent uttering "I said no, and that's final"! Speaking from the parent/child perspective, I can confirm without reservation, my children have absolutely no problem understanding the definition of that word.

When referring to the crash of an aircraft - involving fatalities - the loss of human life can be described as the **finality** of existence for the human beings killed. The word **final** denotes a very clear and concise definition for most of us. Why does it not appear to have the same meaning to the Federal Aviation Administration (FAA)? Why does it seem the word **final** (to the FAA) is not as clear and concise as it is to the rest of us?

I cannot answer those questions for them, but I can relate a recent issue IASA felt compelled to contact the Administrator of the Federal Aviation Administration, Ms. Marion Blakey, about. In the following paragraph, I will borrow from that letter in order to give the reader a better understanding.

"We write with reference to a meeting that took place on August 30, 2005 between, amongst others, the National Air Transportation (NATA) and several members from



The FAA obviously needs help. They labour under the misapprehension that the definition of final is anything but *final*.

the aircraft certification and flight standards services, including Ali Bahrami, Ed Ortiz and Jeff Gardlin. We tender this letter as a formal objection to the granting of a 180-day extension in respect of compliance with regulations regarding aircraft insulation effective September 2, 2005".

We went on to explain that we realize the request referred not to the replacement of insulation blanket materials, but rather, to the replacement of such materials in other components as set out in guidance material issued by the FAA. Unfortunately, it was not clear (or concise?) to IASA, if those requesting this extension had complied with the regulations established (years ago) for the replacement of the insulation blankets.

The symbolism of the September 2, 2005 date will not escape many of you, for it was 7 years ago on that very

day Swissair Flight 111 crashed near Peggy's Cove in Nova Scotia Canada, killing all (229 passengers and crew members) on board. It was due to this crash that the Canadian Transportation Safety Board (CTSB) issued an urgent safety recommendation, A99-07, on August 11, 1999.

The recommendation was clear and concise. The investigation revealed the use of MPET covered insulation blankets in the doomed aircraft were a primary ignition source contributing to the crash and should be removed on an urgent basis. On July 31, 2003 the FAA's revised final rule allowed airlines until September 2, 2005 to comply. To reinforce my point, the CTSB issued that safety recommendation in 1999!

Not only does it appear the FAA has a problem with the definition of the word **final**, but it appears they also has a problem with the word **urgent**. It appears they assume to have the capacity to bend and twist definitions, especially considering the safety hazards associated with MPET insulation goes even further back - to May 1996. It was then that the

Civil Aviation Authority of China (CACC) contacted the FAA requesting they look seriously at this issue, after they became aware of the dangers involved. In July of that same year, the FAA's response to the CACC was lack luster, to say the least.

Contained within the closing of our letter to Administrator Blakey, we asked that while issues arising from the guidance material are being debated, that those affected aircraft in which the insulation material has not been replaced be grounded. The reason being, the clear and concise definition of the word **final** should be adhered to, or it should never have been used at all.

What message does it send when we allow the bending and twisting of that word? Most in the field of aviation safety know the catastrophic effects of bending and twisting Kapton wiring and many of us are aware of the catastrophic effect of bending and twisting the word **final**, when uttering it to our children.

It is time the FAA be provided with a clear and concise definition of that word:

A **FINAL** rule **MUST** be a **FINAL** rule.

Call for Papers

We are always happy to consider highlighting aviation safety issues at our website (www.iasa-intl.com) that might not otherwise "make the news".

We consider each issue on a case per case basis and subject to approval, will mount documents and other papers highlighting the issue.

If you would like us to consider a topic, then please send an outline to us.



Avian Influenza:

The Deadliest of Threats

It was announced on October 5th, that Australia will host a regional summit on bird flu later this month to examine whether Asia-Pacific nations can cope with an outbreak of the deadly virus.

Disaster management coordinators from 21 countries will meet in Brisbane on October 31 and November 1 to discuss preparations for a potential avian influenza pandemic in the region.

Recent research has shown that viruses of low pathogenicity can, after circulation for sometimes short periods in a poultry population, mutate into highly pathogenic viruses. During a 1983-1984 epidemic in the United States of America, the H5N2 virus initially caused low mortality, but within six months became highly pathogenic, with a mortality approaching 90%. Control of the outbreak required destruction of more than 17 million birds at a cost of nearly US\$ 65 million. During a 1999-2001 epidemic in Italy, the H7N1 virus, initially of low pathogenicity, mutated within 9 months to a highly pathogenic form. More than 13 million birds died or were destroyed.

In July 2005 it was reported that an outbreak of avian flu in wild geese in western China has raised fears that the virus responsible could soon spread beyond its Asian stronghold. Researchers say evidence of the H5N1 pathogen in the geese is a big concern because of the mi-

gratory animals' ability to fly huge distances. Their reports, in the Science and Nature journals, are the first to show viral transmission between wild birds. Previously, the flu was only seen to move to wild birds from domestic fowl.

David Nabarro, a UN Health Official, is quoted as saying a flu pandemic could happen at any time and kill between 5-150 million people.

Nabarro, who is charged with co-ordinating responses to bird flu, said a mutation of the virus affecting Asia could trigger new outbreaks.

"It's like a combination of global warming and HIV/Aids 10 times faster than it's running at the moment," Dr Nabarro told the BBC.

Not surprisingly perhaps, the World Health Organisation has distanced itself from the figure. The WHO spokesman on influenza, Dick Thompson, told a news conference in Geneva that the WHO's official estimate of the number of people who could die was between two million and 7.4 million.

Air travel could be among the first casualties of a global panic as governments try to prevent the disease spreading. "There may be some small restrictions imposed in the early days of a pandemic," Dick Thompson of the WHO told the BBC News website. "But they will fail, because infected people will not yet be showing symptoms."

Some Facts...

Mark A. Gendreau Testifying before U.S. House of Representatives, April 6th 2005

With over one billion passengers traveling by air annually the risk of disease transmission during commercial air travel and the potential of commercial aircraft serving as vehicles of pandemics is clearly present...

World Health Organization (WHO)

The continuing outbreaks of highly pathogenic avian influenza (HPAI) in several Southeast Asian countries that begun in late 2003 and early 2004 have been disastrous to the poultry industry in the region and have raised serious global public health concerns. Nearly 140 million domestic poultry have either died or been destroyed and over a hundred people have contracted the infection, of which 54 have died as at May 2005.

Government Accountability Office, May 2005

In 2000, GAO recommended that HHS complete the national plan for responding to an influenza pandemic, but the plan has been in draft format since August 2004. Absent a completed federal plan, key questions about the federal role in the purchase, distribution, and administration of vaccines and antiviral drugs during a pandemic remain unanswered.

... federal attempts to limit the spread of SARS into the United States by advising passengers who traveled to infected countries faced multiple obstacles. For example, due to airline concerns over authority and privacy, as well as procedural constraints, CDC was unable to obtain passenger contact information it needed to trace travelers.

Centers for Disease Control & Prevention (CDC)

"Bird flu is an infection caused by avian (bird) influenza (flu) viruses. These flu viruses occur naturally among birds. Wild birds worldwide carry the viruses in their intestines, but usually do not get sick from them. However, bird flu is very contagious among birds and can make some domesticated birds, including chickens, ducks, and turkeys, very sick and kill them.

Bird flu viruses do not usually infect humans, but several cases of human infection with bird flu viruses have occurred since 1997."

About IASA



Global Aviation Safety Our Wings Encompass All

Raymond M Romano, born July 14th 1954, was a certified public accountant and partner with the international accounting firm KPMG Peat Marwick. He graduated from Valhalla High School in 1972 and received a Bachelor of Science degree from Mercy College and Master of Business Administration degree from Pace University. In October 1981, he married Lyn Towndrow and was the proud father of three children, Raymond, Randy and Kathy.

Raymond M Romano boarded Swissair Flight 111 at JFK Airport, New York on a scheduled flight to Geneva, Switzerland, with 214 passengers and 14 crewmembers. About 53 minutes after departure, while cruising at flight level 330, the flight crew smelled an abnormal odour in the cockpit. 13 minutes later the aircraft's flight data recorder began to record a rapid succession of aircraft systems-related failures. The flight crew declared an emergency. One minute later, radio communications and secondary radar contact with the aircraft were lost, and the flight recorders stopped functioning. Five and a

half minutes later, the aircraft crashed into the ocean about five nautical miles southwest of Peggy's Cove, Nova Scotia, Canada. Raymond, together with the other two hundred and twenty eight people, was dead.

It was against this tragic, horrific, background that Raymond's wife, Lyn S Romano, formed the International Aviation Safety Association (IASA). IASA, a non-profit organization, was officially formed on March 4th 1999, albeit the idea was conceived within weeks of the crash.

In an arena dominated by regulatory and commercial interests, a force was needed that could work through the myriad of technical data and make a meaningful contribution to that debate whilst tending to the human issues that aviation safety encompasses. IASA was also unique in that Lyn Romano would fund it and would not accept donations. In a February 23rd 1999 interview with the Canadian Press Lyn stated:

"They're going to try to pay me off for my husband's life... It's blood money; I can't touch it. The beauty is that with what they give me I get to go after them and everybody else to do what they should have done in the first place."

With the 'blood money' IASA established principal offices in New York, the United Kingdom and Australia in addition to temporary offices in Holland and Canada. By virtue of our financial independence, IASA has become an often candid and refreshingly unbiased voice; a voice that has penetrated the Executive Office of the Presi-

dent of the United States of America, the National Aeronautics and Space Administration (NASA), the General Accounting Office (GAO), the National Transportation Safety Board (NTSB), the FAA, the Transportation Safety Board of Canada (TSB), the United Kingdom House of Commons Transportation Select Committee and the European Joint Aviation Authorities (JAA).

In the seven years since the crash of Swissair 111, IASA has not only tackled issues specific to Swissair. The September 11th 2001 terrorist atrocities, shifted attention to security issues and to an extent halted progress in relation to other, non-security related, issues. In spite of this, we have been unrelenting in our quest to make flying as safe a form of transport as is humanly possible.

Through our website IASA offers both the flying public and those engaged in the aviation and related industries, a comprehensive resource of data and the opportunity to contact us in the strictest of confidence. Some have contacted us to express their thanks for the work we do whilst others have a question or a concern that warrants our attention. Regardless of the source of the communication we are always willing to lend whatever assistance we can. It is as important to us to answer a legitimate enquiry from a worried passenger as it is to address our concerns to a government agency. Both sides of the spectrum are essential in progressing issues that, if left unchecked, result in the loss of innocent lives.

International Aviation Safety Association

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