

2008: 4th Quarter Smoke Event Summary

During the 4th Quarter of 2008, commercial aviation saw a significant number of smoke events. By analyzing Service Difficulty Reports (SDR) from FAA-derived data, Part 121 and Part 135 carriers saw a total of 183 events of smoke. While these statistics are relevant to North American, and mostly the United States due to the reporting responsibilities, it shows that the problem of smoke/

fire/fumes is as significant risk in commercial aviation. The data was taken for the time period of October 2008 to December 2008. Over this roughly 90 day span, there were 183 smoke events, which equates to 2 per day.

Further analysis of the data allowed for a more in depth look at the

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SMS and the Development of Effective Safety Culture

Whenever you turn on the nightly news, chances are you will be hearing some mention of the aviation industry. It may be an account of an aviation-related



incident. It may be a report detailing changing airline policies or the rising cost of air transportation. Or, more recently, it may be a discussion of air safety and new FAA regulations.

As we all know, Safety Management Systems, or SMS, has been of primary importance to the FAA for a number of years. SMS was recognized as vital to the

continued growth and success of the aviation industry that a set of uniform safety standards should be created, one which would conform to international SMS aviation protocols while being flexible enough to accommodate the needs of individual American airports. To this end the FAA implemented a pilots program to study and compare the current

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A FIRST FROM EVAS

Beginning for the First Quarter 2009, EVAS-Worldwide, in conjunction with Safety Operating Systems, is producing the first Report solely on the research and prevention of Smoke/Fire/Fumes. This edition of *Smoke Signals* is also available on the EVASworldwide website for download. Included in *Smoke Signals* is reports on the number of S/F/F events, industry actions, significant EVAS developments, and aviation safety information. www.evasworldwide.com

Upcoming Tradeshows

March 19 - 24, 2008

IFALPA Conference: Auckland, New Zealand

April 21 - 23, 2008

CASS: Orlando, Florida

Smoke Signals is written and produced by Allison Markey, Aviation Safety Specialist Safety Operating Systems

2008: 4th Quarter Smoke Event Summary cont.

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reasons for the smoke events. Of the 183 smoke events, 90 of these were direct incidents where smoke appeared in the cockpit. This equals approximately one per day during the 4th Quarter 2008. During the same time frame there were 87 incidents of smoke in the cabin. Of all of these incidents, both of smoke in the cockpit and smoke in the cabin, 91 resulted in unscheduled landings and/or diversions. Therefore, commercial aviation is reporting one unscheduled landing per day due to smoke. Of these 91 events, 28 resulted in an emergency descent to landing.

Smoke in the cockpit events were determined any time there was reference in the narrative portion of the SDR of smoke in any portion of the cockpit, including events where fumes were present. Many of the events where smoke was present in the cockpit also included smoke in the cabin. However, these events were only listed as smoke in the cockpit events.

Cabin smoke events were determined first, when there was no mention of smoke in the cockpit, and second, at any time when smoke was in any area of the cabin, including the lavatory and galley areas. Most galley incidents which caused smoke due to galley equipment were omitted when they did not involve a significant risk to flight safety.

Also omitted from this statistical analysis was any time the aircraft was operating on the ground. All

of the 183 smoke events categorized occurred when the aircraft was in flight.

146 of the SDR events listed a portion of flight when the smoke event occurred. 71 of these were while the aircraft was operating in the takeoff/climb phase. The majority of these resulted in a return for landing at the airport of departure. Of the 146 events listing phase of flight, one third occurred while the aircraft was in the enroute, or cruise, phase. These 54 events resulted in over half diverting to an alternate airfield. The last category of phase was when the aircraft was in the descent, approach, or landing configuration. This category saw only 21 events of smoke.

Summing up the 4th Quarter smoke data: In the period from October through December, 2008, commercial aviation operating in Part 121 and Part 135 saw 183 smoke events (as voluntarily report to the FAA through the SDR program). Of these 183 smoke events, 90 occurred where smoke was present in the cockpit; 87 listed the presence of smoke in the cabin. Of these, 91 resulted in unscheduled landings and diversions. 28 resulted in an emergency descent to landing.

146 of the 183 events listed a phase of flight when the smoke occurred. 71 smoke events occurred during the takeoff/climb phase of flight, followed by 54 smoke events during the enroute/cruise phase. 21 events took place when the aircraft was in the descent/landing/approach phase.

What does this data mean?

Smoke/Fire/Fumes is a significant cause of in-flight diversions and unscheduled landings. Over two events of smoke occur daily in commercial aviation within North America.

SDR data originates from the Federal Aviation Administration (FAA) and is maintained by the Aviation Data Systems Branch, AFS-620, in Oklahoma City, Oklahoma. The program provides the aviation community with a voluntary and electronic means to conveniently submit in-service reports of failures, malfunctions, or defects on aeronautical products. The objective of the Service Difficulty Program is to achieve prompt correction of conditions adversely affecting continued airworthiness of aeronautical products. To accomplish this, Mechanical Reliability Reports (MRRs), Malfunction or Defect Reports (M or Ds), or Service Difficulty Reports (SDRs) as they are commonly called, are collected, converted into a common SDR format, stored, and made available to the appropriate segments of the FAA, the aviation community, and the general public for review and analysis. →

Data analysis and statistics provided by Safety Operating Systems.



SMS and the Development of Effective Safety Culture cont.

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Airport Certification Programs and developing SMS principles. The results of this pilot program are already being put to use by the FAA, resulting in the implementation of new safety protocols for the aviation industry, and the establishment of SMS as a US aviation regulatory standard. But although we know why SMS should be adopted and what it should accomplish, Safety Management Systems are about more than just regulations and enforcement. In order for SMS to not only work but to remain effective, the aviation industry needs to create a culture of safety.

Safety culture can be very simply defined as an organizational commitment to safety at all levels of operation. Establishing an effective safety culture, however, is anything but simple. Effective safety cultures distinguish themselves through having clearly defined procedures, a well-understood hierarchy of responsibilities at all levels, and clear lines of reporting to facilitate effective and useful communications regarding safety issues. A more detailed list of the attributes of an effective safety culture was presented by the International Civil Aviation Organization, which placed a strong emphasis on the role of senior management and the importance of communication.

All levels of aviation management must make it clear that safety culture is concerned with the safety not only of airline passengers but also of airport and airline employees. Safety management should

not be viewed as simply a means to an end or a blind adherence to industry standards, but rather as a company-wide – and indeed industry-wide – commitment to best-practices and continuous improvement of everything safety-related. In an effective safety culture under SMS, human error is seen as inevitable, and the focus is shifted from reactive to the proactive method of managing risk. And the prevailing view of risk should be professional and realistic, focusing on eliminating or maintaining optimum levels of acceptable risk using past incidents, perspective, and insight.

The aviation industry has in the past been comfortable maintaining a reactive position to safety regarding occurrences as isolated incidents, and consistently taking action only when something happens. This attitude gradually became more calculated, growing into a regulatory system and developing a bureaucracy to enforce it. The introduction of SMS is shifting the focus from enforcement-centered to a more proactive approach, and hopefully will give rise to a culture of safety so firmly established that the perception will be that safety is simply the best, most effective, and most profitable way to do business.

Effective safety management is a learned skill and, as with any skill, continues to grow and develop over time the more it is practiced. Therefore an effective culture of safety is one that has practiced safety management until that skill set has become second-nature – safety is simply the way business

is done, and improvements to the system are considered improvements to the company as a whole. Of course, this procedure for creating and maintaining a safety culture sounds much easier than it actually is; roadblocks must be expected at throughout the process at all levels. Management, initially on board with the implementation of SMS, may become less enthusiastic as they realize that some changes will not be cheap or simple to implement. Managers may be uncomfortable soliciting and responding to negative feedback, and lower-echelon staff members may be difficult to convince that reporting honestly on current or potential problems is in their best interest. And in some groups, such as pilot, where perception of infallibility can be closely linked to professional reputation, the idea of admitting personal error may be akin to admitting personal and professional failure—or possibly to committing professional suicide.

These are all hurdles which must be overcome systematically at an organizational level, with a major top-down emphasis on building trust and establishing non-punitive reporting systems. Without these two factors in place, SMS cannot be successful and a culture of safety will not develop successfully. →



Smoke briefs

The next pages chronologically outline news stories of smoke events which occurred during the 4th Quarter of 2008. Many are taken from news facilities worldwide and from aviation safety reporting networks. Daily Smoke Briefs are distributed by EVAS-Worldwide through email. To sign up for Daily Smoke Briefs, go to www.evasworldwide.com

EVAS™ Worldwide

BA forced to make emergency landing due to 'burning smell'

October 5, 2008

A British Airways flight from the UK to the US was forced to make an emergency landing after staff detected a burning smell.

The BA flight was diverted to Houston after a crew member detected a "burning smell" on board the plane

A spokeswoman for British Air-

ways said the flight was diverted as a precaution after "what was thought to be a burning smell" was detected on board.

She said the smell was due to a fault with one of the television screens used for in-flight entertainment which had since been repaired.

The spokeswoman said: "We

apologize for the inconvenience to passengers but the crew did exactly the right thing in diverting as a precaution."



Jet makes emergency landing

October 6, 2008

A small passenger jet made an emergency landing at Portsmouth International Airport at Pease on Monday after the pilot reported smoke in the cabin.

Pease Airport Manager Bill Hopper said a Canadian-registered Lear 45 jet carrying six people, made a safe landing at 10:14 a.m. after the pilot notified airport air traffic control he was experiencing problems.

The jet was 15 miles out and scheduled to land at Pease, when he put the airport on alert at approximately 10:10 a.m.

"The pilot said there was smoke in the cockpit,"

■ **CimberAir AT72 Smoke Smell**

October 2, 2008

A Cimber Air Aerospatale ATR-72-200, flight Q1103 from Copenhagen to Sonderborg (Denmark) with 24 passengers and 4 crew, returned to Copenhagen about 8 minutes after takeoff due to smell of smoke on board. The landing was safe.

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Jet grounded at Morristown Airport due to smoke

October 2, 2008

A corporate jet carrying six people turned back midway in flight from Morristown Municipal Airport Thursday after an odor and smoke were detected behind the plane's cockpit, authorities said.

Firefighters were dispatched at 3:56 p.m. after a pilot reported to airport officials about a burning smell.

The plane, a Bombardier Aircrafts craft, had taken off from the airport and was 12 miles out before the smell was detected, Morristown Fire Department Capt. Bob Flanagan said.

Mutual aid from other fire departments was requested, but they soon turned back after it became apparent there was no major fire,

Chief Bob Taylor said. The Morristown department covers the airport.

When the plane landed on the runway, town firefighters removed part of the dashboard where the odor and smoke were coming from. It was determined that an electrical wiring short in the plane's audio/visual unit was the cause of the problem.

2 International Smoke Events: Lufthansa & Air India

October 10, 2008

A Lufthansa Airbus A340-300, registration D-AIGP performing flight LH429 from Charlotte, NC (USA) to Munich (Germany) with 193 people on board, returned to Charlotte after smoke appeared in the cockpit. The emergency landing at Charlotte about 45 minutes after takeoff was safe. The airplane was examined by emergency services after it stopped on a high-

speed turnoff from the landing runway, then taxied to the gate on its own power.

October 11, 2008

An Air India Boeing 777-300, registration VT-ALJ performing flight AI111 from New Delhi (India) to London Heathrow, EN (UK) with 115 passengers and 15 crew, returned to Delhi after smoke was

detected in the cabin about 30 minutes into the flight. The landing in Delhi was safe, passengers disembarked via stairs, no injuries have been reported. The emergency services could be stood down 35 minutes after landing. The cause of the smoke is still under investigation.

British Airways smoke alert

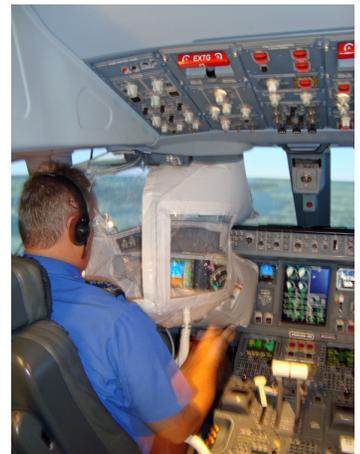
October 12, 2008

A British Airways Boeing 777-200, registration G-VIIK performing flight BA143 from London Heathrow, EN (UK) to New Delhi (India) with 220 passengers and 16 crew, diverted to Berlin Schoenefeld for a precautionary landing after a smoke detector raised alert. The landing was safe.

British Airways said, that the smoke alert was triggered by an electrical fault of one inflight entertainment screen in the economy class.

The airplane has returned to London Heathrow with all passengers landing in London 8 hours after departure and is expected to takeoff for Delhi again after repairs.

EVAS deployed in Embraer 170 simulator at the Jet Blue training facility, Orlando, Florida



Industry data suggests that in-flight fire remains the fourth leading cause of air carrier fatalities worldwide. On average in North America, there are three diversions due to smoke every day according to the FAA. It is estimated that over 100 smoke events occur worldwide per month. Smoke/Fire/Fumes is a subject the industry continues to combat.

Plane forced to land

October 2008

A Delta Airlines Boeing 757-200 made an emergency landing at Halifax Stanfield International Airport this week because of smoke in the cockpit.

Flight DL 42 was on its way to Amsterdam from Cincinnati early Sunday morning with 151 people aboard when its pilots declared an emergency at about 12:20 a.m. and decided to circle back to Nova Scotia.

The plane touched down at about 12:56 a.m. and remained on the tarmac until emergency crews inspected it and determined there was no fire on board.

"In this particular instance, because of the nature of the diversion, they were held off the gate until the firefighters could go in and clear them," Peter Spurway, a spokesman for the airport, said Wednesday.

"They wanted to make sure they understood the nature and severity before they brought it closer

to the terminal," he said.

"I suppose in our neck of the woods we're a little more sensitive to smoke in the cockpit." Swissair Flight 111 crashed off the coast of Nova Scotia in 1998, killing all 229 people on board. Pilots had smelled smoke 53 minutes into that flight and an investigation determined the wiring of the jet's entertainment system likely contributed to a fire.

Kathleen Bergen, a spokeswoman with the Federal Aviation Administration in Atlanta, said a maintenance crew from Delta checked out Flight DL 42 and determined a faulty air-conditioning fan caused the smoke.

"Apparently, it seized up and started smoking," she said.

"The fan itself was not a serious issue but the crew acted appropriately in making a precautionary landing."

The passengers waited overnight in an airport lounge before another Delta plane arrived and

flew them out at about 9 a.m. Flight DL 42 was flown back to Cincinnati later Sunday. The investigation was considered closed.

"If it were something more significant, like an engine failure or an actual in-flight fire, then of course we would investigate in a more in-depth manner," Ms. Bergen said.

Joseph Gutheinz, an investigative consultant on FAA cases and a criminal lawyer in Houston, said smoke in the cockpit is a serious concern for several reasons.

"If you have a fire aboard a plane, it can be a potentially catastrophic issue," he said.

"That's one of the major things that pilots of airlines worry about."

"There's an old saying where there's smoke, there's fire — well, it's not always the case," he said.

"Sometimes it's just smoke. The thing I would be concerned about is there's always the temptation to assume it's just smoke." →

Emergency landings due to smoke

October 14, 2008

Emergency vehicles stood by on the tarmac of the Kenai Municipal Airport Tuesday morning as personnel prepared for the worst.

A Saab 340 operated by PenAir made an emergency landing just after 9:30. An indicator light notified the crew that smoke had been detected in the avionics compartment, the bay where radio equipment is located.

Oct 16, 2008: A United Airlines 757 made an emergency landing at Hancock Airport today after a smoke detector in a bathroom went off.

The plane was flying from Boston to San Francisco.

Emirates flight forced to Australia

October 16, 2008

Passengers onboard an Emirates flight forced to return to Australia. The plane was turned around because a cabin crew member smelt smoke on board the aircraft. Flight EK425 left Perth International Airport about 6am Thursday local time, but was forced to turn around near Exmouth, Australia.

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Air Mandalay

November 11, 2008

An 'Air Mandalay' Airline's domestic flight on Tuesday had to make an emergency landing at Burma's new jungle capital Nay Pyi Taw airport following the smell of smoke onboard.

An official in Air Mandalay's Rangoon office said its flight No. 401/402, which was flying from Rangoon to Mandalay in upper Burma, had to make an emergency landing at Nay Pyi Taw.

"The flight landed on an emergency basis because there was smell of smoke on board.

SAS Smoke in Cabin

October 24, 2008

The crew of a SAS - Scandinavian Airlines Boeing 737-600, registration LN-RPW performing flight SK496 from Oslo (Norway) to Stockholm (Sweden) with 97 passengers and 6 crew, declared emergency because of smoke in the cabin and diverted to Vasteras Airport 40 nautical miles west of Stockholm's Arlanda Airport. The landing was safe, the airplane stopped on the runway and was evacuated via slides.

Passengers had smelled smoke prompting the crew to divert. Smoke became visible, so that the oxygen masks in the cabin were manually deployed.

Jazz CRJ1 near Ottawa, ACARS printer smokes in cockpit

October 19, 2008

An Air Canada Jazz Canadair CRJ-100, registration C-GJZN performing flight QK7657 from Washington Dulles, DC to Ottawa, ON (Canada), was in the descent for Ottawa, when the crew noticed smoke coming from the ACARS printer in the cockpit. The oxygen masks were donned and the flight attendants advised. A short time later the circuit breaker for the printer popped and the smoke stopped. The airplane landed without further incident - the crew had not declared emergency.

Galway Inflight Drama

November 9, 2008

Over 40 Galway people were involved in a mid air drama on board a ryanair flight last night. After just ten minutes into the flight from Malaga in Spain to Shannon airport just after ten o'clock, smoke was seen coming from an overhead luggage cabinet in the plane.

The 133 passengers who were on the flight had to travel back to Malaga terminal building immediately where emergency services met them.

The aircraft was later declared safe and the flight took off for Shannon four and a half hours later.

BA Declares an Emergency

November 11, 2008

The crew of a British Airways Boeing 777-200, registration G-VIIS performing flight BA213 from London Heathrow, EN (UK) to Boston, MA (USA) with 192 passengers and 14 crew, declared emergency and returned to London Heathrow because of suspected smoke in the cabin. The airplane landed safely about 1 hour 45 minutes after departure.

Airtran smoke in cabin

November 11, 2008

The crew of an Airtran Airways Boeing 717-200, registration N985AT performing flight FL904 from Orlando, FL to Akron, OH (USA) with 104 passengers, declared emergency and diverted to Jacksonville, FL due to smoke in the cabin. The landing was safe, the passengers disembarked normally.

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Chautauqua: Cockpit Smoke Continental Diversion

November 24, 2008

The crew of a Chautauqua Airlines Canadair CRJ-200 on behalf of Continental Express, registration N466CA performing flight RP5570/CO5570 from Houston, TX to Louisville, KY (USA) with 33 passengers, declared emergency due to smoke filling both cockpit and cabin and returned to Houston. The landing about 30 minutes after departure was safe. The passengers were evacuated. Attending fire services found no trace of fire, the source of the smoke however is unclear.

November 30, 2008

The crew of a Continental Airlines Boeing 737-800, registration N76514 performing flight CO1447 from San Jose (Costa Rica) to Houston, TX (USA) with 179 passengers, declared emergency following engine problems about 80nm out of San Jose and decided to divert to Managua (Nicaragua). During the diversion the cabin started to fill with smoke. The landing was safe, the passengers were evacuated. No injuries have been reported.

Smoke Sparks Midair Scare

November 21, 2008

A plane's airconditioning unit has been blamed for causing a midair drama on a flight from Mount Isa to Townsville in north Queensland on Friday night.

Regional Airline MacAir says the pilot made an emergency landing at Mount Isa after the cabin filled with smoke.

Passenger Trevor Morris says there seemed to be a fault before

take off. "I thought it was a bit strange that we were sitting on a tarmac for about 10 to 15 minutes before we even moved and by the time we turned the air conditioner on and off and on and off, it didn't seem to be working very good," he said.

"So we decided to take off and we got up probably about 8,000 to 10,000 feet up - next minute there was electrical smoke in the

cabin, the cabin was starting to fill up with smoke."



Skywest rejects takeoff twice because of fire alert

November 11, 2008

A Skywest Airlines Canadair CRJ-200, flight OO5808 from Winnipeg, MB (Canada) to Chicago ORD, IL (USA), rejected takeoff from runway 18 at Winnipeg due to a fire alert in the rear lavatory. Fire Services responded and rushed towards the airplane. The smoke however dissipated and the fire indication ceased as the airplane taxied off the runway. No traces of fire were found.

Two hours later the airplane attempted takeoff again, however rejected takeoff once again due to a fire indication in the rear lavatory. This time emergency services were not called out, the airplane taxied to the apron. The flight was cancelled.

British Midlands Smoke in Cabin

November 19, 2008

The crew of a bmi British Midland Airbus A320-200, registration G-MIDP performing flight BD133 from London Heathrow, EN (UK) to Dublin (Ireland) with 93 passengers, declared emergency due to smell of smoke in the cabin. The airplane landed safely on runway 28 about 10 minutes later.

Embraer Smoke in Cockpit

December 3, 2008

An airplane bound for Los Angeles International Airport had to return to Palm Springs tonight after smoke filled the cockpit, officials said.

The twin-engine United Airlines Skywest flight No. 6552 landed safely at Palm Springs International Airport at 5:46 p.m., Federal Aviation Administration spokesman Ian Gregor said.

Gregor said officials had not yet determined what caused smoke to fill the cockpit of the Embraer E120, which carried 14 people.

Smoke Disrupts Brazil Flight

December 7, 2008

The crew of Gol Transportes Aereos Boeing 737-800, flight G3-1629 from Belo Horizonte to Sao Paulo Guarulhos (Brazil) with 137 passengers, declared emergency and turned the airplane back to Belo Horizonte about 15 minutes into the flight after toxic smoke began to emerge from the air conditioning outlets with passengers panicking and showing first indications of suffocating. The oxygen masks in the cabin were not released. As the airplane descended, the smoke began to disperse. The landing 15 minutes later was safe and met by medical emergency services.

USAirways Emergency Landing in Philadelphia

November 16, 2008

It was a scary trip for some passengers on a flight from Allentown to Philadelphia Sunday morning. A Piedmont Airlines flight was forced to make an emergency landing at Philadelphia International Airport. The plane was approaching the airport when the crew got an indication the nose gear was not down. The plane ended up sliding down the runway on its nose. Fire crews spread foam on the runway and the plane came to a skidding stop with no smoke or fire. No one was hurt but the airport was closed for about 25 minutes. The flight had taken off from Lehigh Valley International Airport with 38 passengers and crew on board about an hour before the emergency landing. Piedmont Airlines operates as a U-S Airways Express Carrier.

Ben-Gurion Emergency

December 5, 2008

A fire in an onboard kitchen forced an inbound El Al flight to make an emergency landing at Ben-Gurion Airport early Friday morning. Passengers noticed smoke aboard the full plane from Newark airport about an hour and a half before landing. El Al said, "A power failure in the aircraft's kitchen caused the spark. The crew switched off the electricity and contained the fire."

Swiss Smoke Alert

November 30, 2008

A Swiss International Airlines Airbus A340-300, registration HB-JMH performing flight LX138 (dep. Nov 29th) from Zurich (Switzerland) to Hong Kong (China) with 228 passengers, diverted to Urumqi in northwestern China, after the crew received a smoke alert in one of the toilets on board. The landing was safe, the passengers disembarked normally.

■ ASA Smells Smoke in Charleston

November 28, 2008

An Atlantic Southeast Airlines Canadair CRJ-200 on behalf of Delta Airlines, flight EV5310/DL5310 from Atlanta, GA to Syracuse, NY, diverted to Charleston, WV after the crew smelled smoke in the cockpit. The landing approximately 15 minutes later was safe.

American Returns to MSP

December 12, 2008

American Airlines MD-82, flight AA-1683 from Minneapolis, MN (MSP) to Dallas Ft. Worth, TX (DFW) with 117 passengers and 5 crew, declared emergency reporting a fire on board about 4 minutes after takeoff from runway 17. The airplane returned to Minneapolis runway 12R and landed safely 10 minutes after takeoff.

Passengers reported, that they heard a loud bang from below, then blue smoke started to emanate from the cabin floor.

Mesa: Smoke in Cabin

December 26, 2008

The crew of a Mesa Airlines Canadair CRJ-700 on behalf of United Airlines, flight YV-7152/UA-7152 from Charlotte, NC to Washington Dulles, DC (USA), declared emergency reporting a smoke detector had gone off shortly after takeoff. The airplane returned to Charlotte for a safe landing 7 minutes after departure. The passengers disembarked normally via stairs.

Passengers reported, that smoke became visible in the cabin.

Dash-8 Smoke in Cockpit

December 25, 2008

The crew of a Piedmont Airlines de Havilland Dash 8-100 on behalf of US Airways, flight PI-4558/US-4558 from Newburgh, NY to Philadelphia, PA (USA) with 32 passengers and 3 crew, declared emergency reporting smoke filling the cockpit and diverted to Wilkes-Barre/Scranton Intl. Airport for a safe landing on Christmas day about one hour after departure. The cause of the smoke is under investigation.

Smoke Detected in New York

December 11, 2008

The crew of an American Airlines Boeing 767-300, registration N360AA performing flight AA-85 from New York JFK, NY to San Francisco, CA with 207 people on board, declared emergency about one minute after take off from runway 04L reporting a smoke detector had just gone off. The airplane levelled off at 3000 feet and returned for a safe overweight landing on runway 04L about 10 minutes after takeoff. The airplane turned off onto a taxiway, was inspected by emergency services and then proceeded to a gate.

United: On-Board Fire and Dense Smoke in the Cabin

December 14, 2008

United Airlines Boeing 777-200 flight 836 from Shanghai (China) to Chicago O'Hare, IL (USA) with 249 passengers and 15 crew, reported about 13nm from O'Hare Airport at 5000 feet MSL, that smoke was filling the cabin getting worse with visibility already significantly reduced. The crew was unable to determine the source of the smoke. The flight crew declared emergency. The first officer flew the airplane to a safe landing and turned off onto the first high speed taxiway, where he noticed a low engine oil indication of engine #2 (right). The engine (PW4090) was shut down. The captain elected to initiate an evacuation via slides. During the evacuation one passenger suffered a serious injury, the fracture of one vertebra.

■ Skywest Lands, Smoke in the Cockpit

December 29, 2008

A Skywest Airlines Canadair CRJ-200, flight OO-2716 from Milwaukee, WI to Flint, MI (USA) with 40 passengers, returned to Milwaukee after the crew reported smoke in the cockpit. The landing 11 minutes after takeoff was safe.

Check us out on the web:

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EVAS Dealership Program for MRO & Completion Centers

December 8, 2008

EVAS™Worldwide has announced the creation of a new EVAS Dealership Program for Aviation Maintenance, Repair, & Overhaul (MRO) and Completion/Refurbishment Centers.

Jon Parker, Chief Operating Officer, of EVAS™Worldwide said that with increasing installations and demands for EVAS, the company has decided to seek dealers who

can offer EVAS sales, installation, and servicing across various type passenger aircraft from very light business aircraft through regional aircraft and upwards to wide-bodied commercial aircraft.

EVAS™Worldwide offers centers wholesale pricing, sales force and technician training, EVAS demonstrations, full drawings, hardware, and installation instructions for each STC. Also offered is a web-

site listing as an approved dealership on EVAS' website.

Expanding into dealerships & installation centers, both nationally and internationally, makes sense given the large quantity of current EVAS operators and the increase in numbers of units sold, said Parker, as it benefits both flight safety & the aviation community, and MRO/Completion Centers, as well as EVAS™Worldwide. →

EVAS Standard Equipment on all Gulfstream G-650s

EVASWorldwide and Gulfstream Aerospace Corporation have signed contracts to make EVAS standard equipment on the Gulfstream G-650 aircraft. This relationship makes Gulfstream the first OEM to provide EVAS on a standard production aircraft.

"Finally after more than 15 years since the FAA recommended smoke protection – Gulfstream

will make it standard" commented EVAS COO, Jonathan Parker.

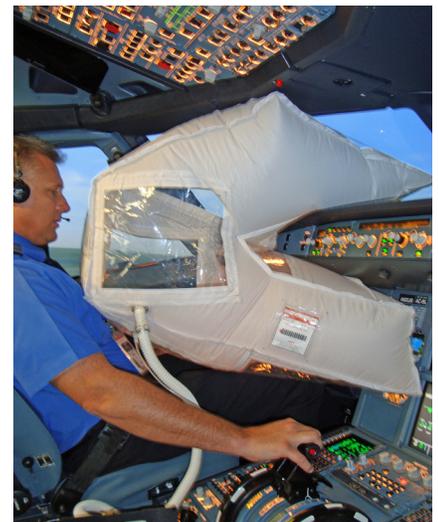
Gulfstream Aerospace Corporation has built the world's first aircraft to meet the FAA's Part 25 regulations concerning continuous flight deck smoke as described in Advisory Circular 25.9A recommending standards for smoke protection. A standard such as this sets the sights high

for other aircraft manufacturers in regards to smoke protection. Currently, no commercial aircraft operating meets the Advisory Circular 25.9A recommendations for smoke protection for flight crews. The new Gulfstream-650 due in 2012 has "designed in" vision technology that allows pilots to see in dense smoke. No other aircraft offers smoke protection as standard equipment. →

SAFITA

The Royal Aeronautical Society recently endorsed a Specialist Paper, "Smoke, Fire and Fumes in Transport Aircraft (SAFITA)," authored by Captain John Cox, FRAeS, (Fellow of the Royal Air Society). The Specialist Paper shows the risks and layers of mitigation of Smoke/Fire/Fumes (S/F/F) in transport aircraft and what can be done to improve safety and decrease risk. Captain Cox remarks, "the ongoing acceptance and interest in SAFITA validates the industry's recognition of S/F/F being a significant issue in commercial aviation." In addition to its significance, SAFITA has proposed a list of recommendations on how the industry can combat smoke. SAFITA is available for download at www.safeopsys.com or at the EVASWorldwide booth at NBAA.

EVAS deployed in Airbus A320 simulator at the Jet Blue training facility, Orlando, Florida



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Cockpit Smoke Solution

According to Air Safety Week, at least once a day somewhere in North America a plane has to make an unscheduled or emergency landing because of a smoke and in-flight fire event.

Statistics from FAA Service Difficulty Reports clearly show that in-flight fires, smoke or fumes are one of the most significant causes of unscheduled or emergency landings and account for 3 precautionary landings per day based on 1,089 events during a 10 month period in 1999.

A pilot encountering smoke in the cockpit so thick that the instruments cannot be seen can utilize a relatively simple device, which provides a clear view.

a Jeppesen navigation manual. When needed, the pilot removes the IVU (Inflatable Vision Unit) from the EVAS case and pulls a tab to activate the system. The IVU inflates with one lobe above and one below the glareshield. According to EVASWorldwide, the manufacturer, the whole process takes 15-20 seconds. The pilot leans forward, placing his smoke goggles in contact with the EVAS clear window, giving him an unimpaired view of both vital instruments and the outside world.

After it is activated, EVAS is continually pressurized with filtered cockpit air to

EVASWorldwide uses a fleet of mobile cockpit demonstration units to show potential customers the benefits of the system. EVAS demonstrations use a fog generator to reduce cockpit vision so the pilot cannot see his hand in front of his face. Smoke goggles offer no vision improvement, though they do protect the eyes. After EVAS is deployed, the pilot can clearly see both the vital instruments and out through the windshield. It is truly an amazing experience. Most pilots are sold on the benefits of EVAS on the spot.



Normal cockpit visibility



*Uncontrolled smoke in the cockpit
-No visibility*



*Uncontrolled smoke in the cockpit
-Visibility with EVAS*

The Emergency Vision Assurance System (EVAS) provides a clear space of air through which a pilot can see flight instruments and out the front windshield for landing. The pilot still relies on the oxygen mask for breathing, smoke goggles for eye protection and employs approved procedures for clearing smoke from the aircraft. When smoke evacuation procedures are not sufficient, EVAS provides emergency backup allowing the pilot to see and fly the aircraft to a safe landing.

EVAS measures 3 x 8.5 x 10 inches when stowed, the approximate space of

maintain volume, and preserve a clear view. The device is independent of aircraft power, relying on a self-contained battery-power supply, pump and filters in each storage case. EVAS systems are designed to run for at least two hours, and filter down to .01 microns. The system requires virtually no installation.

While FAA regulations require smoke detectors, fire extinguishers, smoke goggles and oxygen masks, pilots point out that these safeguards and all other systems and equipment for flight safety are useless if the pilots cannot see to control and land the aircraft.

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