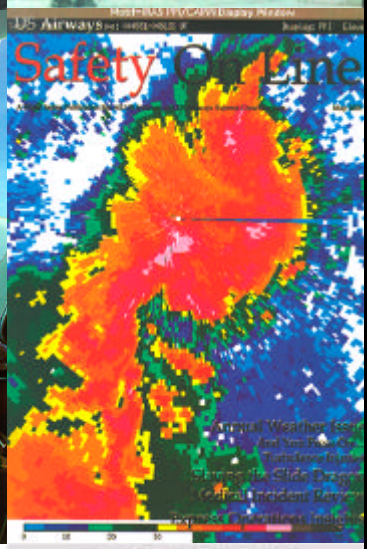
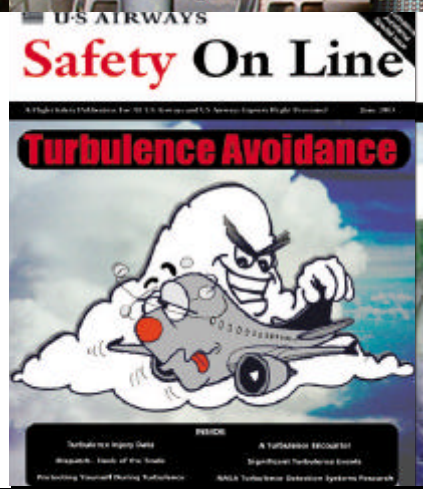
Safety On Line

A Flight Safety Publication For All US Airways and US Airways Express Flight Personnel Spring 2006





Safety On Line

A Flight Safety Publication for all US Airways and US Airways Express Flight Personnel

Spring 2006

On the Cover:
Safety On Line covers from when the magazine was first developed in 1994 to present day.

Contents

US Airways
Corporate Safety Department

Safety Hotline 1-800-299-3550
FAX: 412-747-1056
COMAT: PIT H-465
US Postal Delivery:
US Airways Flight Safety
PO Box 12346 - PIT H-465
Pittsburgh, PA 15231-0346

Vice President Safety & Regulatory Compliance
Captain Paul Morell
480-693-1476

Vice President Safety & Regulatory Compliance US East
Jim Schear
412-747-5530

Director Flight Safety & Quality Assurance
Captain Peter Eichenlaub
412-747-5980
petee@usairways.com

Manager Flight Safety
Steve Behr
412-747-3059
sbehr@usairways.com

Manager Cabin Safety
Anthony Palombo
412-747-5739
ap@usairways.com

ASAP Specialist
Editor, Safety On Line
Chris Snyder
412-747-1309
csnyder@usairways.com

FOQA Analyst
Max Brahler
412-747-0132
mbrahler@usairways.com

Contributing
Dean Molter
Anthony Boerio
Bob Hemphill

Welcome to the new US Airways, the Low-Cost Carrier of the future!

As the newly appointed Vice President - Safety and Regulatory Compliance, I and my staff are fully committed to the corporate objectives for 2006, which include transforming US Airways into a truly low-cost carrier, restoring consumer confidence, integrating the airline and engaging the employees. The Safety Department is committed to provide you the tools and assistance to meet these objectives. We are working closely with Flight Operations, Flight Training and Flight Technical Operations in the gap analysis of East and West policies and procedures, a transition plan and subsequent training. The plan is coming together quickly, utilizing best practices to build the finest and safest airline in the industry.

Both East and West will see gradual incremental change through 2006 and into 2007. When it is time to merge the airlines both pilot groups will have identical policies, procedures, checklists and manuals – we will be one airline, identical in every way. Gradual incremental change over time is preferable to large changes over a short period. This will allow piecemeal assimilation of positive change and enhance safety.

Regardless of the approach, I ask everyone to be cognizant of the increased risks associated with these changes and the distractions of negotiations and seniority integration issues. Use your Threat and Error Management tools to assist in dealing with these risks and the risks you face day-to-day on the line. We are on the crossroads to success – I ask each and every one of you to do your best to ensure we do, in fact, succeed. Pete Eichenlaub, Director - Flight Safety, and I are here to support you in every way possible and are always available. You can reach us at Peter_Eichenlaub@USAirways.com (412-747-5980) and/or Paul_Morell@USAirways.com (480-693-1476).

The merging of two excellent airlines and cultures will present many challenges and risks – we must be ever vigilant and ensure safety is paramount – the success of our new Company and its very survival is dependent on how well we do our job and maintain safety as an integral element of our culture and decision-making process. In the short and long runs, following established policies and procedures and maintaining a safe environment will result in increased efficiency and personal safety, improve the quality of service we provide our customers, and ultimately our competitive edge in the marketplace.

I am excited about US Airways future and invite you to join me in ensuring its success!

Captain Paul Morell
Vice President - Safety and Regulatory Compliance

To the faithful and enthusiastic readers of *Safety On Line*:

In all likelihood, this will be the final issue of *Safety On Line* as you have known it for over 10 years. In integrating the East and West Safety Departments, the best practices from each are being formed into the new Safety structure – and undoubtedly, *Safety On Line* is one of the best – and it will survive, if not in its current form, then in its ideals. And by working together we can make it even better! No decisions have yet been made, but be assured that you will find the new Safety publication this Summer just as useful and fact-filled as *Safety On Line* has always been.

Since the first issue of *Safety On Line* was published in December 1994, it has been enthusiastically accepted by all US Airways and US Airways Express flight personnel. The magazine has been published with you in mind, and your positive feedback and constructive criticism have only made it a better medium.

Safety On Line received the 1999 Flight Safety Foundation Cecil A. Brownlow Publication Award for its quality of writing and research, and its contribution to safety awareness. In more recent issues, *Safety On Line* has included more data and trend analysis from US Airways' ASAP and FOQA programs as these programs become more mature – heightening your awareness of what is actually occurring on the line.

We take the liberty of speaking for all of the Company employees who have worked on and contributed to the publication of *Safety On Line*: Thank you for your unwavering support and dedication to safety at US Airways; and for your interest, comments and feedback in making *Safety On Line* an even more effective tool in completing Corporate Safety's mission: To support the Corporation's absolute commitment to providing the highest level of safety by the effective identification, evaluation and resolution of safety concerns, and to enhance safety awareness by effective communications throughout the organization.

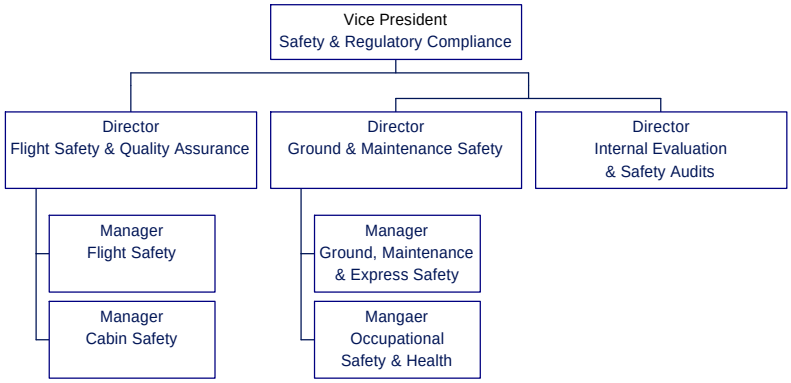
Sincerely,

The Corporate Safety Staff

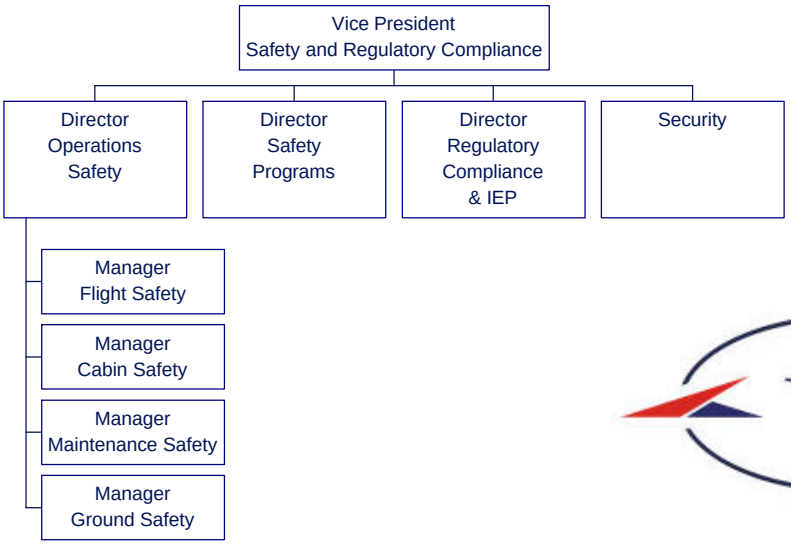
"The Times, They Are a Changin'"

Thought you might be interested in knowing what is happening to the Corporate Safety structure during the merger of US Airways East and West.

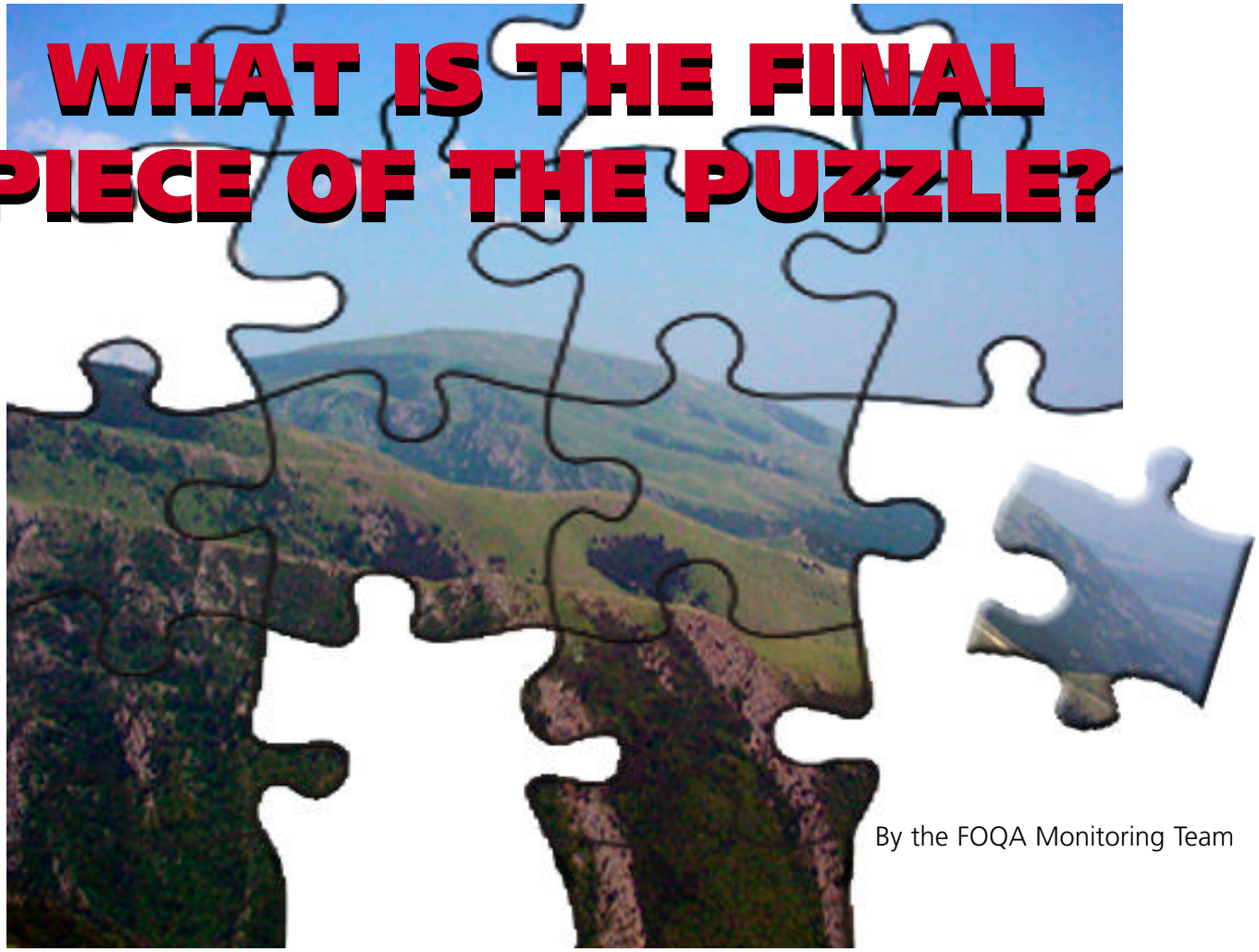
As of this writing, Corporate Safety continues to operate as it has for years – fully staffed with active and robust safety programs addressing East concerns and issues. The one exception is that US Airways' Vice President – Safety and Regulatory Compliance, Captain Paul Morell, oversees activities in both the PIT and PHX offices. Our current organization, headed by Jim Schear, Vice President – Safety and Regulator Compliance (East) looks like this:



By the time of the completed integration of our two carriers, Corporate Safety will reside in PHX, and will have taken on a more involved structure to reflect the demands of the larger airline (flight-applicable positions are shown):



WHAT IS THE FINAL PIECE OF THE PUZZLE?

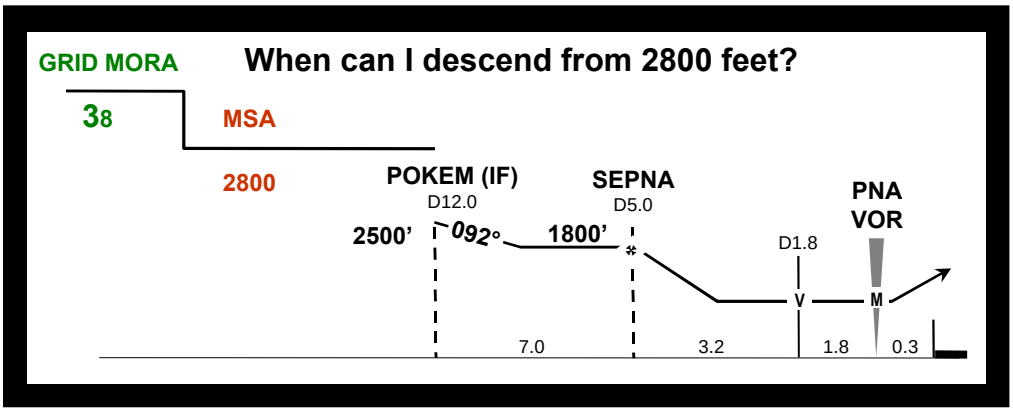


By the FOQA Monitoring Team

Our flight is inbound to Punta Cana International (MDPC/PUJ). Approximately 30 miles NW of PUJ, Punta Cana Approach, a non-radar facility, has given us a clearance: "Direct POKEM, descend and maintain 2,500 feet, cleared for the VOR DME Runway 09 approach."

The weather is VMC, so the clearance is accepted. Soon after, the widely-scattered clouds become broken and the visibility is reduced. Accepting the direct routing was not the best idea. Since direct POKEM is an off-airways routing, all minimum altitudes for IFR operations are maintained. The Grid MORA is 3,800 feet and the MSA for this sector is 2,800 feet. The plan is to descend to the Grid MORA of 3,800 feet until within 25 DME from the PNA VOR, and to then descend to the sector MSA of 2,800 feet.

And for the last piece of the puzzle, when can a descent be initiated below 2,800 feet? Of course, the answer is "when established on a segment of a published route or IAP." We cross POKEM at 2,800 feet. *After* Pokem inbound, a descent below 2,800 feet is allowed since we are established on the instrument approach procedure.



On December 1, 1974, TWA Flight 514, a B727-231, was diverted from Washington National (DCA) to Washington Dulles International (IAD). The flight was cleared to 7,000 feet and handed off to Dulles Approach. Five seconds after the handoff, the Dulles controller said, "TWA 514, you are cleared for Runway 12." There was a dis- what altitude they could de- agreed on a descent to the ini- was 1,800 feet. Unfortunately, the initial approach altitude of 1,800 feet was below the terrain near the town of Bluemont, Virginia. TWA 514 became the landmark Controlled Flight Into Terrain (CFIT) accident. Many positive changes in United States' aviation occurred because of this accident. Airliners were equipped with GPWS, controller and pilot responsibilities were clarified regarding operations on unpublished routes, and a pilot-controller glossary was published in the Airman's (now Aeronautical) Information Manual (AIM).

You are the final authority on Terrain Avoidance - NOT ATC!

cussion in the cockpit about scend to. The flight crew tial approach altitude, which

The legacy that grew out of TWA 514's loss is included in all IFR training, and appears in the AIM and also in FAR 91.175: "When operating on an unpublished route or while being radar vectored, the pilot, when an approach clearance is received, shall in addition to complying with minimum altitudes for IFR operations, maintain the last altitude assigned to that pilot until the aircraft is established on a segment of a published route or instrument approach procedure unless a different altitude is assigned by ATC."

CAUTION!! In our Latin America/Caribbean operations, ATC may assign altitudes below those for safe flight.

The bottom line is this: Captain, you are the final authority on Terrain Avoidance – NOT ATC! Do not descend to the cleared altitude until allowed by the MEA, MOCA, Route MORA, Grid MORA, or MSA, *and then for the final piece of the puzzle*, until established on a segment of the published route or instrument approach procedure.

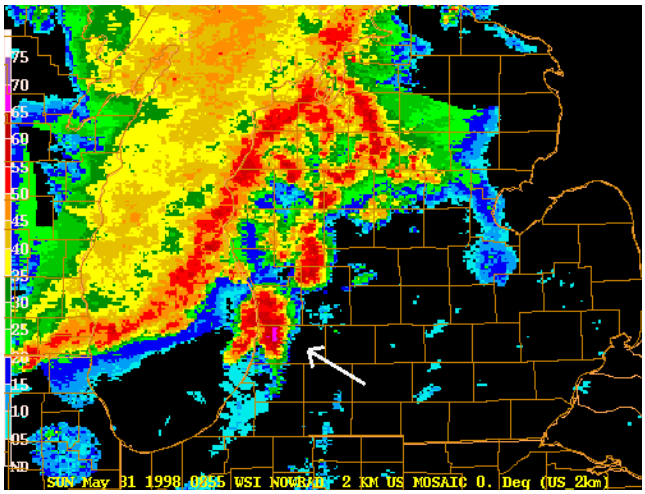
FLY SAFE!

The following information from the US Airways Maintenance Policies and Procedures Manual (MPPM) is applicable to line operations, and is intended to inform all flight personnel of corporate policies regarding severe weather actions taken on the ramp. (The MPPM information has been edited for clarity and applicability.)

In order to maintain a safe work environment for all US Airways employees working outdoors on airport ramp areas, it is crucial the most accurate storm information available be utilized in determining when to suspend ramp operations during periods of lightning activity and when to resume outdoor activities after an electrical storm passes.

Lightning detection and employee notification system capabilities vary from station to station. However, as a minimum, each station must have an established method of determining the distance of an incoming storm and providing timely notification to outdoor employees utilizing one of the strategies described below. (Note: The term 'lightning' is to include cloud-to-cloud and ground-to-cloud electrical activity, as well as cloud-to-ground strikes.)

Detection Systems



AUTOMATIC DETECTION - Many airports have electronic detection systems that track storms, count and locate each lightning strike and determine the potential for lightning strikes, based on atmospheric conditions. These systems have been proven to be highly accurate and are utilized where they have been purchased by either US Airways, airport authorities or other carriers. Although highly accurate, these systems require human interpretation, coupled with visual observation of weather conditions in order to provide an effective means of warning. Lightning Review Committees may also be used to optimize the effectiveness of automatic detection equipment. Distance and time duration for Amber and Red alerts will be determined based on current storm and lightning knowledge, equipment capabilities and manufacturers recommendations.

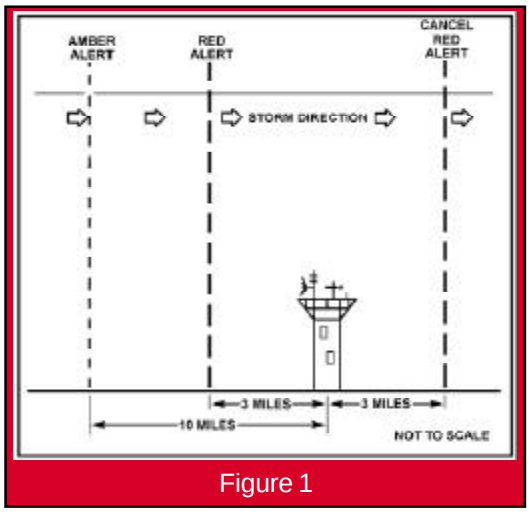


Figure 1

MANUAL DETECTION - Where automatic detection systems are not available, electrical storms are to be tracked by utilizing a combination of visual checkpoints and the timing of the span between the flash of lightning and the sound of its thunder (5 seconds equaling one mile), coupled with any other available storm warning information (i.e., Doppler Radar, news reports, tower sightings, etc.). Checkpoints are to be previously identified reference points on the horizon that have been predetermined to be 3 and 10 miles from the airport. When manual detection methods are used, the following guidelines will be followed:

- An Amber Alert is to be called when lightning is determined to be within a 10-mile radius of the airport operations area (see Figure 1).
- A Red Alert is to be called when lightning has been detected or witnessed within a 3-mile radius of the airfield (see Figure 1). Red Alert conditions are to remain in effect until the storm has moved beyond 3 miles and atleast 10 minutes has occurred since the last lightning strike.

Alerts

AMBER ALERT - During an Amber Alert, the use of communication headsets is to be discontinued for all receipt and dispatch operations. All outdoor employees are to be notified that an Amber Alert has been called and that a Red Alert is pending. (Emphasis added by Flight Safety.)

RED ALERT - WARNING: REMAINING UNDER JETWAYS, AIRCRAFT WINGS OR BUILDING OVERHANGS DURING A RED ALERT IS PROHIBITED. All outdoor employees are to be immediately notified that a Red Alert has been called and the ramp has been closed. All outdoor operations are to be suspended and all personnel are to take cover either in an enclosed vehicle or inside a building away from open windows and doorways. When it is visibly evident that isolated cell(s) have passed the airport and the overhead sky is clear of storm clouds, the ramp my be reopened prior to the minimum ramp closure period.

Employee Notification

When an Amber or Red Alert has been declared, and when an alert has been lifted, employees are to be immediately notified. The preferred method of employee notification occurs via a light system or audible alarm. When such systems are not available, radio communication, verbal contact and announcement on the Ramp Identification System (where available) must be used.

Severe Weather Parking System (SWPS) [See FOM 5.12.6 for complete system description and flight crew duties.]

US Airways uses this system when weather conditions restrict ground personnel access on the ramp. The system includes a light scheme (similar in design to a traffic light) mounted to a stationary vehicle positioned at the gate.

Note: The aircraft will not be chocked at the gate.

When the Captain turns off the anti-collision light/beacon this signals to ground personnel the engines are shut down, **the parking brake is set**, and the agent is clear to move the jetway into position.

When SWPS is in use, delivery of passenger checked baggage may be delayed until danger of lightning strikes is over.

Incorrect use of the TCAS traffic display

ACAS II Bulletin

Editorial

TCAS II is a last resort safety net designed to prevent mid-air collisions. It alerts the flight crew and provides Resolution Advisory (RA) maneuver indications when it computes a risk of collision. The correct use of TCAS II increases the safety of air transport.

The TCAS II traffic display is provided for the purpose of assisting the flight crew in the visual acquisition of aircraft in the vicinity. Of course, it also helps to improve flight crew situational awareness.

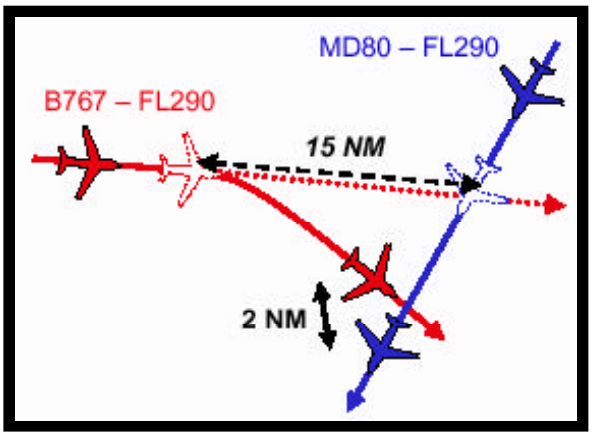
However, experience has shown that in some cases, flight crews are tempted to make their own traffic assessment based on the traffic display information, and to maneuver in anticipation of ATC instructions.

The TCAS II traffic display can be misinterpreted since it provides only partial information, it has limited accuracy, and it is based upon a moving reference. It has not been designed for the purposes of self-separation or sequencing, and using it for these purposes is inappropriate, and could also be hazardous.

This ACAS Bulletin includes some actual events where problems arose due to misinterpretation of the TCAS II traffic display, and provides some insight into why these events occurred.

John Law
Mode S and ACAS
Program Manager,
EUROCONTROL

Event 1: Loss of separation due to an inappropriate turn



A B767 heading 100 and a MD80 heading 217 are maintaining FL290 on crossing tracks. **The B767 will pass approximately 15 NM behind the MD80** (dotted line on the figure).

For radar separation, when they are still 80 NM apart, the controller instructs both aircraft to maintain their present heading.

One minute before the tracks cross, the controller provides traffic information to the B767 *"eleven o'clock, from left to right, same level, aircraft type MD 80, present time 25 NM, converging*". The B767 pilot starts monitoring a target, which is on the left hand side of the TCAS traffic display.

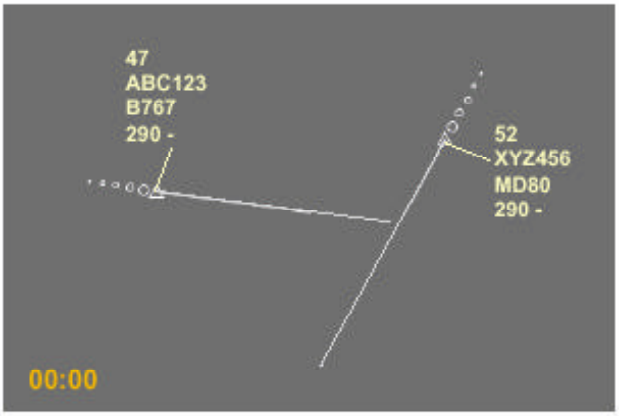
As he assesses that the other traffic is converging head-on, the B767 pilot asks: ***"Where is this twelve o'clock traffic going***?" The controller responds with updated traffic information.

However, the B767 pilot says: ***"We're going to take a heading here 120"*** whilst starting to turn to the right. Due to this turn, which is in the wrong direction, the horizontal separation reduces quickly and a TA is triggered on both aircraft. Whilst starting to descend, the B767 pilot says: ***"we'd like to go to [FL] 270"***.

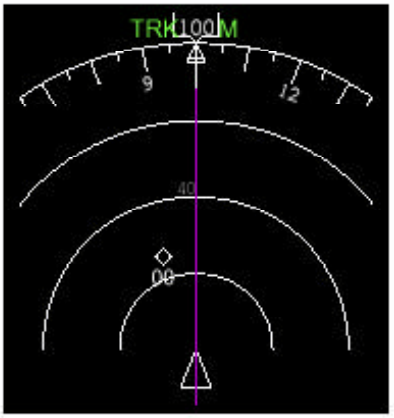
Afterwards, to justify his decision to turn, the B767 pilot said to the controller that *"the traffic was coming right up, so we turned to avoid the traffic*". **This inappropriate turn reduced the separation to only 2 NM**.

So, why did the B767 pilot decide on his own to turn, contrary to the ATC instruction? And why to the right?

The figures below show how the situation was represented on the controller's radar display and the B767 TCAS traffic display, at the time of the initial traffic information.



Controller's radar display



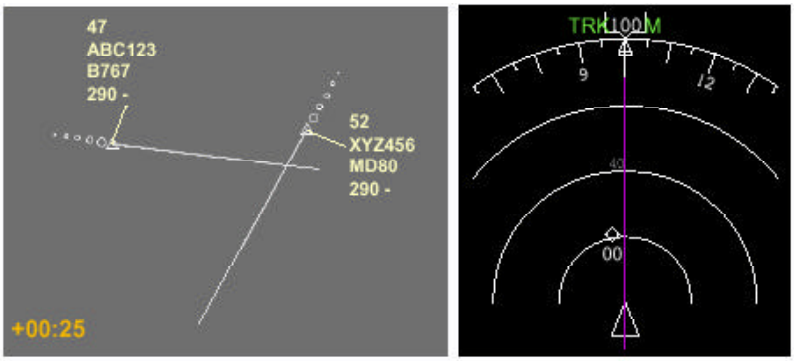
B767 TCAS traffic display

On the controller's display, the 3 minute speed vector (magnetic track and speed) clearly shows that the B767 was going to pass behind the MD80 (which was faster: 520kts vs. 470 kts ground speed). This is not obvious on the TCAS traffic display.

The reason why the B767 pilot was misled is explained on the next page:

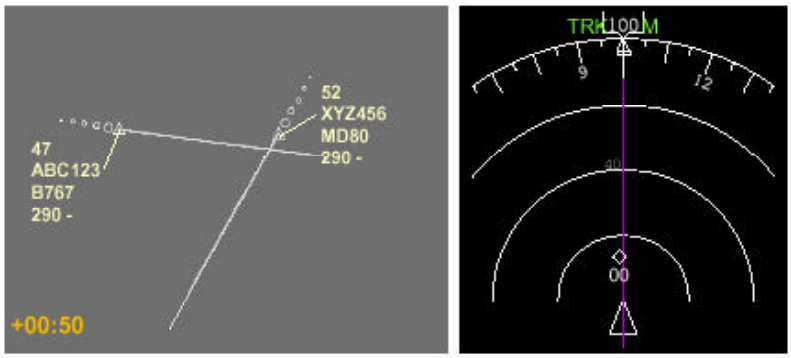
The TCAS traffic display is not a radar display

Due to the relative motion of the symbol and the lack of speed vector, **it is extremely difficult to anticipate the evolution of the situation based solely on the TCAS traffic display** (see explanation on page 10). In the event described on the first page, the B767 pilot related a target on the TCAS traffic display to the initial traffic information. What the pilot could see was a target moving **apparently** on opposite track, slightly on the left. So, he started to question the controller :



"Where is this 12 o'clock traffic going?"

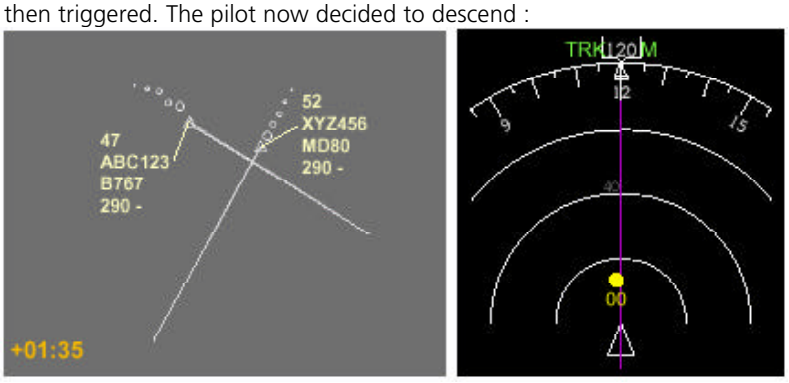
When the target was at 12 o'clock position and less than 20 NM, the B767 pilot decided to turn right to avoid the target on the TCAS traffic display :



"We're going to take a heading 120"

The pilot could not relate the direction of the traffic, contained in the controller's traffic information, to the information provided by the TCAS traffic display, so he did not take it into account. But to the controller, it was obvious that this turn to the right would create a loss of separation.

Due to the turn to the right, the target remained on the left hand side on the TCAS traffic display, apparently still on opposite track, and a TA was then triggered. The pilot now decided to descend :



"We'd like to go to 270"

A loss of separation then occurred, the reason for this incident was not understood by either the pilot or the controller.

The TCAS traffic display is not designed to support separation maneuvers, but to aid visual acquisition of an intruder. It gives only a snapshot of **the relative horizontal and vertical position of other aircraft in the vicinity.**

Regulations for the use of the TCAS traffic display

ICAO PANS-OPS, Doc 8168 states that:

"Pilots shall not maneuver their aircraft in response to traffic advisories (TAs) only"

This point is emphasized in the ICAO ACAS II Training Guidelines for pilots:

"No maneuvers are made based solely on the information shown on the ACAS display"

ICAO standards only include phraseology to report RAs. Therefore, ***pilots should not report "TCAS contact" or "we have it on TCAS" after traffic information from ATC.*** *Indeed, such a report provides no added value to ATC.*

Examples of incorrect use of the TCAS traffic display

Decisions to turn

• A Fokker 100 is cleared to descend to FL110. When passing through FL120, two targets appear on the TCAS traffic display, both *"in front, on the left, at -15"* (i.e. 1500 ft below). A "Climb" RA is triggered. The pilot follows the RA but also decides to turn to the right. Fortunately the pilot's correct reaction to the RA provides safe vertical separation, because the inappropriate turn reduces the horizontal margin to 0.2 NM.

• A B737 is cleared to climb to 3000 ft. A VFR on an opposite track is level at 3500 ft, but offset horizontally. The controller provides traffic information to the B737. The pilot reports two targets on the TCAS traffic display and shortly after reports a left turn to avoid this traffic. Fortunately, the controller instructs the B737 to stop climb at 2500 ft, because the inappropriate turn reduces the separation.

ATC instructions disregarded

The two following events were reported by controllers at a major European airport.

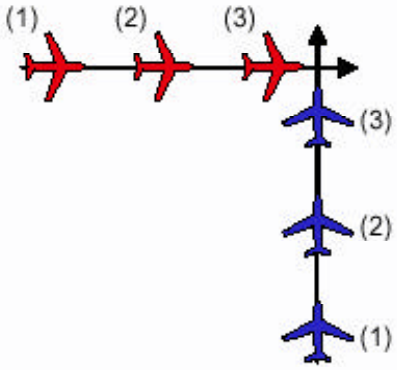
• *"The A340 reduced its speed on its own, miles too early on approach, to increase the distance from the preceding aircraft [based on the TCAS traffic display]. It messed up the sequence and an A320 was then only 4 NM behind it! I was obliged to make the A320 perform an "S" for delay".*

• *"The pilot did not turn on time onto base leg [because he was monitoring the preceding aircraft on the TCAS traffic display]. After no reply to two instructions to intercept the localizer, I had to instruct [the next aircraft] to climb back to 4000 ft to avoid an Airprox and I had to give headings for delaying action to all the other aircraft [...]. When he finally replies, he tells me "I can't listen to you, I must monitor my TCAS".*

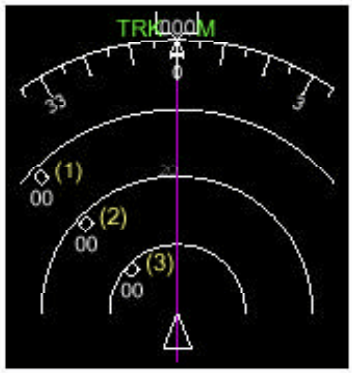
Moving reference display

The reference for the TCAS traffic display is the aircraft own position, which is constantly moving (unlike the controller radar display, which has a fixed reference). This gives a display where the targets are shown in relative motion, which is a major cause of TCAS traffic display misinterpretation.

The most significant illustration of this is when two **aircraft are converging at 90°.** The following figures show that the symbol of an aircraft on a 90° crossing track actually appears to be converging at a **45° angle on the TCAS traffic display.**



Aircraft trajectories converge at 90°



Closure appears to be at 45°

The same issue is also evident when the own aircraft is catching up a slower aircraft flying in the same direction. In this situation, the target is displayed apparently as an intruder on an opposite direction track.

The interpretation of an intruder trajectory on the TCAS traffic display is even more difficult when the own aircraft is maneuvering since the bearing of the intruder will vary significantly even if its heading is steady.

In addition, the lack of either a speed vector or knowledge of the intent of other aircraft increases the difficulty in the interpretation of the TCAS traffic display.

Furthermore, it is difficult to determine in advance if the aircraft are indeed on a collision course or whether separation will be maintained. For instance, when an extended range is selected, the size of the target symbol can be large, corresponding to a few nautical miles. Therefore, it is much less precise than the controller's radar display.

Partial traffic picture

Although the TCAS traffic display assists to detect the presence of intruders in the close vicinity, flight crews should not be over-reliant on this display. It supports visual acquisition; **it is not a replacement for the out-of-window scan.** One of the main reasons is that the traffic picture provided by the TCAS traffic display is only partial.

TCAS only detects intruders with an active transponder, and does not provide traffic identity information. There may be aircraft in the vicinity even if there is no target on the TCAS traffic display. Therefore, flight crews may get an incorrect perception of the air traffic situation, as illustrated by the following two events.

• A controller advised a pilot approaching his cleared flight level that further descent would be in 4 NM due to traffic. The pilot answered: "We have him on TCAS". However, he misidentified the target because the actual conflicting aircraft had a transponder failure; it was shown to the controller on primary radar, only.

• A pilot filed a report due to a TCAS technical fault; it displayed an intruder in descent whereas he had had visual acquisition on a climbing fighter. Actually, TCAS operated perfectly: there were two fighters, the one descending was transponding but the one climbing was not.

TCAS surveillance range may be reduced to 5 NM in high density airspace. Therefore, pilots could observe aircraft in the vicinity, which might not be shown on the TCAS traffic display.

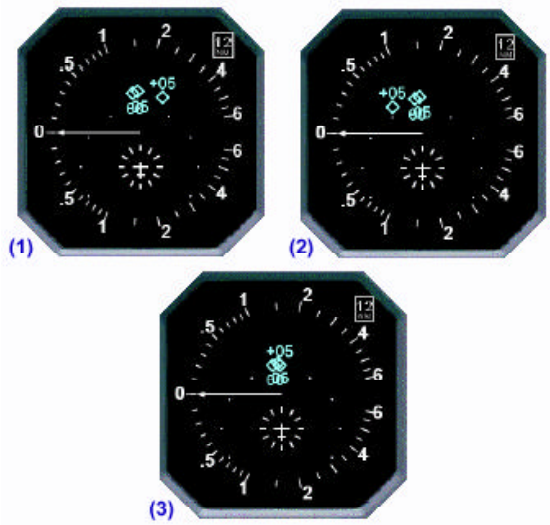
Even if aircraft are detected by TCAS, they may not be displayed. Some installations limit the number of displayed targets to a maximum of 8. In addition, the TCAS traffic display options provide altitude filtering (e.g. NORMAL mode only shows targets within +/- 2700 ft from own aircraft).

Limited accuracy of TCAS bearing information

TCAS II bearing measurement is not very accurate. Usually, the error is no more than 5° but it could be greater than 30°. Due to these errors the target symbol on the display can jump.

The following illustrations show the TCAS traffic displays of an event recorded during a TCAS II trial. There were 3 intruder aircraft, in the 12 o'clock position, but separated by 500 ft vertically. However, the intruder at +05 (i.e. 500 ft above) appears at 6 seconds intervals, on the right of the group of targets (1) and then on the left (2), before being shown in the correct 12 o'clock position (3).

In the worst case, bearing error could cause a target on one side of the aircraft to be displayed to the other. **This emphasises the danger of undertaking a horizontal maneuver based solely on the TCAS traffic display.**



Bearing variations from +17° to -26° and then to 02°

Note: TCAS II **does not** need the bearing information for collision avoidance RAs. Bearing is used for the TCAS traffic display.

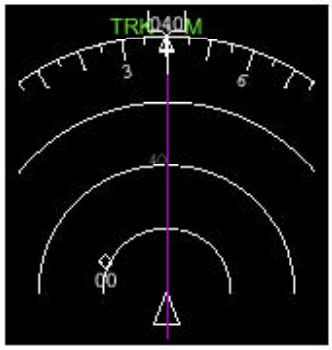
Event 2: Challenge to an ATC turn instruction for separation

A DC10 heading 100 and a B747 heading 040 are level at FL350 on a collision course.

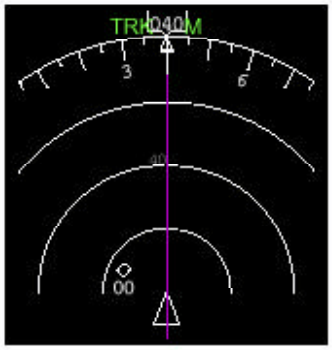
Two and a half minutes before the crossing, the controller instructs the B747 to turn 30 degrees left to achieve 5 NM separation behind the DC10. However, the B747 pilot sees on his TCAS traffic display a target on the left at the same level and so asks "Confirm 30 degrees left?" He thinks, wrongly, that **a left turn (which will actually resolve the situation)** will create a risk of collision.

Thirty seconds later, the B747 pilot says "if we turn 30 degrees left, we will be aiming towards another aircraft at our level".

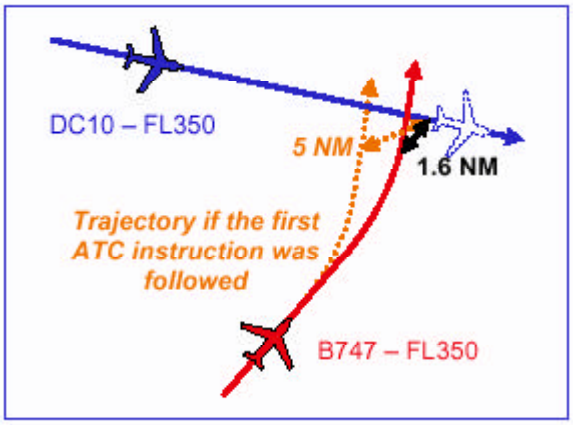
Meanwhile, a Short Term Conflict Alert has been triggered and the controller has instructed the DC10 to descend.



"Confirm 30 degrees left?"



"if we turn 30 degrees left, we will be aiming towards another aircraft at our level"



The controller then provides traffic information to the B747 pilot who asks "which heading would you like us to take?" The controller repeats his instruction to "turn left 30 degrees". This time, the B747 pilot accepts the instruction and initiates the left turn, but it is too late to maintain separation. The B747 pilot reports a "TCAS advisory". **The minimum distance was 1.6 NM.**

Subsequently, the B747 pilot asks the controller to explain the reason for the turn. The controller replies that there was conflicting traffic at the same level. The B747 pilot answers that **"we are filing [a report]; on the TCAS you sent us straight into the aircraft".**

Analysis of this incident confirmed that if the B747 pilot had complied with the initial ATC instruction to turn, 5 NM horizontal separation would have been achieved. (dotted line on the figure to the left).

Conclusion

The TCAS traffic display is designed to assist the visual acquisition of surrounding aircraft.

There is a risk that some aircraft in the vicinity might not be displayed and in addition, due to bearing inaccuracy, a moving reference, and a lack of a speed vector, together with no identity information, flight crews could wrongly attribute a target symbol on the TCAS traffic display.

Air traffic controllers base their actions on the comprehensive information shown on the radar display, which enables them to provide a safe and expeditious air traffic flow. The TCAS traffic display does not provide the information necessary for the provision of separation and sequencing.

Maneuvers initiated solely on the information shown on the TCAS traffic display have often degraded flight safety. Therefore, **pilots must not attempt to self-separate nor to challenge an ATC instruction based on the information derived solely from the TCAS traffic display.** It is the controllers' responsibility to separate aircraft.

TCAS II will trigger an RA if there is a risk of collision between aircraft. A principle of TCAS II operation is that correct reaction to posted RAs will safely resolve such situations.

The TCAS traffic display must not be used for self-separation

This is one of a series of ACAS II Bulletins addressing specific TCAS operational issues.

"Follow the RA !"
"RAs and 1000 ft level-off manoeuvres"
"Wrong reaction to "Adjust Vertical Speed" RAs"
"TCAS II and VFR traffic"
"Controller and Pilot ACAS regulation and training"

They are available on the ACAS Program website at http://www.eurocontrol.int/acas/

From Your ASAP Reports

A319 PIT-DEN

RTF/#2 Fuel Flow Clog ECAM

Shortly after takeoff on the initial climb-out, crew received an ECAM alert, Number 2 Engine Fuel Filter Clog. After leveling off at 10,000 feet and 250 knots, crew followed and initiated the ECAM and QRH procedures. Captain then contacted the Dispatcher and MOC to advise them of the situation. Crew then decided to return to PIT. Captain informed ATC, the F/As and the passengers that the flight would return to PIT. Captain stressed to the F/As and passengers it would be a normal landing. Upon descent, Captain decided to have equipment standing by as a precaution. Crew then set up for an ILS Runway 28L approach and an overweight landing at 143,600 lbs. After landing, crew then taxied to the gate.

A319 CLT-PVD

Aircraft rolled after parking brake set

Flight was assigned Gate 6 in PVD with no power available. Captain started APU during taxi-in. After parking and being given "chocks in" signal, Captain released the parking brake. Aircraft began moving backward. Captain placed the parking brake on and the aircraft stopped. F/A advised a few passengers had fallen. No one appeared hurt at the time of the incident. One passenger complained of bumping her head. Normally, the Captain doesn't release the parking brake at chocks in signal because he normally has an engine running, and he is not comfortable with chocks only and engine running. After ground power connection, 1L door is usually open, and he hesitates to release the brake during deplaning. In PVD however, crew was on APU because of no ground power. So with engines off and chocks signaled in place, the Captain released the parking brake. Subsequently, Captain was told by ground personnel that the nosewheel chock was in place, but due to ramp slope, fresh centerline paint and glycol, the chock skidded and did not hold. Captain advised operations to include notice of slick ramp in parking message and called Corporate Safety to advise them of the situation. **(Corporate Safety contacted PVD Ops and recommended ramp crew briefings on correct aircraft chocking procedures.)**

A319 BOS-LGA

Go-around/Near-miss

Flight was on short final to Rwy 22 at LGA. At approximately 300 feet, LGA Tower issued "go around, maintain runway heading, climb and maintain 2,000." During the initial phase of the go-around procedure, a Dash-8 (US Express) was observed to pass underneath the nose of the aircraft. The A319's altitude at this point was estimated to be 600 feet. Captain estimated the Dash-8's altitude was to be 200 feet below the A319's. In addition, Captain believes the Dash-8 departed LGA on Rwy 31. This incident was a near miss and needs to be investigated. **(A NMAC report was filed with New York ATC.)**

B737-300 DFW-CLT

Go-around/Tailwind and turbulence

The CLT Approach Controller turned the flight onto the 36L ILS at 5,000 feet. The First Officer could not get the B autopilot and flight director to couple to the approach. No flags and good ident, so the crew decided to use the A system as Master. When established on the approach, Captain noticed that they had over 50 knots of tailwind at 4,500 feet. Captain questioned the controller about the surface winds and was told they could expect a strong tailwind to approximately 1,000 - 1,200 feet, and calm at the surface. Controller said to expect turbulence at approximately 1,000 feet. The approach was normal to approximately 1,000 feet. Crew then encountered the turbulence, and shortly thereafter, the autopilot disconnected and the First Officer's flight director disappeared. Accomplished a go-around.

B737-300 PHL-BOS

Lightning strike

During approach to Rwy 33L at BOS, Approach Control was giving the crew extensive vectors while the runway was getting treated and plowed. Flight conditions consisted of occasional moderate-to-heavy rain, and occasional moderate turbulence. Radar painted green and yellow precip with scattered wisps of red. Surface conditions were from +1 degree C dropping to 0 degree C. Winds varying from the NE to NW at 20 knots, gusting occasionally to 35 knots, and visibility from 1/2 mile dropping occasionally to 1/4 mile. We experienced a bright flash and loud clap just off the nose. It was either a good static discharge or lightning strike. OAT was about -5 degrees C. A few minutes later, another aircraft reported a lightning strike. The comm radios never had a static prior to, or after, the event and all instruments worked fine throughout this period, with no flags and no variations. Flight went about 40 miles SE to hold while precipitation cleared the area, and waited for airport to re-open. Then visibility dropped to 1000 RVR and, since wind limitation precluded a CAT III approach, crew held awaiting improvement until fuel requirements dictated a diversion. OCC, BOS Operations, and Approach Control were all excellent during the coordination during this time. Upon arrival at BOS, Captain had Maintenance meet the flight and they discovered a small portion of the strake on the right side of the radome was missing, and several small pits on the skin surface, right side of forward fuselage. First Officer did a great job in assisting, checking alternates and discussing options.

B737-300 BOS-PHL

QNE not set

Flight was cleared to FL280 on climb from BOS. Upon level-off, ATC noted altitude read out showed aircraft 600 feet low. Both Captain's and First Officer's altimeter settings were 30.54; the Boston altimeter setting. Altimeters reset to 29.92, and flight proceeded normally. No traffic conflicts occurred. Climbing through 18,000 feet, F/A's called to request a cooler cabin. This minor distraction was enough to cause both pilots to lose focus and forget to call out 18,000 feet and altimeter setting. Fatigue, weather, stress were not factors.

B737-300 PHL-MIA

Landing gear would not move in the up position/Circuit breaker tripped

After rotation with positive rate and "gear up," landing gear lever would not move up. First Officer was flying and continued flying. QRH procedures were followed. Crew declared an emergency. Landing gear was retracted per QRH procedures. During investigation of the problem, crew noticed the "Landing Gear Latch and Press Warning" circuit breaker had popped. Crew determined it "popped" due to the First Officer's shoulder harness inadvertently causing the circuit breaker to pop. With the landing gear up, and the situation resolved, crew canceled the emergency with Departure and proceeded to destination.

B737-400 PVD-CLT

Go around/Other aircraft runway incursion

Flight was following a B757 approximately five miles in trail. The B757 had turned off the runway and our flight was getting close. At approximately 200 feet, the Tower ordered a go-around with traffic on the runway. The missed approach and subsequent landing was uneventful. Captain called the Tower after gate arrival to say "thanks." Captain was assuming that the Tower Controller was the crew's benefactor, but it turns out to be the Ground Controller working the east side of the airport. He had been working with a light airplane and cleared the aircraft to cross the runway behind the B757 and well before our arrival. Unfortunately, the light aircraft got disorientated after the crossing and ended up back on the runway. The very alert Ground Controller realized it immediately and either told the Tower Controller, or commanded the go-around himself on the Tower frequency - not sure which, but Captain was very happy with the timely clearance which kept the aircraft from flying into a very dangerous situation.

A330 SJU-PHL

Collision with parked aircraft on taxi-out/RTG

Normal pushback, engine start, and checklist. Taxi clearance to taxi to Rwy 8 via N, S, Holding Point 1. Absolutely no other instructions, cautions or stops were issued after that clearance. The confidence is that the Tower has cleared this area for known hazards coordinated with the Port Authority. It is very hard to see the area beyond or near the winglet on an A330 while taxiing. Things looked normal on taxi-out and the Captain proceeded with caution. Taxi speed was about 8 knots. Captain followed taxi protocol and procedures for centerline and taxiway clearance between terminal area to west, and taxiway safety zone and taxi clearance area to the east. Flight proceeded onto Taxiway S, westbound and accomplished their Before Takeoff Checklist. At that point, Ground Control advised the crew that they may have contacted a jet parked at the FBO adjacent to the east side of Taxiway N. Crew found it advisable to return to the gate and have this matter thoroughly checked out. Crew was where they were supposed to be on taxiway. On return to the gate, southbound on N, crew was guided by Port Authority personnel out beyond the taxiway line to clear what appeared to be a Gulfstream G-4, which was parked nose-first into the FBO, and its tail out in the access road and over taxiway safety line. The Port Authority Supervisor advised the crew that the Gulfstream was illegally parked and he apologized for the incident. He said he was trying to get hold of the Tower to caution the US aircraft, or stop the US aircraft prior to taxiing by the illegally parked Gulfstream. He was unable to contact the Tower in time. There was a small scratch and no punctures in the winglet. Max depth of indentation was 1/32". Aircraft was examined and Maintenance determined that the aircraft would be released to fly as per Engineering Authority. Uneventful flight back SJU to PHL.

A330 FRA-PHL

Communications issue with ATC in Moncton airspace

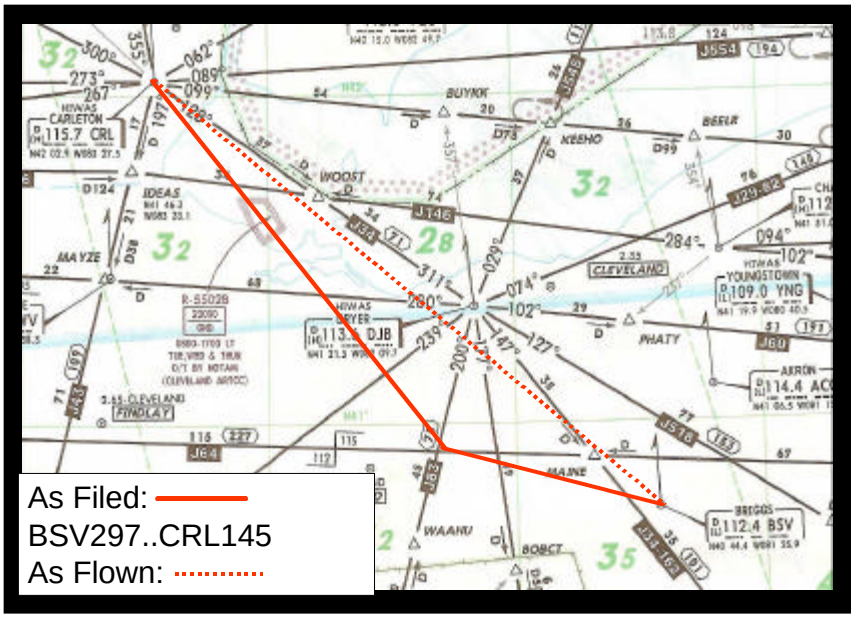
While in Moncton airspace, received ACARS message to contact Moncton on 135.2. It had been relatively quiet on original frequency. Switched to 135.2 and checked in. No comment from ATC. A week or two earlier, pilot had been several miles/minutes behind a Company flight (US3), when Moncton made several radio calls with no answer attempting to get flight US3 to switch 135.2. Pilot volunteered a message to OCC relaying Moncton's request. This seems to happen frequently approaching the TUSKY intersection area in Moncton airspace. Also, on first Boston frequency after TUSKY, crew heard Boston make numerous calls to Company flight US99 and flight US3. Boston Center finally called the crew and they answered. Boston Controller chided the crew a bit and said he had been trying to contact their flight also. Crew advised they heard his attempts to call US99 and US3, but did not hear their call sign (US893). Nothing was heard on 121.5 and they heard no relay attempts from other aircraft. It appears to the pilot that communication problems or hand-off irregularities occur with some frequency in this area on the Canadian and U.S. side of TUSKY, near the FIR border. No other communication problems noted before or after transit of this area.

LESSONS LEARNED

Actual events from our experienced Pilots

Lessons Learned - Event #1

From the Captain:



The flight from PIT to SFO started out with me up-linking the flight plan before my First Officer arrived. The flight plan had an intersection of the BSV297/CRL145 radials, which I mistakenly loaded in as BSV direct CRL. When my First Officer reviewed the FMGC, he made a mental note of the BSV-CRL leg, but forgot to bring it up later because we became distracted with other duties.

As we passed over BSV and flew direct CRL, Cleveland Center asked us if we were cleared direct CRL. After we took a closer look at the PDC and the fight plan, we realized our mistake. Cleveland advised us the reason for the dogleg was for inbound traffic to DTW, and that they had been having a lot of problems with aircraft going direct.

Looking back at the events that led up to the deviation, there were many reasons that the error was made and not discovered in time. The primary reason has to be that I assumed the leg from BSV to CRL was pretty much a straight line, as it is with many of the other fixes leaving PIT. We all know what happens when you assume.

There are many things that could have helped in preventing this error. If we had not become distracted, perhaps the mistake would have been caught. The lesson is that if you have a question, stop what you're doing and resolve it; don't rely on remembering to do it later.

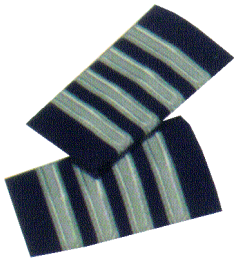
Another tool useful in preventing errors in the routing is putting the flight plan on the release as it will appear in the FMGC. Specifically, the point BSV50, which is the BSV297/CRL145, should uplink and be listed in the FMGC routing. Several of the waypoints around PIT have names now (DILNE, REACH, etc.), but not this one.

Be careful and don't assume!

Lessons Learned

Event #2

Navigation Error – Flew Wrong Transition on the LGA 9 Departure



From the Captain:

I was Captain on a US Airways A319 flight from LGA to PIT. We had an FAA air safety inspector on the jumpseat on the inbound leg, who was also returning with us on this leg.

This workday was originally scheduled for 7:03 hard time and a 13:30 duty day. On the inbound leg from PIT to LGA, we had several airborne holding clearances of approximately one hour due to thunderstorms on the arrival. This had been a higher-than-normal workload flight.

LGA did a great job in quick-turning us in 26 minutes. I went to the phone to verify with Company Scheduling that the FARs limited us to 16 hours total duty time, and our contract allowed us 15 hours. I also got food for my crewmembers who could not leave the plane. When I returned to the cockpit, the First Officer was talking with Clearance Delivery, verifying a LGA 9 Departure with a Whitestone Climb. I verified our filed clearance was in the computer using the MAP mode on the Navigation Display. We were rushed, but I felt the whole team was working well to get the aircraft turned. I felt no corners were cut.

The First Officer was the PF for this leg, so he gave the departure briefing verbalizing the Whitestone Climb. We then single-engine taxied to the end of approximately 50 aircraft waiting to depart. Ground Control was a mess. Requests for an estimate for total time to taxi to the runway or for a number in the departure sequence were answered with sarcastic remarks. When it became clear that we could not complete the flight within the contractual 15-hour duty limit, I asked the First Officer if he felt OK to continue to 16 hours. He said he was OK with it and suggested I poll the flight attendants, which I did. Since we were not moving on the taxiway, I set the brakes, had the First Officer monitor the aircraft and radio, and I called Crew Scheduling to modify the next day. I told them we would only continue past 15 hours if we were given relief the next day. They agreed to give us adequate rest and only fly our last leg the next day. After a two-hour taxi, we reached the runaway. I was concerned that we were fatigued, so I deliberately slowed down the checklists and had the First Officer do another complete departure briefing instead of just a takeoff briefing. He again briefed the Whitestone Climb. Again during the Before Takeoff Checklist, he briefed the Whitestone Climb. We were then cleared to go, and the First Officer was flying a very good Whitestone Climb when the controller asked where we were going. He said we were cleared for a Coney Climb. I responded confidently we were cleared Whitestone, since I thought I had heard the First Officer say that to Clearance Delivery, and certainly a highly experienced First Officer with years of experience can read a piece of paper.

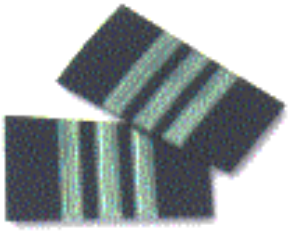
When we reached cruise phase, I looked for the printed clearance so I could show the jumpseater we were correct. I was astonished to read "Coney Climb" in the body of the clearance. I had failed to verify reading the clearance, and quite honestly, I had been taking the First Officer's reading of the clearance for granted.

Looking back at this situation, I think I used all my resources and effectively handled a strenuous day. I even recognized the effects of fatigue, and tried to compensate by slowing things down and adding redundancy before we departed LGA. I balanced the needs of my crew and the Company.

A point worth noting is that we had been through LGA once earlier in the day and had been given the Whitestone Climb. This may have been a case of seeing what you expect to see.

I see that the one point I could have changed to alter the outcome was to verify the printed clearance when the departure briefing is done. I will add this to my pattern from now on.

From the First Officer (self-named "Mirage"):



How many times in your career have you flown in and out of LGA? If you're like me, the answer is scores, maybe hundreds, of times. Enough times to be thoroughly familiar with it. Right?

My partner and I were starting the final leg of what would turn out to be a 15+30-duty day. We had flown in and out of LGA earlier in the day, as well as several other legs, and we were both pretty well beat. And, of course, the airport was a mess due to thunderstorms in the New York area.

Our flight was running way behind, so everyone involved was anxious to turn it as quickly as possible. The Captain was on the phone talking to Dispatch, and it was my responsibility to do the preflight and get our clearance. As usual, it came through PDC, and, as usual, I read it back to Clearance Delivery: "Cleared to PIT, LGA 9 Departure, Runway13, Whitestone Climb, Squawk, ATIS".

"USAir, readback correct."

Next came the departure briefing prior to pushback. As it was to be my leg, I briefed the Captain the full departure, including the climbout. Next came the push, engine start, and taxi-out. Taxi-out … for an hour and thirty minutes. When we finally arrived at number four for takeoff position, my partner suggested we rebrief the departure since it been a long while since we originally briefed it. Good idea. Again I went through the full brief including the Whitestone Climb.

So, off we flew from Runway 13 and into the climbout. You can imagine my surprise when the Departure controller informed us shortly thereafter that we were on the wrong climb. He was showing us on the Whitestone, when our clearance was on the Coney Climb. No way, I told the Captain, the clearance read Whitestone!

Our controller then issued amended altitudes for us, and eventually we were cleared direct to BIGGY, on course.

After reaching cruise altitude, we took another look at our PDC printout. Sure enough, it read Coney Climb. How in the world had I seen Whitestone? I would have bet a considerable amount of money (and almost did) that that was the case.

How did I commit such a serious error? Three reasons: I was tired, I was rushed, and I EXPECTED to see a Whitestone Climb. After all, that climb is issued the majority of times to a flight filed over a west departure gate. In fact, it was issued just two legs prior to this one on the very same route: LGA-PIT.

So, how can you avoid being lured to a mirage? Three ways, and you've heard them all before. Don't allow yourself to be rushed ...SLOW DOWN. Keep both pilots in the loop by BOTH reading the clearance. And, most importantly, take nothing for granted. There is nothing certain in aviation.

Lessons Learned

Event #3

P56 Incursion

WHAT YOU WANT TO SEE MAY NOT BE WHAT YOU GET!!

The short of it is that both the PNF and the PF confirmed what we wanted to see, not what was actually in the box. The flight was on an A319 flying DCA-PIT. The departure was to the north. The RNAV USA01 departure was briefed and confirmed. The departure was inserted into the box. When we briefed the departure, we both confirmed the USA01, but what was probably in the box was DCA01. From that point on things quickly decayed. We did everything standard: brief, start, taxi, brief and takeoff.

We both had our range selector for the Nav Display on 10 miles. We both looked at the FMS and thought we saw USA01. We took off, and at 400 feet we engaged the autopilot. We both realized that the aircraft was not turning. Simultaneously the PF disengaged the autopilot and executed a left turn. The PNF was displaying the RAD NAV with the 328 radial and ATC was telling us to turn left. NOT GOOD! We had penetrated P56.

The good news is that we flew over the Naval Observatory (see photo above) not the White House. The bad news is P56-B is the same as P56.

What could we have done to avoid this???

I believe at some time in the loading of the box, USA01 WAS loaded. However, somewhere in the check - double check, this is DCA process - DCA01 was inserted over USA01. When we confirmed the departure we both thought we saw USA01. From that point on, Human Factors took over.

In my opinion, an improvement could be renaming the RNAV departure. DCA01 and USA01 look similar. Obviously, we both should have recognized that the correct departure was not what we thought we were seeing. The PNF could have also had the VOR radial displayed on the Nav Display.

You can never be too careful.

Date: February 24, 2006

To: Keen-Eyed Aviation Personnel

From: Anthony L. Boerio, Maintenance QA Auditor

Subject: Emergency Evacuation Cards

On February 21, 2005, Quality Assurance Auditors conducted aircraft surveillance checks on several aircraft in LGA. Their main focus was to check for correct installation of emergency evacuation cards. They checked the seat-back pockets of six aircraft and also checked the demo pouches on three of the aircraft. Quality Assurance checked approximately 99% of the seat back pockets on five of the aircraft and about 50% on the sixth. With the exception of a few warped food trays, there were no other findings among the aircraft and we had only one aircraft with evacuation card faults.

On Aircraft N748, an A319, we found a 737-400 card in the pocket for seat 4B stuck between the in-flight magazine and the sales catalogue. The front of the pocket actually contained the correct card. In addition, the auditors found an A321 card in the seatback of 3C, that being the one against the first class bulkhead and used by some flight attendants, and possibly utility personnel, for storage of spare cards.

The A321 card found in with the spares of A319 cards was a different situation. It was in poor condition; crinkled if you will, as were the other dozen cards in that pocket. On two other aircraft we examined, the spare cards in that seat back pocket were in pristine condition. Fortunately, all the exit rows contained their full complement of correct cards, as is required per FAR 121.585(d). However, it is imperative that <u>you</u> inspect and verify any collection of cards you handle to insure 100% accuracy.

Furthermore, FAR 121.571(b) states the following:
Each card required by this paragraph must contain information that is pertinent only to the type and model airplane used for that flight.

We have had several reports over the past month of incorrect evacuation cards being found on several aircraft, and need to do all we can to prevent these faults from occurring. Wrong cards have been found in seat back pockets, overhead bins, and in the pilot seatback pockets. Thus, it is imperative that each and every one of us helps ensure compliance with all policies and procedures, and be alert for all possibilities.

Electronic ASAP (E-ASAP) and Event Reporting

Using the New Online Reporting System (ORS)

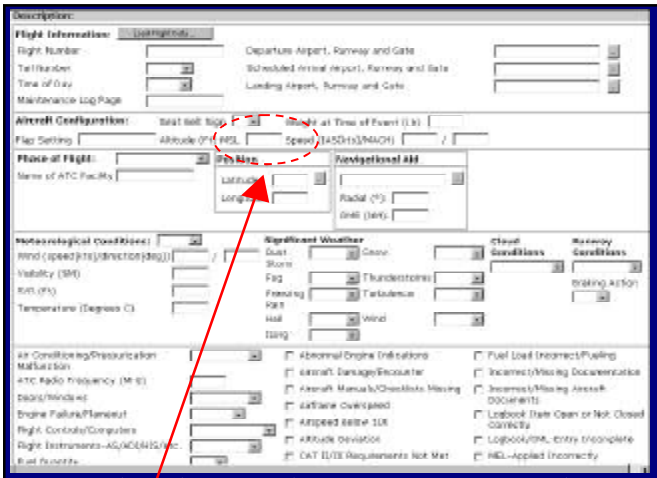
What you need to report hasn't changed - what *is* changing is the method. Soon to be introduced to US Airways East flight crews, flight attendants and dispatchers, the new Online Reporting System (ORS) is basically an adaptation of the paper versions for ASAP, CSRs and DPIRs, and collects the same information. You will be receiving more detailed information on ORS prior to its implementation, but we wanted to provide you with this overall description of the new safety reporting system.

ORS uses web-based and secure software architecture; plain HTML, i.e. no Java applets, and no ActiveX controls. You only need a browser to access the system - there is no software to install, and no applications will be downloaded to your computer. Firewall access is not required to submit a report from a US Airways computer on the theHub (crew rooms, training centers, operations center; etc.).

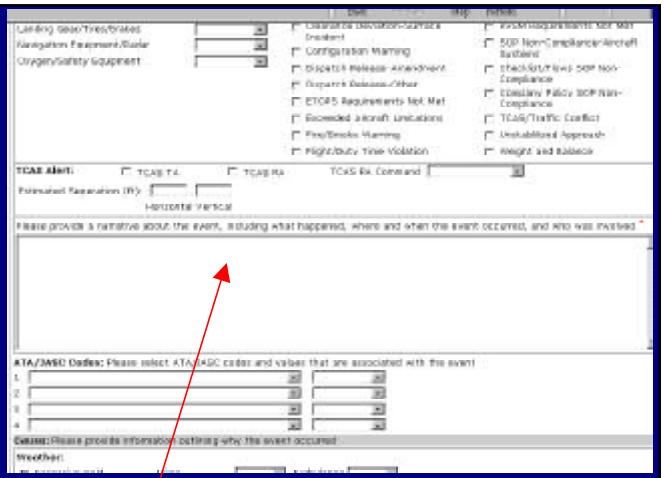
Using the E-ASAP as the example, it consists of five distinct sections you'll need to fill in, and they might be a little different from what you've done in the past. Most of your user information will be completed for you when you login; be sure to check it and make corrections if something shown has changed.

All items marked with an asterisk (*) are required to complete the form. (Unfortunately, most are not depicted in the screen captures provided to *Safety On Line* for this article.)

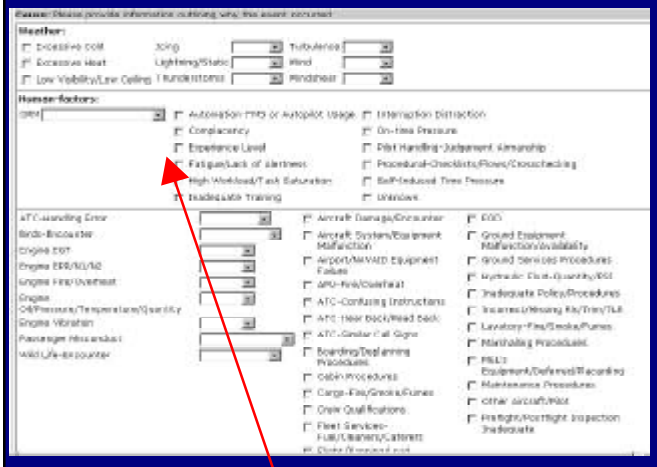
The first section you'll need to complete the **DESCRIPTION** section: what happened, when and where it happened, and who was involved in the event. It's mostly check boxes, until you get down to the space where you enter a narrative description of the event.

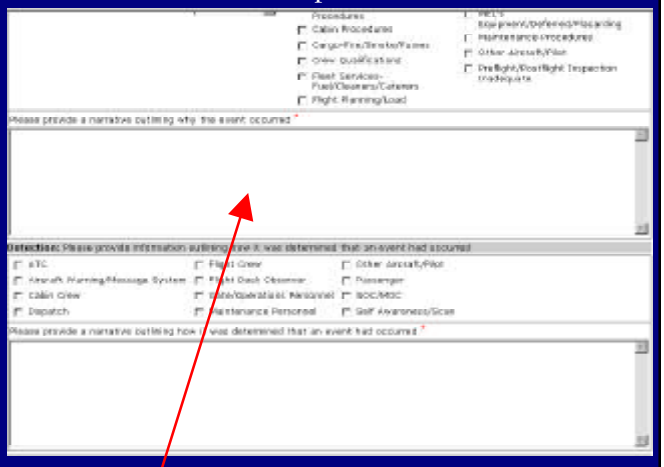


Note: Altitudes must be in feet: 38000 in place of FL380.



The narrative entry section is required on all reports.



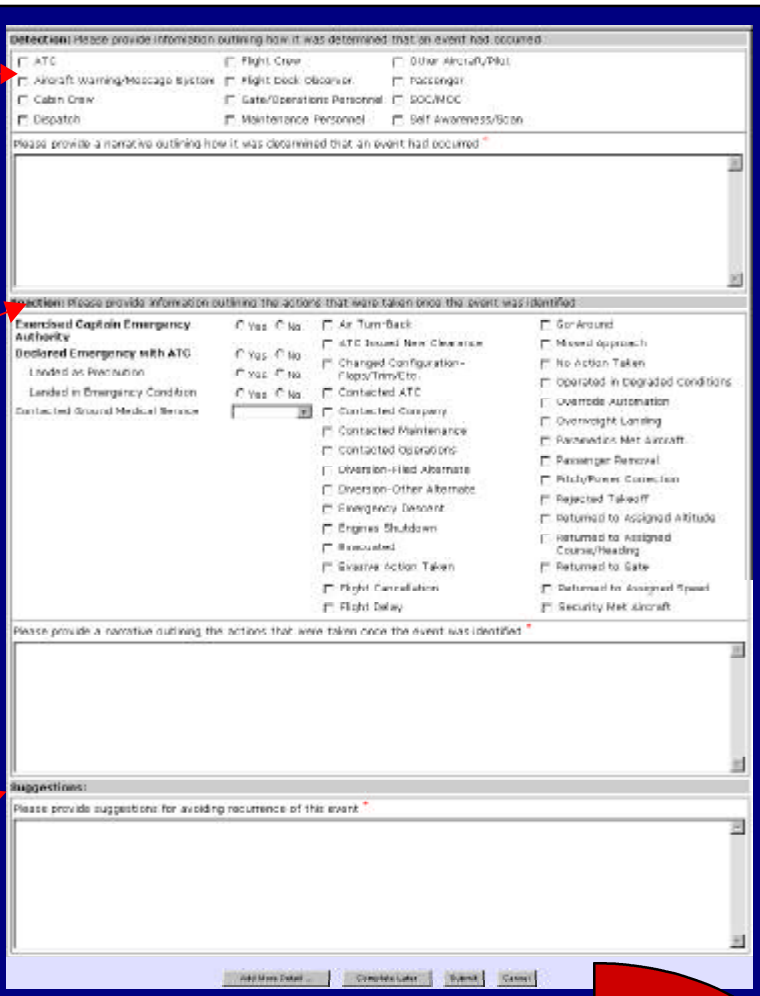


Next is the **CAUSE** section: Enter information here about the cause of the event (weather, human-factors, and with space for a narrative answer).

Details on how you learned about the event belong in the **DETECTION** section; again several check boxes and a space for adding details.

The **REACTION** section lets you select what actions you took in response to the situation. Again, the narrative section is required to have comments.

The final section, **SUGGESTIONS**, gives you the opportunity to provide feedback on avoiding a recurrence of this event.



Below the Suggestions text entry box are the buttons that will let you:

1. **Add More Detail** – allows you to answer in-depth questions regarding your event.
2. **Complete Later** – allows you to begin the initial filing of a report, then return later to complete it.
3. **Submit** – click this when you have entered all required items (those marked with a red *).
4. **Cancel** – you have changed your mind and discard the information.

Watch for more detailed information and instructions on using ORS. Electronic safety reporting is right around the corner at US Airways!

Are You Keeping Your Eye on the Ball?

The merger of US Airways and America West is presenting its own distinctive challenges – we have all seen these recently in our line operations, and will undoubtedly continue to see new challenges during the merger integration process. You have received departmental communications on the need for increased vigilance, procedural compliance, and not letting distractions take away your attention to your duties.

So what can US Airways flight personnel do? Follow your procedures to the letter with the primary focus being SAFETY. Insist that every employee and vendor do the same – but if you are unsuccessful in getting that message across, document the occurrence in an ASAP Report (pilots and dispatchers) or Cabin Safety Report (flight attendants).

Your reports are the only way Safety has of knowing what issues you face in line operations – and, therefore, the only way we can do something about those concerns! When we receive a report of a safety hazard or non-compliance by support personnel, your de-identified report is forwarded to the station or department responsible. It's not a perfect world and sometimes it takes a long time to make a difference, but we keep trying until the unsafe situation is resolved.

Let's look at two examples of procedures not being completed by the book:

- DCA deicing – initial reports in November showed such a large level of non-compliance with US Airways procedures that the Company terminated its contract with the deicing vendor, and our mechanics now perform this work to ensure that our aircraft are clean of snow and ice, and that you receive the correct anti/deicing information.

- Pushbacks without headsets – this situation is ongoing with continual reinforcement from Corporate Safety and the respective stations' management. Be assured that we will keep working at it until every pushback crew greets the flight crew via headset!

On the cabin side, your Cabin Safety Reports were evidence that the half-cart used on the Airbus 320-series aircraft was unstable and prone to tipping. Senior management considered what you had to say when the decision was made to use only the full-size serving cart on all fleets.

You can make the difference in safety with your reporting, and the instances above are only two where you have made important contributions to safety at US Airways. For over 10 years you have been submitting Air Safety Reports (now ASAP Reports) and Cabin Safety Reports for the betterment of our operations. You are to be commended for your interest in safety and your resolve to eliminate hazards on the line.

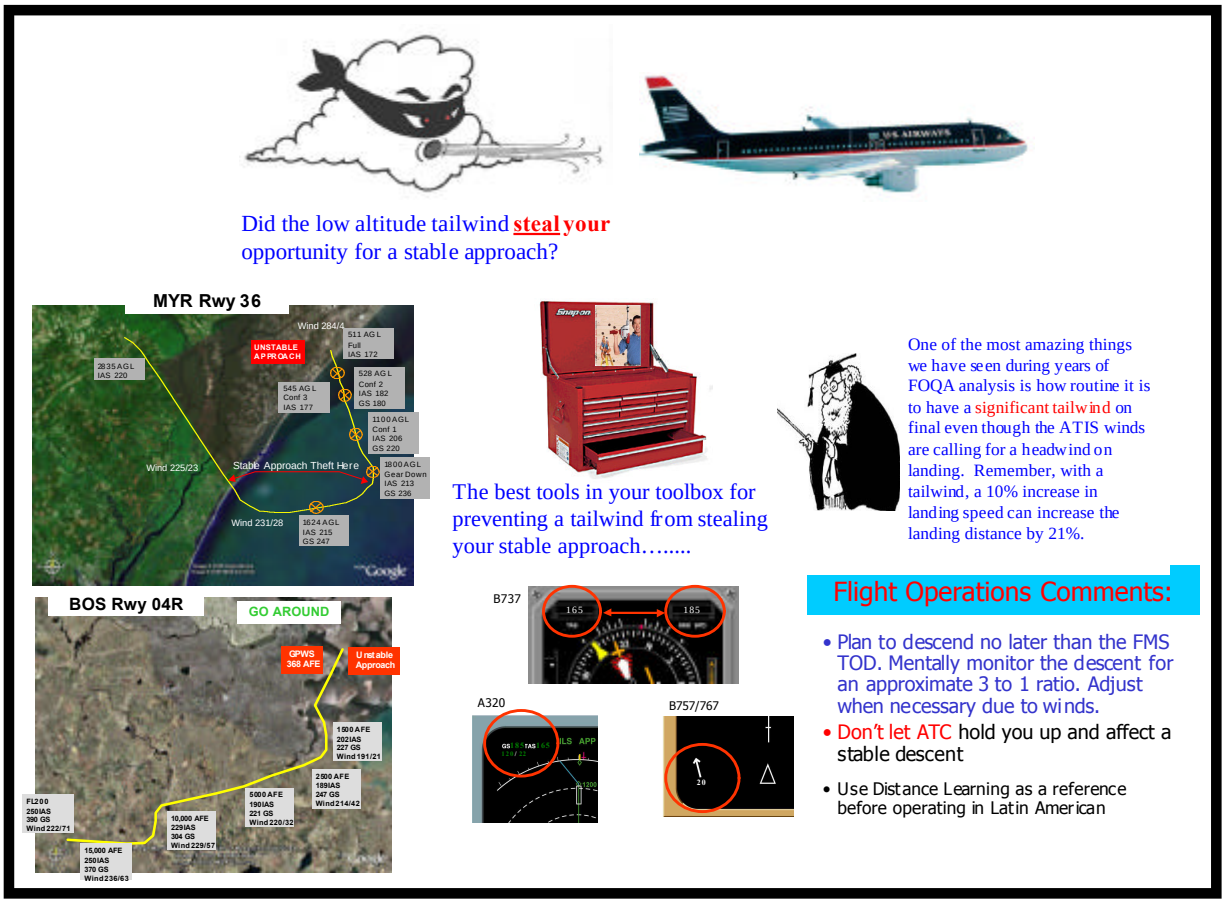
Flight Safety acts on all of your safety reports, and provides feedback when possible. If you have more information to provide or have questions regarding a report you submitted, all staff phone numbers are on the inside of the front cover of every issue of *Safety On Line*.

Daily we address the problems and issues you raise in your ASAP reports and CSRs. That's our job! Please continue to keep us informed by submitting your safety reports and using the Safety Hotline at 1-800-299-3550.

Now let's look at <u>your</u> procedural compliance:

The Winter 2005 issue of *Safety On Line* included a comprehensive list of industry merger-related accidents. The large majority of accidents include a pilot, mechanic or other employee's failure to follow procedures as the root cause, and they vividly illustrate the importance of what is constantly presented to you in so many venues: there is no excuse for anything other than complete procedural compliance!

Currently posted on the Flight Safety Bulletin Board and FOQA Bulletin Board in each crew domicile are descriptions of several events that have recently occurred on US Airways East flights (see example below). It is highly recommended that you take the time to read the event summaries and take away the lessons learned!



NUMBER: **06-01** DATE: **January 13, 2006**

INFORMATION:

Recently the FAA issued a Safety Alert (SAFO 05008 – 12/30/05) regarding the potential for in-flight fires resulting from laptop batteries.

Crewmembers should be aware that the potential for smoke emission and fire propagation from high-energy batteries, of any kind, could result from internal short-circuit failures. Although the likelihood of such an event is considered remote, standard fire-fighting procedures should be implemented if a fire hazard is detected.

It is important to remember in-flight fires, left unattended may lead to catastrophic failure and have resulted in complete loss of aircraft.

Key Points:

- **Follow the team-approach to fighting the fire and notifying the flight deck immediately.**
- **Be aggressive; if flames are visible, fight the fire immediately.**
- **Use Halon extinguisher on electrical fires.**
- **Review procedure for detecting and fighting fires.**