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National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: April 26, 1988

In reply refer to: A-88-56

Honorable T. Allan McArtor
Administrator
Federal Aviation Administration
Washington, D.C. 20591

On December 22, 1986, at 2048 eastern standard time, USAir flight 95, a Boeing 737-300, N369AU, departed Pittsburgh with 129 passengers and 7 crewmembers aboard. At 2105, flight 95 encountered clear air turbulence as it descended through a pressure altitude of 27,000 feet near Dublin, Virginia. 1/ The interior of the passenger cabin sustained minor damage, one flight attendant received serious injuries, and two other flight attendants had minor injuries.

During the investigation of this accident, the National Transportation Safety Board determined that there was an inconsistency in the dissemination of Center Weather Advisories (CWAs) and Significant Meteorological Information (SIGMET)/Convective SIGMETs 2/ over the 604 and 135 weather data teletype circuits 3/ administered by the Federal Aviation Administration (FAA). Information pertinent to aviation including terminal forecasts, pilot weather reports, surface weather observations, SIGMETs/Convective SIGMETs, and Airman's Meteorological Information are disseminated over these circuits; however, CWAs are not.

A CWA is an unscheduled weather advisory issued by meteorologists in the air route traffic control centers (ARTCC) to alert pilots of existing or anticipated adverse weather conditions. CWAs are developed as a result of the same criteria used to issue a SIGMET/Convective SIGMET, and in some cases these advisories can modify or redefine an existing SIGMET/Convective SIGMET. In addition, CWAs have the same level of priority and receive the same dissemination as SIGMETs/Convective SIGMETs in the air traffic control (ATC) and flight service station (FSS) systems. CWAs and SIGMETs/Convective SIGMETs are broadcast over ATC frequencies by controllers and are placed on the voice channel of selected very high frequency omnidirectional range stations (VORs) by FSS specialists.

1/ For more information read Brief of Accident No. 2563 (attached).
2/ Weather advisories are issued by the National Weather Service's National Aviation Weather Advisory Unit in Kansas City, Missouri, concerning weather significant to the safety of all aircraft. A SIGMET is issued for severe and extreme turbulence, severe icing, and widespread duststorms, sandstorms, or volcanic ash that could result in lowering visibilities to less than 3 miles. A Convective SIGMET is issued for severe/embedded thunderstorms, lines of thunderstorms, and areas of thunderstorms.
3/ The 604 and 135 circuits are public-use 1,200 and 2,400 bit per second rate circuits. Nonaviation information such as public forecasts are also placed on these circuits. Users of these circuits include air carriers and companies that provide weather information for aviation interests.

Although CWA 05 was issued by a meteorologist at the Indianapolis ARTCC Weather Service Unit at 1910 and was valid until 2110, the flightcrew of flight 95 never received a CWA for severe turbulence. 4/ Had this information been available to USAir dispatch and the captain of flight 95, a predeparture decision could have been made to flight plan a different altitude or reroute the aircraft to avoid the forecast area of severe turbulence. Such planning may have required additional fuel or other operational considerations. Once flight 95 had departed and climbed to an altitude of 31,000 feet, the aircraft had entered the forecast area of severe turbulence and the options available to the captain were limited.

The Safety Board is concerned that CWAs are not given the same dissemination over the 604 and 135 weather data teletype circuits as are SIGMETs/Convective SIGMETs. The Safety Board believes that this inconsistency was a factor in this accident and resulted in the flightcrew not receiving timely information regarding a potentially hazardous meteorological condition.

Therefore, the National Transportation Safety Board recommends that the Federal Aviation Administration:

> Require that all Center Weather Advisories issued by meteorologists at the air route traffic control centers be included on weather data teletype circuits 604 and 135. (Class II, Priority Action) (A-88-56)

BURNETT, Chairman, KOLSTAD, Vice Chairman, and LAUBER and NALL, Members, concurred in this recommendation.

By: Jim Burnett
Chairman

4/ USAir receives weather data over the FAA's 604 and 135 weather data circuits. Although USAir receives SIGMETs/Convective SIGMETs, CWAs are not received.

National [illegible]portation Safety Board
Wa[illegible]ngton, D.C. 20594

Brief of Accident

File No. - 2563 12/22/86 DUBLIN,VA A/C Reg. No. N369AU Time (Lcl) - 2105 EST

----Basic Information----
Type Operating Certificate-AIR CARRIER - FLAG/DOMESTIC
Name of Carrier -US AIR, INC.
Type of Operation -SCHEDULED,DOMESTIC,PASSENGER
Flight Conducted Under -14 CFR 121
Accident Occurred During -DESCENT

Aircraft Damage
MINOR
Fire
NONE

	Injuries			
	Fatal	Serious	Minor	None
Crew	0	1	2	4
Pass	0	0	2	127

----Aircraft Information----
Make/Model - BOEING 737-300
Landing Gear - TRICYCLE-RETRACTABLE
Max Gross Wt - 115000
No. of Seats - 149
Eng Make/Model - P&W JT8D
Number Engines - 2
Engine Type - TURBOFAN
Rated Power - 14500 LBS THRUST
ELT Installed/Activated - NO -N/A
Stall Warning System - YES

----Environment/Operations Information----
Weather Data
Wx Briefing - COMPANY
Method - TELETYPE
Completeness - PARTIAL,LMTD BY FCSTR
Basic Weather - VMC
Wind Dir/Speed- UNK/NR
Visibility - 15.0 SM
Lowest Sky/Clouds - 25000 FT SCATTERED
Lowest Ceiling - NONE
Obstructions to Vision- NONE
Precipitation - NONE
Condition of Light - NIGHT(BRIGHT)

Itinerary
Last Departure Point
PITTSBURGH,PA
Destination
TAMPA,FL

ATC/Airspace
Type of Flight Plan - IFR
Type of Clearance - IFR
Type Apch/Lndg - NONE

Airport Proximity
OFF AIRPORT/STRIP

Airport Data
Runway Ident - N/A
Runway Lth/Wid - N/A
Runway Surface - N/A
Runway Status - N/A

----Personnel Information----
Pilot-In-Command
Certificate(s)/Rating(s)
ATP
SE LAND,ME LAND

Age - 54
Biennial Flight Review
Current - YES
Months Since - UNK/NR
Aircraft Type - B-737

Medical Certificate - VALID MEDICAL-WAIVERS/LIMIT
Flight Time (Hours)
Total - 28600
Make/Model- 800
Instrument- UNK/NR
Multi-Eng - UNK/NR
Last 24 Hrs - 4
Last 30 Days- UNK/NR
Last 90 Days- UNK/NR
Rotorcraft - UNK/NR

Instrument Rating(s) - AIRPLANE

----Narrative----
WHILE CLBG TO FL 350, USAIR FLT 95 ENCTRD CONT "LIGHT CHOP," SO CREW LVLD AT FL 310 & LEFT THE SEAT BELT SIGN ON. THEY INQUIRED ABOUT TURBC AHEAD & WERE ADZD OF RPRTD LGT/MOD CHOP & 1 ENCTR WITH SVR TURBC AT FL260. CLNC WAS RCVD TO DSCND TO FL 240. DRG DSCNT, THE ACFT ENCTRD SEVERE TURBC. THE CAPT DECLARED AN EMERG & THE DSCNT WAS CONTD TO FL 200. THE CAPT NOTED TURBC LASTED APRX 1.5 MIN BTN FL 270 & FL 210. THERE WERE NO CLDS; THE VIS (AT NGT) WAS UNLIMITED. THE FLT ATTENDANTS WERE UNRESTRAINED; 1 WAS SERIOUSLY INJURED & 3 RECEIVED MINOR INJURIES. A SIGMET WAS IN EFFECT WHICH FORCAST MOD TO OCCLNLY SEVERE TURBC BTN FL 240 & FL 350 IN AN AREA WEST OF THE ACFT'S FLT PATH. INV SHOWED AN INCONSISTENCY IN THE DISSEMINATION OF CENTER WX ADVISORIES (CWA'S) & SIGMETS. ALTHO CWA'S & SIGMETS HAD THE SAME LVL OF PRIORITY FOR ATC & FSS USE, CWA'S WERE NOT DISSEMINATED OVR 604 & 135 WX CIRCUITS. USAIR RECEIVED WX INFO VIA FAA'S 604 & 135 CIRCUITS, SO DID NOT HAVE CWA INFO FOR WX BRIEFINGS. WX STUDY SHOWED TURBC WAS ENCTRD WHERE SUBTROPICAL & POLAR JET STREAMS CONVERGED.

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Occurrence #1 IN FLIGHT ENCOUNTER WITH WEATHER
Phase of Operation DESCENT

Finding(s)
1. METEOROLOGICAL SERVICE - INADEQUATE -
2. PROCEDURE INADEQUATE - FAA(ORGANIZATION)
3. SEAT BELT SIGN - SELECTED -
4. WEATHER CONDITION - TURBULENCE,CLEAR AIR
5. SEAT BELT - NOT USED - FLIGHT ATTENDANT

----Probable Cause----

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 4

Factor(s) relating to this accident is/are finding(s) 1,2

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