Welcome to the 9th issue of the NATA Safety 1st *Flitebag*, our quarterly online safety newsletter, supporting the NATA Safety 1st Management System (SMS) for Air Operators.

This quarterly newsletter will highlight known and emerging trends, environmental and geographical matters, as well as advances in operational efficiency and safety. Subsequent issues include a section with a roundup of real-time incidents and events, along with lessons learned. Flight and ground safety have been enhanced and many accidents prevented because of shared experiences.

INFO

INFORMATION FOR OPERATORS, 7/3/2007

http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/info

An InFO contains valuable information for operators that should help them meet certain administrative, regulatory, or operational requirements with relatively low urgency or impact on safety.

In This Issue

Subject: Flight Risk Assessment Tool

Purpose: This InFO describes the proactive identification of possible hazards and the use of risk management tools to mitigate risks as aspects of a Safety Management System (SMS). These tools will provide ways for air operators to determine which flights have more risk and allow operators to intervene and reduce risk when possible. Risk assessment tools are only part of an SMS and should not be considered the whole system.

Background: Over the years the Federal Aviation Administration (FAA) and the aviation industry have dramatically increased the safety of air travel by managing and mitigating risks associated with flight.

The aviation industry currently provides the safest form of transportation in the United States. However, the industry continues to have some accidents that can be prevented. Therefore, both the FAA and industry are working to continually improve the safety record of turbine-powered aircraft. Over the next few years, the FAA will encourage operators and certificate holders to develop Safety Management Systems (SMS). This safety protocol is described in Advisory Circular (AC) 120-92, Introduction to Safety Management Systems for Air Operators.

The Turbine Aircraft Operations Subgroup as part of the General Aviation Joint Steering Committee has developed a risk assessment tool for use in flight operations. In creating this tool, the Turbine Aircraft Operations Subgroup reviewed accident data, identified hazards, and used normal risk assessment development methodology. This tool provides a simple way to implement proactive risk management. An operator can use the risk assessment tool as a stand-alone tool but incorporating it into an SMS is preferable.

Discussion: As discussed in AC 120-92, a hazard is defined as any existing or potential condition that can lead to injury, illness, or death to people; damage to or loss of a system, equipment, or property; or damage to the environment. A hazard is a condition that is a prerequisite of an accident or incident.

Every flight has hazards and some level of risk associated with it. It is critical that operators and pilots are able to differentiate, in advance, between a low risk flight and a high risk flight, and then establish a review process and develop risk mitigation strategies to address flights throughout that range. A risk assessment tool should allow operators and pilots to see the risk profile of a flight in its planning stages. Each operator should determine an acceptable level of risk for its flights based on the type of operation, environment, aircraft used, crew training, and overall operating experience. When the risk for a flight exceeds the acceptable level, the hazards associated with that risk should be further evaluated and the risk reduced. A higher risk flight should not be operated if the hazards cannot be mitigated to an acceptable level.

The attached risk assessment tool has been developed for use in understanding different levels of flight risk and to allow operators and pilots to become familiar with this element of an SMS. It is important for operators to understand that risk has several elements that must be considered, including probability, severity, and weighted value. What is the probability of a particular event occurring? If the event does occur, what is the severity likely to be? And what is the weighted value of this type of event compared to other aspects of the operation? In the attached risk assessment tool, this work has been done so the operator has a simplified form of the tool. Each operator may want to add items that are unique to its operation using the additional resources provided. An operator can also change any item currently used in the tool provided it conducts a realistic assessment of the hazard being changed.

To use the tool, the operator will need to create numerical thresholds that trigger additional levels of scrutiny prior to a go/no-go decision for the flight. These thresholds should be created to help ensure that the safety standards of each individual operation are maintained. However, it is important that the operator create realistic thresholds. If every flight is within the acceptable range under any condition, it is likely that the thresholds have not been set correctly. Small operations (for example, where the pilot is also the chief pilot and owner) should consider strategies for appropriate consideration of elevated risk that best fit their operation.

Recommended Action: The FAA recommends that operators and pilots familiarize themselves with the attached risk assessment tool and AC 120-92. They should then decide whether to use the tool as published or to modify it as needed for their own operations. Once an operator has established the parameters of the tool, it should create operational thresholds and begin using the tool to establish a "risk number" for each flight. This risk number should be used to control risk before a flight takes place. Over time this tool will become unique to each operator and can become a part of its complete SMS. The risk assessment tool cannot guarantee a safe flight—safety is ultimately the responsibility of the pilot and operator. However, it does provide an additional tool to help the pilot and operator make sound safety decisions.

Flight Risk Assessment Tool

Date: _____ Departure: _____
Release/Trip #: _____
Tail #: _____ Destination: _____

		Risk Value	Flight Value
Pilot Qualifications and Experience			
1	Captain with less than 200 hours in type	5	
2	First Officer with less than 200 hours in type	5	
3	Single Pilot Flight	5	
4	Captain with less than 100 hours last 90 days	3	
5	First Officer with less than 100 hours last 90 days	3	
6	Duty day greater than 12 hours	4	
7	Flight time (Greater than 8 hours in the duty day)	4	
8	Crew Rest (Less than 10 hours prior to the duty day)	5	
	Total Factor Score - Section 1		
Operating Environment			
9	VOR/GPS/LOC/ADF (Best approach available w/o vertical guidance)	3	
10	Circling approach (best available approach)	4	
11	No published approaches	4	
12	Mountainous airport	5	
13	Control tower not operational at ETA or ETD	3	
14	Uncontrolled airport	5	
15	Alternate airport not selected	4	
16	Elevation of primary airport greater than 5000 ft. MSL)	3	
17	Wet runway	3	
18	Contaminated runway	3	
19	Winter operation	3	
20	Twilight operation	2	
21	Night operation	5	
22	Stopping distance greater than 80% of available runway	5	
23	Repositioning flight (no passengers or cargo)	5	
24	Pop up trip (Less than 4 hours crew notice)	3	
25	International operation	2	
26	No weather reporting at destination	5	
27	Thunderstorms at departure and/or destination	4	
28	Severe turbulence	5	
29	Ceiling & visibility at destination less than 500 ft. / 2 sm	3	
30	Heavy rain at departure and/or destination	5	
31	Frozen precipitation at departure and/or destination	3	
32	Icing (moderate-severe)	5	
33	Surface winds greater than 30 knots	4	
34	Crosswinds greater than 15 knots	4	
35	Runway braking action less than good	5	
	Total Factor Score - Section 2		
Equipment			
36	Special Flight Permit Operation (ferry permit)	3	
37	MEL / CDL Items (items related to safety of flight)	2	
38	Special flight limitations based on AFM equipment limitations	2	
	Total Factor Score - Section 3		
	TOTALS		

Example: Use of Flight Risk Assessment Tool

The following discussion provides a practical example of the five step process used to assess risk as outlined in AC 120-92. The example involves the operation of a night flight where the destination airport is experiencing windy, rainy conditions. The captain has fewer than 200 hours in type, and the first officer has flown less than 100 hours in the last 90 days. The company SOPs require the Chief Pilot to evaluate flight risk factor values over 20 from the perspective of accepting the risk, rejecting the risk, or mitigating the risk. Further, the company SOPs prevent the operation of a flight if the risk value exceeds 25. In our example the non-parenthetical numerical value represents the original risk value assigned to the hazard. Risk values in parenthesis represent the reduced risk values assigned after the Chief Pilot acted to mitigate the risks.

Step 1. Complete a system and task analysis.

- The captain is not highly experienced with less than 200 hours in type.
- The first officer has less than 100 hours in the last 90 days.

Step 2. Identify the hazards.

- The runway is wet.
- The flight will operate at night.
- The destination crosswinds are greater than 15 knots.

Step 3. Analyze the safety risk.

- The combination of the risk factors associated with this flight generates a risk value of 20 using the example risk assessment tool.

Step 4. Assess the safety risk.

- Company policy requires that the Chief Pilot assess and approve any flight risk value greater than 15. Since the risk value of 20 exceeds the company operational threshold risk of 15, the Chief Pilot decides to operate the flight by reducing the flight risk value to a more acceptable level.

Step 5. Control the safety risk.

- The Chief Pilot focuses on mitigating three hazards.
    1. He decides to allow the scheduled captain to operate the flight.
    2. However, he assigns the flight to a first officer who is more current and who has flown more than 100 hours in the last 90 days.
    3. Further, the Chief pilot changes the destination airport to an airport with no crosswind expected.
- By controlling the risk value of these three hazards, the Chief Pilot has reduced the flight overall risk value to 13 and elevates the operational level of safety.

Flight Risk Assessment Tool

Date: Any day | Departure: DAL
Release/Trip #: 153
Tail #: N123 | Destination: PDK

		Risk Value	Flight Value
Pilot Qualifications and Experience			
1	Captain with less than 200 hours in type	5	5
2	First Officer with less than 200 hours in type	5	
3	Single Pilot Flight	5	
4	Captain with less than 100 hours last 90 days	3	
5	First Officer with less than 100 hours last 90 days	3	3 (0)
6	Duty day greater than 12 hours	4	
7	Flight time (Greater than 8 hours in the duty day)	4	
8	Crew Rest (Less than 10 hours prior to the duty day)	5	
	Total Factor Score - Section 1		8 (5)
Operating Environment			
9	VOR/GPS/LOC/ADF (Best approach available w/o vertical guidance)	3	
10	Circling approach (best available approach)	4	
11	No published approaches	4	
12	Mountainous airport	5	
13	Control tower not operational at ETA or ETD	3	
14	Uncontrolled airport	5	
15	Alternate airport not selected	4	
16	Elevation of primary airport greater than 5000 ft. MSL)	3	
17	Wet runway	3	3
18	Contaminated runway	3	
19	Winter operation	3	
20	Twilight operation	2	
21	Night operation	5	5
22	Stopping distance greater than 80% of available runway	5	
23	Repositioning flight (no passengers or cargo)	5	
24	Pop up trip (Less than 4 hours crew notice)	3	
25	International operation	2	
26	No weather reporting at destination	5	
27	Thunderstorms at departure and/or destination	4	
28	Severe turbulence	5	
29	Ceiling & visibility at destination less than 500 ft. / 2 sm	3	
30	Heavy rain at departure and/or destination	5	
31	Frozen precipitation at departure and/or destination	3	
32	Icing (moderate-severe)	5	
33	Surface winds greater than 30 knots	4	
34	Crosswinds greater than 15 knots	4	4 (0)
35	Runway braking action less than good	5	
	Total Factor Score - Section 2		12 (8)
Equipment			
36	Special Flight Permit Operation (ferry permit)	3	
37	MEL / CDL Items (items related to safety of flight)	2	
38	Special flight limitations based on AFM equipment limitations	2	
	Total Factor Score - Section 3		0
	TOTALS		20 (13)

Questions or comments on this InFO should be addressed to Peter Neff, AFS-820, (202) 493-5400.

FLYTE BYTES

TSA Waivers/DCA Mission Planning Office Announces Change In Operational Hours

The Transportation Security Administration (TSA) has announced a change in office hours for the Waivers Office. This office is also responsible for DCA Access Standard Security Program (DASSP) mission planning. Effective June 11, 2007, the Waivers Office is open from 6:00 a.m. to 6:00 p.m. Eastern time on all federal government workdays. **The office will no longer be open on weekends or federal holidays**.

All operators, but particularly those who utilize the DASSP, are encouraged to plan ahead to avoid unnecessary delays.

Wake Vortex Study by NASA

NASA's Aviation Safety Reporting System (ASRS) will examine wake vortex encounter incidents at John F. Kennedy International Airport (JFK), Lambert-St. Louis International Airport (STL) and San Francisco International Airport (SFO). The study will focus on wake encounters for closely spaced parallel runways and single runway in-trail events in these three terminal environments. ASRS will also examine wake vortex incidents at other airports and in enroute environments. The factors being analyzed include: magnitudes of wake encounter, aircraft spacing, aircraft type, runway configuration and encounter consequences. ASRS strongly encourages pilots who experience a wake vortex encounter to report it to ASRS and participate in the study. ASRS will contact pilots to request their voluntary participation in completing additional web-based questions. As always, ASRS guarantees anonymity to all participants.

New Icing AD for Caravan

Operators of Cessna Caravans and Grand Caravans who want to fly them in known icing conditions will have to equip them with a "low airspeed awareness alert system" according to an Airworthiness Directive (AD) the FAA published. The new AD 2007-10-15 will supercede AD 2006-06-06 to assure that the pilot has enough information and the necessary equipment to prevent loss of control of the airplane while in-flight during icing conditions. Full details on AD 2007-10-15 are available online.

TSA Announces Opening of St. Louis Lambert As A DCA Gateway

The Transportation Security Administration (TSA) has announced that Lambert St. Louis International Airport (STL) is now approved as a gateway airport for flights departing to Ronald Reagan Washington National Airport (DCA). STL will be open for DCA Access Standard Security Program (DASSP) operators on June 15, 2007. Initially, Signature Flight Support will be the supporting FBO.

The TSA requires that general aviation flights to DCA be in compliance with the DASSP. One of the provisions of the DASSP is that all flights must be cleared through an approved gateway airport. Operators interested in the DASSP should visit NATA's DCA Access Information Web page for more information.

Start Training for Winter Operations Now

Although winter seems far off, now is the time to be sure winter operations are addressed in recurrent training. One particular topic deserves special emphasis: operation of pneumatic de-ice boots. Boots received special attention last winter as the focus of a National Transportation Safety Board (NTSB) recommendation that leading edge de-ice boots be activated as soon as the airplane enters icing conditions. The suggestion is sound advice for some airplane models, but other airplanes equipped with pneumatic de-ice boots form an "ice bridge" when boots are deployed too early, and then become ineffective. The NTSB recommendation does not recognize the uniqueness of specific aircraft models.

Click here to read the recommendation letter regarding operations in icing conditions.

All pilots are urged to be familiar with and implement the de-icing procedures specific to their airplane as provided in the Airplane Flight Manual (AFM).

Is Your Navigation Database Current? Are You Sure?

The Federal Aviation Administration (FAA) is proposing a policy change that could severely limit an operator's ability to use a minimum equipment list (MEL) to defer replacement of navigation databases. Presently, an operator may use an MEL to obtain 10 days of relief from replacement after a flight management or navigation management system's database expires. The proposal would decrease that deferral to only 3 days, after which the aircraft utilizing the out-of-date navigation database would be grounded until a current database was installed.

Operators who conduct extensive trans-continental or international operations could be especially affected, particularly in an instance of a shipping error or delivery delay of a navigation database. All operators are encouraged to review the proposed policy change and provide feedback to the FAA by visiting the Draft MELs Policy Letters and Discussion Group, and replying to "PL-98, Rev. 1, Draft 5 Navigation Databases".

TSA Responds To NATA Request, Issues TFSSP Clarifications

The Transportation Security Administration (TSA) has issued a new document providing clarification to several questions posed by NATA and operators related to the Twelve-Five Standard Security Program (TFSSP).

As reported last week, NATA recently met with several TSA senior staff members and received a commitment that the agency would clarify and provide guidance on several lingering concerns the association has with the current version of the TFSSP.

The TSA has taken the first step in providing operators with the specific information they need to ensure full compliance with their security program obligations by issuing a new guidance document.

Members with the TFSSP are encouraged to download and review the new guidance from the TSA's Webboard at https://webboards.tsa.dhs.gov.

Please note that the TFSSP and Webboard are not available to the public. Access to this information is restricted to air carriers that have been issued the TFSSP and login credentials to the Webboard by the TSA.

U.S. Court Of Appeals Upholds 2006 Drug and Alcohol Program Final Rule

The United States Court of Appeals for the District of Columbia Circuit recently ruled in favor of the FAA in the *Aeronautics Repair Station Association (ARSA) v. Federal Aviation Administration (FAA)* case in which the industry's position stated that the 2006 Drug and Alcohol Final Rule was inappropriately and illegally released.

ARSA on behalf of the industry challenged the FAA's final rule that amends its drug and alcohol testing regulations to mandate that air carriers require drug and alcohol tests of all employees of its contractors—including employees of subcontractors at any tier—who perform safety-related functions such as aircraft maintenance.

In issuing the final rule, the FAA concluded that it was not required to conduct a regulatory flexibility analysis under the Regulatory Flexibility Act (RFA) because the rule "does not have a significant adverse effect on small entities." Although actual experience has proven otherwise, the Court upheld the substance of the rule but rejected the FAA's RFA determination. What this means is that drug and alcohol testing requirements will continue to be imposed and enforced through all tiers of maintenance contractors and subcontractors for the foreseeable future.

Key language from the Court's ruling states the following: "For the foregoing reasons, we uphold the substance of the FAA's 2006 Final Rule and remand for the limited purpose of conducting the analysis required under the Regulatory Flexibility Act, treating the contractors and subcontractors as regulated entities. And furthermore, in light of the public's manifest interest in aviation safety, we will not defer enforcement of the rule against small entities pending the FAA's Regulatory Flexibility Act analysis."

It should be noted that there was a dissenting opinion in the Court's decision that could play a role in future action taken on behalf of the industry to argue the application of the final rule.

On Monday, August 20, 2007, the Small Business Administration (SBA) will meet with industry representatives to discuss the Court's ruling and to plot a course of action that may yet provide the industry with a favorable decision on how drug and alcohol testing will be applied through the multiple tiers of subcontractors. NATA will participate in the SBA meeting and release a regulatory report shortly thereafter.

NATA members: The full decision of the Court, including the dissenting opinion, can be viewed in its entirety by clicking here.

FAA Reminds International Operators of Medical Certificate Requirements

A Federal Aviation Administration Information for Operators (InFO) document reminds air carriers that commercial operations within many European countries require compliance with ICAO licensing standards. ICAO stipulates that a Second-in-Command (SIC) must possess a first class medical for international air transportation.

Although the InFO specifically clarifies requirements for Part 121 operations, air transportation regulations of many European countries do not distinguish between Part 121 and

135 operations. Therefore, the guidance in the InFO is generally applicable to international Part 135 operators as well.

Operators are encouraged to ensure that their crews meet the necessary certification and qualification standards established by the foreign nations to which they operate.

Click here to review the InFO.

HAVE A CURRENT AIRPORT DIAGRAM AND USE IT! NOTICE NUMBER: NOTC0932

Have A Current Airport Diagram AND Use IT!

Line Safety Audits completed by the airlines revealed *23% of errors and 38% of the threats occur before ever leaving the ground.*

A crucial part of the flight process is pre-flight planning. Accident analysis reveals that preflight planning is often inadequate or entirely ignored. An important part of this flight process is the obtainment of information for your departure, arrival, AND alternate airports. This should include utilizing a current Airport Facility Directory, obtaining current NOTAMs, AND having a current Airport Diagram.

Airports Diagrams are readily available at http://www.naco.faa.gov/.

It is not only important to have a current airport diagram, but to also USE THEM. You should review the airport diagram before taxi while stationary; and then after receiving your taxi clearance, review the diagram again to ensure that you are familiar with the taxi route and any hold short instructions. If there ever is a question, *STOP and ASK!*

NEW ETHICS REFORM LAW CONTAINS RESTRICTIONS ON CONGRESSIONAL TRAVEL

August 10, 2007

What's at Issue

Before adjourning for the month-long August recess, both the U.S. Senate and U.S. House of Representatives approved legislation aimed at strengthening existing Congressional ethics laws governing Members of Congress and their staff. The legislation, S. 1, the Honest Leadership and Open Government Act of 2007, also seeks to bring more disclosure to the lobbying process for registered lobbyists and the companies that employ them.

Why it's Important

S. 1 includes provisions restricting the use of private aircraft for both Senators and Representatives. After lingering criticism regarding the use of corporate jets by Members of Congress for travel on official business, providing a lobbying opportunity for the owners of those aircraft, both the House and Senate have moved to restrict access to such aircraft.

Major Provisions

The new legislation contains differing regulations for House and Senate Members:

- Senators - Senators are permitted to travel on private aircraft, but must reimburse the owner of the aircraft for the cost of the flight, equivalent to that of the fair market value of the charter rate typically charged between the flight's point of departure and its destination. Previously, Senate rules permitted members to reimburse aircraft owners at the rate for a first-class airline ticket for a flight between the two points.
- Senators who own their own aircraft (or have an immediate family member who does) are permitted to travel on the aircraft without having to pay the charter rate, but their use of such aircraft is somewhat limited.
- Representatives - House Representatives are strictly prohibited from traveling on private aircraft, and can only use commercial airline or air charter operations. Members who own or lease their own aircraft are allowed to operate their aircraft, with some limitations.

NATA Position

NATA strongly encourages any members who routinely work with Members of Congress or Congressional candidates to be cautious when arranging air travel for elected officials. Be certain to check with the Senator's or Representative's staff to ensure that all ethics requirements are satisfied. Please feel free to contact NATA staff with additional questions as well.

STATUS

S. 1 was cleared by Congress and sent to the President on August 2, 2007. President Bush is expected to sign the bill into law soon.

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MISCOMMUNICATIONS ARE A MAJOR CAUSE OF RUNWAY INCURSIONS.

Notice Number: NOTC0895

Runway Incursion PD statistics FY2007 versus equivalent period FY2006

FY07 (thru 6/7)		FY06 (thru 6/7)	
Southern Region	39	Southern Region	25
All Other Regions	100	All Other Regions	92

Below is a regional survey breakdown of the 39 runway incursion errors caused by pilots in the region:

12: Entered runway or crossed runway hold bars without ATC clearance*

11: Issued and read back hold short instructions, then entered runway

4: Landed without ATC clearance

10: Departed without ATC clearance*

2: Departed from wrong runway

* A single aircraft is responsible for multiple (2) RIs

Miscommunications are a major cause of runway incursions. Please take a look at the next five pages, located on the link below, which features information regarding communications with Air Traffic Control.

https://www.faasafety.gov/files/notices/2007/Jun/Good_Radio_Communications_to_Avoid_Runway

NTSB IDENTIFICATION: OPS07IA004A

Scheduled 14 CFR Part 121: Air Carrier operation of
REPUBLIC AIRLINES INC
Incident occurred Saturday, May 26, 2007
in San Francisco, CA
Aircraft: Embraer 170, registration: N872RW
Injuries: 27 Uninjured.

This is preliminary information, subject to change, and may contain errors. Any errors in this report will be corrected when the final report has been completed.

On May 26, 2007, at 1336 Pacific daylight time, Republic Airlines flight 4912 (RPA4912), an Embraer 170 regional jet, and Skywest Airlines flight 5741 (SKW5741), an Embraer Brasilia turboprop, nearly collided in the intersection of runway1L and runway 28R at San Francisco International Airport, San Francisco, California. Both aircraft were operating as scheduled passenger flights under 14 CFR part 121 and were operating on instrument flight plans. There were no reported injuries to occupants and no reported damage to either aircraft.

SKW5741 was arriving at SFO after a flight from Modesto, California. The aircraft was cleared for a visual approach by Northern California Terminal Radar Approach Control (NCT) and transferred to SFO tower. The crew contacted the SFO local controller at 1332:29, reporting that they were six miles out on the BRIJJ visual approach. The local controller acknowledged, issued a wake turbulence advisory for a Boeing 757 landing on runway 28L, and cleared SKW5741

to land on runway 28R. According to NCT radar data, the aircraft crossed the runway threshold at 1335:13.

RPA4912 (radio call sign "Brickyard 4912"), taxied to runway 1L and was instructed to taxi onto the runway to hold at 1333:36. RPA4912 was cleared for takeoff at 1335:12. The crew acknowledged.

At 1335:40, during a transmission to an uninvolved aircraft by the local controller, an aural AMASS warning is audible in the background. At 1335:44, the local controller begins attempting to instruct SKW5741 to stop, transmitting, "uh, Skywest HOLD HOLD HOLD".

According to controllers' written statements, SKW5741 came to a stop in the intersection of runways 1L and 28R. RPA4912 lifted off and overflew SKW5741. The initial FAA tower report estimated the aircraft missed colliding by 300 feet. However, the Skywest crew estimated the distance as 30 to 50 feet and the crew of RPA4912 estimated 150 feet. They characterized their estimate as a "guess," noting that they could not actually see the Brasilia as they passed over the top of the aircraft.

SFO ATCT is equipped with an Airport Movement Area Safety System (AMASS) that uses radar to track aircraft on and near the airport surface, providing conflict detection and aircraft location information to controllers. The system is able to detect conflicts between aircraft using the same runway, and, following a software modification that was installed on February 17, 2007, the system is also able to detect conflicts between aircraft using intersecting runways.

SKW5741's approach was tracked by NCT's ASR-9 terminal radar system located at Oakland International Airport, approximately 8 miles north of SFO. The Oakland radar system does not provide surface coverage at SFO, but it did detect RPA4912 climbing off the airport immediately after the incident. Comparison of the NCT radar time with the AMASS radar time indicated that the AMASS clock was about 15 to 16 seconds fast in relation to the NCT clock. The NCT clock is set and checked every shift, but the AMASS clock time is derived from the internal clock of the computer running AMASS and is more subject to error. Therefore, this report will consider the ARTS clock as authoritative and AMASS times will be corrected accordingly.

The AMASS system recorded data for both RPA4912 and SKW5741, detecting the conflict and alerting controllers at 1335:40. The AMASS targets for the two aircraft merged in the runway intersection at 1335:55. RPA1912 first appears on the OAK ASR-9 just south of taxiway V at 1335:59, climbing through 200 feet.

PERSONNEL INFORMATION

The crew of RPA4912 consisted of a captain, first officer, and 1 flight attendant. The crew of SKW5741 included an upgrade captain receiving initial operating experience training, a check airman acting as first officer, and 1 flight attendant. Certification and flight experience information for the crews was not requested. The local controller involved entered on duty with the FAA in 1988, and has been fully certified as a tower controller at SFO since 1999. Following the incident, the controller was decertified, required to complete additional training, and recertified by SFO tower management.

AIRCRAFT INFORMATION

RPA4912 was an Embraer 170 regional jet, registration N757AT. SKW5741 was an Embraer 120 turboprop, registration N232SW.

METEOROLOGICAL INFORMATION

At 1956 UTC, the SFO weather observation was wind 320 at 13 knots, visibility 10 miles, few clouds at 1,100 feet, temperature 18, dew point 10, altimeter 29.95 inches.

WRECKAGE AND IMPACT INFORMATION

No damage was reported to either aircraft.

ADDITIONAL INFORMATION

Air Traffic Control Information

SFO Air Traffic Control Tower (ATCT) is an ATC-10 level facility responsible for aircraft operations on the airport surface and in the class B airspace in the immediate vicinity of the airport. Arrivals and departures are handled by Northern California Terminal Radar Approach Control (NCT), located in Rancho Cordova, GA.

The tower is equipped with an Airport Movement Area Safety System (AMASS) ground radar, which is used by controllers to track and identify aircraft operating on the airport surface. AMASS provides a limited conflict detection capability that permits it to alert controllers about certain types of ground conflicts between aircraft as well as inadvertent use of closed or inactive runways. According to AMASS technical support personnel, in a scenario such as this conflict, AMASS is designed to provide an alert 15

seconds before the aircraft reach the conflict point, and the system performed as designed.

NTSB IDENTIFICATION: CHI07MA160

Nonscheduled 14 CFR Part 135: Air Taxi & Commuter
Accident occurred Monday, June 04, 2007 in Milwaukee, WI
Aircraft: Cessna 550, registration: N550BP
Injuries: 6 Fatal.

This is preliminary information, subject to change, and may contain errors. Any errors in this report will be corrected when the final report has been completed.

On June 4, 2007, at 1600 central daylight time, a Cessna 550 (Citation II), N550BP, piloted by a crew of two airline transport rated pilots, was destroyed when it impacted the waters of Lake Michigan near Milwaukee, Wisconsin. The 14 CFR Part 135 medical transport flight was operating on an instrument flight rules flight plan. Weather conditions at the time of the accident consisted of visual meteorological conditions near the surface with instrument meteorological conditions at higher elevations. The two crewmembers and four passengers were fatally injured. The airplane's intended destination was the Willow Run Airport, near Detroit, Michigan. The flight originated from the General Mitchell International Airport (MKE), Milwaukee, Wisconsin, about 3 minutes prior to the accident.

Initial information from voice communications between the airplane and air traffic control revealed that the flight crew reported an emergency and their intention to return to MKE. During those communications, one of the flight crewmembers reported that they had experienced a runaway trim.

Initial examination of the radar data for the flight shows the airplane departing MKE and executing a climbing right turn to a northeast heading. The airplane's initial climb lasted for approximately one minute at which time the airplane levels off for approximately 16 seconds at a pressure altitude of 3,900 feet. The airplane then begins another climb at about 1,300 feet per minute. This climb lasts for about 32 seconds at which time the airplane's pressure altitude was 4,400 feet. The radar data then shows the airplane in a descending left turn for the remaining 69 seconds of the data. The average descent rate during this period was 2,260 feet per minute. The last radar return showed the airplane at 1,800 feet pressure altitude. The wreckage debris field was located about 0.2 nautical miles southeast of the last radar return.

INDUSTRY LAUNCHES AIR CHARTER SAFETY FOUNDATION

The Air Charter Safety Foundation is a non-profit organization dedicated to enhancing the safety and security of air charter in the United States and worldwide. Through research, collaboration and education, the ACSF advances charter industry standards and best practices, promulgates safety, security and service benchmarks, and promotes the universal acceptance of safety management systems. The Foundation also provides accurate and objective information about air charter providers as one of the most important and versatile public transportation resources.

Membership in the ACSF primarily includes Part 135 certificate holders, with the balance to include OEMs, brokers, insurers, customers, airports, and safety professionals.

Regular members are aircraft operators, management companies and brokers, while Associate members are suppliers, vendors and consultants to aircraft operators. Affiliate members are other non-profit institutions and government organizations.

A Board of Governors establishes the ACSF's strategic goals, policies and programs. A ten-member Executive Committee of the Board oversees all fiduciary and statutory governance functions.

The ACSF will provide members with several benefits, including safety seminars, a quarterly journal focusing on safety and security, and regular safety briefings and advisories. The ACSF will also establish a new audit standard to raise the bar for the entire industry, increasing consumer confidence in their choice of charter operators while reducing the number of audits each operator must complete on an annual basis. Once an operator has completed this audit, the operator's information will be included in an online registry for consumers and other providers to review. Members will also have access to highly skilled experts experienced in managing air charter regulatory and safety issues, as well as assistance with accident/incident response and media outreach.

For more information on the ACSF, contact Lindsey McFarren, Director, at lmcfarren@acsf.aero, or (888)-SAFE-135. You may also visit the Foundation's new Web site at www.acsf.aero.

MIT ICAT ADS-B Survey – Please Participate

The FAA began the process of implementing of Automatic Dependent Surveillance-Broadcast (ADS-B) in the US. The ground infrastructure is expected to be complete by 2014 [1], and the FAA is considering requiring ADS-B in certain classes of airspace in the 2020 time frame [2].

The MIT International Center for Air Transportation, in the Department of Aeronautics and Astronautics, is working with the FAA to investigate applications and benefits of ADS-B technology and user equipage. We are conducting surveys with stakeholders (pilots, operators, owners, manufacturers, etc.) to get their views on the uses of this technology because the potential benefits, costs, barriers, and operational concerns will vary for different stakeholders.

No knowledge of ADS-B technology is required to complete this survey.

The survey will take about 10-15 minutes to complete. This survey is voluntary. It is not necessary to answer every question, and you may stop the survey at any time. You will not be compensated for this survey.

Data from this survey will be used by the MIT International Center for Air Transportation for ongoing research on technology in the National Airspace System. This survey will be useful in informing the FAA on ADS-B implementation, however it is only advisory and other factors may influence the final ADS-B implementation plans.

If you have any questions about this survey, please contact Ted Lester (elester@mit.edu) or Professor John Hansman (rjhans@mit.edu).

Click here to begin the survey.

NATA 2007 COMPENSATION SURVEY NOW AVAILABLE

NATA has published its 2007 annual survey of general aviation service employee compensation. The survey includes salaries and benefits for pilots, line-service personnel and maintenance technicians. It is based upon data collected from 290 companies employing nearly 10,000 people.

Employee compensation is broken down by geographic region of the country, company gross sales, size of the town or city in which the company is located and by the number of employees in the company. In addition to pilots and maintenance technicians, the survey includes compensation for inspectors, dispatchers, customer service representatives and stock clerks, among others.

Association Research Inc., a leading economic research firm based in Rockville, Maryland, conducted the study. To ensure participant privacy, only aggregated data are provided to NATA.

The study was provided to NATA members who participated in the survey at no cost.

The study is downloadable in PDF format from NATA's Web site for non-participating members for $50, or $100 for non-members.

The report may be found on the NATA Web site under Publications.

NTSB IDENTIFICATION: NYC07MA162

14 CFR Part 91: General Aviation
Accident occurred Tuesday, July 10, 2007 in Sanford, FL
Aircraft: Cessna 310R, registration: N501N
Injuries: 5 Fatal, 4 Serious.

This is preliminary information, subject to change, and may contain errors. Any errors in this report will be corrected when the final report has been completed.

On July 10, 2007, at 0835 eastern daylight time, a Cessna 310R, N501N, operated by the National Association for Stock Car Auto Racing (NASCAR), was destroyed during a collision with trees and structures in a residential area while attempting an emergency landing to the Sanford Orlando International Airport (SFB), Sanford, Florida. The certificated commercial pilot and the certificated airline transport pilot were fatally injured. Three people on the ground were fatally injured, and four were seriously injured. A postcrash fire consumed the airplane and two single-family homes. Visual meteorological conditions prevailed, and an instrument flight rules flight plan was filed for the personal flight that was conducted under 14 CFR Part 91. The airplane departed Daytona Beach International Airport (DAB), Florida, about 0822, and was destined for Lakeland Linder Airport (LAL), Lakeland, Florida.

A preliminary review of air traffic control (ATC) radar and voice communication recordings revealed that shortly after reaching a cruising altitude of 6,000 feet, the crew declared an emergency at 08:32:50. They advised ATC there was "smoke in the cockpit," and announced their intention to land at SFB. After ATC cleared the airplane to fly directly to SFB and descend, the target identified as the accident airplane turned in the direction of SFB, and descended. Shortly after, ATC advised the airplane, "cleared to land any runway." The last radio transmission from the crew, at 08:33:15, was cut off mid-sentence.

According to several witnesses in the area surrounding the crash site, their attention was drawn to the airplane because of its speed, and low altitude, as well as its position and orientation in relation to SFB as it was "going the wrong way." Many of the witnesses stated the airplane was traveling "extremely fast," was "very low," and the wings were "rocking." Then, just prior to impact, the airplane made a sharp turn to the west in a "steep" bank. Several described smoke trailing from the airplane, and one witness stated, "smoke was trailing from the port side."

The accident occurred during the hours of daylight approximately 28 degrees, 49 minutes north latitude, and 81 degrees, 17 minutes west longitude.

The airplane was examined at the site on July 11, 2007, and all major components were accounted for at the scene. The wreckage path was oriented approximately 255 degrees magnetic, and about 530 feet long. . The initial impact point was in treetops on the eastern edge of a housing development, about 70 feet above the ground. The swath cut in the north/south tree line was approximately the same width as the wingspan of the accident airplane, and angled down in a northerly direction. Fractured and angularly cut tree branches were scattered about the first 300 feet of wreckage path.

The cockpit and cabin area of the airplane came to rest inside the eastern-most house located about 270 feet from the initial impact point and was entangled in home structure, and consumed by fire. The airplane's wings were fragmented along the wreckage path between the initial impact point and the main wreckage. A wing tip fuel tank was located outside of the house, adjacent to the main wreckage. The left engine was separated from the airplane, and located inside the house. The left propeller assembly was separated from the engine, and located beneath debris inside the house. One propeller blade was separated from the assembly, and located in close proximity to the hub.

On-site examination of the fuselage by Safety Board investigators and specialists did not reveal any specific fire patterns, or obvious points of ignition. The airplane's combustion-type heater was completely burned and could not be established as a point of ignition. Electrical components from the cockpit have been harvested for additional examination at the Safety Board's Material Laboratory in Washington, D.C.

Flight control cable continuity for the rudder and elevators was verified from where the cables were broken, approximately mid-cabin area, to the empennage. Aileron control cable continuity was verified from the left wing root outboard to the bellcrank. Numerous separations in the control cables in the right wing and forward fuselage portions exhibited signatures typical of tension overload.

The left engine propeller assembly, gear driven alternator, propeller governor, fuel manifold valve, fuel lines and tubes, throttle body, fuel control, and sections of the induction and exhaust assembly were found separated from the engine. No obvious preimpact mechanical malfunctions were noted during an examination of the left engine by Safety Board

investigators. The propeller assembly was impact damaged and one blade had separated from the hub. The separated blade had approximately 8 inches missing from the tip. The remaining two blades were found loose in the hub. All three propeller blades displayed similar twisting, bending, leading edge gouging, and chordwise scratching.

The right engine displayed varying degrees of impact damage. The right engine propeller assembly, left side exhaust muffler and pipe, number 5 cylinder exhaust elbow, right side induction elbows and tubes, propeller governor link arms, and number 6 rocker cover were separated from the engine. No obvious preimpact mechanical malfunctions were noted during an examination of the right engine by Safety Board investigators. All three propeller blades displayed similar twisting, bending, leading edge gouging, and chordwise scratching. Blade number 2 and number 3 were found loose in the hub and blade number 2 had approximately 6 inches missing from the tip.

Examination of the landing gear and wing flap actuators revealed that the gear and flaps were retracted.

The pilot held a commercial pilot certificate with ratings for airplane single engine land, multi-engine land, and instrument airplane. According to a review of company and FAA records, the pilot had accrued an estimated 276 total hours of flight experience, 106 hours of multi-engine experience, and 26 hours in make and model. His most recent third-class medical certificate was issued in December 2005.

The second pilot held an airline transport pilot certificate with a rating for airplane multi-engine land, and instrument airplane. He held a commercial pilot certificate for airplane single-engine land, and a flight instructor certificate with ratings for airplane single-engine land, multi-engine land, and instrument airplane. According to company records, the pilot had accrued 10,580 total hours of flight experience, with 60 hours in make and model. His most recent first class medical certificate was issued in June 2007.

According to the director of aviation, the pilot was an employee of NASCAR, but was not employed in the flight department. He explained that the pilot was authorized to fly N501N for his personal use, but only when accompanied by the second pilot, the company's "most senior captain."

Both the pilot and the second pilot completed Cessna 310 proficiency training at SIMCOM Training Center, Orlando, Florida, on January 25, 2007.

It is not known which pilot was manipulating the controls of the airplane during the flight and accident sequence.

According to FAA and maintenance records, the airplane was manufactured in 1977, and had accrued 4,740 hours of total flight time. The airplane was on an annual inspection program, and the most recent annual inspection was completed October 11, 2006, at 4,717 aircraft hours.

At 0853, the weather reported at SFB, 4 miles northeast, included visibility 10 miles, clear skies, and winds from 200 degrees at 5 knots. The temperature was 84 degrees Fahrenheit, and the dew point was 73 degrees Fahrenheit.

Holdover Time Tables (HOT) For 2007-2008 Season Available

The Federal Aviation Administration has released the De-icing Holdover Time Tables (HOT) Guidelines for winter 2007-2008.

Click here to download the winter 2007-2008 HOT Guidelines.

ICE PELLET ALLOWANCE TIMES WINTER 2007-2008

During the winter of 2006-2007, operations in ice pellets were approved for “light ice pellets” with an allowance time of 25 minutes. That time was based on limited research conducted late in the winter of 2005-2006 at the request of various industry groups. Additional and more comprehensive ice pellet research was conducted jointly by the research teams of the FAA and Transport Canada this past winter season. This research consisted of extensive climatic chamber, wind tunnel, and live aircraft testing with ice pellets (light and moderate) and light ice pellets mixed with other forms of precipitation. Additionally, Type IV anti-icing fluid with ice pellets embedded was evaluated for its aging qualities over periods of time beyond the allowance times, when the active precipitation time was limited to the allowance times. Results of this research provide the basis for extended allowance times extended allowance times for operations in light ice pellets, as well as allowance times for operations in moderate ice pellets and light ice pellets mixed with other forms of precipitation. Also guidance is provided for Type IV anti-icing fluid with embedded ice pellets “aged”

beyond its allowance time when the precipitation stops at or prior to the expiration of the allowance time.

Operations in Light and Moderate Ice Pellets and Light Ice Pellets mixed with other forms of precipitation.

(1) Tests have shown that ice pellets generally remain in the frozen state imbedded in Type IV anti-icing fluid, and are not absorbed by the fluid in the same manner as other forms of precipitation. Using current guidelines for determining anti-icing fluid failure, the presence of a contaminant not absorbed by the fluid (remaining imbedded) would be an indication that the fluid has failed. These imbedded ice pellets are generally not readily detectable by the human eye during pre-takeoff contamination check procedures. Therefore, a visual pre-takeoff contamination check in ice pellet conditions may not be of value and is not required.

(2) The research data have also shown that after proper deicing and anti-icing, the accumulation of light ice pellets, moderate ice pellets, and ice pellets mixed with other forms of precipitation in Type IV fluid will not prevent the fluid from flowing off the aerodynamic surfaces during takeoff. This flow due to shearing occurs with rotation speeds consistent with Type IV anti-icing fluid recommended applications for up to the applicable allowance time listed in Table-1. These allowance times are from the start of the Type IV anti-icing fluid application. Additionally, if the ice pellet condition stops, and the allowance time has not been exceeded, and the OAT has remained constant or increased from the temperature on which the allowance time was based, the operator is permitted to consider the Type IV anti-icing fluid effective without any further action up to 90 minutes after the start of the application time of the Type IV anti-icing fluid.

Examples: **a)** Type IV anti-icing fluid is applied with a start of application time of 10:00, OAT is 0^0C, light ice pellets fall until 10:20 and stop and do not restart. The allowance time stops at 10:50; however, provided that the OAT remains constant or increases and that no precipitation restarts after the allowance time of 10:50 the aircraft may takeoff without any further action up to 11:30.

b) Type IV anti-icing fluid is applied with a start of application time of 10:00, OAT is 0^0C, light ice pellets mixed with freezing drizzle falls until 10:10 and stops and restarts at 10:15 and stops at 10:20. The allowance time stops at 10:25, however provided that the OAT remains constant or increases and that no precipitation restarts after the allowance time of 10:25, the aircraft may takeoff without any further action up to 11:30.

c) On the other hand, if Type IV anti-icing fluid is applied with a start of application time of 10:00, OAT is 0^0C, light ice pellets mixed with freezing drizzle falls until 10:10 and stops and restarts at 10:30 with the allowance time stopping at 10:25 the aircraft **may not takeoff,** no matter how short the time or type of precipitation after 10:25, without being deiced and anti-iced if precipitation is present.

(3) Operators with a deicing program approved in accordance with Title 14 of the Code of Federal Regulations (14 CFR) part 121, section 121.629, will be allowed, in the specified ice pellet conditions and corresponding outside air temperatures (OAT) listed in Table-1 "Ice Pellet Allowance Times Winter 2007-2008", up to the specific allowance time listed in Table-1 after the start of the anti-icing fluid application to commence the takeoff with the following restrictions:

(a) The aircraft critical surfaces must be free of contaminants before applying Type IV anti-icing fluid. If not, the aircraft must be properly deiced and checked to be free of contaminants before the application of Type IV anti-icing fluid.

(b) The allowance time is valid only if the aircraft is anti-iced with undiluted Type IV fluid.

(c) Due to the shearing qualities of Type IV fluids with imbedded ice pellets, this allowance is limited to aircraft with a rotation speed of 100 knots or greater.

(d) If the takeoff is not accomplished within the applicable allowance time in Table-1, the aircraft must be completely deiced, and if precipitation is still present, anti-iced again prior to a subsequent takeoff. If the precipitation stops at or before the time limits of the applicable allowance time in Table-1 and does not restart the aircraft may takeoff up to 90 minutes after the start of the application of the Type IV anti-icing fluid provided the temperature on which the allowance time was based remains constant or increases.

(e) A pre-takeoff contamination check is not required. The allowance time cannot be extended by an internal or external check of the aircraft critical surfaces.

(f) If ice pellet precipitation becomes heavier than moderate or if the light ice pellets mixed with other forms of allowable precipitation exceeds the listed intensities or temperature range, the allowance time cannot be used.

(g) If the temperature decreases below the temperature on which the allowance time was based,

1. And the new lower temperature has an associated allowance time for the precipitation condition and the present time is within the new allowance time, then that new time must be used as the allowance time limit.

2. And the allowance time has expired (within the 90 minute post anti-icing window if the precipitation has stopped within the allowance time), the aircraft may not takeoff and must be completely deiced and, if applicable, anti-iced before a subsequent takeoff.

Table 1: Ice Pellet Allowance Time Winter 2007-2008

	OAT -5^0 C or above	OAT Less Than -5^0 C	OAT Less than - 5?to -10?C	OAT Less than -10^0 C	OAT 0^0 C and Above
Light Ice Pellets	50 Minutes	30 Minutes	N/A	N/A	N/A
Moderate Ice Pellets	25 Minutes	10 Minutes	N/A	N/A	N/A
Light Ice Pellets Mixed with Light or Moderate Snow	25 Minutes	Operations Not Authorized	N/A	N/A	N/A
Light Ice Pellets Mixed with Light or Moderate Freezing Drizzle, or Light Freezing Rain	25 Minutes	N/A	10 Minutes	Operations Not Authorized	N/A
Light Ice Pellets Mixed with Light Rain	N/A	N/A	N/A	N/A	25 Minutes

SAFO

Embraer Legacy/EMB-135, -140, -145 — Be Careful Where You Put Your Foot

http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/safo

A SAFO contains important safety information and may include recommended action. SAFO content should be especially valuable to air carriers in meeting their statutory duty to provide service with the highest possible degree of safety in the public interest.

Subject: Embraer Legacy/EMB-135, -140, -145 — Be Careful Where You Put Your Foot

Purpose: This SAFO calls attention to the possibility that a pilot of an Embraer Legacy, EMB-135 or -145 (sometimes called EMB-140 in marketing literature) might inadvertently change VHF radio frequencies or place the ATC transponder into standby mode during flight.

Background: During an investigation the FAA discovered that crewmembers who had the simple habit of placing their shoe on the footrest just below the instrument panel could inadvertently put the ATC transponder into standby mode, or change radio frequencies without the crew's awareness. Further, they found that pilots might not notice the corresponding indication on the Pilot Flight Display due to the white colored letters, which are not as noticeable as differently colored caution or warning indications.

Switching a transponder with a functioning traffic alert and collision avoidance system (TCAS) to standby mode renders the TCAS ineffective, and is therefore one of the most serious consequences of a pilot's foot inadvertently contacting the radio management unit. Two airplanes equipped with TCAS would fail to see each other if they were on a collision course. Pilots could presume TCAS was operating normally if they failed to notice the subtle TCAS OFF indication on the Pilot Flight Display.

Recommended Action: Managers of part 142 training centers where pilot training on the Embraer Legacy, EMB-135, and EMB-145 is conducted should ensure that their trainers caution pilots of this latent hazard and emphasize the importance of being careful when using the footrests provided. Similarly, directors of safety, directors of operations, trainers, and check airmen for operators flying any of these Embraer models should immediately make this

hazard known to their pilots and should make sure that it is addressed in their training programs, especially during flight training, supervised operating experience, and line checks.

Any questions regarding the content of this SAFO should be directed to the Air Transportation Division, AFS-200, at (202) 267-8116.

NATIONAL TRANSPORTATION SAFETY BOARD

Public Meeting of July 26, 2007
(Information subject to editing)

Report of Aviation Accident, Attempted Takeoff From Wrong Runway, Comair Flight 5191, Bombardier CL-600-2B19, N431CA Lexington, Kentucky, August 27, 2006 NTSB/AAR-07/05

This is a synopsis from the Safety Board's report and does not include the Board's rationale for the conclusions, probable cause, and safety recommendations. Safety Board staff is currently making final revisions to the report from which the attached conclusions and safety recommendations have been extracted. The final report and pertinent safety recommendation letters will be distributed to recommendation recipients as soon as possible. The attached information is subject to further review and editing.

Executive Summary

On August 27, 2006, about 0606:35 eastern daylight time, Comair flight 5191, a Bombardier CL-600-2B19, N431CA, crashed during takeoff from Blue Grass Airport, Lexington, Kentucky. The flight crew was instructed to take off from runway 22 but instead lined up the airplane on runway 26 and began the takeoff roll. The airplane ran off the end of the runway and impacted the airport perimeter fence, trees, and terrain. The captain, flight attendant, and 47 passengers were killed, and the first officer received serious injuries. The airplane was destroyed by impact forces and postcrash fire. The flight was operating under the provisions of 14 *Code of Federal Regulations* Part 121 and was en route to Hartsfield-Jackson Atlanta International Airport, Atlanta, Georgia. Night visual meteorological conditions prevailed at the time of the accident.

The National Transportation Safety Board determines that the probable cause of this accident was the flight crewmembers' failure to use available cues and aids to identify the airplane's location on the airport surface during taxi and their failure to cross-check and verify that the airplane was on the correct runway before takeoff. Contributing to the accident were the flight crew's nonpertinent conversations during taxi, which resulted in a loss of positional awareness and the Federal Aviation Administration's failure to require that all runway crossings be authorized only by specific air traffic control clearances.

The safety issues discussed in this report focus on the need for (1) improved flight deck procedures, (2) the implementation of cockpit moving map displays or cockpit runway alerting systems, (3) improved airport surface marking standards, and (4) ATC policy changes in the areas of taxi and takeoff clearances and task prioritization. Safety recommendations concerning these issues are addressed to the FAA.

Conclusions

1. The captain and the first officer were properly certificated and qualified under Federal regulations. There was no evidence of any medical or behavioral conditions that might have adversely affected their performance during the accident flight. Before reporting for the accident flight, the flight crewmembers had rest periods that were longer than those required by Federal regulations and company policy.

2. The accident airplane was properly certified, equipped, and maintained in accordance with Federal regulations. The recovered components showed no evidence of any structural, engine, or system failures.

3. Weather was not a factor in this accident. No restrictions to visibility occurred during the airplane's taxi to the runway and the attempted takeoff. The taxi and the attempted takeoff occurred about one hour before sunrise during night visual meteorological conditions and with no illumination from the moon.

4. The captain and the first officer believed that the airplane was on runway 22 when they taxied onto runway 26 and initiated the takeoff roll.

5. The flight crew recognized that something was wrong with the takeoff beyond the point from which the

airplane could be stopped on the remaining available runway.

6. Because the accident airplane had taxied onto and taken off from runway 26 without a clearance to do so, this accident was a runway incursion.

7. Adequate cues existed on the airport surface and available resources were present in the cockpit to allow the flight crew to successfully navigate from the air carrier ramp to the runway 22 threshold.

8. The flight crewmembers' nonpertinent conversation during the taxi, which was not in compliance with Federal regulations and company policy, likely contributed to their loss of positional awareness.

9. The flight crewmembers failed to recognize that they were initiating a takeoff on the wrong runway because they did not cross-check and confirm the airplane's position on the runway before takeoff and they were likely influenced by confirmation bias.

10. Even though the flight crewmembers made some errors during their preflight activities and the taxi to the runway, there was insufficient evidence to determine whether fatigue affected their performance.

11. The flight crew's noncompliance with standard operating procedures, including the captain's abbreviated taxi briefing and both pilots' nonpertinent conversation, most likely created an atmosphere in the cockpit that enabled the crew's errors.

12. The controller did not notice that the flight crew had stopped the airplane short of the wrong runway because he did not anticipate any problems with the airplane's taxi to the correct runway and thus was paying more attention to his radar responsibilities than his tower responsibilities.

13. The controller did not detect the flight crew's attempt to take off on the wrong runway because, instead of monitoring the airplane's departure, he performed a lower-priority administrative task that could have waited until he transferred responsibility for the airplane to the next air traffic control facility.

14. The controller was most likely fatigued at the time of the accident, but the extent that fatigue affected his decision not to monitor the airplane's departure could not be determined in part because his routine practices did not consistently include the monitoring of takeoffs.

15. The FAA's operational policies and procedures at the time of the accident were deficient because they did not promote optimal controller monitoring of aircraft surface operations.

16. The first officer's survival was directly attributable to the prompt arrival of the first responders; their ability to extricate him from the cockpit wreckage; and his rapid transport to the hospital, where he received immediate treatment.

17. The emergency response for this accident was timely and well coordinated.

18. A standard procedure requiring 14 *Code of Federal Regulations* Part 91K, 121, and 135 pilots to confirm and cross-check that their airplane is positioned at the correct runway before crossing the hold short line and initiating a takeoff would help to improve the pilots' positional awareness during surface operations.

19. The implementation of cockpit moving map displays or cockpit runway alerting systems on air carrier aircraft would enhance flight safety by providing pilots with improved positional awareness during surface navigation.

20. Enhanced taxiway centerline markings and surface painted holding position signs provide pilots with additional awareness about the runway and taxiway environment.

21. This accident demonstrates that 14 *Code of Federal Regulations* 91.129(i) might result in mistakes that have catastrophic consequences because the regulation allows an airplane to cross a runway during taxi without a pilot request for a specific clearance to do so.

22. If controllers were required to delay a takeoff clearance until confirming that an airplane has crossed all intersecting runways to a departure runway, the increased monitoring of the flight crew's surface navigation would reduce the likelihood of wrong runway takeoff events.

23. If controllers were to focus on monitoring tasks instead of administrative tasks when aircraft are in the controller's area of operations, the additional

monitoring would increase the probability of detecting flight crew errors.

24. Even though the air traffic manager's decision to staff midnight shifts at Blue Grass Airport with one controller was contrary to Federal Aviation Administration verbal guidance indicating that two controllers were needed, it cannot be determined if this decision contributed to the circumstances of this accident.

25. Due to an on-going construction project at Bluegrass Airport, the taxiway identifiers represented in the airport chart available to the crew was inaccurate and the information contained in a local NOTAM about the closure of taxiway Alpha was not made available to the crew via ATIS broadcast or in their flight release paperwork.

26. The controller's failure to ensure that the flight crew was aware of the altered taxiway, a configuration was likely not a factor in the crew's inability to navigate to the correct runway.

27. Because of the information in the local notice to airmen (NOTAM) about the altered taxiway, a configuration was not needed for the pilots' wayfinding task. The absence of the local NOTAM from the flight release paperwork was not a factor in this accident.

28. The presence of the extended taxiway centerline to taxiway A north of runway 8/26 was not a factor in this accident.

Probable Cause

The National Transportation Safety Board determines that the probable cause of this accident was the flight crewmembers' failure to use available cues and aids to identify the airplane's location on the airport surface during taxi and their failure to cross-check and verify that the airplane was on the correct runway before takeoff. Contributing to the accident were the flight crew's nonpertinent conversations during taxi, which resulted in a loss of positional awareness and the Federal Aviation Administration's failure to require that all runway crossings be authorized only by specific air traffic control clearances.

Safety Recommendation

As a result of the investigation of this accident, the National Transportation Safety Board makes the following recommendations:

To The Federal Aviation Administration:

Require that all 14 *Code of Federal Regulations* Part 91K, 121, and 135 operators establish procedures requiring all crewmembers on the flight deck to positively confirm and cross-check the airplane's location at the assigned departure runway before crossing the hold short line for takeoff. This required guidance should be consistent with the guidance in Advisory Circular 120-74A and Safety Alert for Operators 06013 and 07003. (A-07-XX)

Require that all 14 *Code of Federal Regulations* Part 91K, 121, and 135 operators install on their aircraft cockpit moving map displays or an automatic system that alerts pilots when a takeoff is attempted on a taxiway or a runway other than the one intended. (A-07-XX)

Require that all airports certificated under 14 *Code of Federal Regulations* Part 139 implement enhanced taxiway centerline markings and surface painted holding position signs at all runway entrances. (A-07-XX)

Prohibit the issuance of a takeoff clearance during an airplane's taxi to its departure runway until after the airplane has crossed all intersecting runways. (A-07-XX)

Revise Federal Aviation Administration Order 7110.65, "Air Traffic Control," to indicate that controllers should refrain from performing administrative tasks, such as the traffic count, when moving aircraft are in the controller's area of responsibility. (A-07-XX)

Previously Issued Recommendations Reiterated In This Report

To the Federal Aviation Administration:

Amend 14 Code of Federal Regulations (CFR) Section 91.129(i) to require that all runway crossings be authorized only by specific air traffic control clearance, and ensure that U.S. pilots, U.S. personnel assigned to move aircraft, and pilots operating under 14 CFR Part 129 receive adequate notification of the change. (A-00-67)

Amend FAA Order 7110.65, "Air Traffic Control," to require that, when aircraft need to cross multiple runways, air traffic controllers issue an explicit crossing instruction for each runway after the previous runway has been crossed. (A-00-68)

Previously Issued Recommendations Resulting From This Accident Investigation

To the Federal Aviation Administration on December 12, 2006:

Require that all 14 *Code of Federal Regulations* Part 121 operators establish procedures requiring all crewmembers on the flight deck to positively confirm and cross-check the airplane's location at the assigned departure runway before crossing the hold-short line for takeoff. (A-06-83)

Require that all 14 *Code of Federal Regulations* Part 121 operators provide specific guidance to pilots on the runway lighting requirements for takeoff operations at night. (A-06-84)

To the Federal Aviation Administration on April 10, 2007:

Work with the National Air Traffic Controllers Association to reduce the potential for controller fatigue by revising controller work-scheduling policies and practices to provide rest periods that are long enough for controllers to obtain sufficient restorative sleep and by modifying shift rotations to minimize disrupted sleep patterns, accumulation of sleep debt, and decreased cognitive performance. (A-07-30)

Develop a fatigue awareness and countermeasures training program for controllers and for personnel who are involved in the scheduling of controllers for operational duty that will address the incidence of fatigue in the controller workforce, causes of fatigue, effects of fatigue on controller performance and safety, and the importance of using personal strategies to minimize fatigue. This training should be provided in a format that promotes retention, and recurrent training should be provided at regular intervals. (A-07-31).

Require all air traffic controllers to complete instructor-led initial and recurrent training in resource management skills that will improve controller judgment, vigilance, and safety awareness. (A-07-34)

To the National Air Traffic Controllers Association on April 10, 2007:

Work with the FAA to reduce the potential for controller fatigue by revising controller work-scheduling policies and practices to provide rest periods that are long enough for controllers to obtain sufficient restorative sleep and by modifying shift rotations to minimize disrupted sleep patterns, accumulation of sleep debt, and decreased cognitive performance. (A-07-32)

Previously Issued Recommendations Classified In This Report

Safety Recommendation A-06-83 is classified "Closed—Acceptable Alternate Action/Superseded," and Safety Recommendation A-06-84 is classified "Open—Acceptable Alternate Response."

Safety Recommendations A-07-30 and -31 are classified "Open—Acceptable Response."

Safety Recommendation A-07-34 is classified "Open—Acceptable Response."

Additional Information:
http://ntsb.gov/Publictn/2007/AAR-07-05.htm

NTSB IDENTIFICATION: DFW07LA171

Nonscheduled 14 CFR Part 135: Air Taxi & Commuter Accident occurred Saturday, July 28, 2007 in Marks, MS Aircraft: Bell 206L-1, registration: N90AE Injuries: 1 Serious, 1 Minor, 2 Uninjured.

This is preliminary information, subject to change, and may contain errors. Any errors in this report will be corrected when the final report has been completed.

On July 28, 2007, at 0157 central daylight time, a single-engine Bell 206L-1 helicopter, N90AE, was destroyed upon impact with the ground following a loss of control while attempting to takeoff from a helipad at the Quitman County Hospital near Marks, Mississippi. There were 4 persons aboard the helicopter at the time of the mishap. The commercial pilot sustained minor injuries, one paramedic was seriously injured, while the patient and the flight nurse were uninjured. The helicopter was owned and operated by Air Evac EMS, Inc., of West Plains, Missouri. Dark night visual meteorological conditions prevailed throughout the area for the 14 Code of Federal Regulations Part 135 air medical transport flight. The flight, which was destined to the Med hospital in Memphis, Tennessee, was originating at the time of the mishap.

An FAA inspector, who traveled to the accident site, reported that flight originated from a confined hospital helipad that is

bordered by 40 to 50-foot trees and marked transmission wired. The pilot reported that he initiated a vertical takeoff to clear the obstacles on a northerly heading. The pilot added that "after reaching an altitude that allowed the rotor system to be slightly above the trees, the aircraft began a slow turn to the left." The pilot countered with left anti-torque pedal and the torque increased to 101 percent and he "backed-out on the amount of left pedal input." The pilot then attempted to "nurse the aircraft" at the 100 percent torque indication to avoid an engine over-torque condition. The pilot then lowered the collective as he attempted to remain over the helipad and land. The rate of turn to the right decreased some but did not stop. The left skid of the helicopter impacted the ground in a grassy area in a left yaw approximately 20-feet short of the helipad. The landing gear collapsed and the helicopter came to test on its left side.

The helicopter was found to be within weight and balance limits. There was no post-impact fire. The helicopter was recovered to a secured location for further investigation.

The flight nurse seated in the right rear seat was able to egress unassisted and gave assistance to the pilot in the right front seat. The paramedic located in the left rear seat was unable to egress until the aircraft structure was removed from around him. The paramedic remained conscious and sustained serious injuries. The patient that was being transported was not further injured and was assisted by the first responders.

At 0200, the weather reported at Kunica, Mississippi (KUTA), approximately 27 miles to the north of the accident site, was reporting winds from 190 degrees at 04 knots, visibility of 10 statute miles, clear skies, temperature 23 degrees Celsius, dew point 21 degrees Celsius, and an altimeter reading of 29.91 inches of Mercury.

CONCERNS EMERGED OVER EMPTY LEG POSTINGS DURING AIR CHARTER SUMMIT

August 1, 2007

At NATA's recent Air Charter Summit, jaws dropped when an attorney with the Federal Aviation Administration (FAA) explained to attendees that the manner in which many empty legs are posted or otherwise offered to the public may in fact violate the FAA's rules prohibiting scheduled service in turbine-powered aircraft under Part 135.

NATA members: click here to download NATA's New Information and Guidance document.

As part of a broader discussion involving the future of brokers, Joe Conte, manager of the operations law branch within the FAA Chief Counsel's office, touched on a subject gaining attention within the agency – defining what is and, more importantly for Part 135 operators, what is not a schedule. One of the services offered by brokers is the ability for an operator to alert consumers to available empty-leg (also called positioning, one-ways and deadheads) flights and for brokers to find passengers for these flights. But operators should proceed with caution because, according to Conte and a recent FAA legal interpretation, these flights may in fact meet the definition of a "schedule" and therefore MUST be conducted under Part 121 if a turbine-powered aircraft is used.

Current regulations define a scheduled operation as one where the operator holds out to the public, in advance, the departure location, departure time and arrival location. In an interpretation issued in 2006, the FAA expanded upon what conditions might lead to a determination that an on-demand operator has conducted an operation meeting the three elements of a schedule.

This interpretation, which was reiterated by Conte, states:

"Having a time set within which the aircraft must leave satisfies the "departure time" element."

"The shorter the departure window..., the more it looks as though this is a scheduled operation."

During his presentation, Conte noted that when an on-demand operator offers the use of an "idle aircraft" that includes a relatively brief departure window and if the operator states the location where the aircraft must arrive the FAA will consider the operator to have "held out" and operated on a scheduled basis. Importantly, beginning with the introduction of Part 119, all scheduled operations using turbine-powered aircraft must be conducted under Part 121.

As a result of the information presented during the Air Charter Summit, NATA has heard from many operators concerned about the legal status of their empty-leg flight offerings. The association is presently drafting guidance to help operators better understand the current regulatory

environment that will be published as soon as possible. Operators are encouraged to consult appropriate legal counsel with specific questions about their empty-leg flight offerings.

Click here to access NATA's hot button on Empty Leg Resources.

NTSB IDENTIFICATION: ANC07FA068

Nonscheduled 14 CFR Part 135: Air Taxi & Commuter Accident occurred Tuesday, July 24, 2007 in Ketchikan, AK Aircraft: de Havilland DHC-2, registration: N995WA Injuries: 5 Fatal.

This is preliminary information, subject to change, and may contain errors. Any errors in this report will be corrected when the final report has been completed.

On July 24, 2007, about 1405 Alaska daylight time, a float-equipped de Havilland DHC-2 airplane, N995WA, was destroyed when it impacted mountainous tree-covered terrain, about 40 miles northeast of Ketchikan, Alaska. The airplane was being operated as a visual flight rules (VFR) on-demand air tour flight under Title 14, CFR Part 135, when the accident occurred. The airplane was operated by Venture Travel LLC, dba Taquan Air Service, of Ketchikan. The airline transport pilot and the four passengers were fatally injured. Instrument meteorological conditions (IMC) were reported in the area at the time of the accident. The flight departed Ketchikan about 1319, for a tour through the Misty Fjords National Monument. A company VFR flight plan was in effect.

During a telephone conversation with the National Transportation Safety Board (NTSB) investigator-in-charge (IIC) on July 24, the operator's president reported that the accident airplane departed Ketchikan as the second of three float-equipped de Havilland DHC-2 airplanes on air tour flights over the Misty Fjords National Monument. He said that each airplane departed from Ketchikan about 5 minutes apart, and the standard route of flight is northeast, over an area of remote inland fjords, coastal waterways, and mountainous tree-covered terrain. The 1 hour and 15 minute flight seeing tour includes a landing on one of the inland ocean fjords before returning to Ketchikan.

During an interview with the NTSB IIC on July 26, the pilot of the first tour airplane stated that initial weather conditions along his flight route consisted of about 10 miles visibility with an overcast layer about 1,500 feet msl. As the flight progressed into mountainous terrain, while approaching an area known as Punchbowl Lake, the pilot reported "there were lots of misty clouds hanging around the cliffs." The flight continued along the preplanned flight route, towards a shallow mountain pass known to local tour pilots as "the cut." The first pilot said that before entering the cut, he transmitted a radio message on a common radio frequency asking other tour pilots flying in the area if the cut was open. He said that an unknown pilot responded, saying that the cut was open, and that he would need to be at about 2,500 msl to get through. The first pilot said that after passing through the cut he encountered low clouds, rain, fog, with visibility of 2 to 3 miles. He said that he was able to maintain VFR flight conditions by descending to about 700 feet msl, over an ocean fjord. According to the pilot of the first tour airplane, he estimated that the accident airplane was about 5 to 7 minutes behind him.

In an interview with the NTSB IIC on July 26, the pilot of the third tour airplane stated that he was about 5 minutes behind the accident airplane as his airplane approached Punchbowl Lake. He said he heard the first airplane's pilot radio call inquiring about the weather conditions in the cut, as well as the unknown pilot's response concerning current conditions within the cut. Additionally, he recalled hearing a standard position report from the accident airplane's pilot reporting that he was over Punchbowl Lake. The pilot of the third airplane stated that just after entering the cut, he encountered "a wall of weather" which blocked his intended flight route. He said that the weather conditions consisted of low clouds, rain, and fog. He said he turned the airplane around, took an alternate route, completed his tour, and returned to Ketchikan.

When the accident airplane failed to return to Ketchikan by 1435, and company dispatch personnel were unable to establish radio contact, a company aerial search was initiated. The flight was officially reported overdue to the Federal Aviation Administration (FAA) at 1500. After being notified of the overdue airplane, the company's director of operations, along with other Taquan Air airplanes and pilots, began a search for the missing airplane.

About 1625, company search airplanes detected a faint emergency locator transmitter (ELT) signal from an area of mountainous and tree-covered terrain. A helicopter from Temsco Helicopters, Inc., of Ketchikan was dispatch to the

suspected accident site, with members of the Ketchikan Volunteer Rescue Squad (KVRS).

About 1730, the pilot of the helicopter discovered the airplane's fragmented wreckage in an area of steep, tree-covered terrain, about 2,300 feet msl. Subsequently, KVRS team members reached the accident site, and confirmed that the airplane's occupants had sustained fatal injuries.

INFORMATION FOR OPERATORS (InFO)

Each issue of the *NATA Safety 1st Flitebag* includes a review of the latest InFOs. If you have not read previous issues, please review all InFOs by clicking here.

An InFO contains valuable information for operators that should help them meet certain administrative, regulator or operational requirements with relatively low urgency or impact on safety. InFOs contain information or a combination of information and recommended action to be taken by the respective operators identified in each individual InFO.

07018 (PDF)	Taxi Clearances: Know the Rules, Understand Your Clearance
07017 (PDF)	Encouraging the Use of Cockpit Voice Recorders During Ground Functional Tests
07016 (PDF)	PHMSA Guidance on the Carriage of Batteries and Battery-Powered Devices
07015 (PDF)	Flight Risk Assessment Tool
07014 (PDF)	First-Class Medical Certificate Requirements for SICs in Flag or Supplemental Operations
07013 (PDF)	Flotation Equipment for In-Lap Children (Revised)
07012 (PDF)	Accommodating Approved Harness-Type Child Restraint Systems (CRS)
07011 (PDF)	Altitude and Speed Constraints in Area Navigation (RNAV) Procedures
07010 (PDF)	Eurocopter AS 350 and AS 355ESerrated Lock Washers
07009 (PDF)	Runway Lights Required For Night Takeoffs in Part 121

SAFETY ALERT FOR OPERATORS (SAFOS)

Each issue of the *NATA Safety 1st Flitebag* includes a review of the latest SAFOs. If you have not read previous issues, please review all SAFOs by clicking here.

What is a SAFO?
A SAFO contains important safety information and may include recommended action. SAFO content should be especially valuable to air carriers in meeting their statutory duty to provide service with the highest possible degree of safety in the public interest.

07006 (PDF)	Safety During Positioning Flights
07005 (PDF)	Embraer Legacy/EMB-135, -140, -145—Be Careful Where You Put Your Foot
07004 (PDF)	Garmin GPS-WAAS Models (GNS and GPS) 400W and 500W Series Units Determined Incompatible with Avidyne EXP5000 Primary Flight Displays

Safety 1st is committed to raising the bar on air safety. The Safety 1st Flitebag provides continuing education in support of the Safety Management System (SMS) program and is distributed free of charge to NATA member companies and Safety 1st participants.

PARTICIPATION AGREEMENT

NATA Safety 1st Management SYSTEM (SMS) FOR AIR OPERATORS

Yes, we want to sign up for the NATA SMS for Air Operators! We understand the following will be included in the price of our participation in the SMS:

- SMS Guide
- SMS Webcast Tutorials
- SMS Consultation by Telephone or email
- SMS Secure, Online Event Reporting Form
- SMS Quarterly Online Newsletter
- SMS Root Cause Analysis

Contact Information (please print legibly)

CEO/Owner _____ Email _____

Safety Manager _____ Email _____

Company _____

Street Address _____

City _____ State _____ Zip _____

Phone _____ Fax _____ Email _____

Pricing

The prices below reflect the total number of pilots that conduct operations for your business and/or your part 135 certifcate. This number should include all your locations. Please note that we will correspond with one Safety Manager per company and will require additional company information once established in the program. Please check appropriate box below.

- ☐ $900 for NATA Members / Small Operator (1-19 pilots)
- ☐ $1,800 for NATA Members / Medium Operator (20-99 pilots)
- ☐ $2,700 for NATA Members / Large Operator (100 or more pilots)

Non-NATA Members please call for pricing. If you are currently a Ground SMS participant, you are eligible for a 25% discount on the Air Operators SMS.

Payment

- ☐ Check enclosed (Please make payable to Aviation Training Institute, LLC.)
- ☐ Please charge my ☐ MasterCard ☐ Visa ☐ American Express

Credit card number _____ Expiration _____

Signature_____Name on card_____

Fax to (703) 845-8176 or mail to NATA Safety 1st SMS, 4226 King Street, Alexandria, VA 22302

Agreement

As an SMS Air Operators participant, we agree to implement a company safety program consistent with the principles and tenets of the NATA Safety 1st® Management System Guide, conduct recurrent pilot training that meets or exceeds FAA requirements and undergo a NATA SMS audit upon completion of our company manual.

Signed this date_____CEO/Owner Signature_____