CALLBACK ASRS

From NASA's Aviation Safety Reporting System

Problems with Pre-Departure Clearances

Editor's Note: The following article is a summary of a research paper by Michael Montalvo, a San Jose State University research associate at NASA Ames. Mr. Montalvo's research is based in part on work previously published in *ASRS Directline #5*. You may request a free copy of the paper from: Michael Montalvo, NASA Ames Research Center, MS-262-4, Moffett Field, CA, 94035-1000.

In 1990, the FAA instituted the Pre-Departure Clearance (PDC) system at a number of U.S. airports. The PDC system allows pilots to obtain a clearance without the need for verbal communication on the Clearance Delivery frequency. The program's objective of reducing congestion on this frequency has been met. However, ASRS incident reports indicate that pilots encounter a number of difficulties in using the PDC system. Two major areas of concern are lack of confirmation of receipt of the PDC, and lack of standardization of the PDC format.

Confirmation Confusion. Some airports have a confirmation process built into the PDC system; others do not. The lack of a verification process (such as the "readback" required if a clearance is obtained on the Clearance Delivery frequency) leaves no opportunity for the absence of a clearance to be discovered by the crew, or for an erroneous clearance to be corrected by ATC. An Air Carrier pilot seemed surprised to discover this:

■ *I asked ATC if there was any way they would know that a crew had received the clearance via PDC. They said at the present time, there was no back-up. They assumed that when a flight called for taxi, it had its clearance.*

Reporters had many suggestions for ensuring that PDCs had been obtained, including:

✔ Make "Obtain PDC" a specific checklist item. Some checklists use the item, "Radio/ACARS" as the prompt for obtaining or checking the PDC. However, there may be other tasks associated with this item, and the PDC may still be overlooked.

✔ Standardize the delivery procedure for PDCs. Most crews receive the PDC by ACARS; others pick up a printed copy at the gate or have it delivered to the cockpit by the gate agent. The variable delivery methods at different airports may provide opportunity for an oversight in obtaining the PDC.

✔ Require an aircraft to verify its PDC-obtained squawk code with ATC when obtaining taxi instructions.

Formatting Frustrations. Most pilots are accustomed to hearing ATC-issued clearances in the format required by the Air Traffic Control Handbook. However, most airports and airlines arrange the items of PDCs in different orders, requiring pilots to search for the information they need. The following reporter recognized this as a significant issue.

■ *PDC format is not standardized. It also does not conform with the way clearances are read to you from Clearance Delivery. Putting "cleared as filed" up on top followed by the Standard Instrument Departure in the remarks section is too easy to miss in the last minute flurry of activity at pushback time.*

Another aspect of formatting includes readability issues. For example, one pilot reported that non-standard abbreviations are often used for altitude restrictions. He suggested that critical instructions always be spelled out.

Pilots' recommendations for enhancing readability of PDCs include:

✔ Standardize the PDC format to duplicate the ATC format.

✔ Mark any changes from "as filed" with ******* or other eye-catching notation.

✔ Provide pilots with additional training in reading PDCs. ◢

In the Footsteps Of 👣

Readers will note from the number at the upper left-hand corner of this page that *CALLBACK* has reached a new milestone–200 consecutive issues published since July 1979. Seventeen years ago, the inimitable founding Editor, Rex Hardy, produced this little two-page blue bulletin and guided *CALLBACK* through its first 100 issues. At the end of *CALLBACK's* second century, it's time to recognize the involvement of another editorial talent–Marcia Patten.

Ms. Patten has contributed many articles to *CALLBACK* during the last year, and next month (with issue #201) will assume the position of Managing Editor. She is a commercial helicopter pilot and certified rotorcraft flight instructor, with more than 1,200 flight hours in Hughes, Bell, and Aerospatiale helicopters. She is also an experienced pilot of general aviation aircraft. Perhaps as important, Ms. Patten follows in the Hardy Humanistic tradition, with a B.A. degree in Classics and a Masters in Education.

We hope readers will continue to learn and profit from the incidents presented here, as the ASRS editorial staff carries on Rex's mission of making *CALLBACK* "interesting, instructive, and even–sometimes–entertaining."

– Rowena Morrison, Editor

ASRS Recently Issued Alerts On...
Yaw damper malfunction on a Fokker F-28
An unreliable remote radar system in Texas
Fuel system controller malfunction in an MD-80
An EMB-120 display failure caused by rainwater leakage
Caustic fumes due to a B-737 frozen air conditioning pack

November 1995 Report Intake	
Air Carrier Pilots	1740
General Aviation Pilots	663
Controllers	107
Cabin/Mechanics/Military/Other	40
TOTAL	**2550**

Say Again, Say Again...

Communication errors occur on both sides of the radio. Many errors are corrected during a readback. Others are transmitted back and forth, compounding their severity. A General Aviation pilot's experience is not uncommon:

■ *I arrived at the hold line before another small airplane. That pilot advised, "Ready to go, southeast departure." I called in right after, explaining that I was number one at the hold line. [The Controller's] response was, "Roger, position and hold," without actually saying my callsign. I verified position and hold, without actually saying my numbers as well. I pulled onto the centerline to see an airborne FAA ILS Check plane approaching me from the opposite end of the runway at a high closure rate.*

The Controller stated for the unauthorized aircraft to remove itself immediately from the active runway.

The Controller had actually said, "Hold short." I heard "Position and hold," and even read back that instruction. Anytime there is the slightest chance for miscommunication, [one should] always verify to whom the radio call was directed, and mention callsigns with every readback instead of relying on voice identification.

Don't forget that two clicks of the microphone do not qualify as adequate identification.

Your Left, Right?

The old Abbott and Costello comedy routine, "Who's on First," is a well-known example of how an intended meaning can get lost in the exchange between the speaker and the recipient. In the following report, the ground crew's hand signals were at odds with the flight crew's mindset, and a repeated misunderstanding was the result. An Air Carrier Captain reports:

■ *Ground man checked in on the headset prior to departure and briefed a powerback with a left turn. During the powerback, the ground man gave the signal for a right turn. Since I was primed by the briefing for a left turn, I began a left turn. This rightly excited the ground man who stopped me, brought me forward, and began the powerback again. Again, he gave the signal for a right turn, and again I turned left. By this time the ground man was pretty frustrated. We finished the powerback straight out and the flight departed. Departing, I saw another aircraft on the taxiway behind us. We would have been nose-to-nose with it if I had turned as I was trying to do.*

The briefing had said a left turn, so even though he was giving a right turn, in my mind, I had locked into a left turn. The system worked as it was supposed to...the ground man used the proper signals to stop the aircraft from doing something he didn't want it to do, and got the problem sorted out. The flight departed without incident or compromising safety. A good job by the ground man in the face of confusion.

Although the reporter does not indicate that the problem was a "left/right" confusion, such errors also occur. Some airlines avoid this issue by requiring the ground crew to describe the compass direction the nose of the aircraft will be pointed during the pushback turn. ◢

✚ Medical Addenda

In response to our recent discussion of flight crew incapacitation, a letter from an Aviation Medical Examiner (AME) provided additional information about the AME medication guide.

✍ *While the AME guide does reference many medications...the FAA intentionally does not publish an all-inclusive "laundry list" of either approved or non-approved medications. Many new medications are being approved by the FDA all the time. It would be impossible for the FAA to continually update such a list in a timely manner.*

[Further], many drugs are approved for certain medical conditions but not for others. For example, Beta-blockers are commonly used medications in the treatment of hypertension, and are approved for use by pilots for this purpose. However, they may also be prescribed for panic attacks, and in this case it is the underlying medical condition that is disqualifying for pilots.

Of course, there are some drugs that are always disqualifying. These include drugs of abuse and psychoactive drugs such as tranquilizers. Many of these are reasonably well discussed in the AME guide. ◢

Nugget
From an ASRS reporter:

Good decisions come from wisdom,
Wisdom comes from experience,
Experience comes from bad decisions,
Experience like this I don't need.