CALLBACK ASRS

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Communication Factors in ASRS Reporting 3

In the words of a contemporary author, "Communication works for those who work at it." This principle is evident in ASRS communications-related reports when pilots and controllers resolve to learn from their errors, and employ strategies to prevent future communications incidents.

This month we take a closer look at three factors in aviation that can contribute to communications misunderstandings and result in hazardous events. These are:

- **The Anticipation Factor**
- **The Language Factor**
- **The Call Sign Factor**

The Anticipation Factor

Pilot-controller communication was designed with safety measures, such as readbacks and timing constraints, to ensure that communication takes place correctly. At times, however, the anticipation (expectation) factor can lead both pilots and controllers to hear what they are expecting to hear, or to act based on what they expect others to do.

"I Should Have Demanded Progressive Instructions"

A Cessna 172 pilot taking off from a small airport at night anticipated the taxi route based on a flight into the same airport earlier that day. The result? A runway incursion on each of the airport's three runways.

■ *Having flown into airport earlier in the day, I planned to take off into pattern at night to regain my night currency and then return to my home field. Given the smallness of airport, I anticipated no problems with taxi out, even though I had never flown there at night. But, in my mind, I expected my taxi clearance would take me down the west side of Runway 2 and then to parallel Runway 13/31 for a westbound takeoff. On closer examination of the airport plan later on, I realized that this route did not exist, but it was to that route that I had oriented myself subconsciously already.*

Ground gave me an unexpected clearance of Delta 3 to Delta to Delta 1. I quickly checked my Airport Facility Directory which, of course, did not indicate taxiway numbers. Since I could see Delta 3 ahead of me, I decided to taxi down it until I saw Delta. Once on D3, however, the confusion of lights and the odd angles of runway and taxiway intersections…confused me and…I found myself taxiing down Runway 2 with no immediate way off. I immediately notified Ground Control that I was 'lost' and needed some help. The controller [gave]… *me guidance off the runway, but she also gave me a chiding…Chagrined, put off by the controller's response, and experiencing a sort of 2-dimensinal spatial disorientation among the lights, I made another false start onto Runway 6...and in the darkness, overshot the somewhat faded hold line for Runway 31 by about 10 feet, advised the Tower thereof… and taxied clear of the runway environment.*

Given my years of experience as a pilot, this was an embarrassingly bad performance. I am fully aware that I should have been more aware of the taxiway plan of the field…or should have demanded progressive taxi instructions.

"The Problem Was of My Own Making"

A Center controller described a conflict event when aircraft climb rates were anticipated—but misjudged.

■ *Two passenger aircraft in climb phases were northbound, and the B767 was also in climb phase westbound. The northbound aircraft were climbing at approximately 1,500 fpm while the B767 was climbing about 1,000 fpm. The B767 was below the crossing traffic and not climbing as quickly when I issued a climb to the same altitude as the others. All aircraft would continue to climb in the next higher stratum. I expected to get a higher altitude from the next controller for the northbound aircraft in conflict so that it would not level off for some reason and become a problem. Just before initiating the land line call, I observed the altitude of the B767 go to 'XXX.' I thought this was due to the proximity of the aircraft laterally from the radar antenna. I questioned the altitude of the B767 and it reported FL182 and the other aircraft was leaving FL195. I realized that the B767 had increased its rate of climb substantially and to the point that the radar displayed 'XXX' since the aircraft was outside the computer's programmed climb envelope. I ordered the B767 to 'level off' and told the MD90 to expedite climb through FL210 for traffic. The B767 reported the other aircraft 'in sight, no factor'…The B767 reported leveling at FL196. I do not know if separation was maintained…*

The problem was of my own making by anticipating [performance] *based on current climb rates.*

"We Created a Separation Problem"

A corporate flight crew created a separation problem with landing traffic by anticipating their exit route from the runway and not communicating this to the Tower in advance. Here are details from the Captain's report to ASRS.

■ *We were cleared for the visual approach to Runway 19C. We briefed the approach and landing to vacate and Taxiway Y5 (high speed) to minimize time on the runway as indicated in the ATIS. I used maximum reverse thrust and light braking. The aircraft was slowed sufficiently to be able to make the reverse high speed, Taxiway Y4. Tower had advised on rollout to take the next high speed available (Y5). Upon exiting, in an effort to clear the high speed for the next landing traffic, we requested to*

ASRS Alerts Issued in April 2009

Subject of Alert	No. of Alerts
Aircraft or aircraft equipment	13
Airport facility or procedure	8
ATC Equipment or Procedures	2
Company policies	1
Chart, publication, or nav database	1
TOTAL	**25**

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Air Carrier/Air Taxi Pilots	2704
General Aviation Pilots	903
Controllers	72
Cabin/Mechanics/Military/Other	438
TOTAL	**4117**

take Taxiway Y4. The controller advised to expedite and instructed us we were to take Taxiway Y5, not Taxiway Y4. We were unable to reach runway centerline in time and the next landing traffic was advised to go around by Tower.

By taking the reverse high speed (Taxiway Y4), we created a separation problem for the controller. Had I maintained a higher speed on the rollout and expedited off Taxiway Y5, the next landing traffic could have landed…In the future, I will always expedite through the high speed taxiway and not anticipate getting a taxi clearance on the reverse high speed. In the past we have been given clearance for the reverse high speed without conflict. This, however, is not the normal procedure….

The Language Factor

The International Civil Aviation Organization (ICAO) has established English language proficiency requirements for all pilots operating on international routes, and all air traffic controllers who communicate with foreign pilots. These standards require pilots and air traffic controllers to be able to communicate proficiently using both ICAO phraseology plain English. In spite of this, some U.S.-based flight crews have difficulty communicating with controllers in foreign locations.

"The Captain Brought the Flight Attendant Into the Cockpit"

A First Officer's report explains why a Flight Attendant was summoned to the cockpit during a final approach into a South American airport.

■ *After being handed off to the Final Approach Controller, neither the Captain nor I could understand the instructions of the controller, even after repeated requests to repeat the instructions. For example, the controller would say something, which we thought was possibly a heading of 150 but could have been a flight level. The Captain asked the controller, 'Understand turn to 150 heading?' and still, we could not understand the answer to the question. In all my years of flying all over the world, Africa, Turkey, all over the Middle East, that was the worst English-speaking controller I've ever heard. Not only was his English non-existent, he held the mike too close to his mouth, further disrupting his transmission. Finally, the Captain brought the #1 Flight Attendant into the cockpit because she was Spanish-speaking and maybe that would help. The weather was IMC at the time, and not so comfortable considering the language barrier. Eventually, we got it straightened out, and landed uneventfully.*

"The Fueler Didn't Understand"

English comprehension problems occur at U.S. airports, too, as the Captain of an A320 describes.

■ *Fuel load was 21,182 pounds. Left tank was fueled to 13,770 pounds, right tank had 7,700 pounds. I went to fueler who was already back in his truck getting ready to drop off fuel slip and tried to convey to him the improper fuel balance. He spoke only broken English and obviously could not understand the severity of the problem. We had already called for a fuel supervisor, whose English wasn't any better. With help from Maintenance, we were able to transfer/balance the fuel. The fueler had pre-filled out the fuel slip. It showed 10,600 pounds in each tank even though the fuel was only loaded into the right tank and not any uploaded into the left tank. He was fully prepared to deliver this slip to the flight deck as is! After we transferred the fuel into balance, it took over 30 minutes to complete the new fuel slip…I actually pointed out to the fueler the warning about the 1,000 pounds maximum imbalance allowance, but either he could not read English or didn't understand what I was saying.*

The Call Sign Factor

Aircraft call signs have long contributed to aviation communications problems for some of the following reasons:

- Airline flight numbers are normally consecutive and therefore similar (1234, 1235, etc.)
- Airlines schedule flights with similar call signs to be in the same airspace at the same time
- Call signs can contain the same alphanumeric characters in a different order (AC1234 and CA 2314)
- Four-digit call signs, used primarily by air taxi operators at busy U.S. hub airports, are often similar-sounding and easily misunderstood.

Call Signs—From ATC's Perspective

Air traffic controllers often report to ASRS that increased distraction and workload result when similar, or identical, call signs are on frequency.

■ *I was working the Local Control 1 position with air carrier X, an E170 in position and hold on Runway 18R, when air carrier X, with the same call sign, an E170, checked in on an 8-mile final for Runway 18R. This is the second time in a week that I have seen air carrier X have duplicate call signs overlap on different flight plans. The coordination and keyboard entries required to take care of this situation are definitely not needed during a busy departure push….*

Call Signs—From the Pilot's Perspective

An international B757 pilot reported errors caused by very similar international flight call signs, complicated by a language barrier problem.

■ *…We climbed to FL330 with* [foreign] *controllers with strong accents. At cruise FL330, I started the inflight accuracy and IRS ranking paperwork prior to crossing the North Atlantic when ATC said, 'Air carrier X, climb FL340 direct ABCDE.' I answered the ATC clearance and the First Officer challenged me saying it was not for us. I said I'll check again and he inserted it into the FMC and began a slow climb. I called ATC 4 more times to confirm the clearance before they finally answered and they said, 'No, maintain FL330, that was for air carrier X.' By now, we were FL335 and we descended back to FL330 with no aircraft or TCAS alerts in our area….Our air carrier changed all our international flight numbers to numbers that are all very similar. This should have never been allowed and we should return to our original discrete numbering system….*