Communication Breakdown

by Terry Hardy

On January 25, 1990, Avianca Airlines Flight 52 crashed while making an attempt to land at John F. Kennedy International Airport in New York. A total of 71 people died in the crash, while 74 people survived — many seriously injured. The National Transportation Safety Board (NTSB) determined that the probable cause of the accident was the failure of the flight crew to manage the airplane's fuel load. The airplane ran out of fuel before it could land, and the NTSB determined that the crew did not communicate an emergency fuel situation to air traffic control before the airplane ran out of fuel.

The NTSB also stated that the lack of standardized, understandable terminology for pilots and controllers for minimum and emergency fuel states contributed to the accident. The crew apparently asked for a "priority" landing, which had different meanings to the Spanish-speaking pilots and the English-speaking controllers. A priority landing could be interpreted as an "emergency" to the Spanish-speaking pilots, but the controllers did not draw that conclusion.

The report also noted that there was a breakdown in communications among the crew members. The second officer, for example, never provided the captain with important fuel burn calculations, and was not asked to do so. The captain relied on the first officer for communications and clearance information, but did not cross-check that information. Training, specifically with regard to managing events during emergencies, could have also been a key factor in this accident. The NTSB noted, "The Safety Board believes that the AVA052 flight crew's ability to perform their duties on the accident flight could have been improved significantly if they had received CRM [Crew Resource Management] and LOFT [Line Oriented Flight Training] training as part of their initial and recurrent qualification for line operations."

Lessons Learned: Our complex technologies all involve some sort of human interaction to operate and maintain those systems. Therefore, communications is a critical part of those operations. Accidents can result because people may not be told what they need to know, may not understand critical information or may misunderstand what is being told to them. Therefore, system safety efforts must consider those human interactions in evaluating the potential for accidents. In addition, training is a critical aspect of safe operations. This training should include both nominal and emergency conditions, and should focus on the actions and roles of each team member during a crisis.

References:


Readers are encouraged to review the full accident and mishap investigation reports referenced here to understand the often-complex conditions and chain of events that led to each accident discussed. Additional lessons learned are available at www.systemsafetyskeptic.com.