October 26, 2023

Line Up and Wait – At What Cost?

The nearly disastrous collision of two business jets at Houston's Hobby International Airport once again waves a huge red flag that no one seems to notice. Instead, most of the attention appears to center around the 144 cancelled, delayed or diverted flights that resulted instead of the most critical issue of finding a way to prevent runway incursions.

The collision occurred on Wednesday, October 26, 2023 at around 3PM when a Hawker business jet taking off on Runway 22 clipped the tail of a landing Cessna jet landing on runway 13R, The Cessna had been cleared to land while the Hawker had been cleared to "line up and wait". For a yet unknown reason, instead of holding in position as instructed, the Hawker began its takeoff roll without a clearance. The two aircraft collided at the intersection of the runways when the Hawker's wing tip tore a large chunk out of the landing Cessna's tail. Still able to fly, the Hawker continued its takeoff and returned to Hobby for landing.

Runway incursions continue to occur at an alarming frequency with no real solutions at hand. In this incident, it clearly appears to be human error where the Hawker took off without a clearance. Why should we be surprised? After all, we are human and we regularly make mistakes. However, it seems to me that the system played a major role in this near-disaster when the air traffic controller issued the Hawker a clearance to line up and wait, totally in accordance with existing rules and currently accepted practices.

I would ask, why didn't the controller hold the Hawker short of the runway? What was the operational need to place the Hawker on the runway, that is, to use the approach end of the runway as a parking spot? ATC's answer undoubtedly would be *"operational efficiency"*. As a former FAA controller, I would agree that the line up and wait procedure does offer some efficiencies and less workload for the controller. After all, its one less transmission for the controller and some time can be saved. But at what potential cost and is that cost worth it?

The approach end of a runway needs to be considered as a potentially hazardous zone, especially if the runway is being used for both takeoffs and landings (not the case in the incident at hand). It certainly should not be used as a parking spot for more than a few precious moments. Using the line up and wait procedure is like having one’s finger on the trigger of a gun. It’s a lot easier to kill someone with your finger on the trigger, especially when your attention is diverted to a menagerie of other required tasks. As a former commercial airline pilot, I always dreaded sitting in position on the runway with my back to incoming aircraft, sometimes for extended periods of time; I’m talking minutes, not seconds. Why would a system that is responsible for protecting the traveling public allow such a thing?

Do you recall the disastrous collision at LAX in February 1991 when USAir 1493 landed on top of SkyWest 5569 holding in position on runway 24L killing 34 people? A tremendous amount of grief would have been spared had the SkyWest aircraft been told instead to wait out the delay by holding short of the runway.

The exact scenario occurred again in the late 1990's when a United B757 returning from Hawaii in the predawn hours was making a low-visibility approach to runway 24L. At about 150 feet above the touchdown zone, the 757's pilots noticed an ATA L-1011 holding in position on runway 24L. The 757 began an immediate go-around and reportedly missed the L-1011 by a mere 50 feet. The pilots reported that the L-1011 had his runway light on, contrary to the then-current airline's and FAA policy, and that helped them spot the holding aircraft. I will bet that you never heard about that one, did you? Line up and wait strikes again.

During my time as the Chairman of the ALPA National Air Traffic Services Committee in the 1990's, we studied this and found that at large turbojet aircraft were landing over the top of other large turbojet aircraft at a rate of about 1 per month in the United States alone, and those were only the one's that we were aware. There were probably more. This drove the FAA and industry to finally adopt ALPA's call to require pilots to turn on their landing lights when entering a runway surface, a procedure which they had fought tooth and nail. Their stated reasoning was, and I am dead serious, that the light bulbs were too expensive. Our research uncovered data that showed that the controllers were simply forgetting about the holding aircraft.

The FAA and industry need to come to grips about runway incursions and how to prevent them. We cannot afford to wait years for new technology to be implemented without some intervening mitigating procedures. Eliminating or restricting the arbitrary use of line up and wait, at least until technology or something offers a viable solution, would go a long way. Right now, we are all playing Russian Roulette with air safety, our passengers and our crews. That, in my humble opinion, is not fulfilling our responsibility to the traveling public.

Captain Ross Sagun (ret.)