Who Needs Automation

by Jim Krieger

Okay, that might be stretching things a bit but I have personally witnessed events over the last few weeks that could understandably sway one's thinking about our perceived dependency on automation.

On September 26, 2014, Chicago Air Route Traffic Control Center (Chicago Center or ZAU ARTCC), suffered a devastating fire that affected operations not only at that facility but numerous other air traffic control facilities as well. For all intents and purposes, ZAU was rendered mostly ineffective, having lost nearly all connectivities to their long-range radar sites and much of their flight data automation resources. Indeed, the "machine" portion of our interconnected human-machine system, was down for the count!

This affected operations at Chicago O'Hare Tower in a variety of ways, especially the lack of automated flight plan information part. For O'Hare arrivals, this meant that every flight that would normally fly through Chicago Center airspace, now had to transition through outlying approach control facility airspaces like Rockford, Illinois and South Bend, Indiana, to name a few. Despite not being accustomed to such large volumes of traffic, the controllers in these facilities did amazingly well, bringing the O'Hare arrival rate up to near normal levels within days.

The lack of automated flight data information also required O'Hare Tower controllers to find new ways to get the job done for departing flights. For example, during the first days following the fire, controllers had air carriers faxing and emailing their flight plans to the tower. Each route then had to be validated before takeoff, which meant full readbacks for each departing aircraft, a monumentally laborious task. Because of this, the ATC team took action to split the clearance delivery position into two, and eventually three separate positions to minimize delays. To facilitate the process even more, they requested that we reassign some of the now idle Chicago Center controllers to O'Hare Tower (3 per shift), to coordinate flight plan information. The ZAU controllers immediately became an invaluable resource to us and the newfound camaraderie between them and the O'Hare controllers was truly a priceless collateral benefit.

Each day brought more innovation from our people as they learned and adjusted to the situation, and increased our operating capabilities along the way. We were soon landing and departing on three runways simultaneously just like the days when our machine friends were doing their part. Total traffic counts rose accordingly from about 1200 on the first day, to well over 2600 (approximately 99% of normal) just days later. And to think that all of this was happening with very limited automation resources! The humans were obviously very much up to the task even when the machines were not.

This whole scenario provides a good example of the ability and willingness of people to be flexible, to constantly learn, to make adjustments as needed, to easily fill in gaps not ever seen in the past, and to pull together during trying times. When the automation machine is reintroduced into our system and everything has returned to "normal", I think it will serve us well to remember what happened during this event, how the people adapted, and how whether we know it or not, they are doing that every single day in their mission to keep the flying public safe. This time it was just a lot more obvious.

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