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April 6, 2016

Tower Sim a 'Godsend' at SHV

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Air traffic control in and around Shreveport, La., poses unique staffing challenges for the FAA because the tower and radar facilities are across town from each other and controllers work at both locations. But the training technology that Shreveport has had in place since 2012 has made the unusual circumstances more manageable.

The Tower Simulator System, which features five screens that display an exact replica of the layout for Shreveport Regional Airport, has significantly reduced the time it takes to train controllers to work in Shreveport Tower. And because the simulator is located across town at the RAPCON on Barksdale Air Force Base (http://www.barksdale.af.mil/) , controllers can split their training time between simulated tower traffic and live radar traffic as scheduling allows.

"That has made a huge difference," said Robert Woods, who was a front line manager in Shreveport before transferring to Dallas-Fort Worth TRACON last year. "It was a real godsend."

Most of the FAA's terminal air traffic facilities fall into one of three types – stand-alone towers, stand-alone TRACONs, or up/down facilities that combine an airport tower and a TRACON. Shreveport is an up/down facility with a here/there twist: The tower is 10 miles from the RAPCON, the military equivalent of a TRACON.

Controller John Simrell trains on the Tower Simulator System in Shreveport, La. (Photo: FAA)

The tower provides local control services for Shreveport Regional; the RAPCON covers approach control up to 12,000 feet for that airport plus Barksdale, Shreveport Downtown Airport and surrounding airports within a radius of about 40 miles. The three facilities in the immediate Shreveport area are just a few miles apart.

"We call it the golden triangle," said Support Specialist Mark Head, who spearheads the training for approach control. "... It's a complex, complicated, dangerous space that you just have to be careful in because of all the different airports in close proximity."

As is the case at up/down facilities, the controllers in Shreveport are trained to work in both the tower cab and the radar room. The hitch is that they can't bounce back and forth between the two on any given day because of the 10 miles between facilities. The distance and the tight security at Barksdale make split shifts impractical.

Shreveport is "dealing with two literally separate facilities on a daily basis and trying to get that done with maybe 10 percent more [staff] than a typical up/down has," Woods said. "It becomes very challenging at times."

That's why the team, managers and controllers alike, was glad when Shreveport became the first FAA facility to get the small-footprint Tower Simulator System, or TSS for short. It has helped improve controller training in multiple ways, including less time to train, more realistic simulations of traffic scenarios, better preparation and the opportunity for trainees to practice unusual situations.

Woods estimated that the TSS cut the amount of tower training time by at least 25 percent and up to 40 percent. Most of the reduction was the result of transitioning away from tabletop exercises, where on-the-job-training instructors simulated air traffic for developmental controllers by walking around a room with model aircraft.

Karen Harris, who served as the air traffic manager at Shreveport for about 15 years before becoming the Greater Southwest District's assistant district manager last fall, said the TSS is far superior to tabletop exercises. Under the old approach, she said trainees "could never really tell: Is that plane on a three-mile approach to final? Is he outside the marker [for that approach]? Where exactly is he in regard to me clearing somebody else for takeoff? Now with the TSS, they can actually get a more visual look."

In the radar lab, Support Specialist Mark Head (right) runs controller Tyler Hartman through traffic scenarios for Shreveport RAPCON airspace. (Photo: FAA)

Controller Tyler Hartman, who was certified to work the tower in 2014, said it is difficult to gauge the separation of different aircraft in tabletop exercises. But the visualization of the airport through the simulator is accurate in every respect, all the way down to the road signs. Learning in that atmosphere built his confidence for live training in the tower.

The simulator also condenses the training. A new controller might get to handle only 10 aircraft during four hours of live training, Hartman said, but the simulator can send 10 aircraft to the controller in 10 minutes. "The TSS is awesome. We're all lucky to have it. It's helped me out, and I know everybody else is happy to have it."

Unlike the tabletop exercises, Woods said the simulator is realistic enough that the facility now evaluates trainees for their performance at different traffic levels – 75 percent of the normal traffic and 100 percent. The controllers also train for 110 percent of peak as a way to prep for busier days, but they aren't evaluated for that. It's just an opportunity to project their abilities for potential future traffic.

With Shreveport Regional's traffic down from what it was a decade ago, Woods said the tower simulator is a great tool for introducing new controllers to heavier traffic, different runway configurations and other challenging scenarios. "You're always looking for opportunities for the developmental to get in [the tower] and be challenged and to give them something to work with so that they can grow," he said. "But often times it's not there."

Hartman appreciated that functionality in his training, both on the TSS and in the training lab for radar duty. If you're having a tough time in one aspect, he said, they can create a scenario to address the problem. "You can just hit it until you get it."

Michael Moose, who replaced Harris as air traffic manager, said the simulator "has been of immense value" in Shreveport. "The TSS is a much more efficient and effective training tool," he said. "It is as close to real world as it gets."

Top image, clockwise from top: controller John Simrell, Support Specialist Mark Head, former Air Traffic Manager Karen Harris and former Front Line Manager Robert Woods (Photos: FAA)

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