

Simulator Boosts Collaboration on N.Y. Airspace Redesign



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A controller position in the New York/New Jersey/Philadelphia Airspace Redesign's new simulator. Photo: ATO

October 16 -- Among the cubicles and offices on the fourth floor of the FAA's Eastern Region headquarters building, there's a new room that can recreate a section of the operations floors at New York TRACON, New York Center or just about any other radar facility in the country.

The new simulator system is helping the New York/New Jersey/Philadelphia Airspace Redesign collaborative design team quickly test and adjust their ideas for improving the safety and efficiency of the region's skies.

The team tested the equipment to make sure it represents the area's airspace, traffic and operations accurately. But the NATCA and FAA subject matter experts were anxious to get started using the new tool. And they're now examining some ideas for moving an approach path to accommodate a more efficient departure procedure.

"The guys are already working out procedures, and we're still just getting the equipment set up," said Timon Kalpaxis, the lead NATCA representative for the redesign.

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With the simulator, the design team can quickly test the effects of their ideas on traffic drawn from actual operations, rather than trying to picture the impacts using paper, pencils and their imagination.

Experts from New York TRACON, for example, can check how well a change will work in their airspace before showing it to representatives from New York Center or Cleveland Center for their input, Kalpaxis said.

If the team wants to modify a procedure after running through a scenario a few times, the changes to the simulation can be made in a few minutes, the scenario restarted, and the controllers and managers can see if the modification made things better.

That should speed the design process considerably, according to Robert Novia, the management lead for the redesign. Now controllers and management can figure out which changes should be feasible — and discard the ones that aren't — before moving on to trials with controllers outside the design team.

They'll arrive at those trials with a set of changes proven in the simulator, and no longer need to make time-consuming tweaks during the human-in-the-loop sessions.

Novia praised the flexibility of the new simulator. The members of the team that are using the equipment now are from New York TRACON, but with "the flip of a switch" the simulator can bring up New York Center, or any other center in the country, Novia said. And with a few modifications, it should soon be able to operate as Philadelphia TRACON, or any other TRACON.

The simulator doesn't have to be set up to run either a center or a TRACON. It can run both at once, with an en route controller sitting next to a terminal controller to test out a concept that might impact both of them, Kalpaxis said.

The simulator is currently operating with four controller positions, and spots for four pseudo pilots. But if the team needs additional controller positions, more positions can be created.

The simulator can be adjusted on the fly between experiments. Positions already in the room, which now are configured as R-side, D-side and pseudo pilots positions, can be split into two different sectors or positions as needed.

The team hopes to begin full use of the simulator for their design work on Stage 3 of NY/NJ/PHL airspace redesign later this month.



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