

Door to the future

The 767 program's new final assembly home is more efficient than ever **By Leslie Hazzard**

When one door closes, another one opens.

In the case of the 767 airplane program in Everett, Wash., a new and rather large door—80 feet (24.4 meters) tall by 240 feet (73.2 meters) wide—opened recently on the most efficient 767 production facility ever.

At the end of February the program officially completed a move into its new final assembly bay in the Everett factory, the largest building in the world by volume. The program closed the door on assembly in the 40-24 bay, where it began production in 1978, to accommodate a temporary second line for the 787 Dreamliner.

The relocation is ripe with opportunity for the future of 767 production.

"We made significant progress using Lean+ not only to help us prepare for the move but also to help us focus on building the most competitive 767s possible, including the new KC-46A tanker for the U.S. Air Force," said Kim Pastega, 767 Program vice president and general manager.

The Department of the Air Force announced in late February that Boeing had won the competition to supply the Air Force with

179 tankers to replace the aging fleet of KC-135s. Boeing will deliver the first 18 767-based tankers to the Air Force by 2017.

"Our hard work in the direction of a more efficient building positively affected our ability to win that contract," Pastega said.

What was originally a 20-month project to prepare for the 767 move was completed in only 13 months.

"We capitalized on the experience, capability and 'can do' attitude of everyone on the program to write this new chapter for the 767," Pastega said.

Preparing for the future of the twin-aisle 767 was just one of several major goals the team needed to accomplish during the past year. Along with completing the move, the program made significant progress implementing the Boeing Production System, built its 1,000th airplane and increased production to 1.5 airplanes per month from the prior rate of one per month.

Pastega noted that the 767 team includes employees who worked on the first 767 more than 30 years ago, as well as employees with only a year or two on the job.

"The move presented us with a huge opportunity to pull from that wealth of experience while also benefiting from lots of new

ideas," she said. "We succeeded largely because we used that base of diversity to our best advantage."

After 30 years in the same location, the program needed to do some serious housecleaning and planning before boxing up the first piece of tooling. Relocation project leader Jerry Deinas headed up the overall effort, leaning on his experience helping the 777 program implement Lean+ and a U-shaped moving assembly line.

"The best thing we had going for us was a highly capable and motivated team that is invested in the future of the 767 program," Deinas said. "The team wanted to make the most of this chance to improve how we've always done things, and to make us more competitive in the twin-aisle market."

Enormous tooling fixtures weighing 130 tons (118 metric tons) to 200 tons (180 metric tons) had to be unbolted from the floor in one portion of the bay and reattached in another area of the bay. Boeing hired an outside company to complete the task, which took less than eight hours per piece of tooling versus several weeks using older methods.

Some tooling that wasn't scrapped or moved needed to be

PHOTO: This 767 was the first airplane to roll out the north side of the Everett, Wash., factory in January 2011—some 30 years after the first completed 767 left its position on the opposite side of the factory.

GAIL HANUSA/BOEING



PHOTO: Both commercial airplanes and military tankers will be built in the new 767 bay, which sports an epoxy floor coating for improved lighting and better detection of foreign object debris.

TIM STAKE/BOEING

resized drastically. The wing panel team was only one of several that applied Lean+ practices to prepare for the move. Erik Pham led that team, which needed to reduce the size of the major wing panel tool by half.

“After brainstorming ideas to resolve a critical technical issue, we thought we had a solid plan,” Pham said. “And then the newest guy on the team, who’d been here about six months at the time, looked at the proposal and said, ‘there’s no way that’s going to work.’ He was right, so we found another idea that actually did work.”

Other pre-move tasks included tearing up concrete on the new assembly bay floor to lay new utilities in underground trenches. Fresh concrete had to be poured and then coated with a light-gray epoxy that makes the new home of 767 final assembly appear bigger and brighter.

Because the remodeled bay is about 60 percent of the size of the original 767 final assembly building, finding innovative ways to give employees the sense of a larger space was important, explained Darrel Larson, 767 Manufacturing director.

“The light-colored floor also makes it easier to spot foreign

object debris, or FOD, which can damage new airplanes during production,” Larson said. “The floor coating is part of our plan to enable a FOD-free production environment.”

Plenty of construction took place outside as well. The Everett Site Services team worked with contractors for months to strengthen and regrade the pavement outside the new bay. More than 8,000 cubic yards (6,120 cubic meters) of concrete were poured and graded to create a tow path for completed 767s exiting the north side of the factory.

The team also sliced off the corner of a building along the new tow path, reducing its footprint by 10,000 square feet (930 square meters). The building needed to be modified to allow sufficient wing clearance for new 767s to make their way to the Everett Flight line. Another major Site Services project was installing the first-ever hangar doors on the north side of the factory.

“In the end,” Pastega said, “it was clear we had matched the people with the right skills and the people with the right leadership experience to take us where we needed to go.” ■

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