Safety in numbers

Employee involvement teams improve workplace safety—and production

By Marcy Woodhull

PHOTOS: (Below) Zane Brenner, left, and Jerry Robertson jack an aft bulkhead crown frame into position for installation on a 787 Dreamliner at the Boeing South Carolina site. ALAN MARTS/BOEING **(Insets, from left)** Pete Koomjian works in the Kennedy Space Center, Fla., machine shop. An employee involvement team recommended modifying equipment to reduce the risk of inhaling particulates from grinding and welding operations. KEVIN GILL/INDYNE IMAGERY SERVICES Equipment engineer Pat Devine, left, and machine repairman Denis Siefert use thermal-imaging technology to check water temperatures in a pump used to apply aluminum to parts produced at Boeing's military aircraft and systems production facility in St. Louis. RICHARD RAU/BOEING

The team that installs aft bulkheads in the 787 Dreamliner at Boeing's North Charleston, S.C., factory recently faced a dilemma: How could they install the bulkhead's heavy crown frame, while staying on schedule?

Using Lean+ techniques, the team focused on the manual lifting of heavy parts, a time-consuming and physically challenging process. The solution was to use four mechanical jacks to do the lifting, which meant safer, faster installation.

This group's ability to identify ways to improve their processes shows how employee involvement teams, or work groups that are empowered to identify better ways of performing their tasks, can improve workplace safety across Boeing.

"Employee involvement teams are an outstanding way for mechanics to recognize problems and come up with solutions," said Jerry Robertson, who leads a production work group in Charleston.

At Boeing, the adage "there is safety in numbers" takes on new meaning when the subject is employee involvement teams.

"Being engaged and involved through teams is one of the best ways to prevent injuries," said Stephen Johnson, Associate Technical Fellow for Environment, Health and Safety. "Empowered, engaged employees can make an enormous difference in keeping our workforce safe, keeping costs down, staying on schedule and continuously improving Boeing products."

A four-level empowerment process, part of Boeing's Lean+ and Safety Now efforts, guides teams as they develop the knowledge and skills needed to improve safety for themselves and others.

Cohesion, communication and collaboration mark the most successful teams, Robertson said, adding: "The biggest key to success is that everyone has a stake in it."

Employee involvement teams not only identify and address problems but work to prevent issues before they arise.

Members of a Shared Services Group employee involvement team in St. Louis are responsible for keeping manufacturing equipment and facilities in good condition for the production of military aircraft and systems. Using ultrasound and thermal-imaging, the team prioritizes maintenance of equipment that could stop production if it broke down.

"When jobs are in the planning stages, we look at all the equipment in advance and we don't wait until something breaks to fix it," said team leader Kevin Creech, noting that this team's work is grounded in Lean principles.

Keeping equipment in good working order not only paves the way for smoother production but also enhances safety.

"When a pumping process in one of our buildings had mechanical problems, our team was called in to assess the situation," Creech said. The assessment uncovered faulty pump components that could affect safety, and the team promptly alerted management.

The employee involvement team and managers worked with others to quickly resolve the concern.

"Everybody on this team steps up, is willing to work to accomplish what needs to be done and cares about getting our products safely out the door," Creech said.

Another team used Lean+ principles to renovate their machine shop at Kennedy Space Center, Fla., resulting in safer and more efficient work flow.

"Work areas were improved to provide adequate space for our employees to complete tasks, safely do their jobs and maintain the equipment," said team leader Mike Wilson. "We added safety features such as grinder exhaust ducting to improve overall cleanliness and reduce the potential for inhaling dust, and down-draft tables for welding operations, which removes smoke from a welder's breathing zone."

The new layout improved efficiency and has been recognized as a best practice by the U.S. Occupational Safety and Health Administration.

"Even a small team like ours," Wilson said, "can make a huge difference when we work together and feel empowered to make changes." ■

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Safety and Well Being Empowerment resources for employee involvement teams are available at http://safetynow.web.boeing.com/ee_ei.asp