Item #2 – Ensure a proactive risk-based approach to change management

Example

During production operations a supplier found that a recent design change introduced the risk of a gap to shank condition along a specific portion of rivets. Rather than perform a thorough review and update the engineering with a permanent fix, the supplier used a referenced specification to address the gaps with shims. This was done to avoid schedule and cost impacts to the customer. To complicate the issue, the fastener gap condition was not always apparent during assembly and could change as the part was moved through the assembly process, sometimes making the gaps undetectable. This posed risks allowing the gaps to potentially go unnoticed and eventually be delivered to the customer. In some cases, the customer found the gap conditions during their final inspections. Further investigation determined that the scope of the escape potentially spanned dozens of aircraft in the Boeing production system resulting in significant disruption to factory operations and rework.

Summary

In this case, the supplier failed to properly manage risks associated with the design changes. They did not apply a critical review of the impact of the change, as well as reviewing the assembly techniques to ensure a conforming product.

Lessons Learned

Any design change that affects an assembly method must undergo a thorough review to determine risks and impacts. Design reviews as well as First Article Inspections should point out these areas of risk before production has progressed to the point of delivering nonconforming hardware and costly rework.

What Would You Do?

After reading the examples, consider the following discussion questions. They can be used in a team setting to generate dialogue around the "13 Things" or to help individual employees think about the situation from different perspectives.

Sample questions

1.What would you have done if you found a design error that may be impractical to fix?

2.Would you have felt comfortable raising your concern with the management??

3.What types of resources are available to help review design changes that can point out impact areas?

Reviewing Impact of Design Changes