



## **Example #2**

**Drain tube assembly**



**Weld location shown**



A Tier I supplier tightened their receiving inspection reviews of supplier certification packages as part of a containment action to a major SER. During review of the certification package for a drain tube assembly, the supplier observed that their sub-tier had substituted the material heat treat condition for the aluminum piece parts that were machined and subsequently welded, and heat treated the assembly. The sub-tier did not have authorization from Boeing or an approved engineering change for the material type and heat treatment. The sub-tier supplier did not understand and consume the engineering requirements properly, nor the purchase contract requirements flowed to them constraining changes in material forms and heat treat condition without their customer (and Boeing's) approval.

### **Corrective Action**

The Tier I supplier dispatched personnel to their sub-tier to investigate the issue and ensure all purchase contract requirements were reviewed, understood and complied with. Further, the Tier I supplier recognized the need to improve their oversight processes at their sub-tiers. They performed onsite quality requirements reviews with more than a dozen sub-tier suppliers. The reviews included FAls and QMS elements selected from corrective action history. The Tier I supplier also performed desktop virtual reviews (Telecon and WEBEX) for another group of sub-tiers to enhance their reach to nearly all their suppliers.

Going forward, for new purchase contracts, the supplier enhanced their process for purchasing agents to review requirements as new purchase contracts are issued to suppliers. They also improved the content of their quality assessment checklists and audit selection processes to sustain the gains.

## Lessons Learned

- Suppliers should have had a robust surveillance program for their sub-tier suppliers to include Quality Requirement Reviews to confirm their understanding, including which requirements need to be flowed down the supply chain.
- Insure Purchasing Agents work closely with the Quality Organization to enable collaboration, and clarity between departments for all clause requirements that are levied upon sub-tier suppliers.

## Summary

Onsite contract reviews with suppliers to confirm they fully understand Boeing requirements, including which must be flowed further down to the supply chain, is critical to program success. Requirement Reviews should be performed at every level of the supply chain to insure a full understanding of purchase contract requirements and that every clause from Boeing is flowed correctly when required. If processes to confirm an understanding of requirements had been in place prior to product procurements above, an approved hard coating processor would have been used in the example #1. Also proper methods to authorize material substitutions or requests to ask questions about engineering requirements in the example #2 would have precluded these NOEs and avoided disruption to Boeing and our suppliers.

## 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.

1. What would you have done if you knew there was insufficient contract review with 2<sup>nd</sup>, and 3<sup>rd</sup> tier suppliers?
2. Would you have felt comfortable raising your concern with either the supplier or management, and if so, how would you have approached the situation?
3. What could have been done to mitigate these types of non-compliances from happening?