Quality Engineer Eliminates Containment Costs

The Problem

A supplier to the Toyota Motor Company–Canada plant, had severe quality problems during the launch of a new product. The parts in question transferred from a plant that was being closed and similar in function to an existing product line – but using a different manufacturing technology. Unfortunately, the transfer was too rapid, the advanced quality planning weak, resources required were seriously under-estimated, the start-up furious, all with minimal training of operators, supervisors, and engineers. Customer expectations were not fully understood and the new manufacturing process was marginal in capability.

Quality problems developed quickly at the customer's site as bad product was squeezed through the process and shipped. The appropriate countermeasures were not implemented quickly and the customer became very unhappy with the incoming quality. The client was notified that if permanent corrective action was not taken soon they would be placed on "containment".

The client was eventually told that their parts will be 100% inspected by a third party before being accepted on the assembly line by Toyota. In this case, the third party inspection company was selected by Toyota; inspection would be done at the assembly plant; inspection results made available to Toyota; and all expenses would be paid for by the client. Since this was a two shift operation, at least two inspectors and supervisors would be required. More would be added to support the assembly line. The entire cost of the inspection process is paid for by the client – in this case over $12,000 per month. This cost is in addition to all the expenses that the client incurred to inspect, and re-inspect the product before it was shipped to Toyota. Actual total costs exceeded $20,000 per month!

The supplier needed to correct the problem quickly but Toyota demanded that the containment continue until proof was demonstrated that no defective parts were being shipped and the problem permanently corrected. Containment continued for several months.

The TAG Team Solution

To help with resource problems due to departures and illness, Quality Engineers from The Access Group (TAG) were requested by the client. One of the tasks given to the Quality Engineer assigned to this product line was to eliminate the containment expense.

Two problems had to be addressed

- corrective action to eliminate the causes of the defects
- re-establish credibility with the customer

Corrective Action followed the typical problem solving process (plan, do, check, act):

1. Protect the customer (100% internal inspection)
2. Deal with facts—identifying the magnitude and severity of potential problems (inspection and pareto analysis)
3. Problem definition
4. Root cause determination
5. Countermeasure determination
6. Implementation of countermeasures (training, capability measures, mistake proofing)
7. Tracking over time to assure effective countermeasure

The Outcome

Over the next few months issues were identified and countermeasures implemented to improve the quality of the parts being produced.

Communications were re-opened with key members of the Toyota Quality and Engineering groups. Several visits were made to the assembly plant to personally see what was being received and the problems caused. Acceptability criteria had to be redefined because function was not fully defined by the print. Phone calls and e-mails were exchanged on a regular basis. Commitments to fix issues were tracked and followed up on. When TAG's Quality Engineer approached the Customer to eliminate the containment inspection, the credibility had been re-established and the Customer was open to the change thus eliminating $120,000 in unnecessary annual costs.

For information on how TAG can assist you call: 877-824-3657 or visit www.tag.bz