

## **Quality, Reliable Equipment and TPM**

### ***Or What were we thinking?***

Why is Quality so important? Generally, improved quality lowers costs, can improve market share, reduces product liability and therefore makes us more competitive. In addition it can uphold our reputation to our customers. The recent troubles at Toyota are certainly a testament to what happens when the quality assurance system breaks down.

Quality. We know it when we see it. How many times have we heard that phrase. Yet when we ask for definitions we find everybody has their own definition of Quality. There are many definitions in various books. Crosby says it is “conformance to requirements.” The ASQC has several complex definitions but the simplest is “Conformance to valid customer requirements. However we define it, achieving Quality requires a constant struggle in our plants.

It is not unusual to find organizations with a VP of Quality with responsibility to ensure the integrity of the output. He usually commands a somewhat large internal organization of mid level leaders, quality technicians and inspectors. This group will have a lofty sounding goal such as to “provide the highest quality in our industry at a given price” etc. etc. Historically, inspection has created the most chaos and confusion. Necessary or a waste of resources? A valuable function or non value adding? The questions abound. Most organizations believe the quality group needs to be funded appropriately.

Yet, in that same organization we may find the maintenance group lacking resources and generally ignored except when equipment breaks down. These organizations have failed to make the connection between the quality and reliability of the equipment and the ability to produce a quality product the first time. On time delivery is often a problem for this organization. Trite but true “if you do not have time to do things right you definitely do not have time to do them over.” The quality group may be struggling to keep the process under control and capable. The rework may be high and costly. Rework costs are often obscured by the cost accounting system therefore little effort goes into reducing these wasteful activities. It consumes resources but adds no value to the final product. The things that cause rework seem to be the same from one plant to another. Raw material may not meet spec but is used anyway. Operators may take short cuts not included in the standard operating procedure. Often the machinery is out of tolerance because it is not maintained properly due to lack of resources or knowledge.

A good, well thought out, properly implemented and suitably supported equipment reliability and TPM program can address these issues. Trained operators using a set of accurate standard methods, can act as a “first line” of defense to keep equipment running correctly. The operators can work together with the maintenance technicians to anticipate machine and process problems when the problems are small and easy to correct. This can improve overall reliability and avoid major breakdowns which can impact quality.

Operators can contribute to developing and implementing Mistake Proofing devices-more on those in a future article. Also, operators are a great source of knowledge about proper operating procedures. Almost always, when operators are not following a given procedure it is because it is too difficult, cumbersome or out of date for the current equipment.

Sometimes the correct standard operating procedure is lost in time while the current procedure has been handed down from Mary to Sam to Charlie. Each level of hand off produces additional deviation from the original standard. If operators are trained correctly many of these problems disappear. The entire process becomes more reliable and controllable. The process also becomes more capable. Therefore reducing defect counts and improving the quality of the product. A win all around which often improves the bottom line. The reality is that it is logically impossible to expect to produce perfect products ie extremely high quality products with equipment that is not kept as near perfect as we can make it. What were we thinking?

Kevin Lewton / John Monoco