STATISTICAL PROCESS CONTROL

Method of Instruction: Instructor & Projected Presentation and Hands on Demonstration

This is the classic course on Statistical Process Control (SPC), which covers the basic principles of control charts. The principles are described in layman's terms for those who desire a thorough understanding of statistical process control without having to cope with elaborate mathematics. Control charts are based upon statistical principles; in particular the normal distribution and they are used to determine when the process being monitored is "out-of- control." When we claim the process is "out-of-control" we want to make such pronouncement with minimal "false alarms" as possible. To balance the false alarms from the true claims is where statistics (probabilities) come in handy. A process that is "out-of-control" is one that is not in a state of statistical control, or one in which the process variable being plotted does not have a stable distribution. So, control charts are used to determine if a process is stable while it produces product. Improvement to a process comes from identifying and eliminating "special cause" variation. The course also teaches how to interpret, analyze and implement control charts in production.

The two-unit program takes a back-to-basics approach in teaching Statistical Process Control. Its friendly and non- threatening style ensures everyone will learn SPC and confidently apply it back on the job. Included hand on catapult training exercise.

Audience: Operators, first-line supervisors, those who have little or no prior exposure to statistical process control. Also ideal for ongoing and refresher training.

Training Time: 8 hours
Prerequisites: Basic math, addition, subtraction, multiplication and division

Program Content

Module 1: Basic Statistics for Process (4 hrs)	Module 2: Application of Basic Statistics to Control Process Control (4 hrs)
- Variation - Natural and unnatural variation - Probability - Expected occurrences vs. actual occurrences - Histograms - Normal distribution curve - Standard deviation - Calculating mean and range	- Definition of SPC - How SPC can improve quality - Relationship between distribution of individuals and sample averages - Purpose of control charts - Central line - Difference between control limits and tolerances - Relationship of normal distribution curve to control limits - Why the control chart has power - Definition and purpose of process capability studies - Variables and attributes - Control chart interpretation