

## Problem Solving Workshop Syllabus (40hrs)

*Concentric's Problem Solving Workshop is not only beneficial in learning how to solve problems, the end result is actually solving a major organizational problem that is high in cost, waste, risk or some other burden. Through the use of various Six Sigma tools and Kaizen, we work with the project team both in a classroom setting as well as studying the actual process in action. Using the PDSA approach, we follow the methodology of Deming to isolate and control problematic variables for long-term, sustainable savings. Don't just learn... SOLVE!*

0. Rules of the Road
1. The PDCA Cycle
2. Studying Various Models (7-Step, 8D, 3P & more)
3. Form a Team
  - a. Who should be on the team?
  - b. How the team should be organized
  - c. The Team Leader
  - d. Responsibilities of team members
  - e. Consequences if this step is skipped
4. Define the Problem
  - a. Using the 5W2H method (Who, What, When, Where, Why, How detected, How many)
  - b. Tools to use (Pareto diagram, Trend charts, Histogram, Process Flow Diagram, SIPOC diagram)
  - c. Determining if the problem is related to measurement (MSA) or process
  - d. Consequences if this step is skipped
5. Containment Action
  - a. Protecting the customer
  - b. Validating the action
  - c. Verify that the containment action works
  - d. Consequences if this step is skipped
6. Find the Root Cause: Tools and Techniques
  - a. Tools to use (Ishikawa "Fishbone" Diagram, Brainstorm & Rank)
  - b. The 5 Why's - Ask why five times
  - c. Is/Is Not Tool
  - d. Consequences if this step is skipped
7. Corrective Action
  - a. Action, responsibility, due date
  - b. Verify that the corrective action effectively addresses the cause(s)
  - c. Improve the quality system by looking at all aspects of the quality system
  - d. Consequences if this step is skipped
8. Evaluate effectiveness & Corrective Action Impact
  - a. Monitor/Evaluate long-term effectiveness (re-creating the failure mode)
  - b. 1st Piece verification + Last-off comparison
  - c. Process audits-How to conduct them. How to use the results to improve the quality system

- d. Application of actions taken to similar products or processes (and why this is NOT "preventive action")
- e. Consequences if this step is skipped

#### 9. Preventive Action

- a. What is preventive action (vs. corrective action)?
- b. Preventive action tools & techniques
- c. Use of C&E Matrix to prioritize by highest risk
- d. Deep dive into FMEA

#### 10. Management Review

- a. How to structure a follow up meeting
- b. Reporting the status of Corrective & Preventive Action
- c. What should management review?
- d. Consequences if this step is skipped

#### 11. Improving the Problem Solving Process

- a. Using PDCA to improve the Team-based problem solving process
- b. Things Gone Right vs. Things Gone Wrong (TGR/TGW)
- c. Evaluating the tools & techniques used
- d. Reporting results to top management
- e. Evaluating management commitment
- f. Updates to procedures
- g. Identification of new training & competency needs
- h. Other resources needed for continual improvement