

CITEC

Manufacturing & Technology Solutions

Zero-Defect Quality: Mistakeproofing & Fail-Safeing Agenda

- I. Introduction
 - Background
 - ZDQ
 - Why ZDQ?
 - Mass production vs. Mass Customization (Shingo Chart)
 - Action – Error – Defect
 - ZDQ is Not about finding who to blame
 - MP/FS
 - What is Lean?
 - Why MP? (8 wastes & COQ)
 - MP Definitions
 - Error – Defect – Cause
 - MP – FS Examples
 - Poke-Yoke
 - Jidoka
 - Common Everyday Examples
- II. Classroom Exercise #1 (30 minutes)
- III. In the Workplace
 - Judgment Inspection – Informative Inspection – Source Inspection
 - Is 99.97% good enough?
 - Successive Check Inspection
 - Self-Check Inspection
 - Source Inspection
 - Definition of Source Inspection
 - Unique Features of ZDQ Source Inspection
 - Start with the Value Stream
 - Fishbone diagram – Mistakes/Errors
 - Workplace examples (mfg, office, service)
 - Root Cause of Errors (Human)
- IV. Shop Floor Exercise #1 (45 minutes)
- V. Levels of MP/FS
 - MP – Levels 1 & 2
 - FS – Levels 3 & 4
 - Level 1 Eliminate
 - Level 2 Prevent
 - Level 3 Signal

Level 4 Manage
Service Industry Examples

- VI. Getting Started
 - 12 Step approach
 - work elements
 - process elements form
 - Identifying waste (importance of steps 3-7)
 - Simple = less chance of error
 - Straighten = flow
 - Speed up = shorter L/T
 - Illustrations
- VII. Classroom Exercise #2 (30 minutes)
- VIII. Shop Floor Exercise #2 (30 minutes)
- IX. 12 Steps (continued)
 - Steps 8 & 9
 - Prompts
- X. Classroom Exercise #3 (30 minutes)
- XI. Shop Floor Exercise #3 (60 minutes)
- XII. 12 Steps (continued)
 - Steps 10, 11, & 12 (FMEA)
 - Criteria Ranking
- XIII. Classroom Exercise #4 (45 minutes)
- XIV. Shop Floor Exercise #4 (45 minutes)
- XV. MP FS Principles
 - Implementing
 - Poor Quality
 - Root Cause
 - Why 5X = Finding the Root Cause
 - 7 MP-FS Principles
- XVI. Red Flags
 - Human Errors
 - Red Flags Definition
 - Red Flag Conditions
- XVII. Shop Floor Exercise #5 (45 minutes)
- XVIII. Types of Human Errors
 - Appendix B
 - Errors of Memory
 - Errors of Perception

Errors of Motion

- XIX. Shop Floor Exercise #6 (45 minutes)
- XX. MP – FS Application
 - Appendix C – Root Cause Checklists
 - Materials
 - Materials handling
 - Setup
 - Machines
 - Work conditions
 - Shop practices
 - Appendix D – MP FS Applications
 - Prevent (L1)
 - Detect (L2)
 - Manage (L3)
- XXI. Shop Floor Exercise #7 (45 minutes)
- XXII. MP FS Standard Practices
 - Solutions Matrix
 - Standard Practice vs. Description of How To
- XXIII. Shop Floor Exercise #8 (45 minutes)
- XXIV. Questions?