Corrective Action: Tools & Methods

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Introduction

- **Process performance gaps cost the company money and resources that, over time, must be significantly reduced in order to provide customers with exceptional product and/or service quality… it’s a competitive requirement.**

- **Workshop intention:**
  - help your company improve
  - help you learn more about 8D-CA
  - help you do a better job completing CARs
Quality-in Approach: Benefits

- Prevention saves “many times” the costs of containment
- Prevention requires “risk prevention” thinking
- Corrective action requests are an opportunity to enhance prevention
- Nothing is perfect, but getting it closer is our job (i.e. increase process control & capability)
Quality-In Benefits (cont’d)

- There is a point of diminishing return: your judgment of what is a key problem with a process is a critical expectation of performing your role in this process.

- It takes more than one person to do this… take a team approach.

- Plan-Do-Check-Act: learn and improve; you can not always do it right the first time but you can get it right the next time!
Self-Assessment

- This assessment will give you some sense of the ideal behaviors behind the “quality-in” mind-set

- Recognize that no one is perfect, but each of us can (and must) improve this mind-set

- Take 10-12 minutes (I will check to see if you need more time) Ratings: 1-5

- Be “objective” with yourself; no “right” answers here! Find some good strengths & “OFIs”
8D Approach

- D1 Establish the team
- D2 Describe the Problem
- D3 Develop interim containment action
- D4 Define and verify Root Cause
- D5 Choose / verify permanent corrective action plan
- D6 Implement corrective action plan
- D7 Prevent recurrence
- D8 Congratulate the team

Detect

Isolate

Counter-measure

Improve

Close out corrective action
CA- Systematic Approach

Involves CONTAINMENT + PREVENTION

- **Prevention**: The studies, process design work and use of proven process-control methods that ensure the outcome of the process (or sub-process) is highly predictable and well within requirements to satisfy customer needs. (proactive/long-term)

- **Containment**: The studies, insights, confidence and actions that ensure a gap in process performance will be reduced to the desired level, in the short-term timeframe. (reactive/short-term)
Responding to corrective action reports and requests is one way to improve process capability:
- Service and/or product processes
- QMS processes

- Containment (reactive) = ?
- Prevention (proactive) = ?

Exercise: Questions 1 & 2
Root-Cause Standard

It is not: operator error, rushing, etc.

“an underlying condition of the process or system that directly results in non-conformance in a product or service” (correlation is evident)

- it can be identified in terms of process or procedural terms
- it can be controlled through typical process controls and/or proper training
- if prevented, it results in indisputable improvement to achieving a “quality in” process
D1  Establish the team

The purpose of D1 is to ensure multiple minds work on the problem

- Identify core team: 2-4 people most critical to solving the problem
- Assign team leader and other team management roles
- Define others to talk with as well, including process operators
8D Steps: Summary

D2 Describe the problem

Describing the problem means stating the non-conformance in terms of measures and targets.
- State what the results were
- Include what the requirement was
- Include any other fact-based information that defines the problem
- Do not: add in a solution to the definition

Gate Check
8D Steps: Summary

D3  Develop interim containment action  (D1 in 3D version)

The purpose of containment is to avoid further problems of the same type while the corrective action study is taking place.
- Prevent certain process steps from being done by certain workers
- Check and purge inventory/WIP
- Remove bad equipment, gages or tools
- Inspect work at the source to catch the problem early

Tool: Brainstorming & class’ work & ATX handout (job aid)
8D Steps: Summary

**D4 Define and verify root cause**  (D2 in 3D version)

- This is the key part of the 8D process. Do it well.
- Create a plan for conducting the D4 activities
- Re-trace events; isolate “non-conformance” actions (people) or events (equipment)
- Use “is : is-not” logic: it is happening here, it is-not happening there, so this could mean ________.
- Map process if necessary so team members know everything that occurs
- Examine records and SPC data

Gate Check

Tools: Incident Diagram, Cause Logic Tree, and other CQI tools
D5 Choose and verify permanent corrective action  
(D3 in 3D version)

Choose solutions that truly countermeasure the root cause and can be sustained without someone’s attention (minimize possibility of human tendencies).

- Use countermeasure selection chart
- Improve early-detection methods
- Test and verify the countermeasures really work
- Play “devils advocate”: what could go wrong with this solution?
8D Steps: Summary

**D6 Implement corrective action plan**

Document a plan for implementing the countermeasure(s).

- What, when, how and who (use a Tree Diagram: Work breakdown structure)

- Identify all key tasks of the plan

- For all key tasks, identify the final deliverable of the task

- Identify who will monitor the plan, and how often

- Have an escalation process: what happens when someone is not getting his/her key tasks done
D7 Prevent recurrence

Even after the corrective action plan has been implemented, the team must monitor and adjust the countermeasures: Plan-Do-CHECK-ACT (PDCA!)

- Adjust solution as needed
- Watch for this solution causing other problems
- Do any final work to build it permanently into the system (SOP)
8D Steps: Summary

D8 Congratulate the team

This is the opportunity to re-enforce the value of the team’s effort and thank them for helping out. It is also a time to learn how to do D8 better next time.

- Team leader: acknowledge your team; what worked well and how each person added value
- Conduct a lessons learned:
  - How can we do 8D even better next time?
  - What did we learn about prevention that we can apply in our every day work?
- Upper management: acknowledge the team!

Check & CA Close-out
Summary:

- CARs often times do only CONTAINMENT work
- 8D is a discipline: use it for the more critical CARs
- It requires a team of SMEs to do it right
- Other CQI & CA tools apply!