

Viewpoint on Manufacturing:

So ... You've Been Asked for a Root Cause/Corrective Action Report

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Your "Handyman" for Manufacturing Operations.

When is a Root Cause/Corrective Action Report used?

As a Supplier, your customer may ask you for a Root Cause/Corrective Action Report when they experience a problem or receive defective parts from you. As Customer, you may make such a request when you have similar issues with a supplier and want to see that your supplier has taken immediate action to protect you as well as action to prevent the problem from happening again.

What is a Root Cause/Corrective Action Report?

A Root Cause/Corrective Action Report shows the steps taken to protect the customer, the Root Causes of the problem and the action taken to correct or eliminate the root causes. Such a report will typically contain these sections

- Event Definition – this section describes the defective condition and what is known about the extent of the condition.
- Event Team – this section identifies the people by name that are be responsible for the resolution of this event and issuing the Root Cause/Corrective Action Report.
- Immediate Containment Actions – this section describes the specific actions taken to separate out and, if necessary, recall all defective product.
- Root Cause – this section details the Direct, Contributing and Root Causes of the Event that are found by the Event Team in their investigation.
- Corrective Action – this section details the actions taken to prevent reoccurrence of the event by making the necessary changes to eliminate the Root Causes as well as the Contributing and Direct causes, where appropriate.
- Verification – this section describes the actions taken to verify that the changes have been implemented and are effective in eliminating the causes and further such events.
- Systemic Changes – this section discusses what actions have been taken in a pro-active manner to look at similar situations and take appropriate actions.

An example of such a report would be the following:

Event	All widgets produced in work cell #2 were made using a bolt with and incorrect strength rating starting Friday about 1 PM until Tuesday at the beginning of the second shift.
Event Team	Tom Quality, Joe Engineer, Sally Service, Mark Manufacturing and Betty Procurement

<p>Immediate Containment Actions</p>	<p>Mark Manufacturing identified all packing boxes with numbers 230991 through 251011 as potentially containing defective material. Boxes 230995 to 241011 were shipped to either customer A or customer B on Saturday through Monday. On Tuesday evening, Betty Procurement isolated from work cell #2 all bolts with the incorrect strength rating. Joe Engineer prepared an inspection procedure to identify the incorrect bolts. Tom Quality has quarantined and inspected all suspect boxes remaining in house. He removed and quarantined all defective widgets in these boxes and replaced them with good widgets. Joe Engineer and Sally Service notified both customers and were at their facilities on Wednesday evening to inspect all suspect boxes to separate out defective widgets. The defective widgets were returned to the company for rework on RMA #'s 201E and 201F for customers A and B respectively.</p>
<p>Root Cause</p>	<p><u>Direct Cause #1</u> – Operator did not check packaging labels and loaded bolts of incorrect strength rating into machine.</p> <p><u>Contributing Cause #1</u> – Labels had been partially damaged by flow rack supplying work cell #2 because damaged bumper had not been replaced.</p> <p><u>Root Cause #1</u> – Bumper check and replacement was not included in weekly Preventive Maintenance checklist.</p> <hr/> <p><u>Direct Cause #2</u> – Incorrect strength bolts delivered to work cell #2.</p> <p><u>Contributing Cause #2A</u> – Bolts were stored in warehouse under incorrect part number.</p> <p><u>Contributing Cause #2B</u> - Picker did not check part number on box of bolts.</p> <p><u>Root Cause #2</u> – Part Number on label is in small print and only one digit different from correct part number.</p>
<p>Corrective Action</p>	<p><u>Root Cause #1</u> – Bumper check added to weekly Preventive Maintenance checklist, a stock of bumpers placed in the Maintenance Inventory. Procurement has added tracking of Bumper stock to ERP system.</p> <p><u>Root Cause #2</u> – Supplier doubled size of print on labels and the labels are now color coded for strength rating.</p> <p><u>Direct Cause #1</u> – Label Color for bolts cartons has been added to Routings and the operator instructions have been modified to instruct operator to check for part number and label color.</p> <p><u>Contributing Cause #2A</u> – Storage slots are now labeled with part number on a background that matches correct label color. Warehouse stockers are instructed to verify label color prior to</p>

	<p>placing in storage slot.</p> <p><u>Contributing Cause #1 B</u> – Pick Lists now includes label color and part number and Pickers are instructed to check color of label on box.</p>
Verification	<p>Weekly warehouse audits over the past month have not found any incorrectly stocked bolts.</p> <p>Checks at the start of each shift over the past month at work cell #2 have not found any incorrect bolts and bumpers are being replaced when damaged.</p> <p>These checks have been added to periodic QC audit checklist.</p>
Systemic Changes	<p>Work cells #1 through 5 have been checked for similar situations and strength color coding of labels for all bolt part numbers has been implemented across all bolt part numbers.</p>

Interim Root Cause/Corrective Action Reports

In some cases the customer will request updates as the team’s work is in progress. In such cases the descriptive entries will describe actions to be taken or already in progress with the name of the individual primarily responsible for the action and either the date of the next checkpoint or the date that it will be completed.

Internal Root Cause/Corrective Action Reports

Many companies use the Root Cause/Corrective Action Report even when an external customer is not involved. The event that triggers a request for such a report could be an internal audit, a lucky catch at shipping of a problem before it goes to the customer or just an observation that some problems are reoccurring. Keep this tool in mind for such occasions too.

The Final Step – Thank you

Once the final Root Cause/Corrective Action Report has been issued, it is time to recognize the team for their efforts. A good report represents a significant effort on the part of the team to dig into an event, analyze the causes and implement changes. It also provides your customers with objective evidence that your company is interested in their well being. Thank the team.

Applied Technology and Science, Inc. – Your “Handyman” for Manufacturing Operations

We, at Applied Technology and Science, Inc., have the experience and technical background to help you in performing a Root Cause Analysis and in implementing the Corrective Actions. Our “Handyman” will ...

- Quickly come up to speed in a situation,
- Work with people at all levels in an organization,
- Gather, structure and analyze data into actionable information,
- Formulate an viable action plan,
- Organize, motivate and lead groups of people to achieve the desired results, and
- Work as an Individual Contributor in both Technical and non-Technical areas where necessary.

And, if we don't have the specific skills or expertise needed by your situation, we can find the expert who does. Visit our website at www.appliedtechnsci.com to explore our background, see what our clients have said about us. Then give us a call at 610-850-2769 or send us an email to dhavas@appliedtechnsci.com