

Welcome

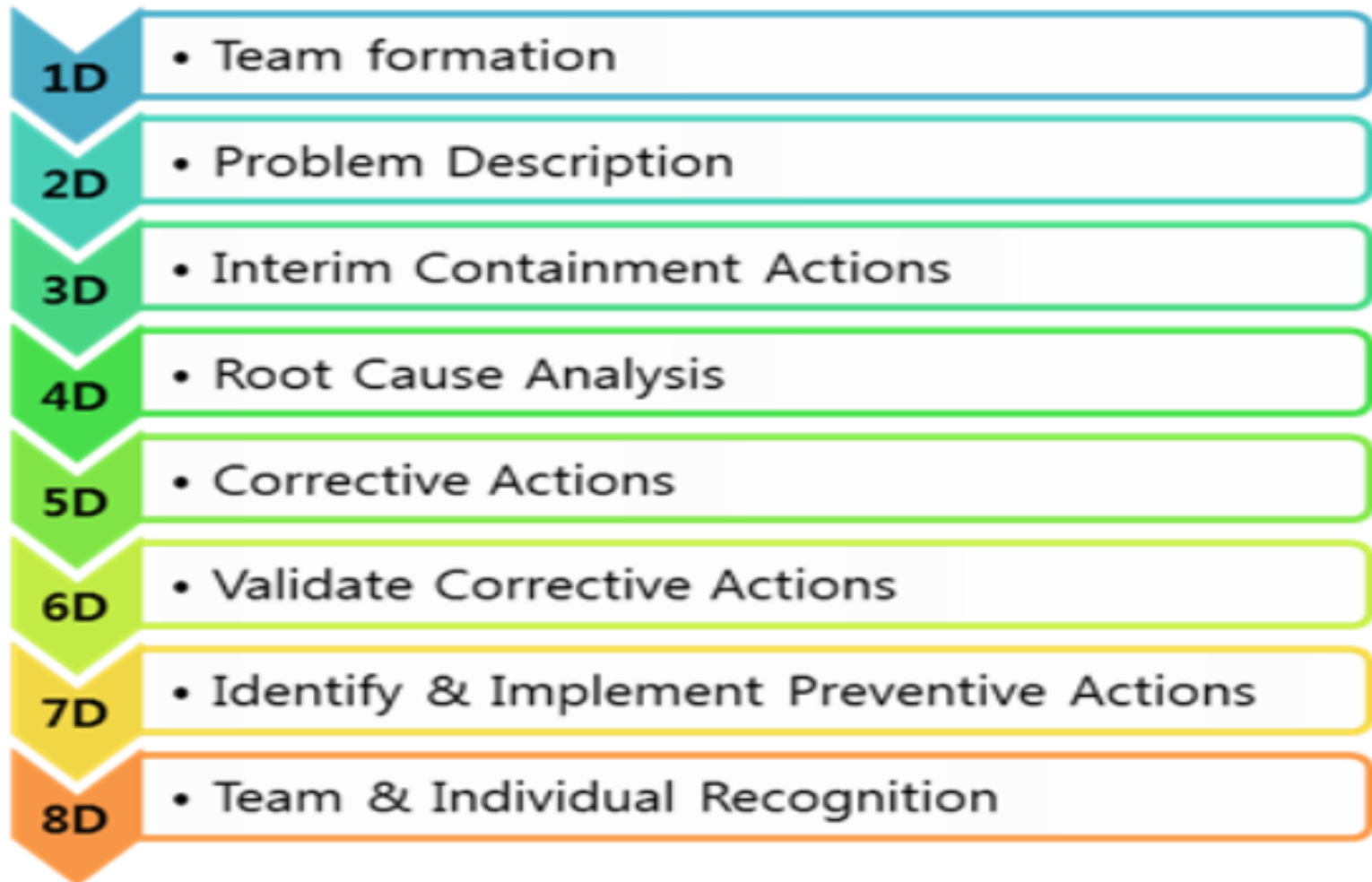
8 Disciplines of Root Cause Analysis



What is 8D

- 8 Disciplines of problem solving.
- Methodology to find root cause analysis.
- Devise a short term fix and long term solution
- It is effective and easy to teach.

What are 8 Disciplines



1D-Team Formation

- **When**– there is non-conformity* / problem which need attention.

**Non conformity – non - fulfillment for a requirement (stated/regulatory/statutory).*

- **How**– Choose cross functional team, data driven approach, brain storming, which study and observe.

Choose leader who know 8D process. Choose team which is related to shop floor.

- **Why**- Observation power of every person is different and solution will be permanent after the brainstorming process

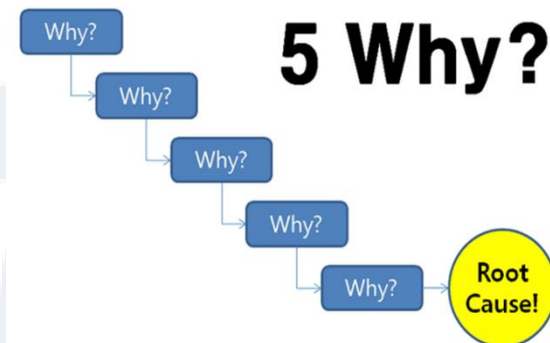
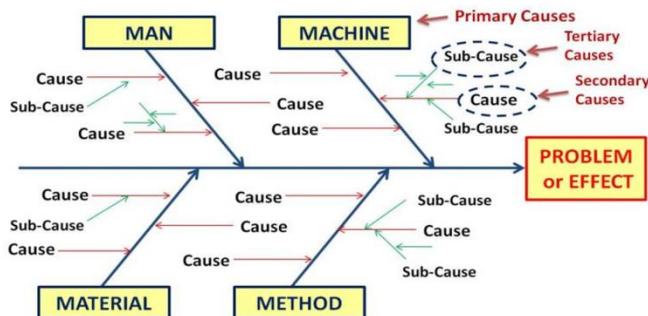
Teamwork makes the dream work.



D2-Describe the problem

- Fish bone diagram/ Ishikawa diagram to find all possible causes.
- Discuss for major factors causing the problem and note them.
- Apply 80:20 rule or Parito 's law.
- 5 Why– or repeated why until find a root cause for major problem.

CAUSE AND EFFECT DIAGRAM



D3-Interim Containment actions

- **It is called correction** (action taken to eliminate removal of NC).
- **The Interim containment actions (ICA) are temporary and removed after permanent corrective actions.**
- **Verification is always required from Customer side if there is still NC received.**

Differences between correction, corrective action and preventive action



Correction
Put fire out
(at the time)



Corrective Action
What caused fire
and how to prevent
recurrence
(after event)



Preventive Action
Stop fire from
happening
(before event)

D4- Root cause Analysis

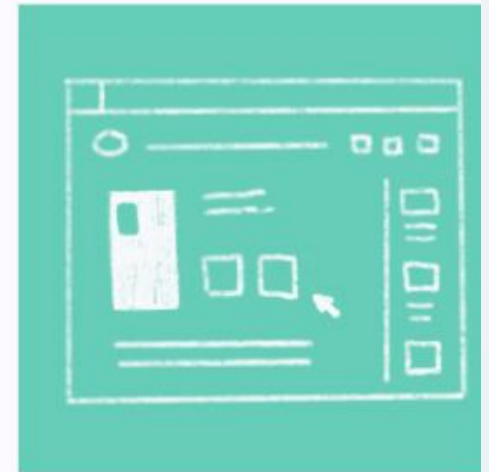
- **Root cause must be identified to find permanent preventive actions.**
- **Comparative analysis required with or without source.**
- **Verification of root cause through data,**
- **Review process flow chart about the location of the Root cause.**
- **Determine Escape point where it could be found but it was not.**



Correction
Fixing the phone screen



Preventative Action
Using a screen protector
or phone case



Corrective Action
Purchasing a phone case

D5- Permanent Corrective Actions

- **Permanent actions to removal of root cause analysis.**
- **Perform a Risk assessment or FMEA** (Failure mode and effect analysis).
- **Make a balanced choice of PCA.**
- **Select Control point Improvement for Escape point.**
- **Verification for effectiveness of the PCA is required.**

D5- FMEA

| Function | Potential Failure Mode | Potential Effects(s) of Failure | S | Potential Cause(s) of Failure | O | Current Process Controls | D | R | P | C | R | I | T | Recommended Action(s) | Responsibility and Target Completion Date | Action Results | | | | | |
|---|---------------------------------|--|---|---------------------------------------|----------------------------------|--|--------------------------------|-----|-----|----|---|---|---|-----------------------|---|----------------|---|---|---|---|---|
| | | | | | | | | | | | | | | | | Action Taken | S | O | D | R | P |
| Dispense amount of cash requested by customer | Does not dispense cash | Customer very dissatisfied | 8 | Out of cash | 5 | Internal low-cash alert | 5 | 200 | 40 | | | | | | | | | | | | |
| | | | | Machine jams | 3 | Internal jam alert | 10 | 240 | 24 | | | | | | | | | | | | |
| | | Incorrect entry to demand deposit system | | | Power failure during transaction | 2 | None | 10 | 160 | 16 | | | | | | | | | | | |
| | | Discrepancy in cash balancing | | | | | | | | | | | | | | | | | | | |
| | Dispenses too much cash | Bank loses money | 6 | Bills stuck together | 2 | Loading procedure (riffle ends of stack) | 7 | 84 | 12 | | | | | | | | | | | | |
| | | Discrepancy in cash balancing | | | Denominations in wrong trays | 3 | Two-person visual verification | 4 | 72 | 18 | | | | | | | | | | | |
| | Takes too long to dispense cash | Customer somewhat annoyed | 3 | Heavy computer network traffic | 7 | None | 10 | 210 | 21 | | | | | | | | | | | | |
| | | | | Power interruption during transaction | 2 | None | 10 | 60 | 6 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |

D6-Validate corrective actions

- Proper planning is essential
- Project plan should contains

How it will be implemented?

Where it will be implemented?

Who will do it?

Who will communicate?

To whom it shall be communicated?

- Validation of PCA through measurement.



D7-Preventive actions

- Find similar areas where same process is there and reoccur.
- Horizontal Deployment – implementing the same action in those area so it should not happen again.
- Develop work instructions/update SOP if required.
- Train and educate team with the changes and standard work practice.
- Countermeasure verification for the action taken after a period.




D8- Team and Individual Recognition

- Archive the 8D documents for future reference
- Document the lessons learned and communicate to the related department.
- Before and after comparison results distribution.
- Celebration with the team.
- Recognition for the key person played major role etc.



8D FORMAT

| | | | | | |
|---|-----------------|--|---------------------------------------|-------------------------------------|---|
|  | | HPM CHEMICALS AND FERTILIZERS LTD | | Doc No. | HPM/8D/..... |
| 8D- Report | | | | Date | |
| Supplier | | | | Date Notified | |
| Location | | | | Initial Response | |
| Product Name | | | | Target Close Date | |
| Specification | | | | Actual Close Date | |
| D1- SUPPLIER TEAM MEMBERS NAME | | | D2-PROBLEM DESCRIPITON | | |
| Team Leader | | | What | | |
| Team Members | | | Who | | |
| | | | Where | | |
| | | | When | | |
| | | | Why | | |
| | | | How Much | | |
| D3- INITIAL CONTAINMENT ACTION (CORRECTION) | | | | | |
| | | | | Target Date | Actual date |
| D4- IDENTIFY PROBLEM ROOT CAUSE (WHY WHY ANALYSIS) | | | | | |
| Why 1 | | | | | |
| Why 2 | | | | | |
| Why 3 | | | | | |
| Why 4 | | | | | |
| Why 5 | | | | | |
| Root Cause | | | | | |
| D5-PERMANENT CORRECTIVE ACTIONS | | | | | |
| Corrective Action Plan:- | | | | Responsible person | |
| | | | | | |
| D6- IMPLEMENTING PERMANENT CORRECTIVE ACTIONS | | | | | |
| | | | Resp. By | Target date | |
| | | | | Actual date of Completion | |
| D7- PREVENTIVE RECCURENCE | | | | | |
| Horizontal Deployment Actions | | Resp. By | Preventive Actions | Target Date | Actual Date of Completion |
| | | | | | |
| Doc Review:- | | Control Plan <input type="checkbox"/> | FMEA <input type="checkbox"/> | Flow Chart <input type="checkbox"/> | Prod./Work Instuc. <input type="checkbox"/> |
| D8- TEAM AND INDIVIDUAL RECOGNITION | | | | | |
| Date | Key Player Name | Award or Recognition | Congratulation Note to Team Members:- | | |
| | | | | | |





Thank you