

# Failure Mode Effects Analysis (FMEA) and Root Cause Analysis (RCA)



The FMEA is a design tool used to systematically analyze postulated component failures and identify the resultant effects on system operations.

Failure Mode and Effects Analysis (FMEA) is methodology designed to identify potential failure modes for a product or process, to assess the risk associated with those failure modes, to rank the issues in terms of importance and to identify and carry out corrective actions to address the most serious concerns. **The FMEA is a living document. Throughout the product development cycle change and updates are made to the product and process.** If we implement FMEA in real spirit, our internal process rejections, customer complaints will be minimised and product, systems performance will be improved effectively to achieve business excellence.

It can contribute to improved designs for products and processes, resulting in higher reliability, better quality, increased safety, enhanced customer satisfaction and reduced costs. The tool can also be used to establish and optimize maintenance plans for repairable systems and/or contribute to control plans and other quality assurance procedures. It provides a knowledge base of failure mode and corrective action information that can be used as a resource in future troubleshooting efforts and as a training tool for employees.



## LEARNING OUT COME

Upon completion of this training, participants will be able to:

- ◆ Responsibility, Monitoring and Evidence of FMEA
- ◆ How to differentiate between risk / special requirements / critical items / key characteristics / root cause analysis
- ◆ How to identify & monitor risk / special requirements / critical items / key characteristics
- ◆ How to apply FMEA for preventing adverse effects

## COURSE OUT LINE

- ◇ Review – Design FMEA Objectives, Functions and Requirements
- ◇ Brainstorm potential failure modes, list potential failure modes and its effects, Skills and Tools, assign the severity ranking which should be based on consequences of failure
- ◇ Assign the occurrence ranking, Assign detection ranking based on the chance of detection prior to failure
- ◇ Calculate the SOD (Severity x Occurrence x Detection) number or risk priority number (RPN)
- ◇ Develop action plan to reduce vital RPNs (Above set baseline)
- ◇ Calculate RPN again based on improvements, Mistake Proofing

## METHODOLOGY

- ◆ Question and Answer sessions
- ◆ Instructor Led Training
- ◆ Regain of knowledge from previous trainings
- ◆ Role play and live case studies
- ◆ Group Discussions

## Brief Introduction of TnQS

TnQS (Registered as RELEVANT TRAINING AND QUALITY SOLUTIONS) has been established in India (Hyderabad) with an aim to achieve global identity as India's major Organization to bring paramount solutions for Quality Management Systems and Product Safety of Worldwide Standards.

With a spectrum of well-versed and experienced backup of more than 60 distinguished auditors, We put forward our Training and Consulting services for ISO 9001, ISO14001, ISO/TS 16949, HACCP, ISO 22000, ISO 27001, BS 7799, SA 8000, OHSAS 18001, WHO-GMP, GLP, GPP, CE Mark, PED, ADW 2000, FAMIQS, NAAC, NBA, EMI / EMC Training, Lean Manufacturing and Process Improvement etc. not only across India but also to Middle East and ASIAN countries.

### WHO TO ATTEND

- ◇ Senior and middle management executives Professionals who want to understand Core Tools
- ◇ Quality Professionals
- ◇ Production Managers
- ◇ Process Managers
- ◇ Engineers etc.,
- ◇

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