Roadmap (Design and Process)  

10 Steps to Improve DFMEA  

FMEA Limitations  

Linkage of QFD

Ranking Criteria for Process FMEAs  

DFMEA Quality Objectives  

Benefits of DFMEA  

FMEA Value of Process FMEA  

FMEA Development Process and Administration  

FMEA Process  

Introduction  

The Reason for doing FMEA  

What is an FMEA  

Types of FMEA  

FMEA Purpose  

Value of Process FMEA  

FMEA Development Process and Administration  

FMEA Process  

Ranking Criteria for Process FMEAs  

DFMEA Quality Objectives  

Benefits of DFMEA  

FMEA Roadmap (Design and Process)  

10 Steps to Improve DFMEA  

FMEA Limitations  

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Contents  

• Understanding the basics of FMEAs and risk assessment  

• Applying key factors for effective FMEAs  

• Providing excellent FMEA facilitation  

• Implementing a “best practice” FMEA process

The overall system for both design and process should be organized, monitored and co-coordinated by a senior manager with authority to implement change. Procedures need to be established to ensure that design and process FMEAs are carried out and that a method of sign-off approval is in operation. An FMEA is generally carried out as a team activity. Design managers should ensure that design and process FMEAs are carried out and that a method of sign-off approval is in operation. An FMEA is generally carried out as a team activity. Design managers should ensure that FMEAs are used in all design reviews and that FMEAs are carefully monitored to check that all relevant aspects of the design have been adequately covered.

ISO/TS 16949:2002(E) requires that the product design output shall be expressed in terms that can be verified and validated against product input requirement. The product design output shall include

• Design FMEA reliability results  

• Product special characteristics and specifications  

• Product error proofing as appropriate  

• Product definition including drawings or mathematically based data  

• Product design review results, and  

• Diagnostic guidelines where applicable.

The FMEA process started in the mid ’60’s, primarily as a result of the Apollo Space programme. In 1974, the American Navy created “Mil-Std-1629” procedure for performing a Failure Mode and Effects Analysis for Shipboard Equipment. It gave FMEA the first opportunity to go into the area of military contracting. In the late 1970s, the automotive industry started to use FMEA as a part of its product design and manufacturing review programme. Beginning in the early 1980s, the skyrocketing of product liability cost and non-ending court activities made the FMEA become a vital tool in the prevention of failures. Since then, the FMEA process has caught on among the Fortune 500 companies. This has been transitioned from in-house concerns to supply base. In 1993, the Automotive Industry Action Group (AIAG), which includes Ford, GM, Chrysler, and the American Society of Quality Control adopted a standard approach to FMEAs and brought out a reference manual. All FMEAs focus on design, whether it is of the product, or process. FMEA is an analytical technique used to ensure that potential problems in product design or process have been considered and addressed. Ideally, a Design FMEA should be carried out in the early stages of design and a Process FMEA should be carried out before tooling or manufacturing equipment is purchased. FMEAs are also required to be done by tooling and equipment manufacturers. FMEA can also be applied to non-production areas. FMEA is an important activity within any company and its implementation needs to be given careful thought to be fully effective. Informal surveys with more than 100 companies reveal that the majority of people using FMEAs do not perceive them as powerful tools but as something that must be done to meet a quality audit or customer requirement. One of the major reasons for this perception is that most FMEAs are performed and used incorrectly

Following four broad success factors are critical to uniformity of success in application of FMEAs in any company

- Understanding the basics of FMEAs and risk assessment
- Applying key factors for effective FMEAs
- Providing excellent FMEA facilitation
- Implementing a “best practice” FMEA process

The workshop would be found relevant and useful for practicing engineers and managers from marketing, design, manufacturing, planning, service, and quality assurance.

Objective

The two - day workshop will allow the participants to understand first hand the process of doing FMEAs. It shall allow them to understand the objectives, benefits and limitations of FMEAs. Participants will also learn how to interpret and implement FMEAs. They will also be able to appreciate role of FMEAs in risk analysis with the help of examples.

Participants’ Profile

The workshop would be found relevant and useful for practicing engineers and managers from marketing, design, manufacturing, planning, service, and quality assurance.

Faculty

The workshop has been conceived, structured and will be conducted by Mr. Shanti Sarup, an ex Tata Motors senior executive who has conducted a number of successful programmes both for Tata Motors engineers and managers as well as for its supply base and other organisations. He is a certified Quality Engineer from RTVUV and a trained lead assessor for QS9000. Mr. Shanti Sarup also expert in topics such as SPC, Seven Basic Tools of Problem Solving, Variation Control, Problem Solving Process, Quality Function Deployment, Design of Experiments, Quality Circles, Economics of Quality, Six Sigma, Predictable Quality and FMEA, etc. He has conducted programmes on these topics, for Tata Motors, CII and a number of other organizations.

Dates / Schedule of Sessions: 8 – 9 October 2013

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>8 October 2013</td>
<td>Registration 9:15am to 9:30am</td>
</tr>
<tr>
<td>8 – 9 October 2013</td>
<td>Sessions 9:30am to 5:30pm</td>
</tr>
</tbody>
</table>

Venue

Orbett Hotels, 1238/2, Apte Road, Deccan Gymkhana, Pune - 411 004
Tel: 02030244800/01/02

Participation Fees (on non-residential basis)

<table>
<thead>
<tr>
<th>Type of Organisation</th>
<th>Fees per Participant</th>
<th>Service Tax (12.36%)</th>
<th>Total Participation Fees</th>
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<tbody>
<tr>
<td>CII Members (Large &amp; Medium)</td>
<td>Rs 9500/-</td>
<td>Rs 1174/-</td>
<td>Rs 10674/-</td>
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<tr>
<td>CII SSI Members</td>
<td>Rs 7500/-</td>
<td>Rs 927/-</td>
<td>Rs 8427/-</td>
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<tr>
<td>Non Member Companies</td>
<td>Rs 10500/-</td>
<td>Rs 1298/-</td>
<td>Rs 11798/-</td>
</tr>
<tr>
<td>Management/Technical/Research Institutions</td>
<td>Rs 7500/-</td>
<td>Rs 927/-</td>
<td>Rs 8427/-</td>
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</tbody>
</table>

Fees include participation, course material (hard copies), working lunch and tea / coffee. Advance payment of fees is to be drawn in favour of “Confederation of Indian Industry”. A discount of 10% will be admissible on three or more nominations from an organization only where payment of fees is received in advance (on or before 1 October 2013). Participation fees is non-refundable/ non-adjustable against any other programme of CII, but change in nomination(s) is accepted.
Registration

Prior registration for participation by sponsoring companies is necessary.
Number of admissions will be limited to 25.
Certificate of Participation will be given to the participants.

Nominations & Enquiries

S. D. Puranik, Executive Director
CII Naoroji Godrej Centre of Excellence, Godrej Station-Side Colony
Opposite Vikhroli Railway Station, Vikhroli (East), Mumbai – 400 079
Tel : (022) 2574 5146 / 5148 Fax : (022) 2574 3361
Email : s.d.puranik@cii.in / ciicoe@vsnl.net

Workshop on
Failure Mode and Effects Analysis (FMEA)
8 – 9 October 2013 : Pune

We nominate the following executives / managers to attend the Workshop

<table>
<thead>
<tr>
<th>Sr No</th>
<th>Name</th>
<th>Designation</th>
<th>Email / Mobile Number</th>
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<td>1</td>
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Our Cheque / Demand Draft no ____________________ dated ___________ for Rs. ______________ drawn in favour of "Confederation of Indian Industry" payable at Mumbai is enclosed.

Name: ____________________ Designation: ________________

Organisation: _________________________________________

Address: _____________________________________________

_____________________________________________________

CII Membership No: ____________________ Tel.: ________________

Fax : ____________________ Email : 

Signature & Stamp of the Nominating Authority: ____________________

- Participation fees is non - refundable / non-adjustable against any other programme of CII. However change in nomination(s) is acceptable.
- Workshop is non - residential.