



# WHAT ARE THE STEPS TO CONSTRUCT A FAILURE MODE AND EFFECT ANALYSIS?

# STEPS TO CONSTRUCT FMEA

1

**ASSEMBLE A CROSS-FUNCTIONAL TEAM**

2

**IDENTIFY THE SCOPE OF FMEA**

3

**FILL IN THE IDENTIFYING INFORMATION AT THE TOP OF YOUR FMEA FORM**

4

**IDENTIFY THE FUNCTIONS OF YOUR SCOPE & PROCESS STEPS**

5

**FOR EACH FUNCTION, IDENTIFY THE POTENTIAL FAILURE MODES**

6

**FOR EACH FAILURE MODE, IDENTIFY THE POTENTIAL FAILURE EFFECTS**

7

**DETERMINE HOW SERIOUS EACH EFFECT IS**

8

**FOR EACH FAILURE MODE, DETERMINE ALL THE POTENTIAL ROOT CAUSES**

9

**FOR EACH CAUSE, DETERMINE THE OCCURRENCE RATING**

10

**FOR EACH CAUSE, IDENTIFY CURRENT PROCESS CONTROLS**

11

**FOR EACH CONTROL, DETERMINE THE DETECTION RATING**

12

**CALCULATE THE RISK PRIORITY NUMBER (RPN)**

13

**IDENTIFY RECOMMENDED ACTIONS**

14

**CONTINUE TO RE-EVALUATE THE RISKS AND FAILURES IN YOUR BUSINESS PROCESS**

# 1. ASSEMBLE A CROSS-FUNCTIONAL TEAM

## ASSEMBLE A CROSS-FUNCTIONAL TEAM OF PEOPLE WITH DIVERSE KNOWLEDGE

### MANUFACTURING FUNCTIONS OFTEN INCLUDED ARE:

DESIGN

MANUFACTURING

QUALITY

TESTING

RELIABILITY

MAINTENANCE

PURCHASING  
(& SUPPLIERS)

SALES

MARKETING

CUSTOMER  
SERVICE

### SERVICE INDUSTRY FUNCTIONS INCLUDED ARE:

OPERATIONS

TRAINING

FINANCE

MIS

QUALITY

TRANSITION

CUSTOMER  
SUPPORT

## **2. IDENTIFY THE SCOPE OF FMEA**

**IS IT FOR CONCEPT, SYSTEM, DESIGN, PROCESS, OR SERVICE?**

**WHAT ARE THE BOUNDARIES?**

**HOW DETAILED SHOULD WE BE?**

**USE FLOWCHARTS TO IDENTIFY THE SCOPE AND TO MAKE SURE EVERY TEAM MEMBER UNDERSTANDS IT IN DETAIL**

### 3. FILL IDENTIFYING INFORMATION

#### **FILL IN THE:**

- **PROJECT TITLE**
- **DATE WHEN THE FMEA WAS CREATED**
- **FMEA TEAM MEMBER NAMES AND**
- **THE NAMES OF INDIVIDUALS INVOLVED IN CREATING FMEA WORKSHEET**

## **4. IDENTIFY THE FUNCTIONS OF YOUR SCOPE**

**IDENTIFY WHICH FUNCTIONAL DEPARTMENTS WOULD YOU BE CREATING YOUR FMEA**

**YOU CAN ALSO DOCUMENT THE PROCESS STEPS**

## 5. IDENTIFY THE POTENTIAL FAILURE MODES

**BRAINSTORM THE POTENTIAL FAILURE MODES OF EACH STEP OR EACH FUNCTIONAL DEPARTMENT**



## 6. IDENTIFY THE POTENTIAL FAILURE EFFECTS

**IDENTIFY THE POTENTIAL FAILURE EFFECTS ON:**

**SYSTEM**

**RELATED SYSTEMS**

**PROCESS**

**RELATED PROCESSES**

**PRODUCT**

**SERVICE**

**CUSTOMER**

**REGULATIONS**

**"WHAT DOES THE CUSTOMER EXPERIENCE BECAUSE OF THIS FAILURE?"**

**"WHAT HAPPENS WHEN THIS FAILURE OCCURS?"**



## 7. DETERMINE HOW SERIOUS EACH EFFECT IS

**THIS IS THE SEVERITY RATING**

**SEVERITY IS USUALLY RATED ON A SCALE FROM 1 TO 10, WHERE 1 IS INSIGNIFICANT AND 10 IS CATASTROPHIC**