

FMEA—Failure Mode and Effect Analysis— Optimizing Improvements

You have identified a critical asset and are ready to evaluate your organization's ability to prevent failure and unplanned downtime. You are aware, that if you can increase the mean time between failures of the components, the life cycle cost and cost of goods sold will decrease significantly.

Your organization has limited resources and you need to prioritize their efforts to minimize the risk of downtime and maximize business returns.

How would you proceed?
What tool could you use?

Failure Mode Effect Analysis is an effective method to analyze current and future asset performance.

MET DEMAND offers training on how to use **FMEA** to prioritize actions to lower the risk of failure. The **FMEA** process uses the input of the participants to score the severity of the failure, rate of failure and the ability to detect the failure, these are combined and a **Risk Priority Number** is calculated. The participants will understand the **FMEA** process and immediately apply the learning to plant equipment and their components. This approach provides participants with immediate reinforcement on the use of **FMEA** in their work environment.

FMEA works for all process equipment independent of the products which are being produced or the size.

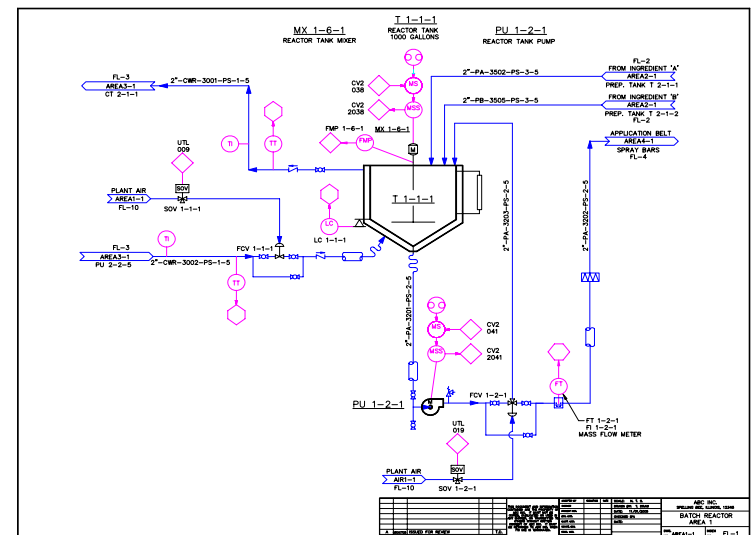
If you are facing productivity losses due to issues in your maintenance or operation and would like more information on how to achieve higher productivity by identifying and eliminating production losses, please contact us at www.demand.com or 1-888-427-4330.





FMEA Worksheet Example

Process System	Potential Failure Modes	Potential Effects Due to Failure	Severity	Potential Causes	Occurrence	Process Control	Detection	RPN	Improvements	Detection	New RPN
Starch tank agitator	Bearing failure	Scrap, lost production	8	Asymmetrical loading	7	12 week PM inspection/lubrication	10	560	Vibration Analysis	1	56
Starch tank agitator	Bearing failure	Scrap, lost production	8	Rotating element imbalance or damage	3	12 week PM inspection/lubrication	10	240	Vibration Analysis	1	24



Root Cause Failure Analysis— Eliminating Failure

Root Cause Failure Analysis (RCFA) is a basic technique and skill required to evaluate and determine why a failure occurred.

MET DEMAND offers a very simple and easy to use RCFA process which is based on the scientific method. This method is simple and understood by the work force because the basics were taught in high school science classes.

This is a one-day training course which teaches two basic fundamentals: Root Cause Failure Analysis (RCFA) and Return on Investment (ROI).

RCFA uses the scientific method by

- stating a hypothesis,
- testing the hypothesis,
- analyzing the results, and
- modifying the hypothesis.

This process is done for every known cause until the cause which best fits the failure data is identified as the root cause.

Since a failure occurred, costs have increased and customer service levels have decreased. It is very important to understand how to convert this to justification. This is done by identifying costs which are directly tied to the failure and discussing some indirect costs which are not so obvious but are caused by the failure. This total is used against the investment cost of eliminating the root cause to determine [Return on Investment](#).

After the participants are trained on the process, the participants will be asked to complete a RCFA and ROI for an event which has occurred at your facility. This provides the participants with an immediate application and reinforces the use of this process in their work environment.

This process works for all plants independent of the products which are being produced or the size of the facility. If you are facing productivity losses due to reoccurring reliability issues, would like more information on how determine the root cause of these issues and eliminate them, please contact us at www.metdemand.com or call 888-427-4330.