

FMEA Failure Mode Effect Analysis

This past week during our Extreme Plant Makeover assignment the organization was presented with a huge potential opportunity to expand their business. Tons of meetings and discussions have been held to determine capability and viability of the accepting the challenge ... But the President was getting tired that the meetings were not resulting in any traction. Plus the customer needed confirmation that the transition could be done seamlessly since the project would include the transfer of some critical equipment.

As I mentioned to the team that we needed to complete a FEMA exercise ... I just got a bunch of dumb looks. FEMA is a powerful tool and should be employed whenever a significant new project or process is being introduced.

History

The FMEA is not a new tool. The aerospace industry used the FMEA during the Apollo missions in the 1960s. Later in 1974 the US Navy developed MIL-STD-1629 which discussed the proper use of the tool. And around this time the automotive folks latched onto the tool and never let go. Today, the FMEA is universally used by many different industries.

Types of FMEA

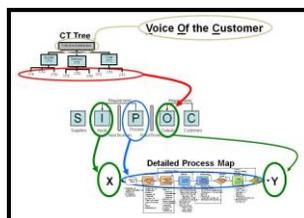
There are three main types of FMEA in use today.

1. System FMEA: Used to analyze complete systems and/or sub-systems during the concept of design stage.
2. Design FMEA: Used to analyze a product design before it is released to manufacturing.
3. Process | Project FMEA: Used to analyze manufacturing and/or assembly process.

The Process FMEA is probably the most commonly used and is also the least complex, in most cases.

10 steps to creating a FMEA

1. List the key process steps in the first column. These may come from the highest ranked items of your C&E matrix.
2. List the potential failure mode for each process step.
In other words, figure out how this process step or input could go wrong.



Where Lean Thoughts can become Reality

