FMEA Case Study

Clint Guymon

Brigham Young University

1st Jan, 2025

created in Curvenote

Keywords Spiritual Safety, Process Safety, Chemical Engineering, Risk Assessment

Learning Outcomes

- Perform a Failure Mode and Effects Analysis (FMEA) by itemizing failure modes for specific equipment components.
- Analyze the consequences of each failure mode on the overall system and personnel safety.
- Assign risk rankings to failure modes and propose specific engineering or administrative controls to reduce risk.

Reading

- Read about an FMEA example on the CSB website.

Rocket Motor Manufacturing and Pratt and Whitney Space Propulsion in San Jose, CA

Download lecture freeform here: https://github.com/clint-bg/safetyinjc/blob/main/physical/supportfiles/311 FMEA Case Study.pdf

Action Items

1. Review the partial FMEA for seat-belt pretensioner manufacturing and identify a potential failure mode not listed in the table; complete a new row for the table including the hazard type, consequence, and rank.
2. Explain the difference between a safeguard and a recommendation in an FMEA table.