Example of Point Estimate Risk Calculations in an FMEA

Machine/Process: Onboard compressed air system

Subject: 1.2.2 Compressor control loop

Description: Pressure-sensing control loop that automatically starts/stops the compressor based on system pressure (starts at 95 psig and stops at 105 psig)

Next higher level: 1.2.2 Compressor subsystem

Failure Mode	Effects			Causes	Indications	Safeguards	Risk Prioritization			Recommendations/Remarks
	Local	Higher Level	End				Frequency	Cost	Risk	
A No start signal when the system pressure is low	Open control circuit	Low pressure and low air flow in the system	Interruption of the systems supported by compressed air	Sensor failure or miscalibration Controller failure or incorrect setting Wiring fault Control circuit relay failure Loss of power for the control circuit	Low pressure indicated on air receiver pressure gauge Compressor not operating (but has power and no other obvious failure)	Rapid detection because of quick interruption of the supported systems	0.1/y	$500	$50/y	Consider a redundant compressor with separate controls Calibrate sensors annually
B No stop signal when the system pressure is high	•	•	•	•	•	•	•	•	•	•
	•	•	•	•	•	•	•	•	•	•
	•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•	•
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