Day 4 - Rotating Machinery Reliability Excellence Powerpoints 83 Slides

See details and download at
http://www.feedforward.com.au/Powerpoints/Reliability/machinery_reliability_Excellence.htm

RISK REDUCTION STRATEGIES IN ROTATING MACHINERY DESIGN AND OPERATION

Understanding and Measuring Risk
Chance vs. Consequence Risk Reduction Methods
Applying Risk Reduction During Design
Understanding and Measuring Risk
What is a High Potential Incident?
Similarity between Safety Incidents and Equipment Failures
Applying Risk Reduction
Which Risk Reduction Methods are Best?
Risk Management Process

DESIGN AND OPERATING COST TOTALLY OPTIMISED RISK

Life Cycle Operating Cost
Failure Cost Impact Calculations
Design and Operating Costs Totally Optimised Risk (DOCTOR)
Life Cycle Risk Management Strategy

LIFTING LIFETIME RELIABILITY

Failure Mechanisms
Equipment Reliability Overview
Reliability Mathematics
Measuring Reliability for Components – Weibull Plot
Calculating The Reliability of Systems
Reliability of Series Systems (i.e. Machines)
Reliability of Parallel Systems (i.e. Machines)
Crow – AMSSA Reliability Growth Plotting
Reliability Implications for Maintenance
Failure Mode Effects Analysis (FMEA) Fundamentals
Failure Mode Effects Analysis
Reliability Centred Maintenance fundamentals
The RCM Process and Method
Choosing of Maintenance Ty[illegible]- Simplified RCM Method
Activity 1 – FMEA exercise

ROOT CAUSE FAILURE ANALYSIS (RCFA)

Root Cause Failure Analysis Process
 . RCFA fundamentals
 . Finding the Evidence and Proof
 . Applying RCFA in the Workplace
How RCFA Contributes To Improvement
RCFA is Fundamentally about Finding the Cause Behind the Cause
Cause Behind the Cause - Latent Thoughts
The Real Cause?... Latent Values
The RCFA Process
Data Gathering Following an Incident
Data Analysis to Release Information
Extra Clues for Causes
Developing and Implementing Solutions
Operating and Maintenance Records for Reliability Improvement
Importance of Keeping Accurate Records and History
Making RCFA ‘Live’ in the Workplace
Cross-functional Teams
For the Shopfloor – The 5 Whys method

Operator and Maintainer Buy-in for Improvement
Activity 2 - RCFA Exercise

MANAGING ASSET INTEGRITY

Asset Management in a Nutshell
Rotating Equipment Asset Integrity
Control of Asset Integrity
Asset Integrity Means…
 . Design Integrity
 . Technical Integrity (mechanical integrity)
 . Operating Integrity
Threats to Technical Integrity
Commonly Reported Areas of Inadequate Process Safety Programs
Rotating Equipment Startup Delays
Technical Integrity Assurance
Taking Integrity into Operations
Use Effective Asset Integrity Processes
Use Structured Review Audits
Structured Review Audit Objectives
Measuring and Rating Objectives
Machine Integrity Inspection Guide Notes
Example Model for a Plant Tour
Reciprocating Compressor Example
No Equipment Management Oversight
Activity 3 - Plans and Actions to Improve Rotating Machinery Reliability

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rotating machinery,reliability excellence,powerpoints,powerpoint course,risk assessment,machinery reliability, rcfa, integrity, reduction,operating risk reduction,asset, management,root cause analysis,equipment maintenance,equipment design,cause failure analysis, totally optimised,cause failure, mode effects