

Day 2 - Rotating Machinery Reliability Excellence Powerpoints 90 slides

See details and download at

http://www.feedforward.com.au/Powerpoints/Reliability/machinery_reliability_Excellence.htm

MECHANICAL EQUIPMENT AND MACHINERY STANDARDS

6 Mechanical Equipment Care Standards to Set, Use and Keep Using

Balanced Rotors and Balancing Standards

Rotating Equipment Balancing

Shaft Coupling Problems

Appropriate Key Length for Assembly

Coupling Bolts and Washers

Specification for Coupling Assembly

Burred Shaft - Either on end or next to bearing face

Activity 1 Balancing Case Study

Effects of Shaft Misalignment

Causes of Shaft Misalignment

Coupling Flexing Points Locations

Accuracy and Limits for Alignment

Precision Alignment Practice

- . Pre-Alignment Checks

- . Rough-In Alignment

- . Precision Alignment

- . Alignment Records

Off-line to Running (OL2R) Machine Movement

Case Study 2 - Important Factors when Doing Shaft Alignments

CONDITION MONITORING METHODS FOR ROTATING MACHINERY

Range and Choice of Condition Monitoring Methods

Condition Monitoring Degradation

Selecting Condition Monitoring using the Three Point Inspection Frequency

Machine Shape Deflection

VIBRATION ANALYSIS

Rotating Machinery Vibration

Causes of Vibration

Bearing Vibration Causes

ISO Standards for Vibration Evaluation

Allowable Vibration Severity

Vibratory Condition Based Monitoring

Rotating Shaft Vibration Measurement

The Value of a Baseline Vibration Signature

Rotating Bearing Vibration Displays

TRIBIOLOGY AND LUBRICATION ANALYSIS

Wear Particle Analysis

Analysing Properties of Lubricants

Sustaining Lubricant Health

Lubricant Management Programs

THERMOGRAPHY

ROTATING EQUIPMENT NON-DESTRUCTIVE TESTING

Radiography (X-Ray, Gamma Ray)

Magnetic Particle Inspections

Dye Penetrant Procedures

Ultrasonic Scanning (thickness, cracks, inclusions, etc)

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Visual Inspections (human eyes, borescope, etc)

Performance Monitoring (human senses, temperature, pressure, pH, etc)

RELIABILITY AND MAINTENANCE STRATEGY MIX

The Six Purposes of Maintenance

Equipment Availability as a Function of Maintenance Costs

Asset Management & Business Performance

Reliability and Maintenance Best Practice Assessment

Plant and Equipment Life Cycle

When Operating Costs are Committed

Component & System Reliability Modelling

Reliability of Parts and Components

Reliability of Systems of Parts and Components (i.e. Machines)

Equipment Reliability Strategies

Failure Mode and Effects Analysis (FMEA)

Equipment Criticality

Rotating Equipment Maintenance Strategy PM - PdM - Replace - Breakdown Mix

Operator Driven Reliability

A Strategy for Equipment Reliability

Maintenance KPIs and Outcomes

Maintenance Quality Improvement

Use Visual Management for Feed Forward Control of Performance

Activity 4 - RE Life-Cycle Reliability Strategy

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rotating machinery, reliability excellence, powerpoints, powerpoint course, equipment vibration, equipment monitoring, machinery maintenance, shaft reliability, maintenance management, maintenance strategy, mechanical equipment, condition monitoring, shaft alignment, bearing reliability, coupling alignment, reliability maintenance

