

## Scientech's 2010 Symposium Fleet Asset Management & Optimization Solutions

August 17-20, 2010 Clearwater Beach, Florida

## Power Plant Equipment Health Reporting

Presented By: Joe Passarelli – Insert Key Solutions Jeff Huston – Insert Key Solutions





- Equipment Health Reporting Goals
- Health Reporting Scope
- How the Pieces Fit Together
- Focus Area: Web-Based PdM Tools
- Consumers of Health Reporting Data
- Data Collection Process
- Web-Based PdM Examples
- Wrap-up & Questions



- Standardized Process
  - Tools must match Procedures and Definitions
- Share Information Across the Station/Enterprise
  - Simple Communication
  - Knowledge Capture
  - Cross-System/Station/Fleet Condition Comparison
  - Eliminate Standalone DBs/Excel/Word Documents
  - Promote Data Centralization
- PdM Program Visibility

# **Equipment Health Reporting Goals (Cont.)**



- Automation Required Do more with less.
- History Tracking Failure Database
- Automated Performance Indicator (PI) Reports
  - Extend Beyond Management Reporting
  - Health Report is Bi-product of Process
- Maintain Accountability
- "It's All About The Actions."
- Improved Reliability and Availability

# **Health Reporting Scope**



#### Equipment Condition Reporting

- Communication Through Technology Exams
  - Advanced Pattern Recognition PdP
  - Thermal Performance PMAX
  - PdM Technologies Vibration, Oil, Thermography
- Process Data and Data Historian Trending
- Extensive Integration Capabilities

## Equipment Health Assessment and Status

- Self-Service Information
- Equipment Assessments
- Case Histories

## Real-Time Status and Notification

- Drill into Supporting Data
- Site and Fleet Views
- Email and Pager Notifications

# **Health Reporting Scope (Cont)**



### Equipment Performance Monitoring Plans

- Integrated into Health Reporting
- "One Plan" Eliminate Gaps Between Maintenance Basis, PdM, and Systems Monitoring
- Quantifiable performance criteria Alerts/Alarms
- Combine Plan and Actual Monitoring
- Identify Gaps and Risk in Monitoring Plans
  - "What you should be monitoring, not what you can monitor"
- Action Levels and Recommendations

## Reports and KPIs

- Generated Automatically
  - Action Levels, Recommendations, Cost / Benefit Analysis, etc.

## **Focus Area: Web-Based PdM Tools**



- Web-based software tools have been developed and are being implemented for automating condition-based maintenance, performance monitoring, and health reporting.
- Integrated with existing applications such as diagnostic systems and the CMMS.
- Primary users of these types of programs are PdM specialists & component engineers
- Applying Web-Based technology creates open access to PdM data and analysis.
- Tools aimed at integrating the technical results of the various PdM and performance monitoring technologies.

# **Consumers of Health Reporting Data**





# **PlantIQ Data Collection**





## **Web-Based Examples**



- The number of technologies displayed on the matrix can be adjusted as needed.
- A Switchyard Specialist may focus on Dissolved-Gas-In-Oil testing and Thermography.
- A Rotating Equipment Specialist may choose Vibration, Lubricating Oil Analysis, Thermography, and Process Parameters.

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#### 🚟 PdP Architect - [Model Testing]







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# Wrap-up



- Overall Equipment Health Determination/Tracking
  - How else is it tracked, MS Excel/Access DB?
- Improves Decision-Making
  - Eliminates making decisions based on one tool/technology
- Integrates Diagnostic Data with "Softer" Data
  - Work Management/History, Failure History, etc.
  - Timeliness of Information
- Stores Results/Case Histories
  - Short/Long Term Trending
- Provides Accountability/Process Metrics
  - Automated KPIs/Reports
- Implements Component Monitoring Plans
  - Extension of the Maintenance Basis
  - Alert/Alarm Levels and Actions Steps





