ASSET MANAGEMENT:TIME FOR AN INTEGRATED APPROACH

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OBJECTIVE

- Acknowledge current situations
- Address basis for advancing
- Discuss elements of advancing:attention to technical information, integration, automation
- Identify status of enhancement

Overarching Situation: US Operating Fleet

- Recurrent Plant Capacity Factors Exceeding 90 %

Competitive Operating Costs

Unattractive Situations

- Lower Quartile
- Complacency

“Asset Management “

- Attention to Equipment Reliability
- Evaluations and Setting of Priorities
- Related Work Management Actions

Precedent Industries

- Fossil Fueled Power Plants
- Steel Mills
- Oil Refineries
- Metals Industry
- Mining
- Pulp and Paper
- Food Processing

Motivation for Enhancement: Feedback from Users

What I am Hearing(1)

- People are searching for “optimized maintenance solutions “
- Belief that maintenance may be one remaining area where there is important cost reductions to be achieved
- Need a better focus of maintenance expenditures on critical systems and components

What I am Hearing(2)

- Need integration between engineering and work management
- We have lots of room to improve in the effectiveness of processes for work management, equipment reliability , and supporting systems
- Interested in good,accurate assessments

What I am Hearing(3)

- Are performance monitoring solutions correct ?
- Is the “run to failure” category of components being evaluated well and populated fairly ?
- Need a better “slicing and dicing” of the information collected

What I am Hearing(4)

- Need an ability to monitor program effectiveness once we implement
- Experience is being lost due to workforce retirements and project competition
- Need to get better at capturing knowledge and building an organizational memory

What I am Hearing (5)

- Utilities are struggling with limited maintenance resources…"they are a precious commodity not to be wasted "
- "Preventive maintenance for critical components will likely be larger in number and more frequent than for non-critical"
- About 70 % of preventive maintenance hours are being spent on non-critical components
- About 20 % of a plant's components are classified as "critical "

What I am Hearing(6)

- The majority(60 %) of a plant's components are currently classified as "run to failure" and require no preventive maintenance
- A recent re-review of predictive maintenance practices resulted in over 3100 being altered

Unnecessary Maintenance

- Ineffective use of manpower
- Costly
- May introduce maintenance errors
- Can decrease plant availability
- Can contribute to plant scrams

Insufficient Maintenance

- Long run costly
- Potential safety implications
- Step in in scrutiny by regulators
- Possible impact on plant capacity factors and revenue

Asset Management: Enhancement Targets

- Technical information and evaluation as the driver
- Integration of equipment reliability and work management work processes
- Incorporation of effective technologies
- Attention to nuclear plant as well as balance of plant systems and components

Foundations of the Enhancements

- Technical information collection and assessments as the basis for action
- Automation technology as a valued element to maximize benefits and effectiveness
- Timely and proper work management actions as an outcome

Plant Specific Enhancements

- Work Processes
- Technical Information and Evaluations
- Technology Utilizations
- Productive Implementers

Moving Ahead

- Sequencing of Actions Developed
- Team Development Underway
- Formal Communications Initiated with US Nuclear Utilities
- Follow Up Interfaces Being Planned
- Tailored Outcomes Expected
- Communication of Benefits/Management of Challenges

Representative Benefits

- Plant Capacity Factors Maintained, Enhanced
- Potential for Substantial Maintenance Cost Reductions(millions of dollars annually)
- Systematic ,Repeatable,Integrated Work Processes
- Enhanced Confidence in Technical Evaluations

Representative Benefits

- Rapid Turnaround of Condition Health Assessments
- Central Location of Relevant Technical Information
- Improved Knowledge Transfer to New Personnel
- Technical Staff More Available for Other Work Challenges

Challenges

- Existent Work Processes(??)
- Resistance to Change
- Proper Inclusion of Implementers Early-On
- Recognition of “why”
- Responsiveness to Staff/User Needs

Challenges

- Effective Training of Users and Others
- Senior Executive Buy-In and Involvement
- Effective Start-Up and Implementation
- Creation and Communication of Early Successes
- Formal Attention to Transition Management

Motivation /Review

- Accurate Evaluations Lead to Proper and Properly Timed Asset Management Actions
- Automated Technologies Enhance Speed, Save Valuable Manpower Resources, Provide a Centralized Location for Relevant Information
- Plant Capacity and Work Management Attentions are Worth Millions Annually

Thank You for Your Attention

My Pleasure to Individually Discuss

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