Indian Point 2 Engineering Status

NRC - Con Edison

October 25, 2000

Scope of Presentation

- Engineering Self Assessment — Jim Baumstark, Geoff Schwartz
- AFW SSFA — Peter DeStefano
- Utility Tunnel Assessment — Pat O'Brien
- System Engineering Initiatives — Tom McCaffrey

Engineering Self Assessment

Jim Baumstark
Geoff Schwartz

Engineering Self Assessment (ESA)

- Conducted July 24 – 28, 2000
- Ten Member Team, Con Edison & Industry Personnel
- Focused on Three Specific Areas
  - Engineering Work Quality
  - Availability/Use of Design and Licensing Basis Information
  - Organizational Coordination and Communication

Summary

- Identified Strengths and Weaknesses
- Cross Cutting Issues
- Process Improvements Should Be Accelerated

Engineering Work Quality

- Key Strengths Identified
  - Safety Evaluation Process Improvements
  - Corrective Action Group Review of CR Response Quality
  - Project File Review Team Process
  - Root Cause Evaluations
  - SNSC/CARB Quality Checks

Engineering Work Quality

- Key Weaknesses Identified
  - Performance Indicators do not Adequately Measure Quality
  - Insufficient Feedback Mechanisms
  - Internal Design Review not Fully Effective
  - Safety Evaluation Level of Detail

Availability & Use of Design and Licensing Basis Information

- Key Strengths Identified
  - Accuracy and Completeness in UFSAR and DBD Work
  - Good UFSAR Progress
  - Electronic Availability of UFSAR and DBDs

Availability & Use of Design and Licensing Basis Information

- **Key Weaknesses Identified**
  - Ownership / Accountability for Design Information
  - Configuration Control for Some Design Information
  - Measures for Ongoing Maintenance of UFSAR and DBDs
  - Sensitivity to Impacts on Design and Licensing Basis

Organizational Coordination and Communications

- Key Strengths Identified
  - Interface Agreement Documents
  - Strong Willingness to Engage in Constructive Dialogue
  - Plant Engineering Effectiveness

Organizational Coordination and Communications

- Key Weaknesses Identified
  - Unclear Roles and Responsibilities
  - Processes Based on "Handoffs"
  - Ineffective Work Management Process

Cross Cutting Issues

- Leadership
- Management Modus Operandi
- Sense of Urgency to Improve / Ownership
- Change Management
- Personnel Issues

Follow-Up Action

- Leadership Team Off-Site on August 28 and 29, 2000
- Off-Site Meeting Scheduled for October 31, 2000

Follow Up – Corrective Actions

- Specific Weaknesses and Cross-Cutting Issues Align With Strategic Focus Areas
  - Fundamentals and Standards
  - Product Quality
  - Organization and Resources
  - Work Management
- Issues Prioritized, Corrective Actions Scheduled and Being Managed

Follow Up – Corrective Actions Examples

- Near-term (Now and Next Few Months)
  - Leadership/Expectations
  - Safety Evaluations/Performance Indicators
  - Design/Licensing Basis Ownership, Accountability, Sensitivity
  - Roles and Responsibilities

Follow Up – Corrective Actions Examples

- Longer-term (Next Year and Beyond)
  - Change Management
  - Personnel Issues
  - Engineering Product Quality
  - UFSAR, DBD Maintenance

Auxiliary Feedwater Safety System Functional Assessment

Peter DeStefano

Auxiliary Feedwater System Safety System Functional Assessment

- Conducted in February 2000 – Three-Fold Purpose
- Team of Contracted Experts and Con Ed Personnel
- Emphasis on Confirming Functionality
- Review of Design, Operational and Maintenance Records
- Field Inspection

Assessment Activities

- Operational Focus
- NFSC Oversight
- Risk Insights

Major Conclusions

- No Conditions Identified that Would Defeat AFW Ability to Perform Intended Safety Functions
- FSAR Verification Program Comprehensive
- AFW Risk Ranking Consistent
- Corrective Action Effectiveness

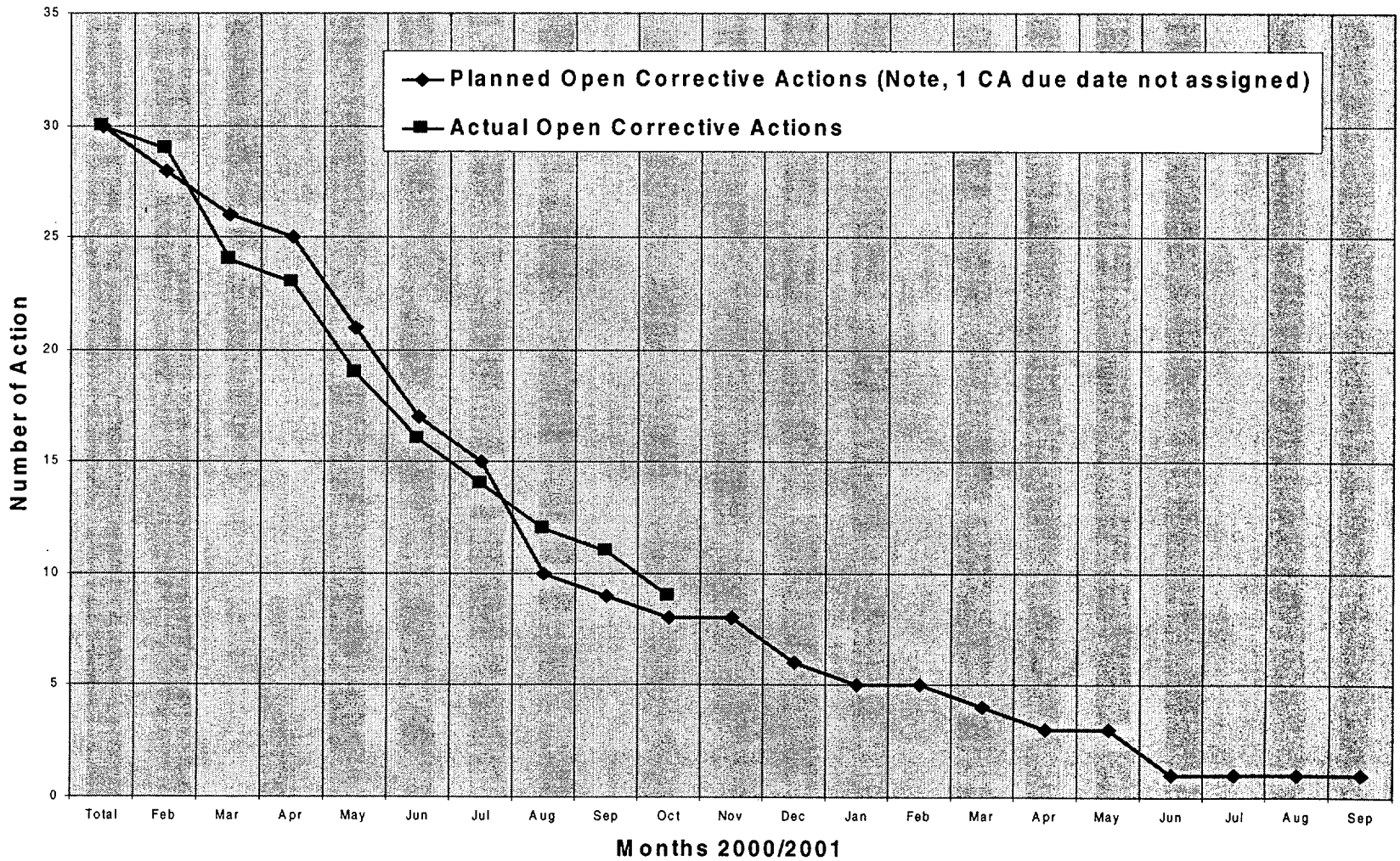
Findings

- Calculations
- Engineering/Plant Information Gaps
- Corrective Action Effectiveness
- ISI/IST Boundary Designation

Condition Report Status Open Items

- 31 Corrective Actions Generated
- 21 Closed

AFW SSFA Condition Report Corrective Actions



Utility Tunnel Assessment

Pat O'Brien

Unit 1 Utility Tunnel

- Material Condition Assessment
- Structural
- Piping
- Electrical

Evaluation of Safety Significance

- Risk Input from Two Tunnel Systems
  - 13.8 kV Feeders
  - High Pressure Fire Water
- No Contribution to Initiating Events
- Both Very Low Risk Impact

Corrective Action Plan
Near Term

- Tunnel Structure
  - Grout Injection
- Piping
  - Replace Section of Fire Water Piping
  - Replace Degraded Piping Supports

Corrective Action Plan
Longer Term

- Electrical
  - Prioritized Replacement of Conduit, Cable and Supports
- Mechanical
  - Prioritized Replacement of Piping and Supports
- Tunnel Preservation

System Engineering Initiatives

Thomas McCaffrey

System Engineering Initiatives

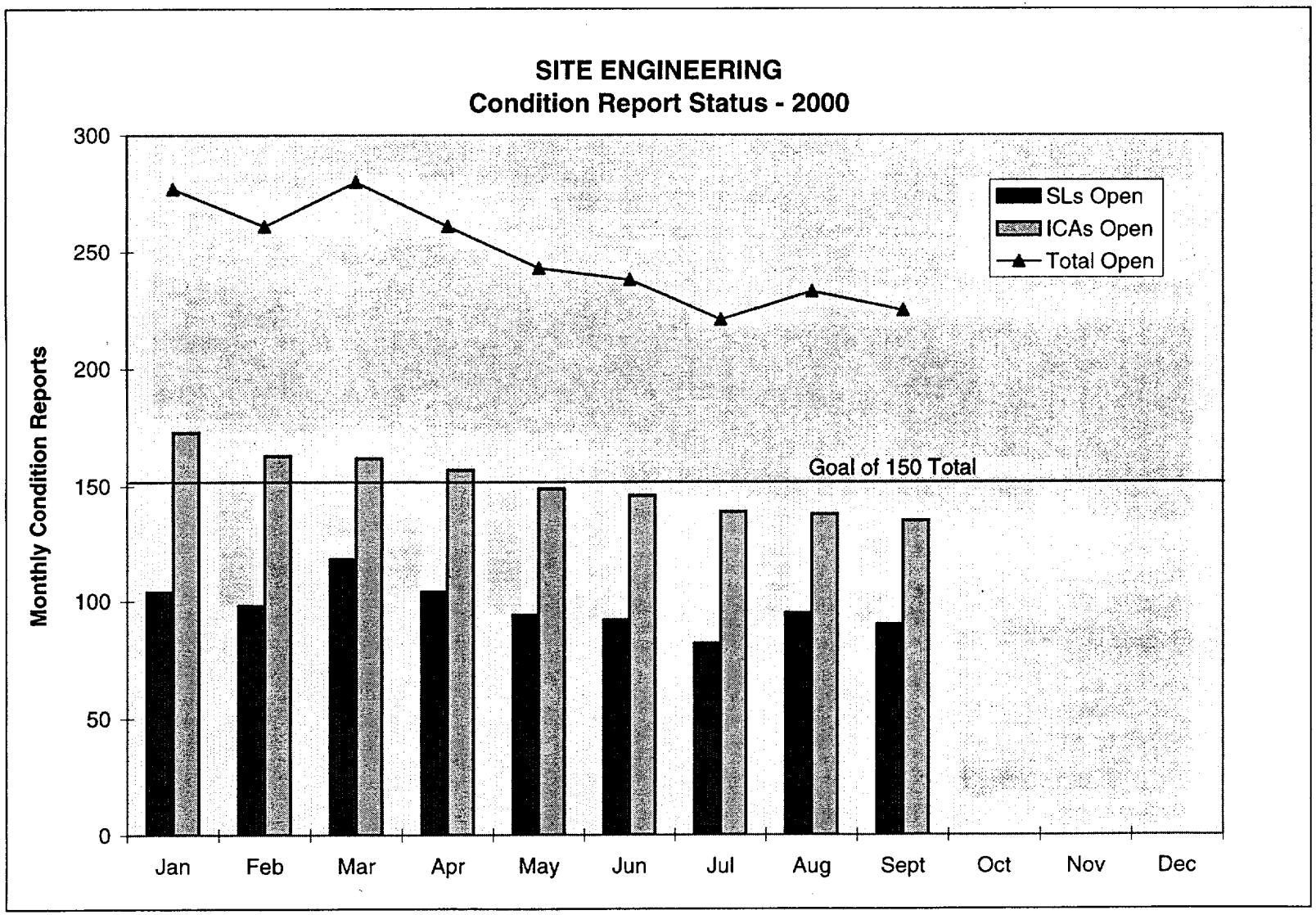
- Resource Improvements
  - Increased Number of Engineers
  - Developed Roles and Responsibilities Document
- Developed Qualification Guides
  - For Specific Tasks
  - For Each Risk Significant System
- Developed System Notebooks

System Engineering Initiatives

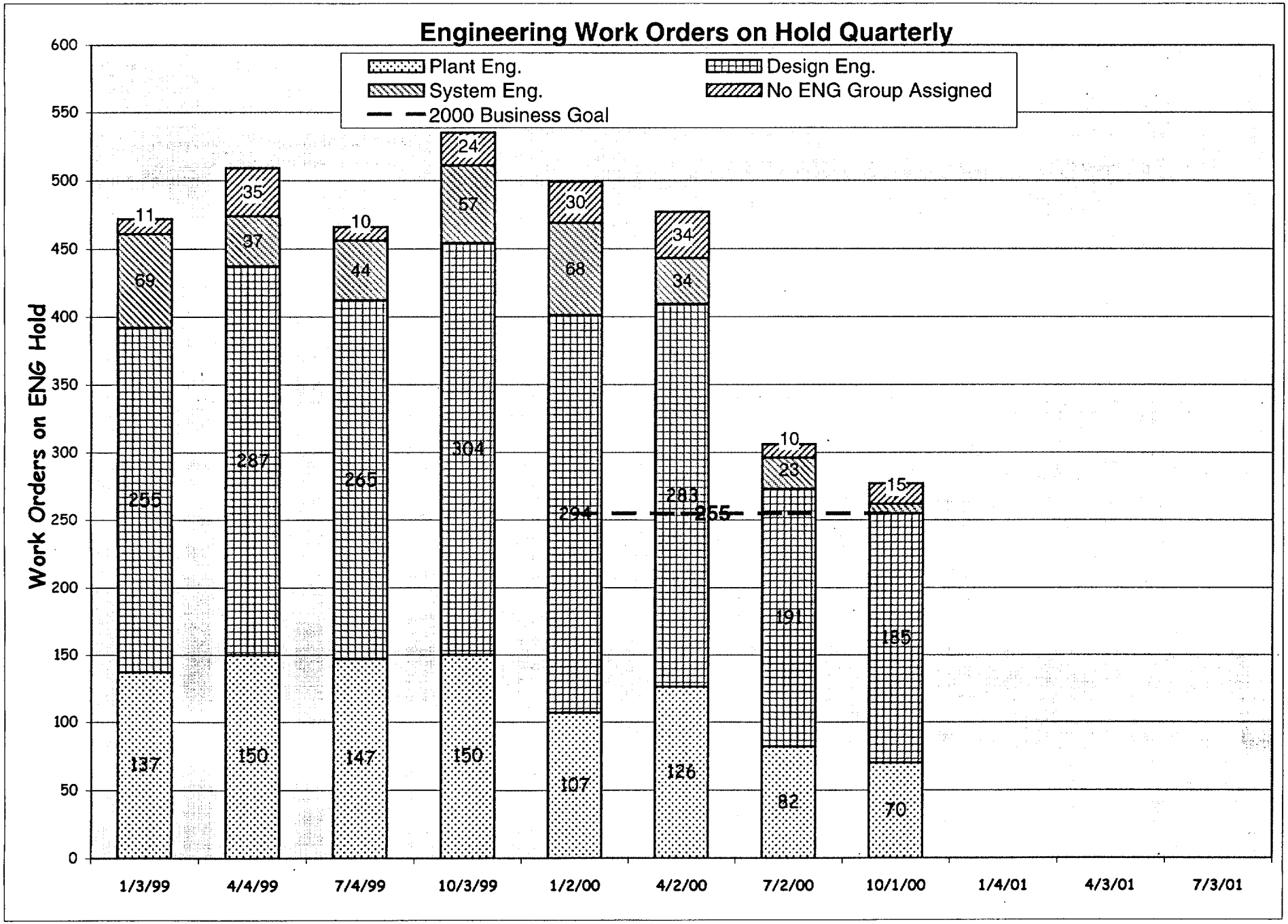
- Developed System Engineering Handbook
- Developed System Monitoring Program Based on EPRI Model
- Redesigned System Health Program
- Equipment Reliability Assessment Based on INPO Standard

System Engineering Improvements

- Reduction in Corrective Action Backlog
- Reduction in System Engineering Work Order Backlog
- Increased Focus on System Knowledge



Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
SLs Open	104	98	118	104	94	92	82	95	90			
ICAs Open	173	163	162	157	149	146	139	138	135			
Total Open	277	261	280	261	243	238	221	233	225			



Totals	472	509	466	535	499	477	306	277			

Current System Health Guidelines

- System Health Reports
  - Quarterly - Risk Significance
  - Annual - Non-risk Significance
- Focus on How Deficient Items Affect Plant Systems and Risk Significance
- Reports Color-Coded Based on System Performance

Current System Health

- Maintenance Rule
  - 11 Out of 42 Risk Significant Systems in (a)(1) Status
  - 4 Out of 38 Non-Risk Significant Systems in (a)(1) Status

Current System Health

- 12 Systems Require Increased Focus
  - 11 Maintenance Rule (a)(1) Status
  - 1 System Showing Declining Trend

System Health / Readiness

- Near Term Action Plan
  - Complete System Walkdowns
  - Complete System Health / Readiness Reviews

Conclusion

Jim Baumstark