

# NRC/Perry Management Meeting

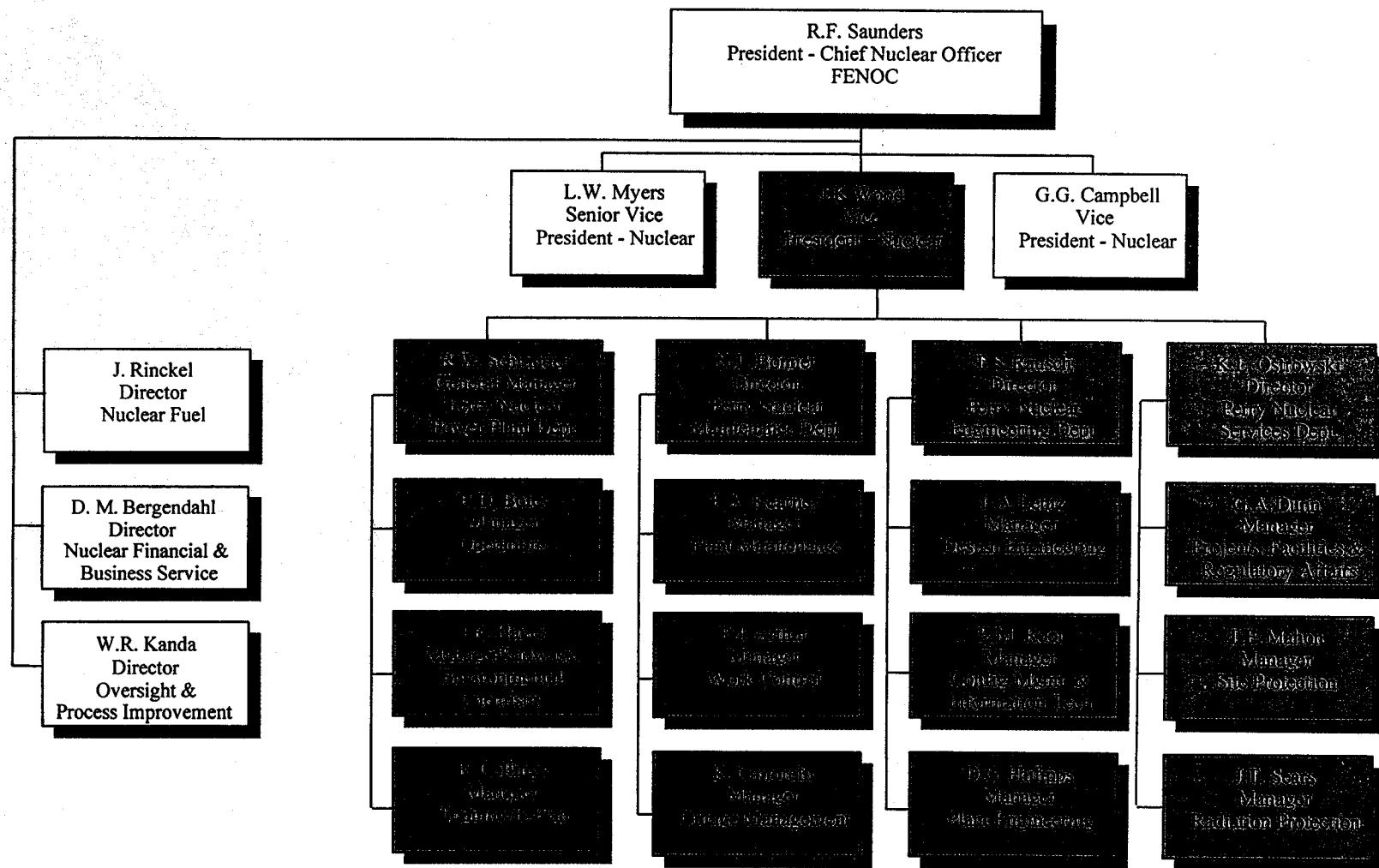
*February 8, 2001*



# Introductions

- John K. Wood, Vice-President
- William R. Painter, Mechanic - Maintenance
- Robert W. Schrauder, Plant General Manager
- Kevin L. Ostrowski, Director - Nuclear Services
- Timothy S. Rausch, Director - Engineering
- Peter J. Arthur, Manager - Work Control
- Gregory A. Dunn, Manager - Projects, Facilities, and  
Regulatory Affairs
- Bruce A. Luthanen, Engineer - Regulatory Affairs

# Perry Organization

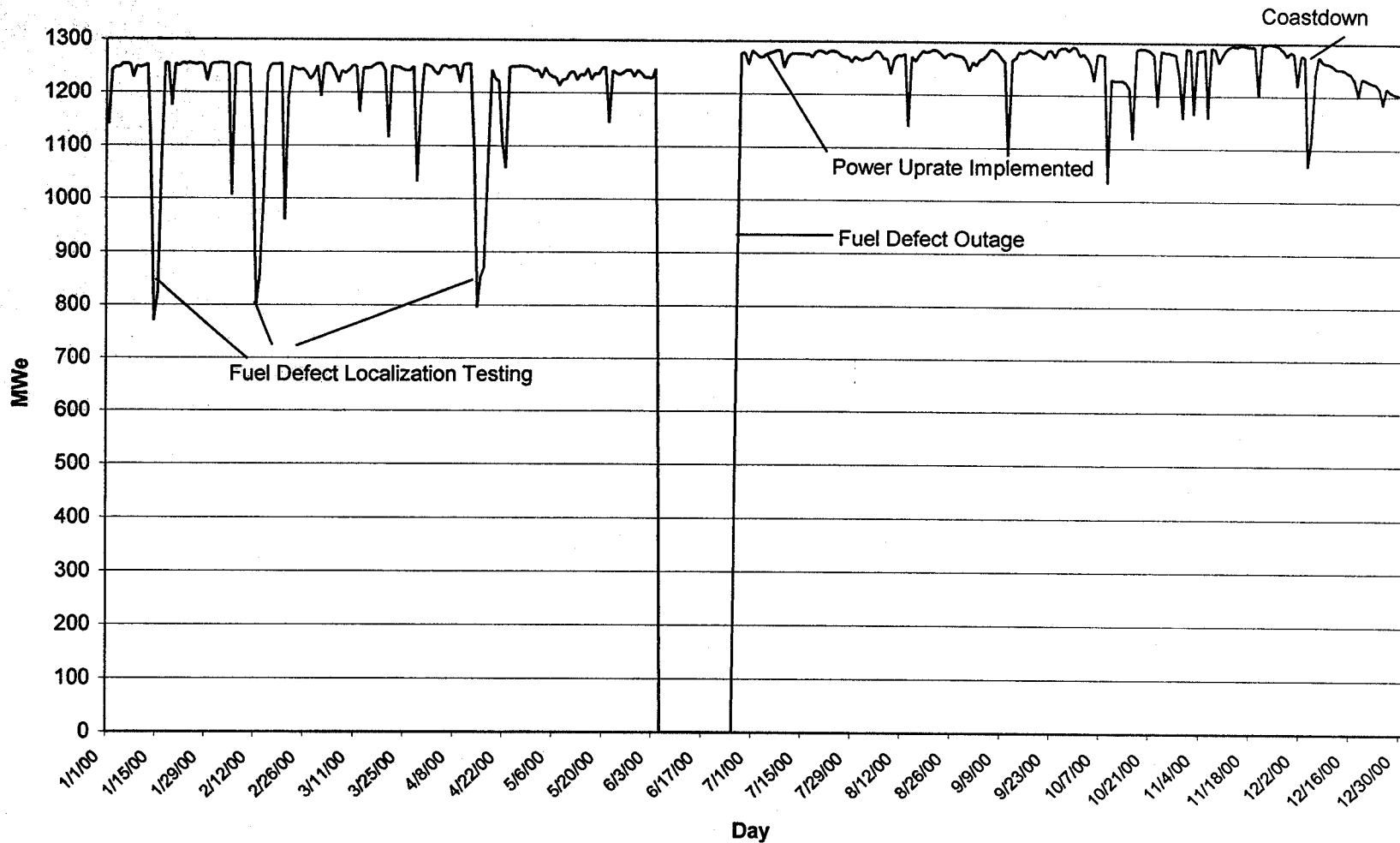


# Meeting Objectives

- Year 2000 Review
  - ◆ Key Events
  - ◆ Challenges
- Refuel Outage 8
- Technical Issues
- Cycle 9 Critical Success Area Initiatives

# 2000 Key Events

## Daily Average Gross Output



# 2000 Chronology

- March 21                      Emergency Plan Evaluated Exercise
- April 2-5                     OSRE And Chairman Meserve Visit
- May 8-18                    WANO Peer Review
- June 1                        Power Uprate Amendment Received
- June 4-15                    Fuel Defect Repair Outage
- June 21                      Public Plant Performance Review Meeting
- June 26                      Evaluation Of Changes, Tests And Experiments  
Inspection
- July 31                        Problem Identification And Resolution  
Inspection
- September 23                Public Open House
- October 1                    Reactor Core Isolation Cooling (RCIC)  
Supplemental Inspection
- October 23                    Fire Protection Triennial Inspection

# 2000 Technical Challenges

- Hot Surge Tank Leakage
- Reactor Core Isolation Cooling (RCIC): White Performance Indicator
- Thread Engagement Issues
- Unit 2 Start-up Transformer
- Motor-Operated Valve Issues
  - ◆ Emergency Closed Cooling Water System
  - ◆ Residual Heat Removal Minimum Flow
- Diesel Generator AOT Lube Oil Cooler Water Intrusion
- Inadvertent Safety Relief Valve Opening

# 2000 Technical Challenges

## ■ Five Licensee Event Reports

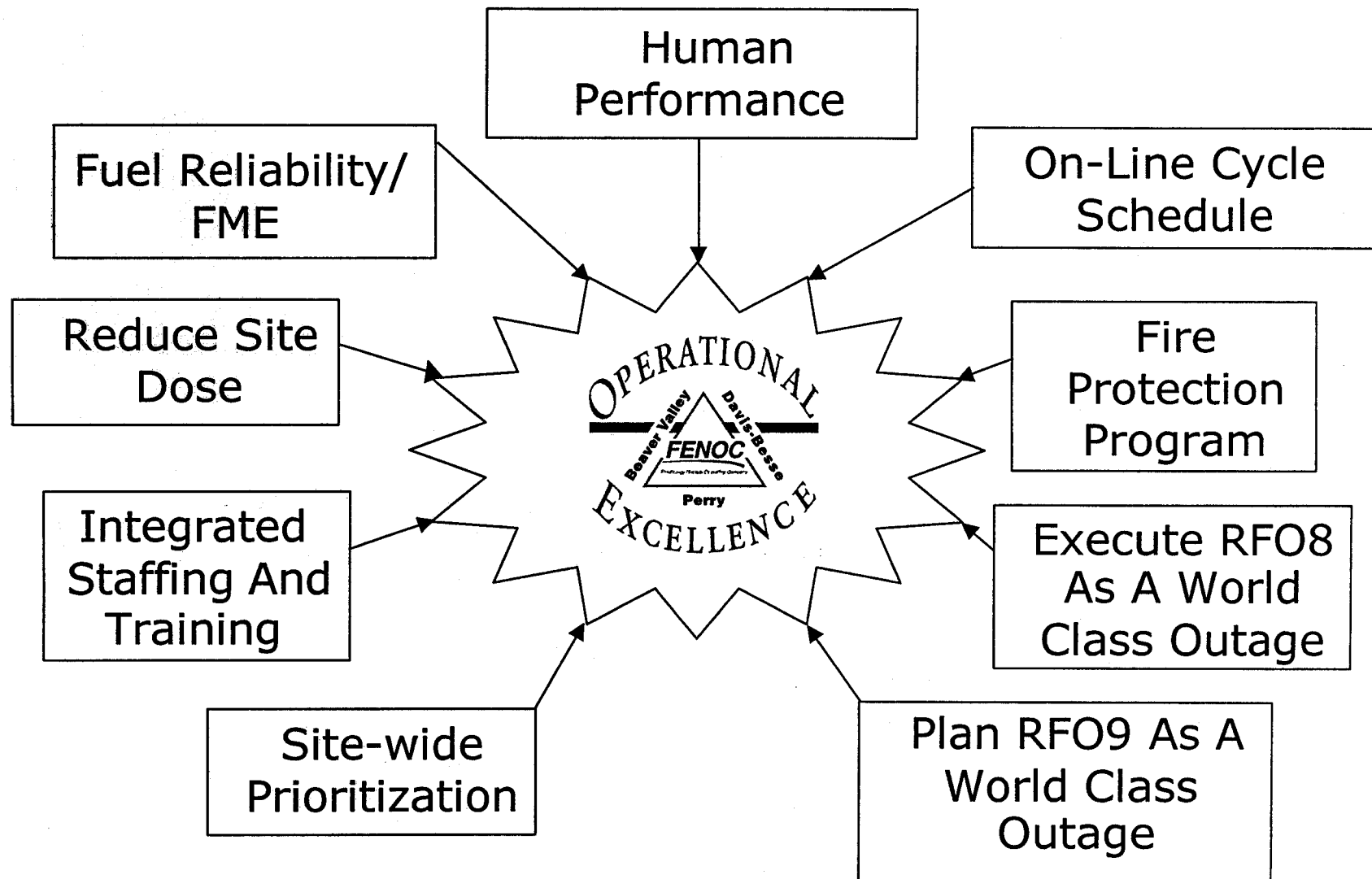
- ◆ 2000-01: Potential For Inadequate Suppression Pool Make-Up For The Emergency Core Cooling Systems
- ◆ 2000-02: Inadequate Data Validation Checks Result In Missed Power Distribution Limits Surveillance Requirements
- ◆ 2000-03: Battery Age Determination Results in Technical Specification Violation Of Surveillance Requirement
- ◆ 2000-04: Technical Specification 3.0.3 Entered Due To Inoperability Of Both Trains Of Annulus Exhaust Gas Treatment System
- ◆ 2000-05: Unrecognized Design Requirement For Emergency Service Water Resulted In Operation Outside The Design Bases



# **2000 Focus Areas in Review**

- Human Performance Improvements
- Management/Employee Alignment
- Design Basis Improvements

# Perry Critical Success Area Initiatives - 2001

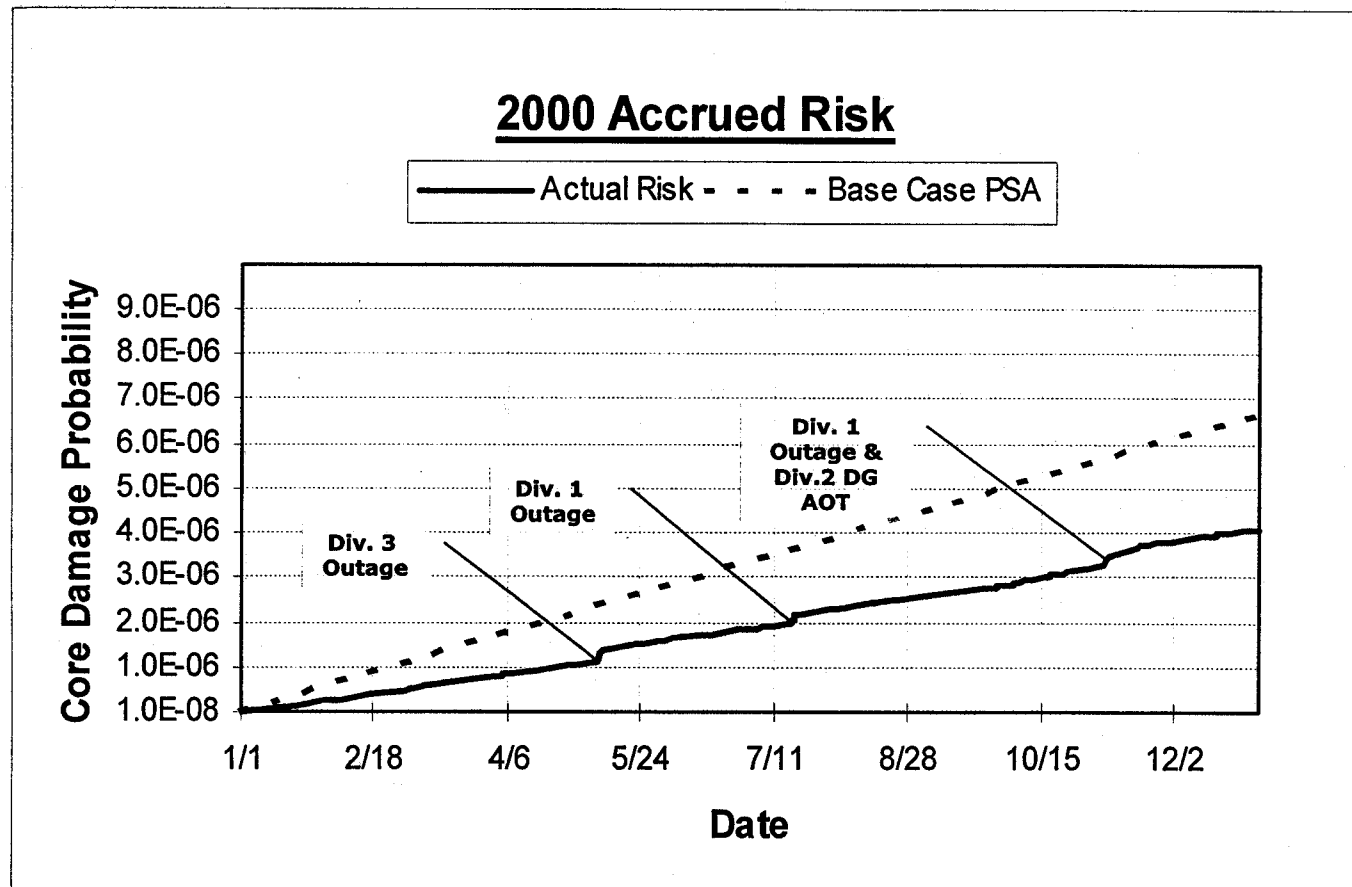


# **Plant Overview**

## **Robert W. Schrauder**

- **Current Status**
  - ◆ Identified And Suppressed One Fuel Defect
  - ◆ Jet Pump Fouling
  - ◆ License Exams
- **SAFETY - Radiological, Industrial, Risk Management**
- **Plant Material Condition**
  - ◆ Two Maintenance Rule a(1) Systems
    - ✦ Containment
    - ✦ Containment Venting Via Spray Headers

# Risk Profile - 2000



Division 1 and 2:

Diesel Generator  
Residual Heat Removal  
Emergency Service Water  
Emergency Core Cooling  
Associated Support Equipment

Division 3:

High Pressure Core Spray  
Diesel Generator  
Emergency Service Water  
Associated Support Equipment

# Refuel Outage 8

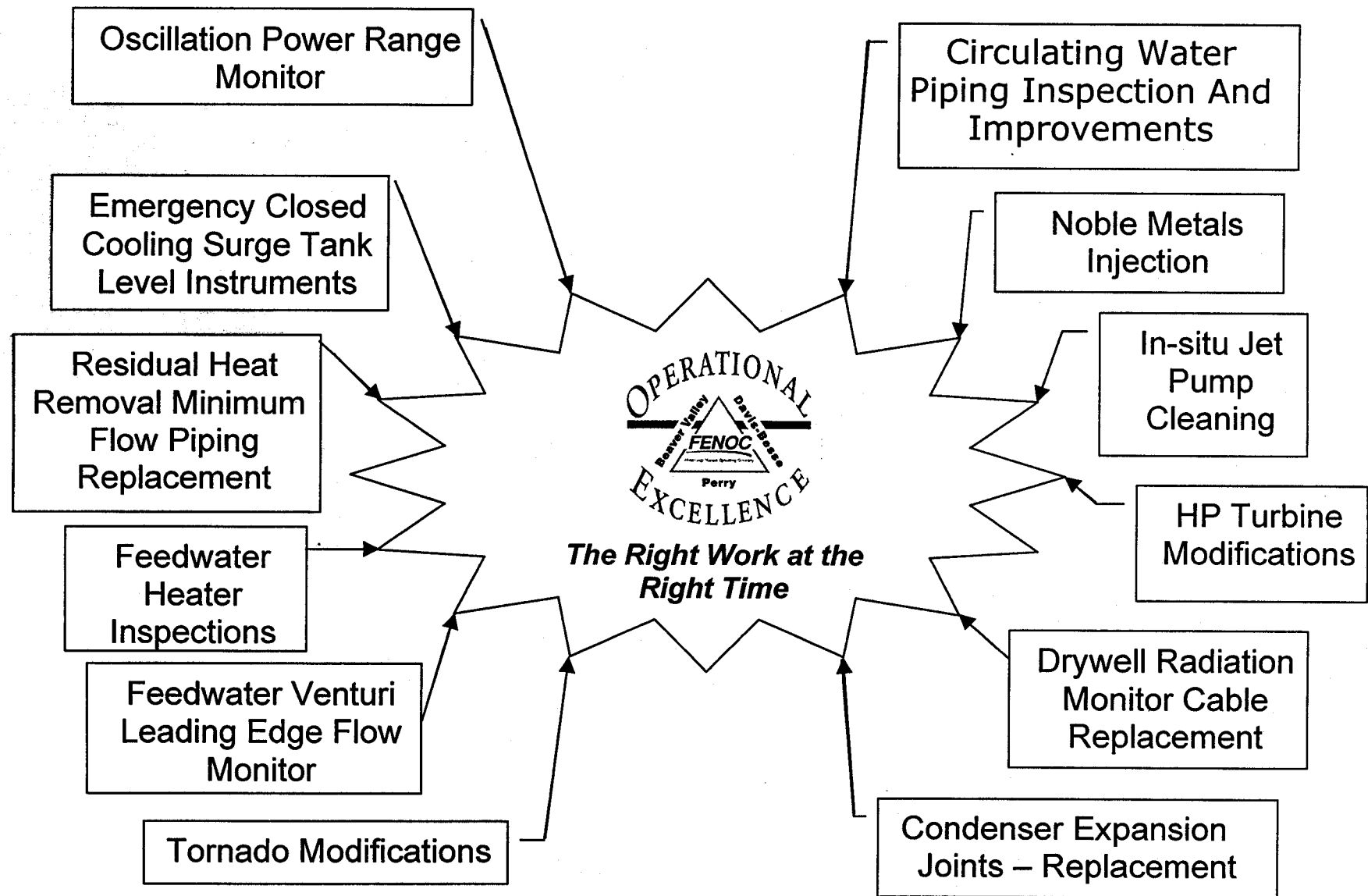
## Peter J. Arthur

- Total Work Orders: 2824  
(2516 in RFO7)
  - ◆ General /Corrective Maintenance: 620  
(695 in RFO7)
  - ◆ Preventive Maintenance: 1420  
(1094 in RFO7)
  - ◆ Surveillance: 784  
(727 in RFO7)
  
- Committed To Do The Right Work At The Right Time

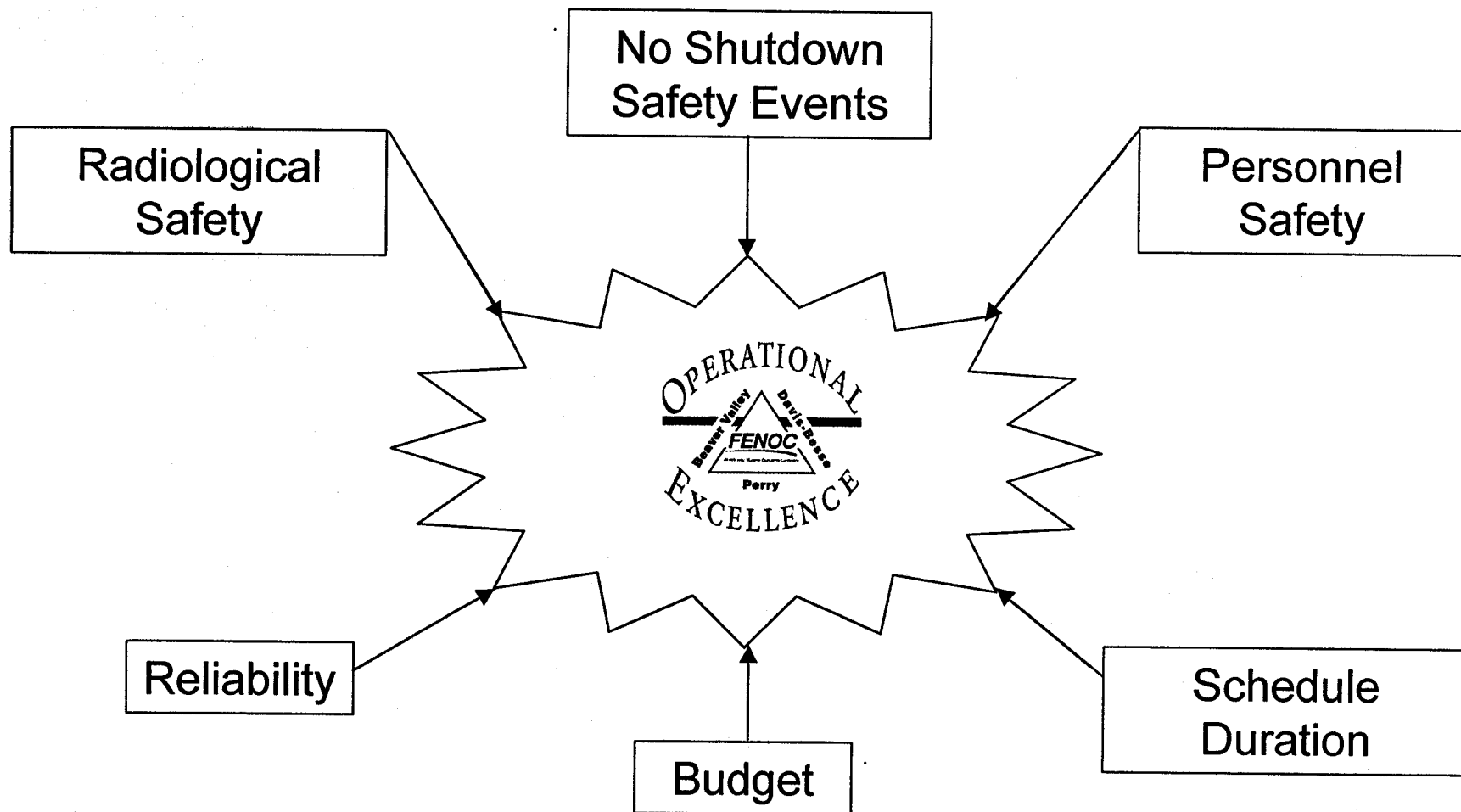
# Refuel Outage 8 Overview

- Outage Begins February 17
- Using New Perry Shutdown Risk Model
  - ◆ Shutdown Safety Work Practices
- Dose Reduction - RFO8 initiatives
  - ◆ System Flushing
  - ◆ Permanent Shielding Installation
  - ◆ Remote Monitoring
- Fuel Reliability
  - ◆ Major Emphasis In RFO8
  - ◆ Enhanced FME Control For The Refueling Floor And Fuel Handling Building
  - ◆ Fuel Inspection For 44 Reload Assemblies
  - ◆ Fuel Sipping

# Major Refuel Outage Projects



# Refuel Outage 8 Goals





# Regulatory Activities Supporting RFO8

## ■ Received:

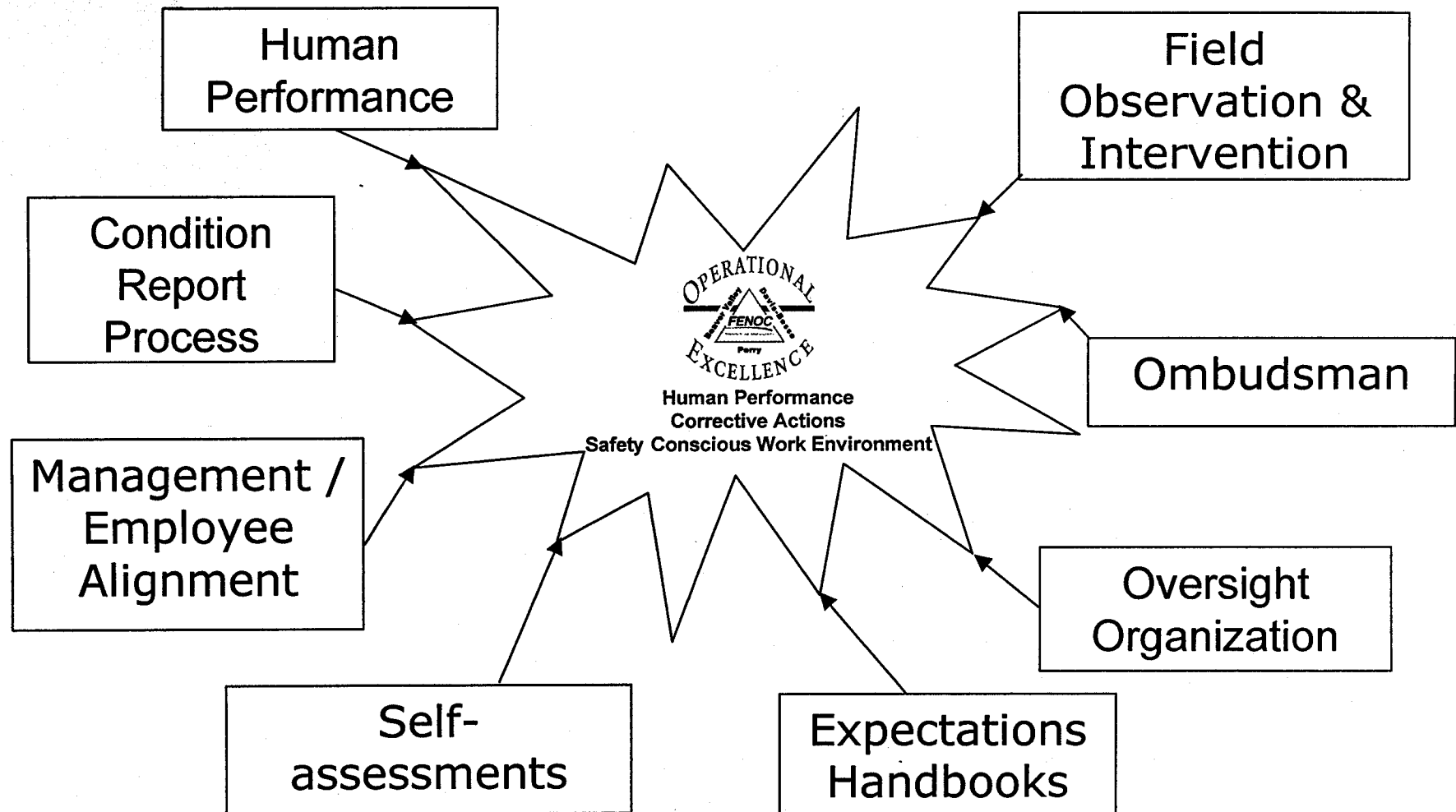
- ◆ Refuel Interlocks
- ◆ Power Uprate
- ◆ 24 Month Operating Cycle
- ◆ Containment Spray Test Frequency

## ■ Pending:

- ◆ 8 Relief Requests - ISI / IST Programs
- ◆ Cycle 9 Core Design
- ◆ MCPR Safety Limit
- ◆ OPRM Stability Monitor

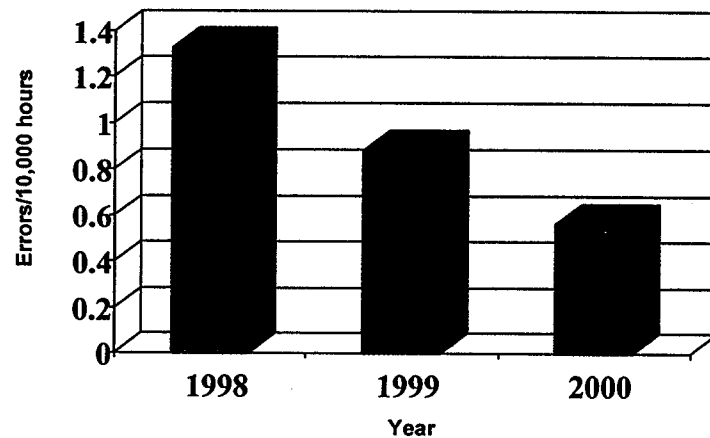
# Human Performance

## Kevin L. Ostrowski



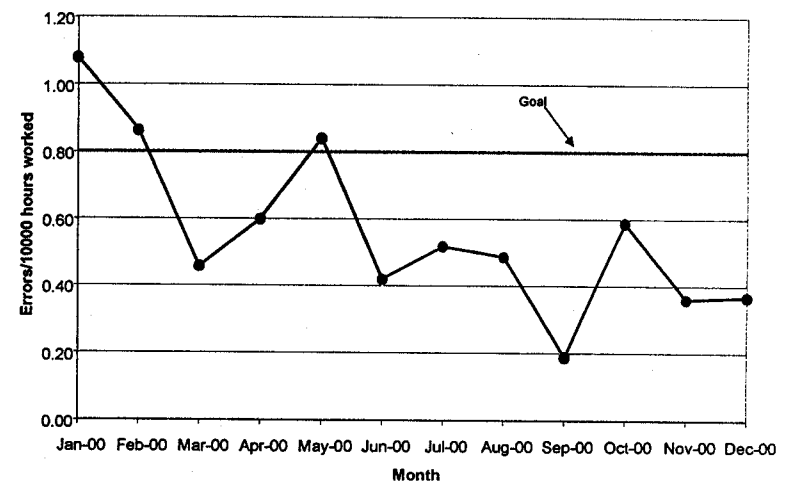
# Human Performance

Personnel Error Rate Yearly Average



Personnel Errors Per  
10,000 Person-Hours

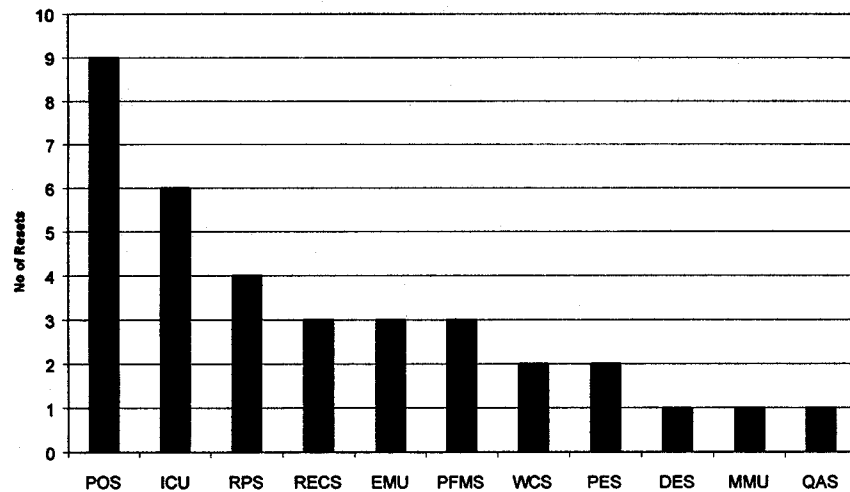
Year 2000 Personnel Error Rate Trend



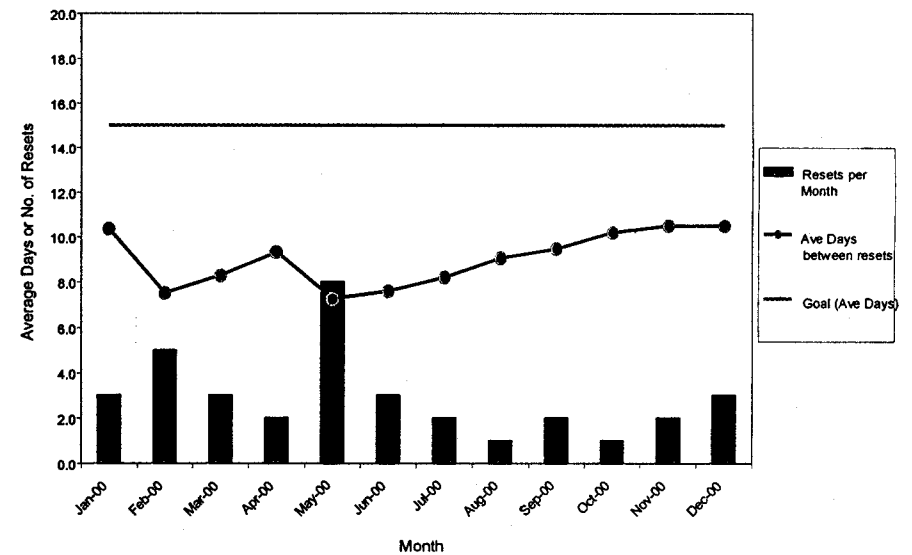
Performance  
Trends

# Event-Free Clock

Resets by Section  
(1/1/00 through 12/31/00)



Year 2000 Event Free Clock



# Corrective Action Program Continuous Improvement

- Condition Report Process
  - ◆ Program Continues To Mature
  - ◆ Common FENOC Process Adopted
  - ◆ CREST System Implementation
    - ✦ Paperless System
    - ✦ Integrated Binning And Trending Features
- Emphasis On Predict And Prevent
- Focused Self-assessments
  - ◆ 56 Completed In 2000
  - ◆ 72 Scheduled For 2001

# **Commitment to Safety Conscious Work Environment**

- Updated The Employee Concerns Program - February 2000
- Positive Site Survey Results - March 2000
- Supervisory Continuing Training - October 2000
- FENOC Policy Statement Updated And Re-issued - November 27, 2000
- Re-emphasized Expectations For All-hands Pre-RFO8 Meeting - January 16, 2001
- In-processing / Outage Training For RFO8

# **Technical Issues**

## **Timothy S. Rausch**

- **Tornado Design: Building Venting Modifications**
  - ◆ Operability Determination Compensatory Measures In Place
  - ◆ Modifications Involve Damper and Door Replacements Along With Ductwork Hardening
  - ◆ Completion On Schedule For Mid-March
  
- **Emergency Service Water Sluice Gates: Seal Modification**
  - ◆ Unreviewed Safety Question (USQ) Approved by License Amendment 114
    - ✦ Requires Safety Upgrade of Gate Seal System
  - ◆ Ancient Design Issue Identified (LER 2000-05)
  - ◆ Resolution On Schedule For April

# Technical Issues

## ■ Jet Pump Performance

- ◆ Jet Pumps Cleaned During RFO7
- ◆ Core Flow Reduction Returned Late In Cycle 8
  - ✦ Very Clean Reactor Water - High Corrosion Potential
  - ✦ Contributing Factor - High Velocity
- ◆ In-Situ Cleaning Scheduled For RFO8
- ◆ Ongoing Cooperative Effort With GE/EPRI For Long Term Solution.

## ■ Motor Operated Valve Program

- ◆ Recent Program Implementation Issues
- ◆ Investigation Team Identified Root Cause And Corrective Actions
  - ✦ Root Cause: Failure To Follow Procedure And Recognize Trends
  - ✦ Corrective Actions: Test Frequency Review, Periodic Verification, And Extensive Extent Of Condition
- ◆ Overall Program Is Sound



# Technical Issues

- Fire Protection Program Improvements
  - ◆ Consolidated Under New Program Manager
  - ◆ System Reliability Improvement Plan Established
  - ◆ Procedure Upgrade Planned
  
- Diesel Generator Exhaust
  - ◆ Division 1 And 2 Functioning And On Increased Test Frequency
  - ◆ Division 3 Design Change Ineffective
    - ✦ Operable, Maintaining Exhaust Path Open
  - ◆ Final Resolution Under Engineering Evaluation

# 2001 Design Focus

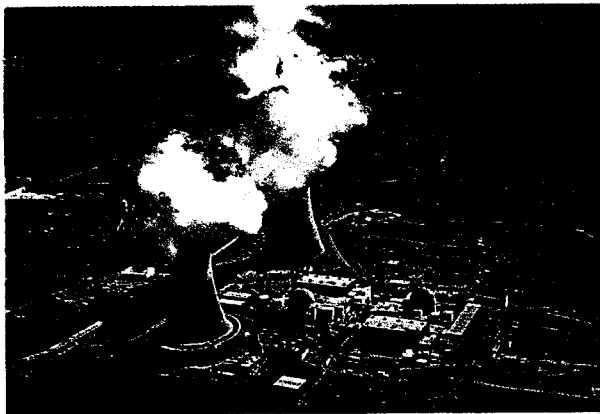
- Design Basis Enhancement
  - ◆ Design Basis Assessment Report
    - ✦ Assesses Current Health And Status Of Design Bases
    - ✦ Assesses Improvement Plan Progress
  - ◆ Design Basis Information
    - ✦ Electronic Catalog And Multifunction Search Capability
  - ◆ Calculation Enhancement Project
- 10 CFR 50.59 Process Implementation April 30, 2001

# 2001 System Focus

- System Health Report
  - ◆ Assesses Structure, System And Component (SSC) Reliability
  - ◆ Documents Monitoring And Improvement Actions
- Joint Engineering Team
  - ◆ Short Term, Emergent Support
  - ◆ Facilitates Continuous Focus On Long Term Issues
- Predictive Engineering Approach
  - ◆ New Tools And Expectations To Drive Culture Change
- Equipment Reliability

# FENOC Strategy

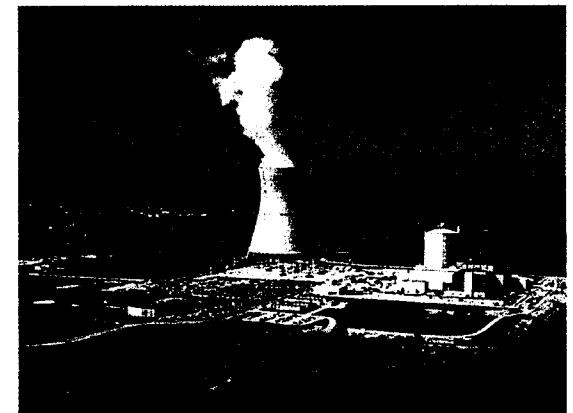
- Common Process
- Maintaining a Motivated, Highly Skilled Work Force
- Life Cycle Management



**Beaver Valley**



**Perry**



**Davis-Besse**

