

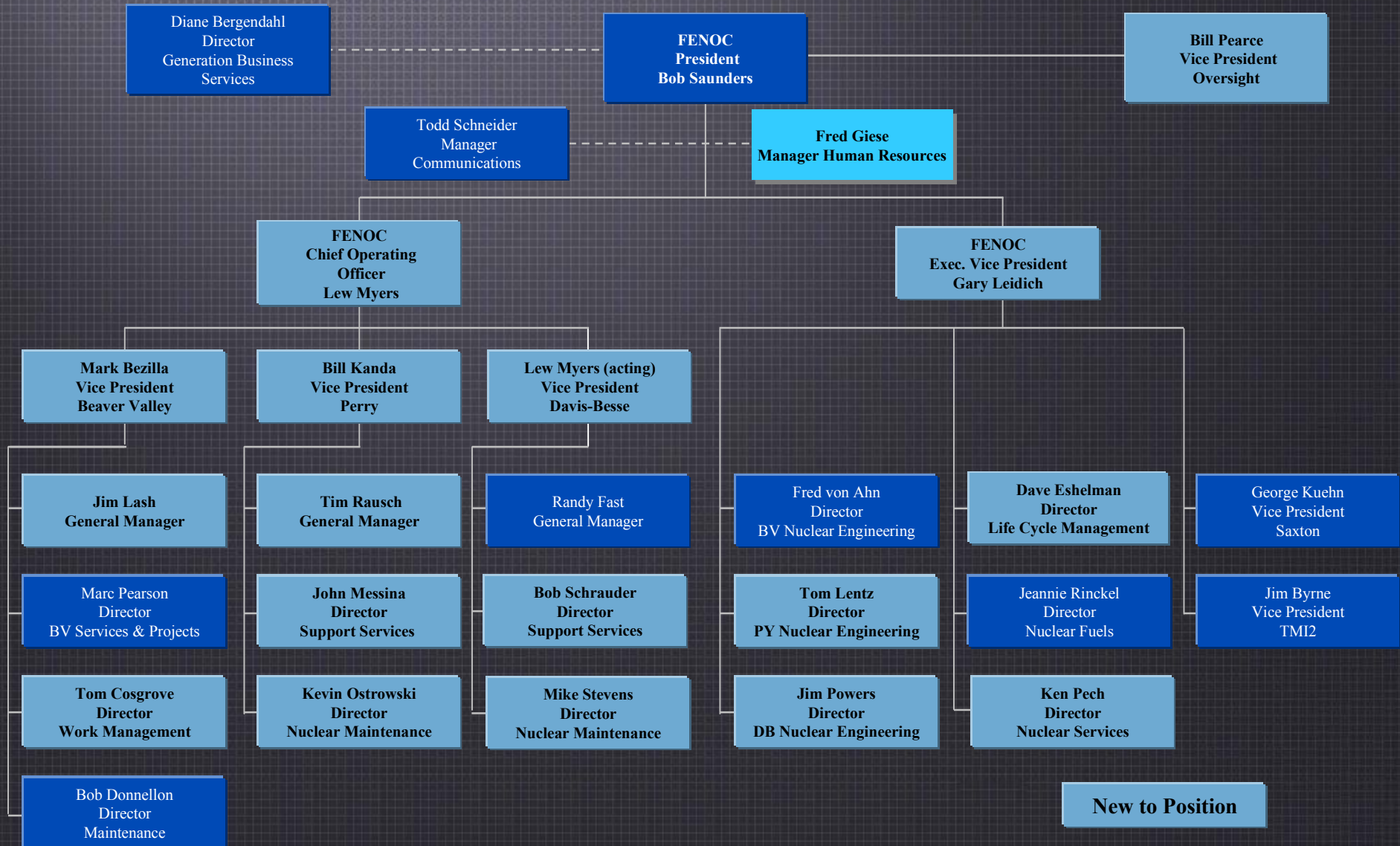
Davis-Besse Nuclear Power Station



Return to Service Plan Update

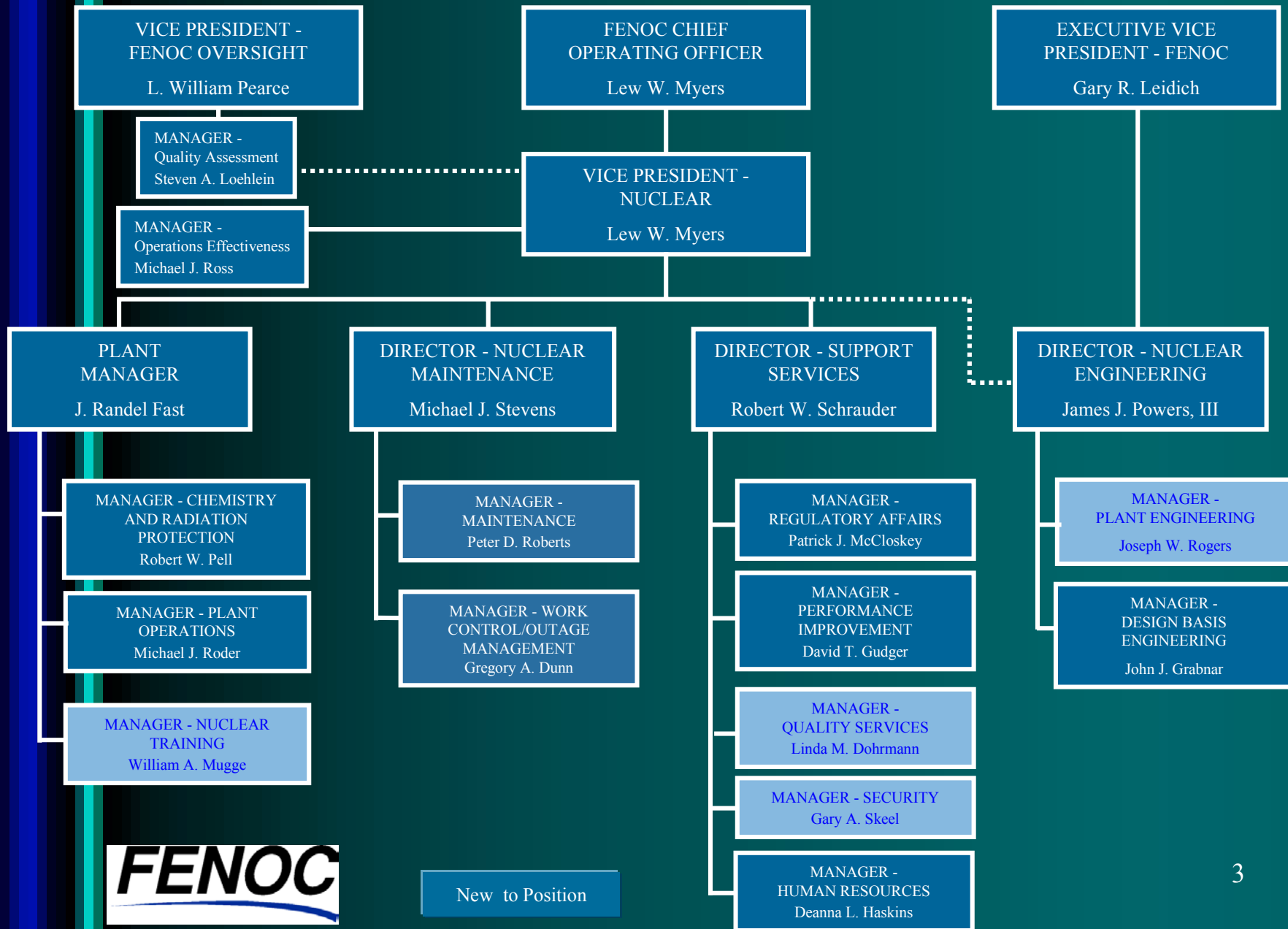
November 13, 2002

FENOC Management Reorganization



New to Position

Davis-Besse Site Organization



New to Position

Introduction



Lew Myers
FENOC Chief Operating Officer

FENOC

Desired Outcomes

- **Demonstrate the value-added by our Quality Assessment organization**
- **Demonstrate progress on key Building Blocks**
- **Provide plan for addressing lower vessel penetrations**
- **Describe actions being taken to address design questions**
- **Review the schedule**

Quality Assessment Value-Added



Steve Loehlein

Manager - Quality Assessment

Quality Assessment Value-Added

Major Responsibilities

- Ensure the plant is ready to restart and operate safely
- Ensure the staff is ready to restart and sustain safe performance
- Ensure effectiveness of the Quality Assessment organization so that we are ready for sustained performance

Quality Assessment Value-Added

Plant and Staff Readiness Assessments

- **Alignment with Building Blocks**
- **Three-Step Approach**
 - **Confirm acceptability of Building Block Plans**
 - **Provide oversight of the plans**
 - ☉ Includes independent parallel efforts to measure effectiveness
 - **Evaluate effectiveness of the plans, based on the results**

Quality Assessment Value-Added

Reactor Head Resolution Plan

- Concerns with contractor QA regarding qualification of rebar cad-welding
 - “Stop Work” issued by contractor
 - Oversight provided on remediation plan

Quality Assessment Value-Added

Containment Health Assurance Plan

- Identified containment Design Basis issues
- Provided feedback to line early in development of plan
- Independent field walkdowns
 - Identified minor differences
- Identified issues with qualifications and work packages related to the valve contractor
- Verified conditions of the reactor vessel by video review and direct observation

Quality Assessment Value-Added

Program Compliance Plan

- Independent Phase 1 Program Readiness Baseline Assessment completed for the 6 selected programs
- Observed 49 Program Review Board presentations for the Phase 1 reviews
- Observed all Phase 2 program presentations to-date
- Confirmed intrusive, effective reviews by Program Review Board

Quality Assessment Value-Added

System Health Assurance Plan

- **Operations Readiness Reviews**
 - Generated condition reports to document failure to properly capture follow-up items from the review meetings
- **System Health Readiness Reviews**
 - Independent review complete for 3 systems
 - Identified that line reviews of commitments and condition reports needed to be more extensive

Quality Assessment Value-Added

Management and Human Performance Excellence Plan

- **Case Study Involvement**
 - Provided feedback throughout development
 - Assessed effectiveness of Case Study through observation
 - Shared Case Study with Perry and Beaver Valley Quality Assessment organizations
- **Management Observation Program**

Quality Assessment Value-Added

3rd Quarter Assessment

- **Noteworthy Issues**
 - Issued a stop work order on nuclear fuel movement due to spacer grid strip damage during fuel movement
 - Ineffective corrective action by Radiation Protection for access control of locked high radiation areas
 - Issued a stop work order for inadequate work documentation and work execution for feedwater heater
 - Non-destructive examination for the new Caldon feedwater flow meters was inadequate

Quality Assessment Value-Added

Strengthening Quality Assessment

- **What we've done**
 - Organizational changes
 - Management changes
 - Taking Action
 - ☺ Stop work orders
 - ☺ Independent, Intrusive Assessments
 - ☺ Case Study involvement with site
 - ☺ Case Study sharing with other FENOC sites
- **Quality Assessment Program Review in progress**

Reactor Head Restoration



Bob Schrauder
Director -- Support Services

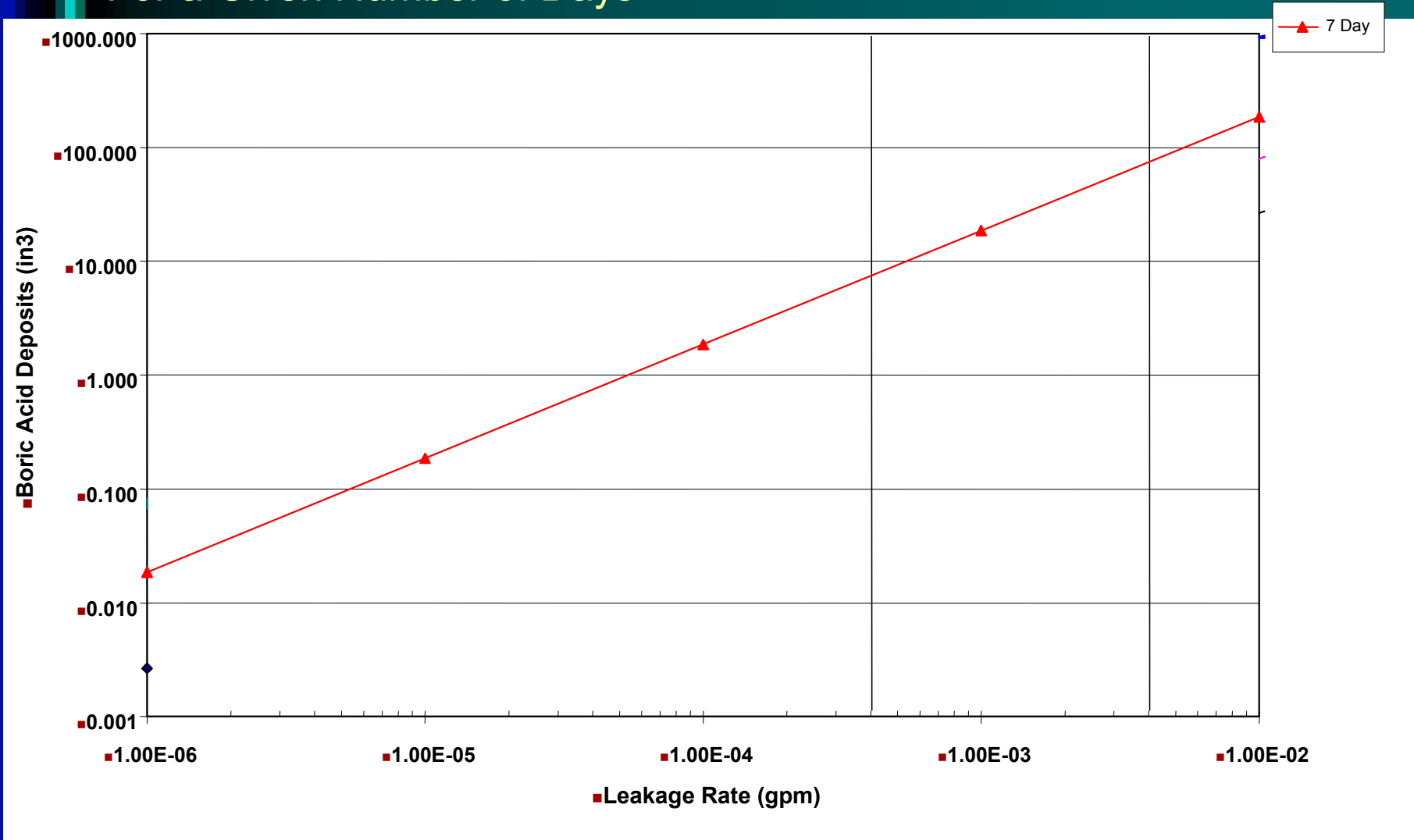


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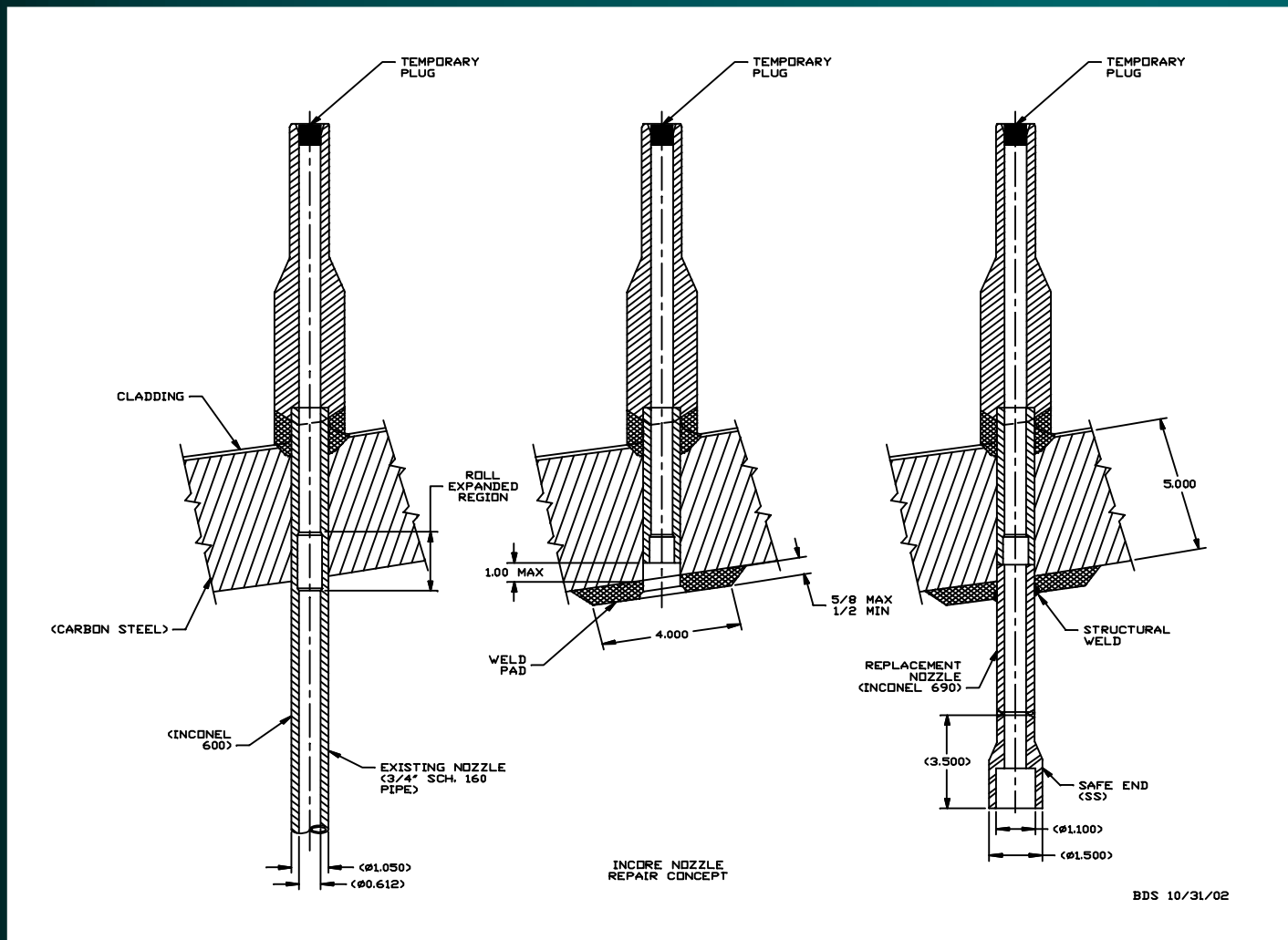
Reactor Vessel Bottom Head Plan

- Thoroughly clean bottom head
- Raise Reactor Coolant System to Normal Operating Pressure and Temperature
- Hold for 3-7 days
- Lower temperature and pressure
- Perform bare metal inspection prior to restart
- Perform bare metal inspection at Mid-Cycle Outage.
- Install on-line leak detection system

Boron Deposit Rate For 2000 ppm Boron Reactor Coolant Leakage (Unchoked Flow) 100% Deposition Rate For a Given Number of Days



Reactor Head Resolution Plan



System Health Assurance



Jim Powers

Director - Technical Services

System Health Assurance

Collective Significance Assessment

- Combines results of individual evaluations
- Determines areas requiring improvement
- Considers significance of findings

Inputs to Collective Significance

- Latent Issues Reviews
- System Health Readiness Reviews
- Self Assessments of Design Basis calculations
- Inspection results

System Health Assurance

Collective Significance Assessment

- Latent Issues Review results (5 systems):
 - 31 topical areas checked for 5 systems
 - 14,898 individual checks performed
 - 777 discrepancies identified (5%)
 - 447 discrepancies classified as restart (3%)

System Health Assurance

Collective Significance Assessment

- Topical areas with collective significance:
 - Electrical calculations/analysis
 - Instrumentation & Control calculation/analysis
 - Mechanical and Structural calculation/analysis
 - System Descriptions
 - Configuration Management

System Health Assurance

Collective Significance Assessment

- **Common attributes with collective significance:**
 - High Energy Line Break
 - Environmental Qualification
 - Appendix R
 - Seismic Qualification
 - Temperature Effects on System Operability
 - Natural Phenomenon
- **Summary**
 - Evaluation phase for collective significance review of the Latent Issues Review discrepancies

Design Issues Resolution



John Grabnar

Manager - Design Basis Engineering

Design Issues Resolution

Functionality Review

Design Basis Validation Program

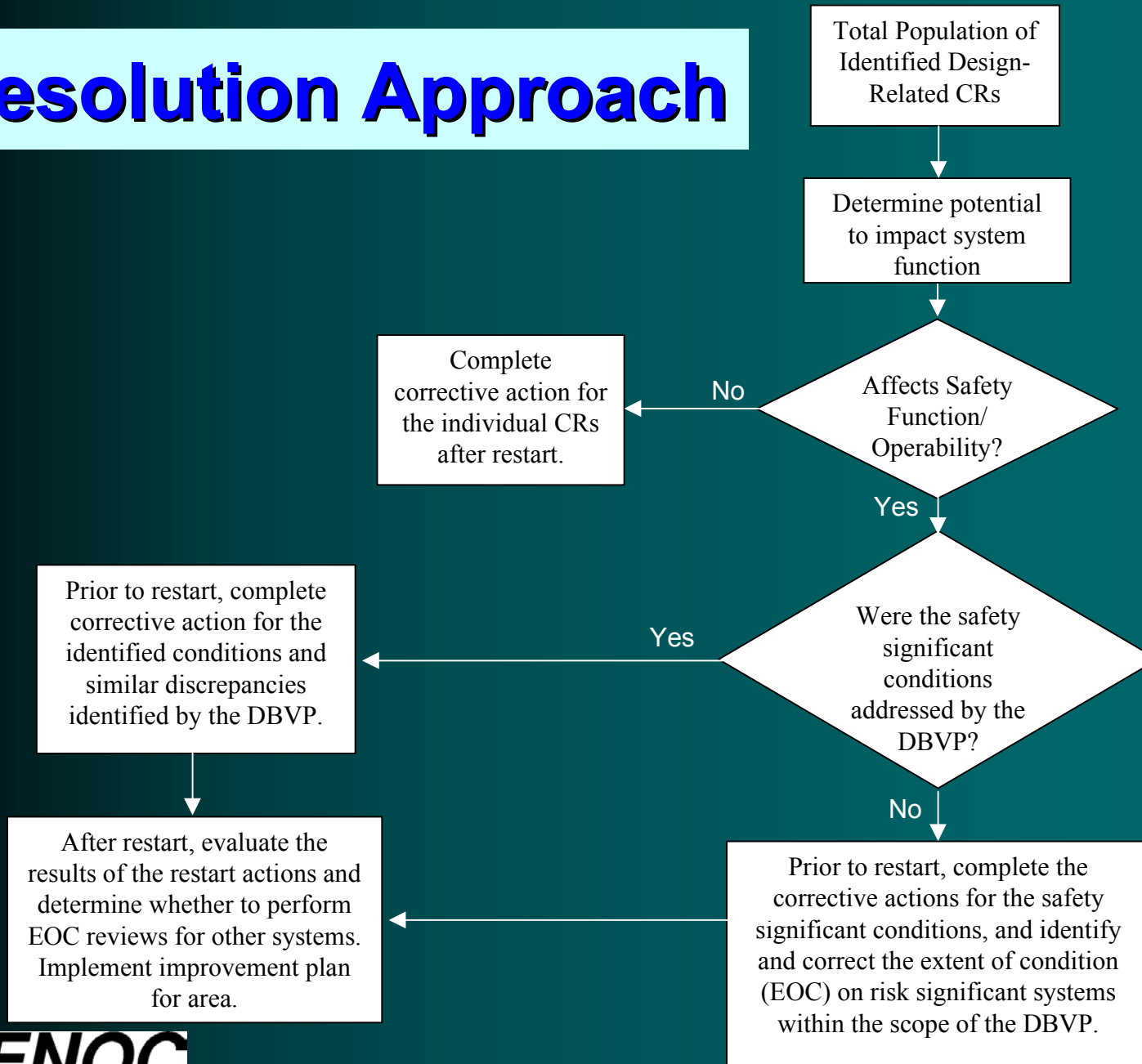
- Developed historical timeline
- Started in 1997 in response to industry letter on Design Basis
- Validated System Descriptions and Design Criteria Manual
- Performed for risk significant systems

Design Issues Resolution

Latent Issues Reviews

- A number of Design Basis questions raised
- Preliminary investigation suggests many are previously identified or are non-issues
- Several potentially important issues were not previously identified

Resolution Approach



Design Issues Resolution

Summary

- Process to efficiently and effectively resolve Design Basis discrepancies has been established
- Responsible system engineers are leading restart readiness teams to safely return their systems to service

Management and Human Performance Actions



Lew Myers
FENOC Chief Operating Officer

Nuclear Safety Culture

Nuclear Safety Focus
Safety Conscious Work
Environment (SCWE)

Management / Personnel Development

Leaders
Leadership Behaviors
Evaluating Leadership
Management Monitoring
Feedback and Coaching

Management / Human Performance Improvement Plan

Standards and Decision-Making

Leadership Standards
Technical Standards
Departmental Standards
Plant and Equipment Standards
Safety Focused Decision-Making

Programs / Corrective Action / Procedure Compliance

Program Improvements
Implementation Improvements
Corrective Action Process
Procedure Adherence

Oversight and Assessments

Independent External Oversight
FENOC Level Oversight
Internal Oversight
Management Oversight
Review Board Oversight

Management and Human Performance Actions

Significant Improvement Initiatives Completed

- Safety Conscious Work Environment Training for ~210 of 250 site and contractor supervisors
- 98 RHR Assessments of:
 - FENOC Executives
 - Managers and Directors
 - Supervisors
 - ☉ Operations
 - ☉ Engineering
 - ☉ Work Management
 - ☉ Chemistry/Radiation Protection
 - ☉ Quality Assessment

Management and Human Performance Actions

Significant Improvement Initiatives Completed

- SCWE Plan Communication
- Case Study Training (864 personnel)
- Revised Leadership in Action Training for 17 new supervisory personnel
- Pete Burg (FirstEnergy Chief Executive Officer) employee discussion

Management and Human Performance Actions

Significant Improvement Initiatives Continuing

- 4-C's Meetings (~280 employees attended so far)
- Town Hall Meetings (18 held to-date)
- Management Observation Program (over 500 observations in October)

Management and Human Performance Actions

Case Study Results

- **Logged completions: 864**
- **Feedback: 665 Sheets received (~76% response)**
- **Overall Ratings:**
 - **Met expectations or above: ~96%**
 - **Marked complete success: ~15%**
- **Uniform across sections**
 - **Craft vs. Non-craft**
 - **Technical vs. Non-technical**

Management and Human Performance Actions

Case Study Feedback Recurring Themes

- Must “Walk the Talk” to be effective
- This is just a beginning (we must follow through)
- Mr. Saunders joining in seen as very positive
- Important to get out to everyone, but should have been done sooner
- The presenters consistently did an overall excellent job

Management and Human Performance Actions

Case Study Feedback Concerns

- Management's production versus quality/safety priorities concerns
 - Management Actions
 - ☉ Feedwater Heater 1-6 stop work
 - ☉ Containment closure stop work
 - ☉ Fuel movement stop work
 - ☉ Polar Crane stop work
- Skepticism about management response for raising issues/concerns (fear of reprisal)

Management and Human Performance Actions

Case Study Test Results

- Approximate average grade: 93%
- Failures @ 80% criteria: 1
 - Immediate remediation provided during summary
- 100% Scores: ~45%

Management and Human Performance Actions

Significant Pending Activities

- **Collective Significance Review**
 - Outstanding items:
 - ☉ Operations Root Cause
 - ☉ Engineering Assessment
 - ☉ CAP Implementation Root Cause
 - ☉ NOBP for Collective Significance Process

Management and Human Performance Actions

Significant Pending Activities

- Engineering Organization Assessment
- Engineering Restart Readiness Review
- Functional Area Reviews

Operations Leadership Plan



Mike Ross

Manager - Operations Effectiveness

FENOC

Operations Leadership Plan

Function/Assignment Manager - Operations Effectiveness

- Assessment of Operations personnel and standards
- Prepare Operations for restart and ensure sustained performance
- Personnel assessment
 - RHR assessment of all Operations supervisory personnel
 - Strength and alignment of Operations management

Operations Leadership Plan

Purpose

- Strengthen and prepare Operations for restart
- Ensure future sustainable high level of performance

Operations Leadership Plan

Vision

- Operations Department recognized as the lead organization at Davis-Besse
- Continuous improvement is expected, demonstrated, and embraced by Operations personnel
- Operations ownership of equipment deficiencies, nuclear fuel performance, and plant chemistry is strong
- Operations management communicates, demonstrates, and reinforces desired performance standards
- Shift Management consistently demonstrates leadership

Operations Leadership Plan

Content of Plan

- 67 items total
- 42 for restart
- Benchmarking, training, improvement of standards, expectations, and conduct of Operations

Operations Leadership Plan

Actions Completed

- Benchmarked 3 facilities
- Standards expectations rewritten and compiled in one directive
- Moved the Shift Manager out of the Work Support Center
- Completed training
 - Case Study
 - INPO First-Line Supervisor Course
 - Boric Acid Program requirements
 - Safety Conscious Work Environment
 - Operability Determinations

Operations Leadership Plan

Actions In Progress/Scheduled

- Training in Progress
 - Operator Requalification testing
- Additional training scheduled for restart
 - Standards/Expectations with testing
 - Decision Making
 - Restart Test Plan
 - Plant Modifications
 - Licensed Operator responsibilities
 - Ombudsman procedures/responsibilities

Other Scheduled Activities

- INPO assist visit

Schedule Review



Mike Stevens

Director - Nuclear Maintenance

Major Milestones

Milestone

Forecast

- | | |
|--|-------|
| • Initial System Reviews Complete | 12/15 |
| • Program Reviews Complete | 12/16 |
| • Reactor Head Installed | 01/01 |
| • Containment ILRT | 01/08 |
| • System Readiness for Heatup | 01/11 |
| • Systems Pressure Inspections (NOP/NOT) | 01/14 |

Major Milestones

Projects Under Schedule Development

- Emergency Diesel Air Start Modification
- Permanent Reactor Seal Plate
- Decay Heat Valve Pit

Integrated Schedule

Making Progress

- Containment Air Cooler 1 & 3 Motor installed
- High Pressure Feedwater Heater 1-6 new tubes
- Reactor Coolant Motor & Pump (1-1) removed
- Reactor Head Control Rod Drives Installed
- Paint applied to Containment Dome

Next Major Milestone

- Reactor Coolant System Drain for first isolation valve maintenance (75 valves)

Closing Remarks



Lew Myers
FENOC Chief Operating Officer