



# Point Beach Nuclear Plant

## Excellence Plan



June 24, 2003



# *Agenda*

Purpose/Objective

Mano Nazar

Auxiliary Feedwater Issue

Fred Cayia

Path to Excellence

Fred Cayia

Excellence Plan Development

Doug Johnson

Excellence Plan Execution

Fred Cayia

Progress to Date

Dan Fadel/ Joe Jensen

Closing Remarks

Mano Nazar



# *Purpose and Objective*

- Describe Actions Taken to Improve Auxiliary Feedwater System Reliability
- Describe Development of the Point Beach Excellence Plan
- Present Focus Areas of the Point Beach Excellence Plan for Sustained Performance Improvement
- Present Progress Made on Key Focus Areas
- Discuss Point Beach Preparation for IP95003 Inspection



# *Auxiliary Feedwater Issue Description*

- Air Operator Recirculation Valve
  - Self-Identified During Probabilistic Risk Analysis Upgrade
  - Potential For Loss of Instrument Air Event During Which the AFW Recirculation Valves Fail Closed in Steam Generator Overfill or Overcooling Conditions Coincident with Procedurally-Directed Operator Action To Secure AFW Forward Flow
- Recirculation Line Orifice Issue
  - NMC Identified Potential For Blockage From Service Water Following Loss of Normal AFW Supply
  - Potential For Fouling of Recirculation Line Orifice Coincident With Procedurally-Directed Operator Action To Secure AFW Forward Flow



# *Auxiliary Feedwater Issue Corrective Actions*

- Operator Procedures Revised / Operators Trained
- Open Function of Recirculation Valve Made Safety Related
- Installed Back-up Pneumatics on Air Operated Recirculation Valves
- Integrated Probabilistic Safety Assessment into Emergency Operating Procedure Revision
- Replaced Recirculation Line Orifices—March 2003
- Modifications for AFW System Power Supply Issues Completed by July 21, 2003



# *Auxiliary Feedwater Issue Independent Assessment*

- Performed Independent Licensing and Design Basis Review for Auxiliary Feedwater System
  - Performed by Industry Experts
  - Oversight by Expert Panel
  - Validation Team Independent at Point Beach
  - Developed a Derived License and Design Basis
- System Review Concluded AFW Could Perform Design and License Basis Functions



# *Path To Excellence*

- Leadership Turning Point
  - Orifice Issue - October 2002
  - Reflected Organizational and Process Weaknesses
  - Impetus for Fundamental Course Change



# *Path To Excellence*

- Leadership Team Focus and Alignment
  - December Offsite Leadership Team Retreats
  - Management Recognized The Need to Address Known and Unknown Issues
  - Outcome - Alignment on 3 Focus Areas
    - Corrective Action Program
    - Emergency Planning Infrastructure
    - Design Modification Process





# *Path To Excellence*

## ➤ Revitalized Leadership

- Reorganization Announced Early January
- Strengthened Plant Manager's Team
- Operation's Leaders (SROs) to Strengthen Other Organizations
- The Right People for the Right Jobs



## *Path To Excellence*

- Nuclear Management Company Focus on Point Beach
  - NMC Organizational Effectiveness Assessment
    - December 2002 – January 2003
  - Assessment and Stream Analysis to Identify Drivers and Barriers to Performance Improvement
  - Independent AFW Assessment
  - Senior Vice President Assumed Responsibility for Point Beach Oversight February 2003



# *Path To Excellence*

## **Leadership Vision and Mission**

**Vision:**

**“Continuous Pursuit of Enduring Excellence”**

**Mission:**

**“Working Together to Achieve Sustained, Safe, Reliable, and Economic Generation of Electricity Using Nuclear Power”**



# *Path To Excellence*

- Point Beach Picture of Excellence
  - Sustainable Improvement Driven By The Excellence Plan
  - Focus on Four Pillars of Excellence
    - Organizational
    - Operational
    - Equipment
    - Training
  - Focus on Long Term Improvements



# *Path To Excellence*

- Vision for Point Beach's Future
  - An Organization That Is Viewed by All Stakeholders As Having a “Self Improving Culture” and Being a “Learning Organization”
  - Improvement Driven by an Industry Leading Corrective Action Program
  - Sustainable Improvement Driven by a Culture Characterized by Organizational and Individual Accountability



# *Path To Excellence*

- Excellence Team
  - A Strong Cross-Functional Team Formed to Improve Organizational Focus and Create Infrastructure
    - Experienced Industry Expertise Providing Oversight and External Perspective
    - Capable NMC Leader with Multi-Site Experience



# ***EXCELLENCE PLAN***

- Multi-Disciplined Excellence Team Formed to Support Station's Goal of Sustainable Performance Improvement
- Primary Focus of Excellence Team:
  - Aid in Independently Identifying & Understanding Performance Issues
  - Aid in Understanding Causes of Performance Issues
  - Aid Organization in Preparing and Implementing the Excellence Plan
  - Aid in Resolution of Issues and Common Causes
  - Monitor Execution of the Excellence Plan and Facilitate Adjustments as Required



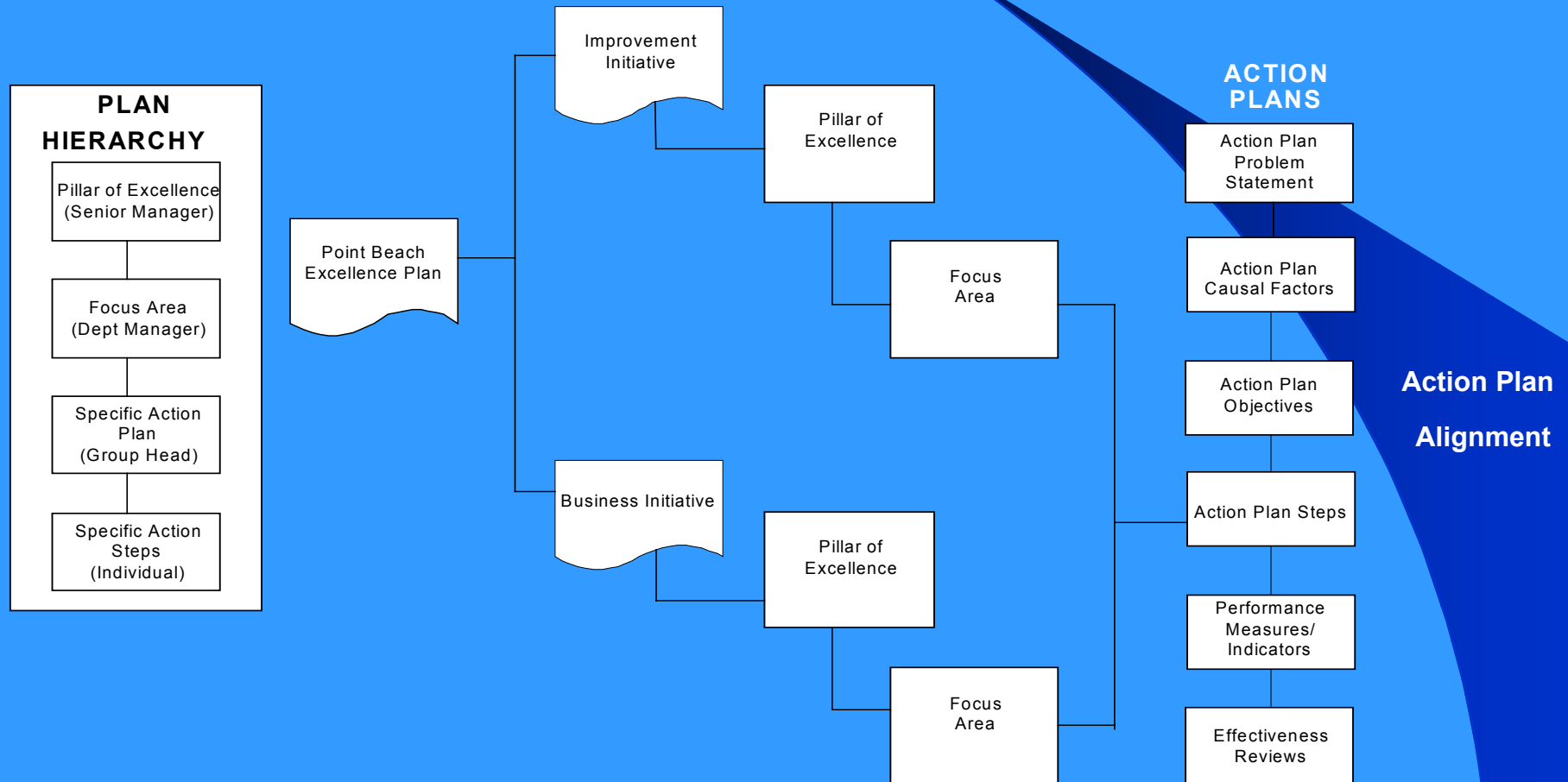
# ***EXCELLENCE PLAN***

- Revision 0 of the Excellence Plan Issued on May 30
- Developed Using Formal, Structured Process
- Attributes of Excellence Plan
  - Sufficient Scope to Address Station Performance Issues
  - Addresses Common Causes and Drivers of Performance Issues
  - Risked Informed Prioritization of Actions
  - Integrated Departmental Initiatives
  - Effectiveness Reviews and Performance Indicators Will Determine if Desired Results Achieved
  - Rigorous Monitoring and Closeout Processes





# EXCELLENCE PLAN





# ***EXCELLENCE PLAN***

- Identification of Performance Issues
  - Database Created Which Captured Observations & Findings From Recent Assessments, Inspections and Audits
  - Sorted Data by Department, Focus Areas, and Trend Codes to Look for Performance Trends and Long-standing Issues
  - Identified Trends and Issues Compared Against Action Plans Contained in Revision 0 of the Excellence Plan for Gaps
  - Database Analysis Demonstrated That the Excellence Plan Addresses Major Issues
  - Currently Assessing Approximately 20 Issues/Areas Which May Require a Revision to an Existing Action Plan or the Creation of a New Action Plan



# ***EXCELLENCE PLAN***

- Inspection Procedure 95003 Mapping Analysis
  - Mapped Recently Completed Site Assessments Against the Requirements in NRC Inspection Procedure 95003
  - Purpose Was to Determine Which 95003 Inspection Areas Have Not Been Recently And/Or Sufficiently Self-assessed
  - Excellence Team Recommended That PBNP Conduct Approximately 25 Focused Assessments
  - Focused Assessments Are in Progress
  - Applicable Assessment Findings Will be Built Into the Excellence Plan



# ***EXCELLENCE PLAN***

- Identification of Common Causal Factors
  - Streaming Analysis of Findings From Organizational Effectiveness Assessment Completed
    - Identified 5 Primary Drivers/Causes of Organizational Performance Issues
  - Common Factors Assessment of Root Cause Evaluations Completed
    - Identified 3 Primary Common Causes
  - Validation That the Excellence Plan Addresses These Common Drivers / Causes in Progress



# *EXCELLENCE PLAN*

- Revision 1 of Excellence Plan Will Be Issued by July 11
- Ongoing Work on Revision 1 is Focused on:
  - Prioritization and Resource Loading
  - Action Plan Integration
  - Refinement of Objective Statements and Alignment of Performance Indicators and Effectiveness Reviews
  - Addition of New Plans or Plan Revisions Based Upon Ongoing Analysis Work



# ***EXCELLENCE PLAN***

- Excellence Plan Built Upon 4 Pillars of Excellence
  - Organizational Excellence
  - Operational Excellence
  - Equipment Excellence
  - Training Excellence
- Pillars Supported by 19 Focus Areas
- Focus Areas Supported by Over 100 Action Plans



# *Excellence Plan*

## *Focus Areas*

- Human Performance
- Oversight and Assessment
- Culture Survey
- Communications
- Management Effectiveness
- Engineering Organizational Effectiveness
- Engineering Programs
- Configuration Management
- Emergency Preparedness
- Corrective Action Program



# *Excellence Plan*

## *Focus Areas*

- Significant Operating Event Report 02-04, “Reactor Pressure Vessel Head Degradation at Davis-Besse Nuclear Power Station”
- Work Management
- Business Initiatives
- Technical Procedure Quality
- Operationally Focused
- Security
- Equipment Reliability
- Training Programs
- Training Organizational Effectiveness





# *Excellence Plan*

- Our Excellence Plan Is a Roadmap to Create and Sustain Improvements
- The Objective Statements Associated with Each Excellence Plan Action Plan are Forward Looking and Define What We Want to Achieve
- Performance Indicators and Effectiveness Reviews Assure Progress Is Being Made and Desired Objectives Are Accomplished
- Site Leadership Team Rigorously Monitor Execution of The Excellence Plan



# *Excellence Plan*

## *Corrective Action Program*

### *Focus Area*

#### ➤ Problem Statement

- Corrective Action Program was not used as a Management Tool for Continuously Improving Performance

#### ➤ Causal Factors

- Management Oversight of the Program Was Ineffective
- Issue ownership was not reinforced to Ensure Timely and Effective Resolution of Issues
- Roles, Responsibilities, and Expectations for Supporting the Corrective Action Program Were Not Understood
- Corrective Action Screening Process Was Not Effective at Prioritizing Significant Issues



# *Excellence Plan*

## *Corrective Action Program*

### *Focus Area*

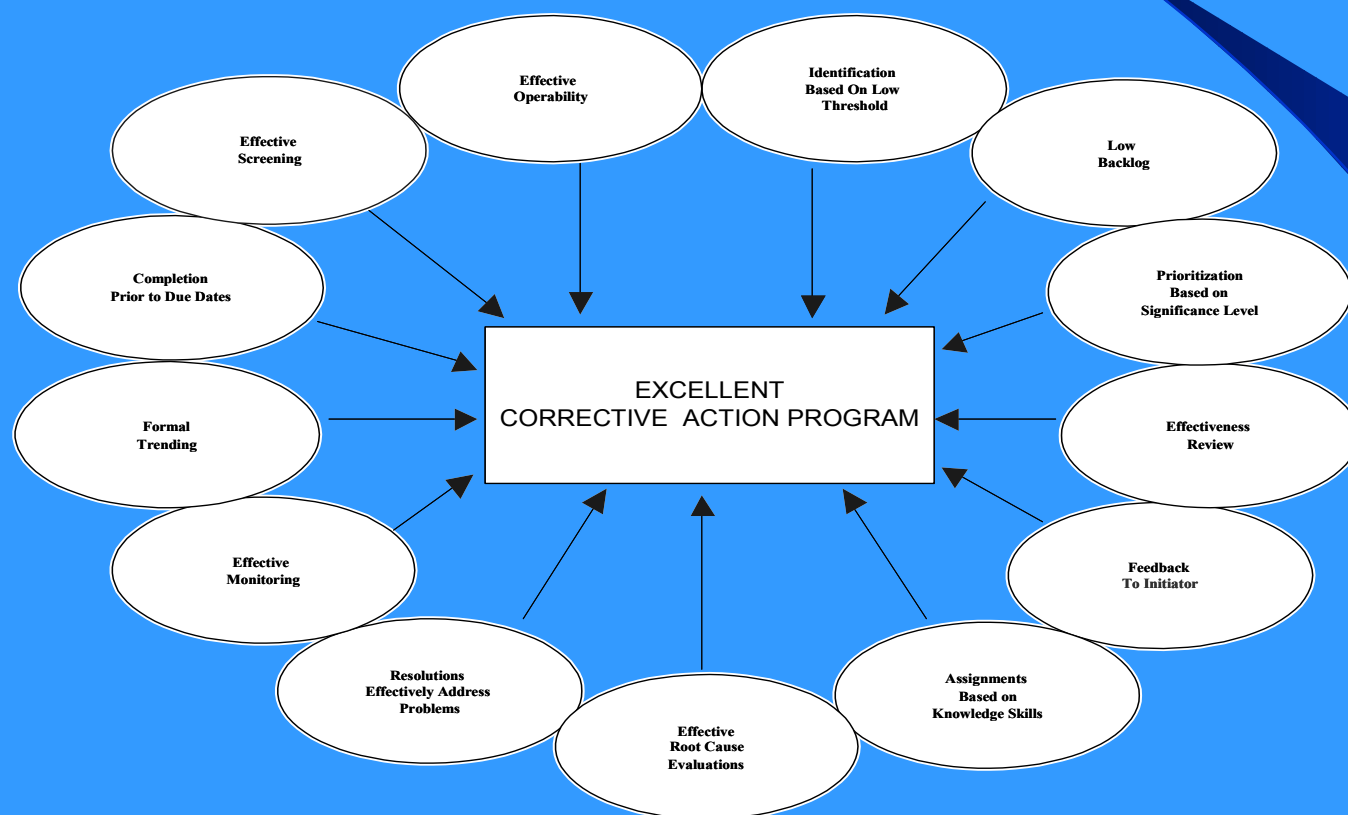
➤ Objective:

Excellent Corrective Action Program Used By Management to Drive Continuously Improving Performance

- Corrective Action Program Roles, Responsibilities, and Expectations Understood
- Improved Screening Process that Focuses on Prioritization of Significant Issues
- Site Culture that Promotes Timely Actions to Resolve Identified Issues
- Program Oversight that Monitors and Provides Feedback to Management on the Effectiveness of the Corrective Action Program



# *Corrective Action Program Picture of Excellence*





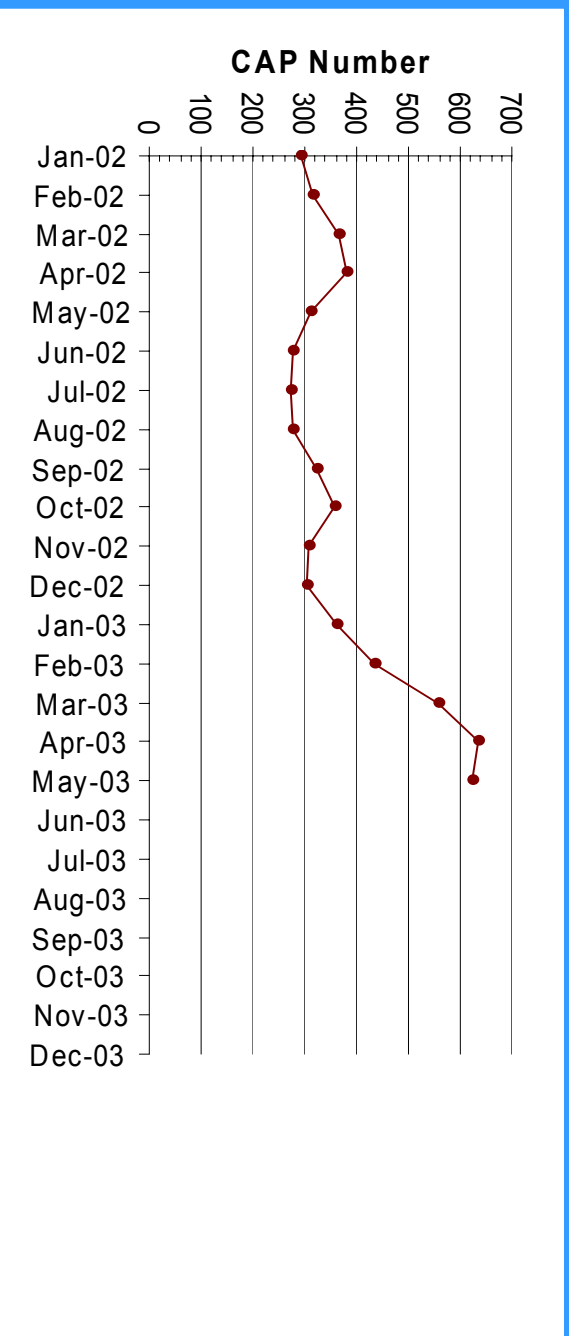
# *Corrective Action Program Progress-to-Date*

- Implemented a Formal, Rigorous Process for Screening Corrective Actions
- Lowered the Threshold for Reporting Problems and Improved Initiator Feedback
- Improved the Quality of Resolutions to Corrective Actions
- Strengthened Monitoring the Corrective Action Program Performance
- Strengthening Accountability in the Timeliness of Corrective Actions



# *Corrective Action Program Progress-to-Date*

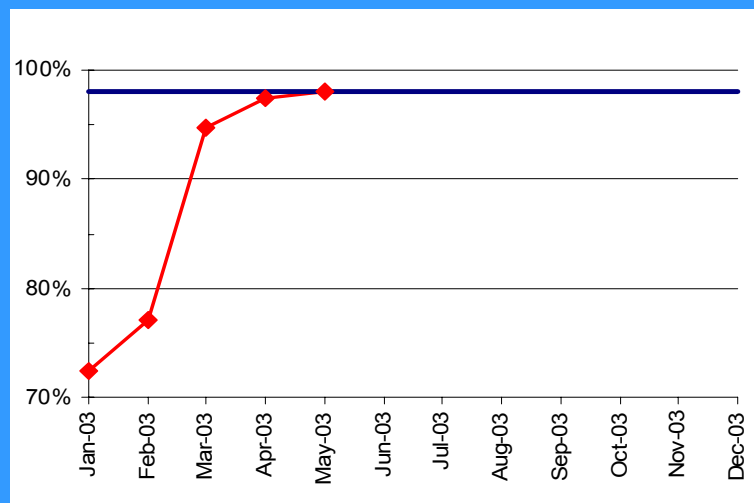
## CAP Generation by Month



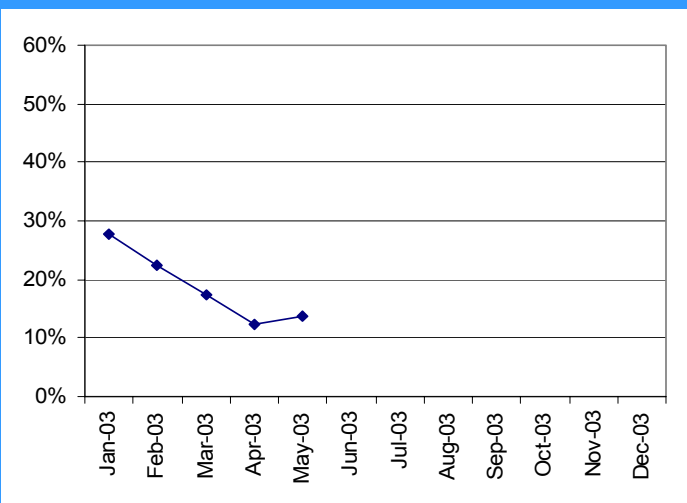


# *Corrective Action Program Progress-to-Date*

Corrective Actions Closed  
on Time



Corrective Actions Due Date  
Extensions

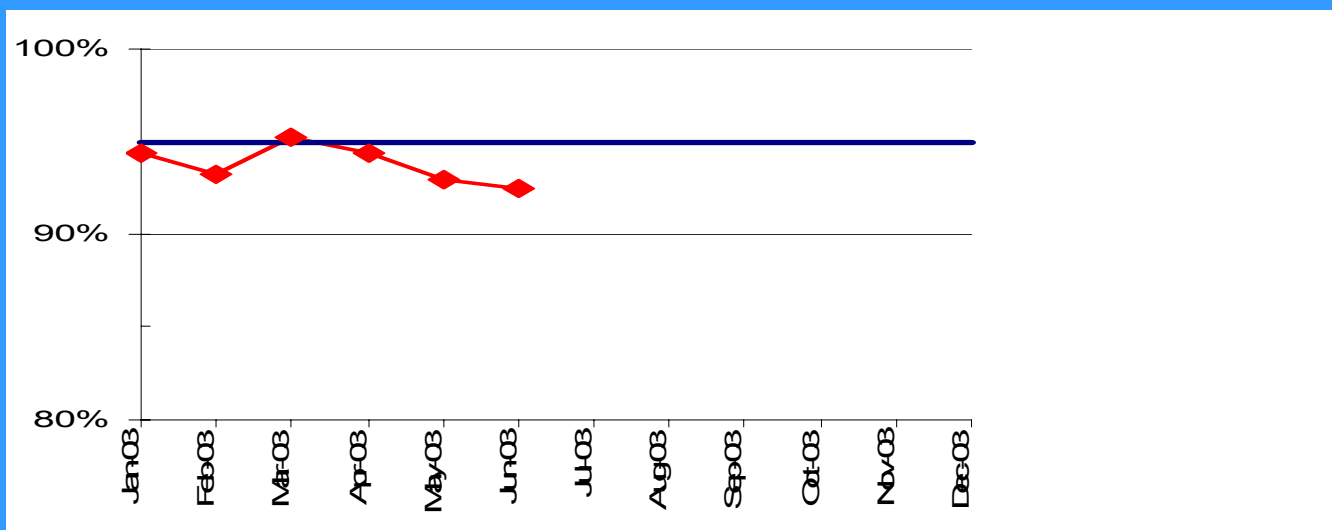




# *Corrective Action Program Progress-to-Date*

## ➤ Quality Check Acceptance

- Percentage of Actions Accepted During Quality Check / Technical Review Panel







# *Excellence Plan*

## *Emergency Planning Infrastructure*

### *Focus Area*

#### ➤ Problem Statement

- Emergency Planning Infrastructure Was Not Consistently Maintained

#### ➤ Causal Factors

- Processes and Facility Information Were Not Captured in Procedures or Guidelines
- Lack of Formal Drill/Exercise Development Procedures.
- Evaluations of Emergency Plan Changes Sometimes Inconsistent with Regulation
- Emergency Planning Program Personnel Were Not Effective at Maintaining the Program Infrastructure



# *Excellence Plan*

## *Emergency Planning Infrastructure*

### *Focus Area*

#### ➤ Objectives

A Robust Infrastructure Exists That Supports The Emergency Planning Program at Point Beach

- Line Ownership of Emergency Preparedness Program to Maximize Program Oversight
- Procedures and Guidelines In Place That Formalize Emergency Preparedness Processes and Requirements
- Formal Drill and Exercise Procedures
- Emergency Plan and Supporting Procedures Are Aligned With Regulation



# *Emergency Planning Picture of Excellence*





# *Emergency Planning Progress-to-Date Organization & Staff Proficiency*

- EP Manager Assigned Specific to Point Beach
- Hired Personnel With Previous EP Experience (EP Manager and EP Senior Coordinator)
- Hired a Supervisor With Strong Radiation Protection/Chemistry/Operations Background
- All Current Staff Has Attended NEI Training on EP
- Defining Roles and Responsibilities for all EP Staff
- Creating Procedures and Job Aids for Major Responsibilities, then Cross-Training Staff



# *Emergency Planning Progress-to-Date Plan/Procedures & ERO Proficiency*

- Utilizing A Multi-Discipline Team to:
  - Excellent Support and Ownership by the Line Organizations
  - Review and Upgrade Plan and Procedures
  - Retrain ERO On Changes As Required
- As Part of the Upgrade, We Are Developing ERO Proficiency by:
  - Implemented On-Call Rosters for Key Duty Positions
  - Implementing a More Comprehensive Drill Schedule That Allows More Training Time for ERO Members Each Year
- ERO Drill Participation Improved
- Alert and Notification System Reliability Improved



# *Emergency Planning Progress-to-Date Infrastructure*

- Implemented an EP Advisory Committee of Senior Station Management
- Implemented an EP Training Advisory Committee
- Revised Critique Process to Ensure Consistency and Review of all Pertinent Data
- Developed and Communicated an EP Vision And Mission for the Station
- Improved Implementation of the Corrective Action Program Within EP
- Utilizing a Multi-Discipline Team for Scenario Development
- Upgrading Document Control and Records Retention Practices for EP



# *Excellence Plan*

## *Design Change Process*

### *Focus Area*

- Problem Statement
  - Auxiliary Feedwater Modification Issues Raised Questions Regarding Modification Quality
- Causal Factors
  - Expectations for Design Change Process Development Were Not Effectively Communicated
  - Quality Review Teams Were Not In-Place
  - Ineffective Management Oversight and Reviews of Modifications



# *Excellence Plan*

## *Design Change Process*

### *Focus Area*

#### ➤ Objectives

Modification Process That Consistently Evaluates Impact of Proposed Changes to Plant System, Structures, and Components and Effectively Resolves Identified Issues

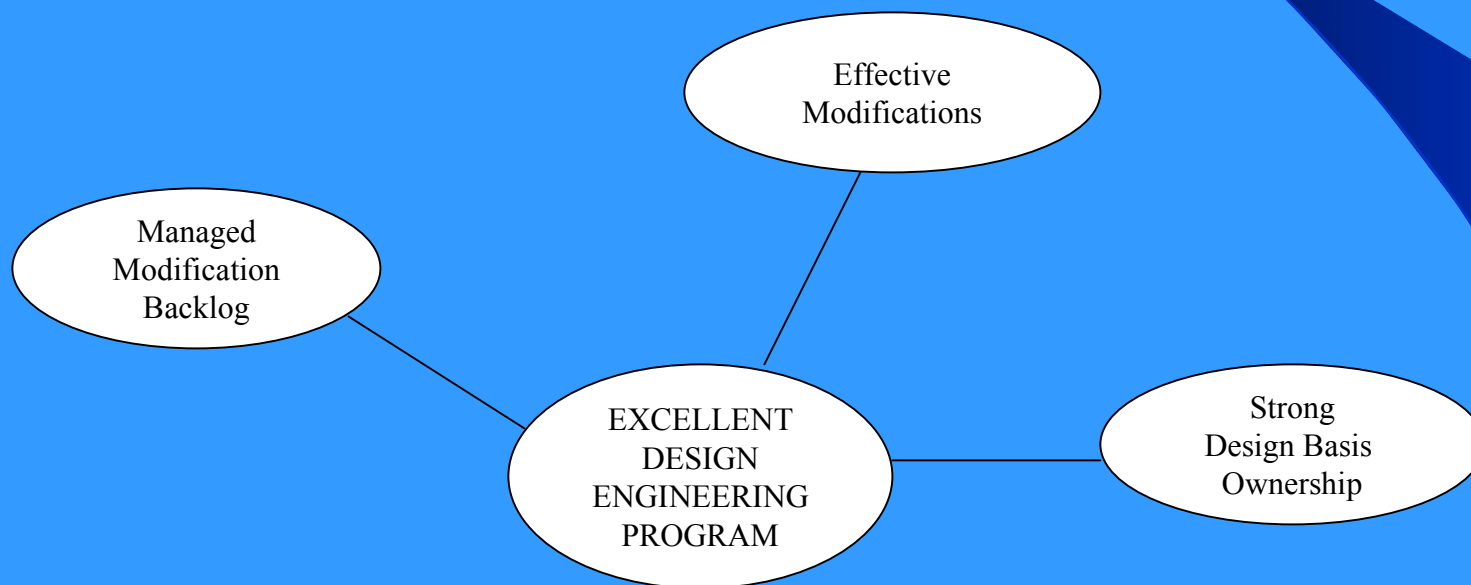
- Engineering Personnel Understand Roles, Responsibilities and Expectations
- Modifications Are Reviewed by the Design Engineering Review Board
- Selected Design Modifications Are Reviewed by the Quality Review Team for Quality and Completeness
- Proceduralized Modification Process Being Implemented to Ensure Technically Accurate Modifications





# *Excellence Plan*

## *Design Engineering*





# *Engineering Progress-to-Date Design Change Process*

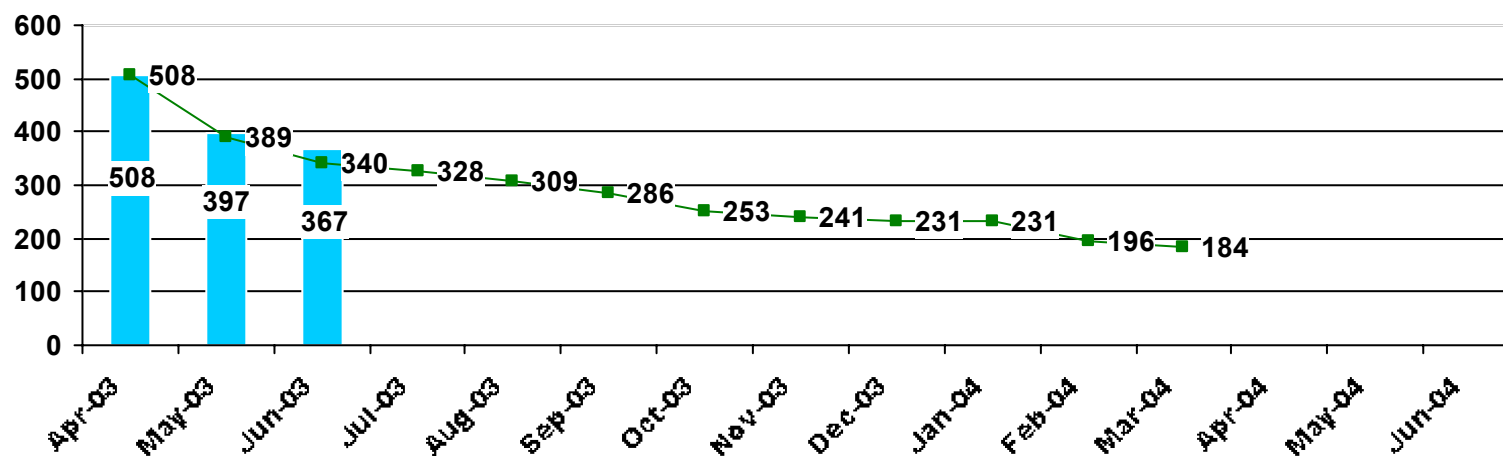
- Improvement In All Aspects of Engineering Support Program Training
- Initiate the Design Engineering Review Board
  - DERB Is Established and Functioning
- Utilize the Quality Review Team
  - QRT Is Implemented
- Formalize Backlog Reduction Methodology
  - Methodology Established for Modification Prioritization
- Fleet-wide Plant Modification Process Being Implemented
  - Conducted Training



# *Engineering Progress-to-Date*

## ➤ Engineering Excellence Plan Activities

- Proposed Workdown Curve for All Actions Assigned to Engineering





## *Closing Remarks*

- NMC and WE Energies Are Supportive of Point Beach Improvement Initiatives
- Point Beach Continues to Operate Safely
- Risk Significant Auxiliary Feedwater Issues Have Been Resolved
- We Looked Hard and Are Confident We Are Identifying Our Issues
- As a Learning Organization We Will Continue to Look Objectively to Identify and Resolve Issues
- Robust Plan for Sustainable Performance Improvement
- Progress Has Already Been Made In Key Areas
- We Are Prepared to Support Your Inspection Efforts