

December 30, 1992

Docket No. 50-346

LICENSEE: TOLEDO EDISON COMPANY
FACILITY: DAVIS-BESSE NUCLEAR POWER STATION, UNIT 1
SUBJECT: SUMMARY OF MEETING HELD ON DECEMBER 2, 1992
TO DISCUSS UPCOMING REFUELING OUTAGE PLANS
AND RECENT PLANT PERFORMANCE

On December 2, 1992, NRC staff members met at Rockville, Maryland, with employees of Toledo Edison Company (TE) to discuss the upcoming refueling outage plans and recent plant performance for the Davis-Besse Nuclear Power Station, Unit 1. A list of attendees is included as enclosure 1. The handout used at the meeting is included as enclosure 2.

As shown in enclosure 2, Davis-Besse items discussed at the meeting were organizational changes, cycle 8 performance, major 1992 activities, the upcoming eighth refueling outage, and long term issues. During the discussion, TE commented that the motor-operated valve test program was beginning to impact the outage path. At the conclusion of the meeting, there were no outstanding questions from either TE or the NRC staff.

ORIGINAL SIGNED BY

Jon B. Hopkins, Sr. Project Manager
Project Directorate III-3
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Office of Nuclear Reactor Regulation

DISTRIBUTION

Enclosures:

A stated

cc w/enclosure:

See next page

Docket File

NRC & Local PDRs

PD3-3 Reading

TMurley/FMiraglia

JPartlow

JRoe

TKing

JHannon

PKreutzer

JHopkins

OGC

EJordan

SStasek

RLanksbury

ACRS(10)

GGrant, EDO

Region III, DRP

OFFICE	PDIII-3:LA:DRPW	PDIII-3:PM:DRPW	PDIII-3:PD:DRPW
NAME	PKreutzer <i>JBH</i>	JBHopkins/jbh/baj	JHannon <i>JBH for</i>
DATE	12/30/92	12/30/92 <i>JBH</i>	12/30/92

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DR ADOCK 05000346
PDR

DFD!

Davis-Besse Nuclear Power Station
Toledo Edison Company

Unit No. 1

cc:

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Enclosure 1

ATTENDEES

December 2, 1992

<u>NAME</u>	<u>ORGANIZATION</u>
J. Roe	NRC
T. King	NRC
S. Stasek	NRC
J. Hopkins	NRC
R. Lanksbury	NRC
J. Hannon	NRC
D. Shelton	TE (Centerior)
L. Storz	TE
S. Jain	TE
R. Schrauder	TE
J. Rogers	TE
N. Bonner	TE
T. Chambers	TE
M. Leisure	TE

TOLEDO EDISON/NRC SENIOR MANAGEMENT MEETING

**Nuclear Regulatory Commission
Headquarters**

Rockville, Maryland

December 2, 1992

AGENDA

TOLEDO EDISON/NRC

SENIOR MANAGEMENT MEETING

**NRC Headquarters
Rockville, MD**

- **Organizational Changes**
- **Cycle 8 Performance**
- **Major 1992 Activities**
 - Motor Operated Valve Programs
 - Plant Modification Backlog Reduction
 - Water Chemistry
 - Containment Neutron Surveys
 - Casualty Control Drill
 - Continuous Improvement Initiatives
- **Eighth Refueling Outage**
 - Overview
 - Outage Goals
 - Shutdown Risk Management
 - RCS Leakage
 - Steam Generator Activities
 - Commitment Status
 - NRC Actions
- **Long Term Issues**
 - Spent Fuel Storage
 - New Standard Technical Specifications
 - Generic License Renewal Application
 - Individual Plant Examination

V. P. NUCLEAR
Don Shelton

PLANT MANAGER

Lou Storz

- Plant Operations
- Plant Maintenance
- Radiation Protection
- Security

**DIRECTOR -
QUALITY
ASSURANCE**

Greg Gibbs

- Quality Verification
- Quality Control

**DIRECTOR -
D-B ENGINEERING**

Sushil Jain

- Nuclear Engineering
- Systems Engineering
- Design Engineering
- Performance Engineering
- Engineering Assurance and Services

**DIRECTOR -
TECHNICAL
SERVICES**

Ted Myers

- Nuclear Licensing
- Emergency Preparedness
- Environmental Compliance
- Nuclear Safety and Hygiene
- Nuclear Training

**DIRECTOR -
PLANNING &
SUPPORT**

Eric Salowitz

- Maintenance Planning and Outage Management
- Integrated Planning
- Materials Management
- Plant Services

MANAGER - ISE

Vince Sodd

Organizational Changes

- **Promotions**

- Superintendent - I&C Maintenance to Manager - DB Maintenance

- **Rotational Development Program**

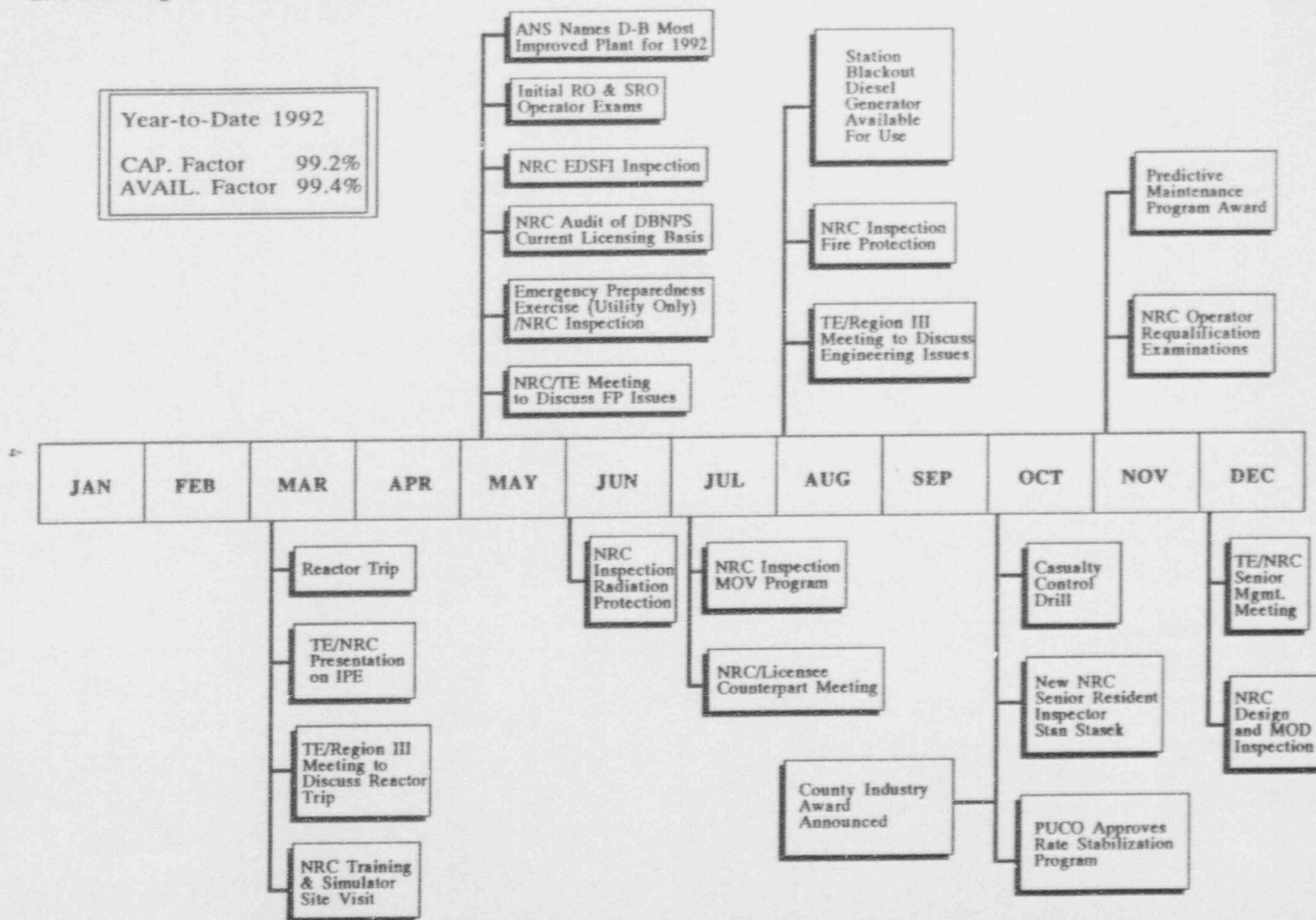
- Manager - Independent Safety Engineering to SRO Class
- Superintendent - Maintenance Services to Manager - Independent Safety Engineering
- Manager - Maintenance Planning and Outage Management to Superintendent - Maintenance Services
- SRO Candidate (previous Superintendent - Electrical Maintenance) to Manager - Maintenance Planning and Outage Management
- Superintendent - Electrical Maintenance to Superintendent - I&C Maintenance

Organizational Changes

- **Rotational Development Program (cont.)**
 - Superintendent - Shift Operations to Superintendent - Electrical Maintenance
 - SRO Class Graduate (previous Facility Modifications Section Manager) to Superintendent - Shift Operations
 - Supervisor - Independent Safety to New Standard Technical Specifications Program Manager
 - SRO Class Graduate (previous Supervisor - Mechanical Design) to Windows Program Manager
 - General Supervisor - Radiological Support to SRO Class
 - Manager - Materials Management to Manager - Integrated Planning
 - Manager - Quality Systems to Manager - Materials Management

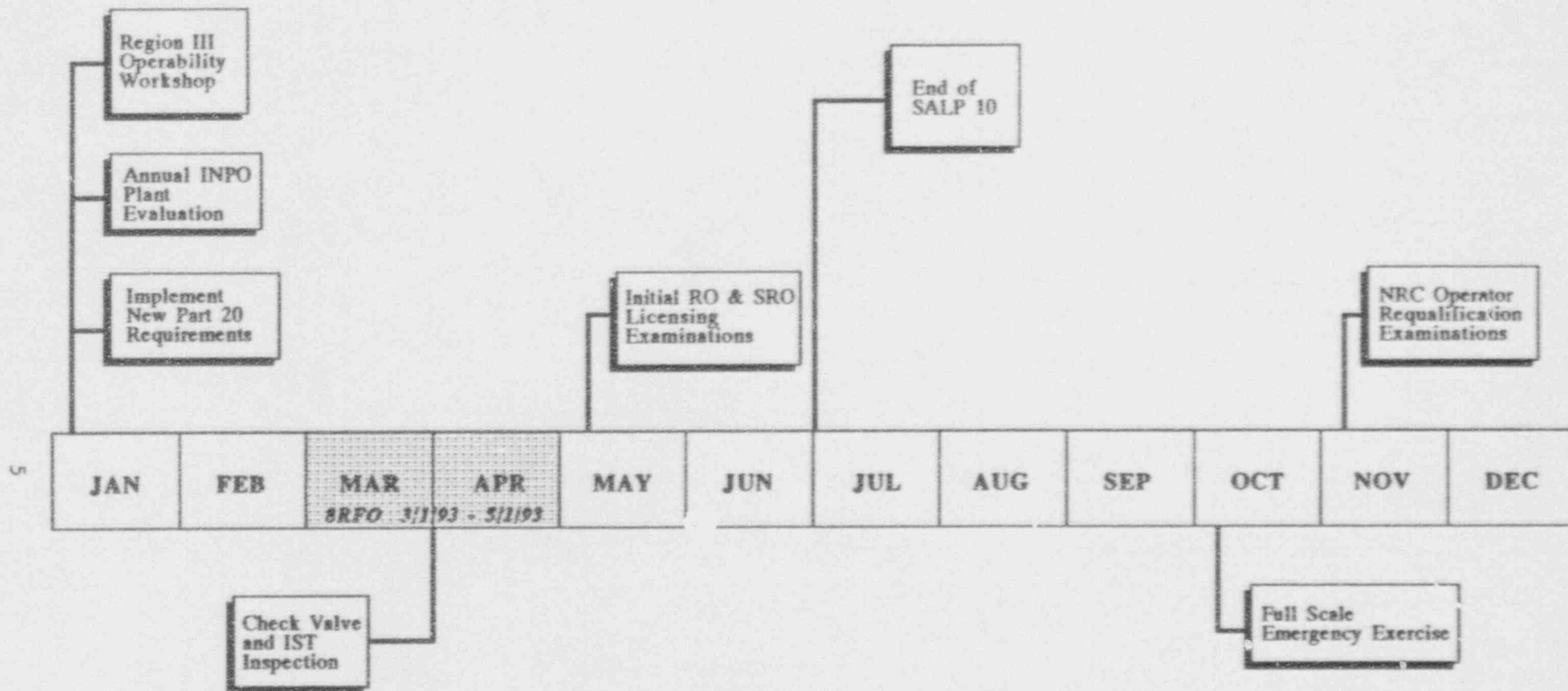
DAVIS-BESSE NUCLEAR POWER STATION

1992 MAJOR ACTIVITIES



DAVIS-BESSE NUCLEAR POWER STATION

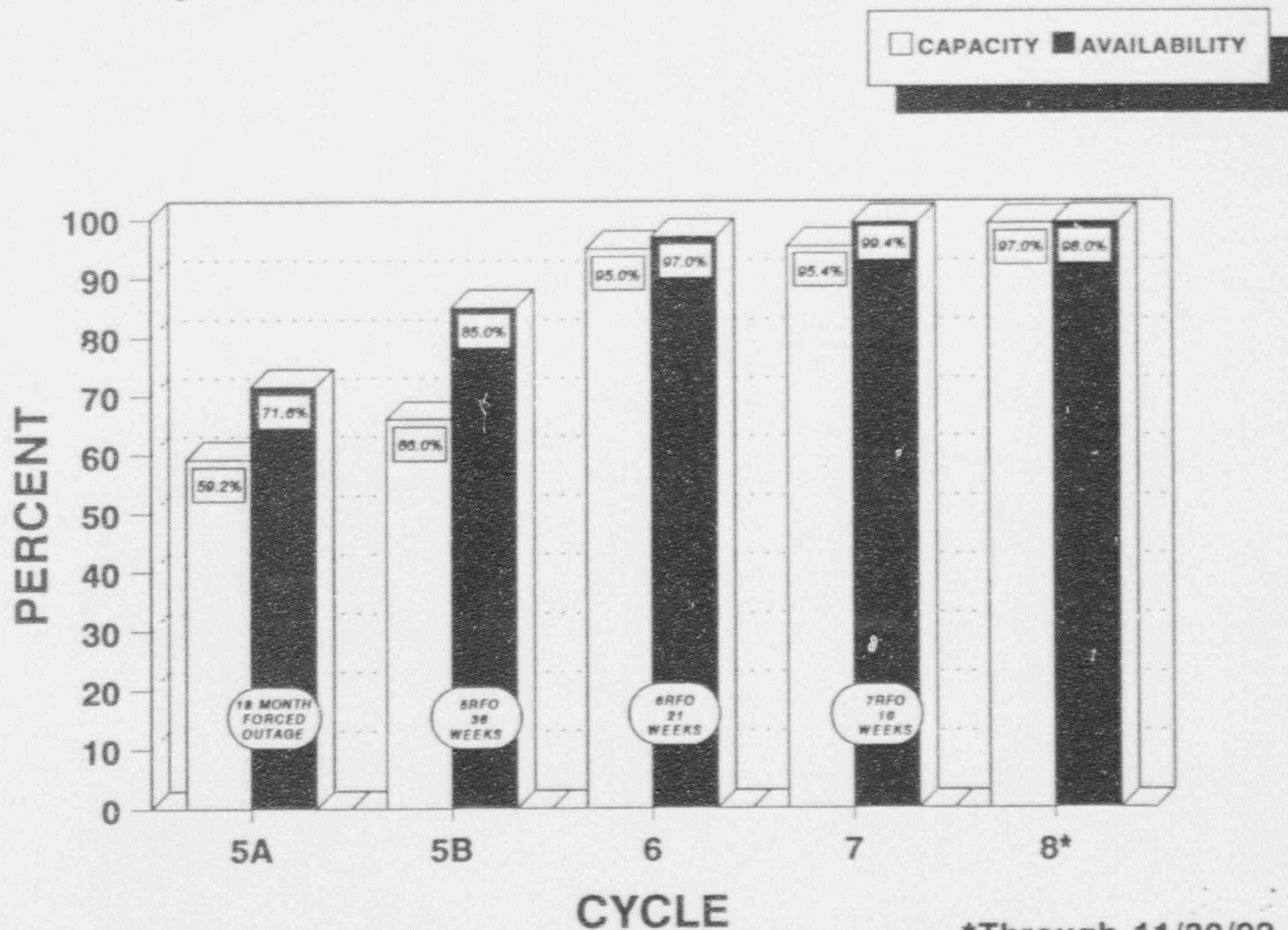
1993 MAJOR ACTIVITIES



Cycle 8 Performance

DAVIS-BESSE NUCLEAR POWER STATION

Cycle Availability and Capacity Factors



MAJOR 1992 ACTIVITIES

Motor Operated Valve Program

Industry Activities

- EPRI Stem Lubricant Testing Program
- MOV User's Group
- Liberty Valve Operator Test Evaluation System (VOTES)
User's Group
- Region III Manager's Forum on MOVs
- B&W Valve Working Group
- NUMARC Technical Exchange

Motor Operated Valve Program

Generic Letter 89-10

- **NRC Inspection July, 1992**
 - No Violations
 - One Deviation

- **Meeting with Region III Staff August, 1992**

- **Results of Testing to Date**
 - Six Tests Completed
 - Met Previous Acceptance Criteria
 - Identified Deficiencies Related to Revised Acceptance Criteria
 - No Safety Significant Concerns
 - Voluntary Report

Plant Modification Backlog Reduction

- **Reduce Backlog of Plant Changes in Various Stages of Implementation**
 - Process Partially Implemented Changes
 - Void Unwanted Changes
 - Closeout Changes which are Field Complete
- **Project is 87% Complete**
 - Target Completion Date is April, 1993
- **All Backlog Plant Changes Reviewed**
 - No Changes Found Which May Adversely Impact Safe Operation of Plant or Personnel Safety

Water Chemistry

All Volatile Treatment

- Startup to May, 1989 -- Ammonia/Hydrazine
- May, 1989 to Present -- Morpholine/Hydrazine
 - Iron Transport Reduced One Third to One Half
 - Erosion Rates Reduced by Factor of Four

Water Chemistry

Alternate Amines

- **Pilot Program with EPRI**
- **Maintain/Extend Useful Life of Steam Generators**
 - Reduce Iron Transport to Steam Generators
 - Delay Chemical Cleaning the Steam Generators
 - Decrease Erosion/Corrosion in Low Pressure Piping
 - Reduce Cation Conductivity in Feedwater
- **Baseline Study Initiated August, 1992**
- **Three Amines to be Tested**
 - Ethanolamine (ETA) (testing complete)
 - 2-Amino-2-Methylpropanol (AMP) (testing in progress)
 - 3-Methoxypropylamine (MPA) (testing to be conducted later in cycle if time permits)

Containment Neutron Surveys

- Containment Entries More Frequent
- Neutron Dose Presently Overestimated by 2 to 5 Times
- Neutron Energy Spectrum Survey Conducted at 100% Power
- Results used for
 - More Accurate Future Neutron Dose Assignments and Estimates
 - Reassessment of 1992 Data
- Results Expected by End of Year 1992

Casualty Control Drill

- Conducted October 7, 1992
- Demonstrate Plant Emergency Repair Activities, Minimizing Simulation
 - Dispatch Operations Support Center Teams
 - Assemble Personnel in Protected Area
 - Utilize Offsite Firefighting Assistance
- Evaluated with Assistance of Eight INPO Observers
- All Objectives Satisfactorily Met

Continuous Improvement Initiatives

Self Assessment Activities

- Industry Event Reviews
- Transient Assessment Team
- Windows Program
- 7RFO Outage Critique
- Maintenance Self-Assessment
- Training Self-Assessment
- Industrial Safety Self-Assessment
- Security Involvement in Investigating Plant Events
- Safety System Functional Review (Once Through Steam Generators)
- Contaminated Leakage Pathway Control Review
- CNRB Review of Reliability and Trip Vulnerability
- Team 91 Focus Teams

Continuous Improvement Initiatives

Industry Group Involvement

- Midwest Nuclear Engineering Manager's Forum
- NRC/Licensee Counterparts Meeting (Region III)
- Nuclear Emergency Plan Advisory Council (with Beaver Valley, Perry, State, and County)
- Region III Industrial Safety Organization
- Region III Working Group on 10CFR20 Implementation
- Midwest Nuclear Training Association
- Midwest Nuclear Plant Manager's Association
- Great Lakes QA Manager's Association - Region III

Continuous Improvement Initiatives

Peer Review Activities

- INPO Technical Exchange Visit (Outage Experience/Safety Practices) - Doel (Belgium)
- Joint Utility Management Audit
- INPO Plant Peer Evaluations
 - Kewaunee
 - Three Mile Island
 - Turkey Point
 - Crystal River
 - Palisades
 - Salem
 - St. Lucie
- Emergency Planning Peer Evaluations
 - Ft. Calhoun Casualty Control Drill
 - Perry Dry Run and Exercise
- Licensing Peer Evaluations
 - Palisades
 - Big Rock
- Training Accreditation Team Peer Evaluations
 - Cooper
 - Seabrook
- Procurement Peer Review - Region III Plants
- Joint Utility Technical Specialist Exchange for Auditors

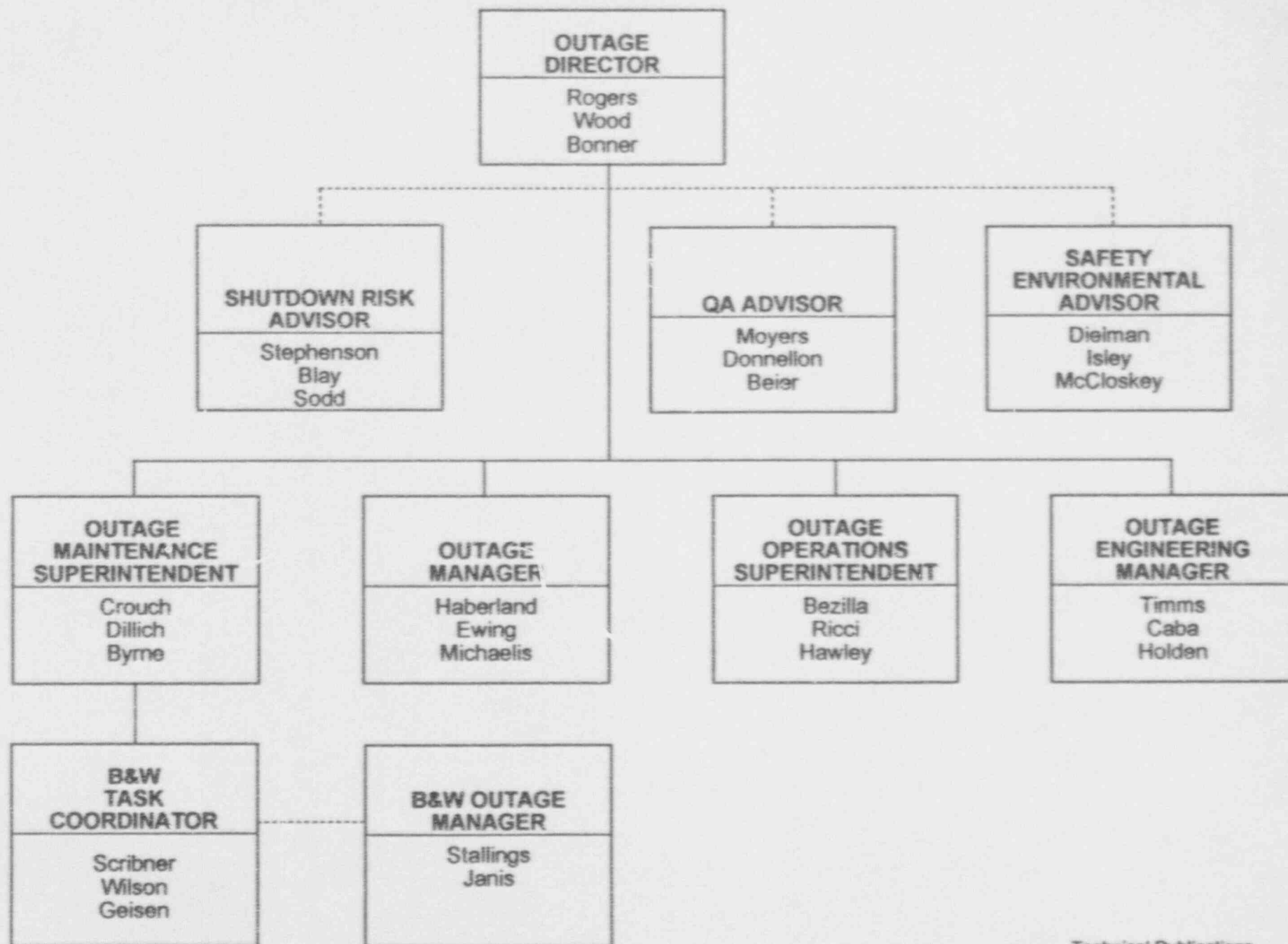
Eighth Refueling Outage (8 RFO)

Eighth Refueling Outage

Overview

- Start 3/1/93
- Full Core Offload
- 62 Day Planned Duration
- Work Scope
 - 30 Modifications
 - 610 Preventive MWOs
 - 447 Corrective MWOs
 - 165 MOV Activities
- Cost (Millions)
 - \$21.5 Incremental O&M
 - \$13.8 Modifications
- Resource Sharing Program
- Integrated Outage Contract - Babcock and Wilcox

EIGHTH REFUELING OUTAGE MANAGEMENT TEAM



Eighth Refueling Outage

Outage Goals

1.	Lost Time Accidents	≤ 1
2.	OSHA Recordables	< 13
3.	Loss of Core Cooling Events	0
4.	ESF Actuations	0
5.	Outage Duration	≤ 62 days
6.	Scheduled MWOs Completed	≥ 95%
7.	Scheduled MODs Completed	100%
8.	Emergent Work Man-hour Increase	< 20%
9.	Rework Items	< 2%
10.	Cumulative Dose	< * person-rem
11.	Solid Radwaste Generation	< * cubic feet
12.	Personnel Contaminations	< *
13.	Increase in Total Area Contaminated	0
14.	One Hour Reportable Security Violations	≤ 2
15.	Incremental O&M Budget	≤ \$21.5 million
16.	Consecutive Days On-Line Without Trip Caused by Inaccurate Execution or Deferred Outage Work	≥ 90 days

* Actual numbers will be supplied when detailed job planning has been finalized and reviewed

Eighth Refueling Outage

Shutdown Risk Management

- **Nuclear Group Procedure -- Outage Nuclear Safety Control**
 - Establishes Specific Requirements for Shutdown Nuclear Safety Relating to the Scheduling of Outage Activities and the Availability of Plant Systems, Structures, and Components Necessary to Ensure:
 - Electrical Power
 - Decay Heat Removal
 - Reactor Coolant Inventory
 - Reactivity
 - Integrity of Fission Product Containment Barriers
 - Developed Using NUMARC, INPO, EPRI, and NUREG Guidance

Eighth Refueling Outage

Shutdown Risk Management (cont.)

- **Outage Schedule Provides Defense in Depth and Implements Requirements for Key Safety Function Availability**
 - Outage Safety Review Conducted by Multi-Disciplined Group
- **Outage Activities Controlled and Implemented According to Approved Schedule**
- **Schedule Changes Subject to Same Philosophy and Basis as Initial Schedule**
 - ISE Overview
- **Heightened Plant Status Visibility**
 - Plan of Day Meetings
 - Plant Status Boards
 - Shift Turnover Briefings
- **Post-Outage Critique to be Conducted**

Eighth Refueling Outage

RCS Leakage

- **Unidentified RCS Leakage 0.35 to 0.45 gpm**
 - Tech Spec Limit 1 gpm
- **Formal RCS Leakage Plan Implemented**
- **Containment Walkdowns During Cycle to Locate Source of Leakage and Plan Corrective Action**
 - Several Inspections Outside D-Ring
 - March 1992 Inspection Inside D-Ring After Power Reduction to 6%
- **Suspected Prime Contributors**
 - Flange Leakage From OTSG Manways and Handholes
 - Gasket Leakage From Eight RCS Hot/Cold Leg Temperature Instrument Penetrations
 - Leakage from CRDM Flanges
- **Comprehensive Inspection of RCS Planned For 8RFO**

Eighth Refueling Outage

Steam Generator Activities

- **Current Status of Steam Generators**

- SG 1-1 Loop 1 (B)
20 of 15457 tubes plugged
- SG 1-2 Loop 2 (A)
54 of 15457 tubes plugged

- **Integrated Steam Generator Plan**

- Eddy Current Testing (Each Outage, 100% for 8RFO)
- Preventive Sleeving (420 sleeves planned for 8RFO)
- Main Feedwater Nozzle Spray Plates (8RFO)
- Water Slap (future outages, if needed)
- Chemical Cleaning (future outages, if needed)

Eighth Refueling Outage

Commitment Summary

- 44 Commitments to be Completed
- 1 Commitment Redefined
 - Feed and Bleed Upgrades
- 4 Commitments Reassessed as Unwarranted
 - SPIP (2)
 - HED
 - Hose Station Upgrade

Eighth Refueling Outage

Safety Performance Improvement Program

- Program Complete After 8RFO

- Recommendation Summary

- Total Recommendations	222
- Total Implemented to Date	176
- To Be Implemented in 8RFO	2
- Not Applicable to D-B	38
- Rejected	6

Eighth Refueling Outage

Detailed Control Room Design Review

- HED Disposition Complete

- Summary

- Total HEDs Identified	378
- Safety Significant*	29
- Closed as of 7RFO	377
- Closed During Cycle 8	1

* *All Safety Significant HEDs Completed
as of end of 6RFO*

Eighth Refueling Outage

NRC Actions

- **Technical Specification Changes**

- Revise Fuel Assembly Description (Submitted October 29, 1992)
- Allow Operation With Inoperable Relative Position Indication (submitted April 30, 1992)
- Allow Dilution of RCS High Boron Concentration During Refueling (Submitted May 1, 1992)
- Eliminate Requirement for Safety Features Actuation System During Refueling (Submitted July 28, 1992)
- Increase Allowable Maximum Steam Generator Water Level (Submitted September 3, 1992)

- **Other Approvals**

- B&W Topical Report (BAW-10180) for NEMO Core Design Computer Code (NRC Approval is Imminent)
- B&W Topical Report (BAW-2149) on Licensing Improvements for Fuel Reconstitution (NRC Approval Expected 1st Quarter, 1993)

Long Term Issues

Spent Fuel Storage

- **Original Design of Davis-Besse (1969)**
 - Ship Fuel Offsite for Reprocessing
- **Spent Fuel Pool Re-Racked in 1978**
 - Capacity Increased to 735 Fuel Assemblies
 - Complete Core Offload Capability Until 10RFO
- **Decision Made to Proceed with Certified Dry Cask Storage System**
- **Initial Use of Casks mid-1995, Prior to 10RFO**

New Standard Technical Specifications

- **PHASE 1**

Validation / License Amendment Request Preparation

- Plant-Specific Review of NUREG - 1430.
- Identification of Affected Plant Procedures

- **PHASE 2**

License Amendment Request Review and Submittal

- Submittal to NRC August, 1994
- NRC Approval August, 1995

- **PHASE 3**

Procedure Modification

- **PHASE 4**

Training Program Revision and Personnel Training

- **PHASE 5**

Station Implementation (April, 1996)

Generic License Renewal Application

- **B&W Owners Group (BWOOG) Taking Proactive Role**
 - BWOOG Executive Committee Gave One Year Approval
 - EPRI and DOE Approached to Provide Funding
 - BWOOG Project Team in Place
 - Detailed Project Plan Under Preparation
 - NRC Management Briefings Completed
 - NRC Staff Briefings Started
 - Technical Work Proceeding
- **Davis-Besse Providing Full-Time Project Coordinator in Lynchburg**

Individual Plant Examination (IPE)

- Quantification Essentially Complete
- Preliminary Evaluation Shows No Significant Vulnerabilities Identified
- Duke Engineering Independent Audit Completed
 - High Marks Received
- Report Being Finalized
- Initial Submittal Scheduled February, 1993