



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION III
801 WARRENVILLE ROAD
LISLE, ILLINOIS 60532-4351

February 25, 2000

Mr. R. P. Powers
Senior Vice President
Nuclear Generation Group
American Electric Power Company
500 Circle Drive
Buchanan, MI 49107-1395

SUBJECT: SUMMARY OF THE FEBRUARY 15, 2000, D. C. COOK PUBLIC MEETING

Dear Mr. Powers:

On February 15, 2000, the Nuclear Regulatory Commission (NRC) held a public meeting at the NRC Headquarters in Rockville, Maryland. The meeting was held to discuss the status of the D. C. Cook restart and NRC Manual Chapter (MC) 0350 oversight inspections. Formal presentations were made by the American Electric Power Company (licensee) staff. Enclosure 1 is a list of attendees for the meeting, and Enclosure 2 is a copy of the slides used by the licensee.

The MC 0350 public meetings between the licensee and the NRC staff are designed to provide a mechanism for the exchange of information and an update on the status of the readiness of the units at D. C. Cook to restart. Senior management from the NRC and the licensee participated in the meetings.

The licensee's presentations at the February 15, 2000, meeting provided the status of restart performance, regulatory activities, and the restart concurrence process.

The D. C. Cook Site Vice President presented to the NRC staff the current status of restart activities, including schedule progress, operations procedure update program, and operability determination resolution progress. The D. C. Cook Site Vice President stated that emphasis has been placed on quality and verbatim compliance to procedures, and that Operability Determinations will not be closed until associated corrective actions have been completed. The licensee and the NRC staff held discussions regarding the specific corrective actions being taken to address operations procedure issues. The licensee also presented the status of system turnover to operations, with 21 of 86 systems having been completed.

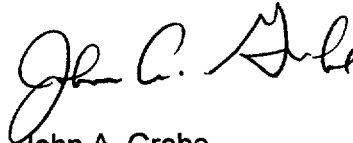
The D. C. Cook Regulatory Affairs Director presented to the NRC staff the current status of regulatory activities, including the status of Restart Action Plan items, and license amendments required prior to restart. The licensee management team and the NRC staff then discussed the licensee's proposed resolutions for six specific technical issues: Hydrogen Sub-Compartment, Containment Sump/Spray pH, Reactor Coolant Leak-off, Control Room Habitability, Lake Water Temperature Affects on Essential Service Water and Control Room Cooling, and Net Positive Suction Head for Emergency Core Cooling System Pumps. For each technical issue, the

D. C. Cook Regulatory Affairs Director briefly described the issue, the resolution strategy, and the current status of related actions.

The Senior Vice President - Nuclear Generation Group then presented to the NRC staff the process that will be used to verify and affirm the restart readiness of the D. C. Cook plant. The Restart Milestones were described including independent assessments that will be utilized to confirm restart readiness. In closing, the Senior Vice President stated that the focus of the restart effort is to safely complete restart required work, and assuring quality results.

Following the licensee's presentation, the NRC Manual Chapter 0350 Oversight Panel Chairman provided a summary of the results of the recent Emergency Operating Procedure inspection. Overall results of this inspection were positive with significant improvements being noted in this specific area. In addition, recent inspector observations of ongoing testing activities have confirmed that the testing is being performed in a deliberate and effective manner with a focus on quality. The NRC Manual Chapter 0350 Oversight Panel Chairman concluded the meeting by stating that the NRC staff is staged to address current license issues and extensive resources continue to be applied to the oversight of the D. C. Cook restart effort.

Sincerely,



John A. Grobe
Division of Reactor Safety

Enclosures: 1. List of Meeting Attendees
2. Licensee's Slide Presentation

Docket Nos. 50-315; 50-316
License Nos. DPR-58; DPR-74

cc w/encls: A. C. Bakken III, Site Vice President
J. Pollock, Plant Manager
M. Rencheck, Vice President, Nuclear Engineering
R. Whale, Michigan Public Service Commission
Michigan Department of Environmental Quality
Emergency Management Division
MI Department of State Police
D. Lochbaum, Union of Concerned Scientists

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J. Pollock, Plant Manager
M. Rencheck, Vice President, Nuclear Engineering
R. Whale, Michigan Public Service Commission
Michigan Department of Environmental Quality
Emergency Management Division
MI Department of State Police
D. Lochbaum, Union of Concerned Scientists

DOCUMENT NAME: G:\0350 Public Meetings\0350-02-15-00 minutes.wpd

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NAME	Passehl/co <i>dp</i>		Vegel <i>AV</i>		Craig <i>AV for</i>		Shear <i>GLS</i>		Grobe <i>GLS</i>
DATE	02/22/00		02/22/00		02/22/00		02/22/00		02/22/00

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** Received concurrence via telephone, all comments were incorporated.*

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R. Powers

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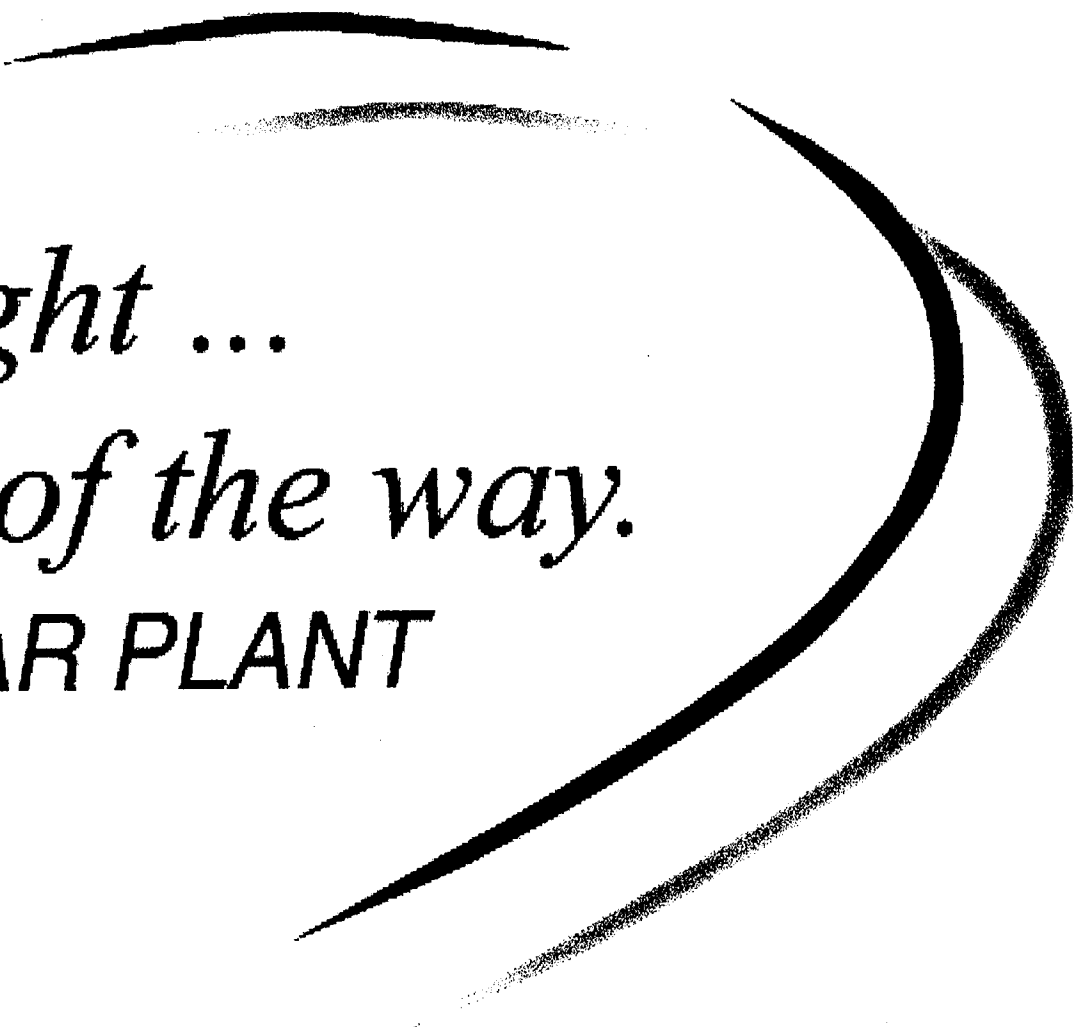
Docket File w/encls

GREENS

D. C. Cook Nuclear Plant

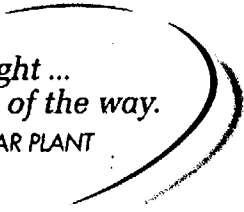
February 15, 2000, NRC 0350 Restart Panel Meeting

Name	Organization
Mike Rencheck	Engineering
Robert Godley	Director Reg Affairs
Bob Powers	Senior Vice President
Chris Bakken	Site Vice President
Bruce Bartlett	NRC/Region III
John Zwolinski	NRR-DLPM
Sam Collins	NRR/NRC
Jack Grobe	NRC/Region III
S. Singh Bajwa	NRC/NRR
Claudia Craig	NRC/NRR
John Stang	NRC/NRR
Joseph Gallo	Gallo & Ross
Dan Salter	HGP, Inc
Peter Moeller	AEP- Consultant
Anton Vogel	NRC/Region III
Gary Shear	NRC Region III
Brian McCabe	NRC - Comm. Merrifield Office
Dave Lochbaum	Union of Concerned Scientists
Perry Robinson	Hopkins and Sutter
Dave Jenkins	AEP
Mark Satorious	NRC - EDO Office



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Every step of the way.
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Every step of the way.*
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American Electric Power

Meeting with

Nuclear Regulatory Commission

Restarting D. C. Cook
February 15, 2000



Agenda

■ **Introduction**

Bob Powers

■ **Restart Performance**

Chris Bakken

■ **Regulatory Activities**

Robert Godley

■ **Restart Concurrence
Process**

Bob Powers

■ **Closing**

Bob Powers

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Restart Performance

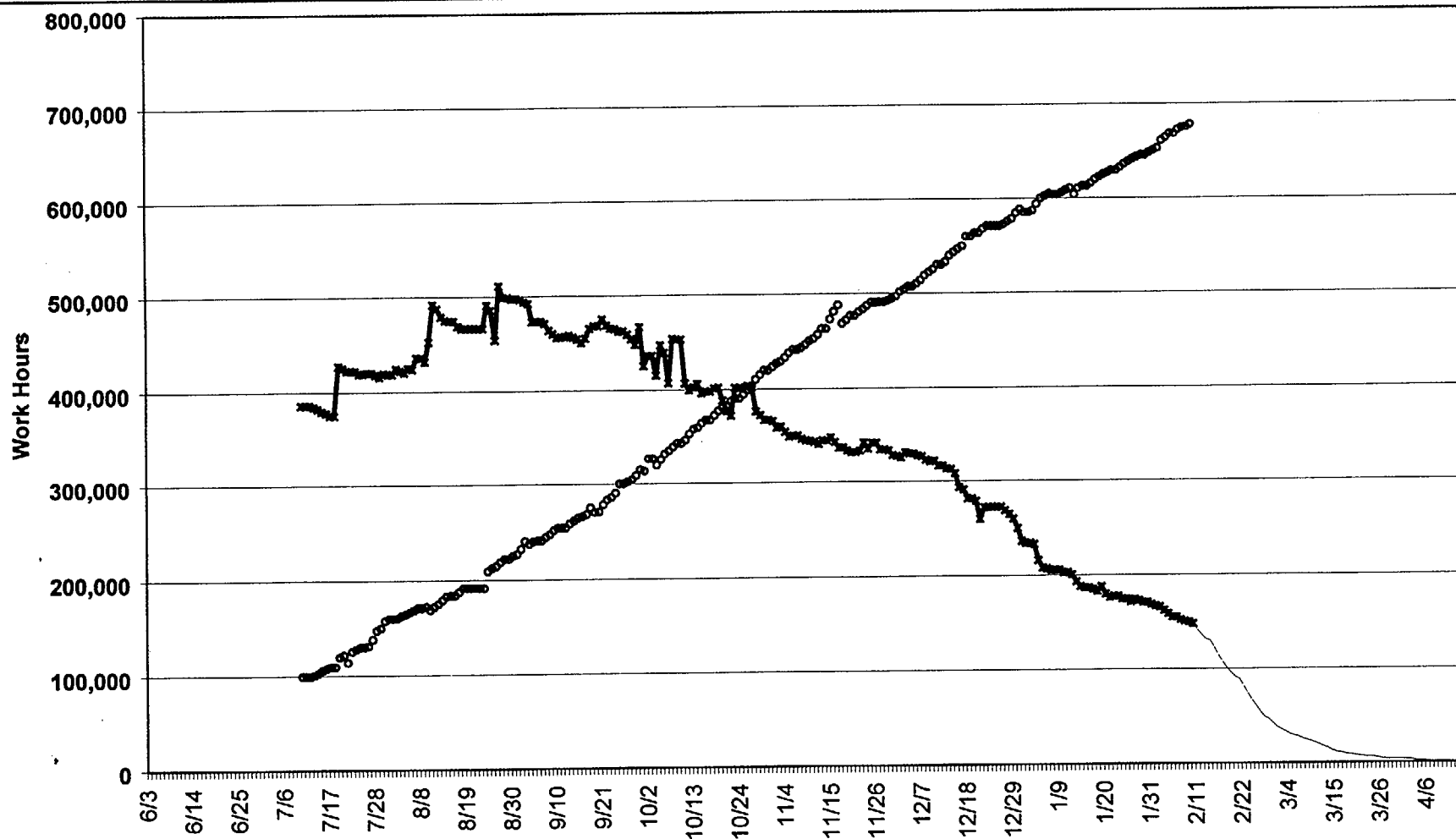
Chris Bakken

Site Vice President

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Schedule Progress

SITE U2R97 P3 Schedule of Work-Hour Usage



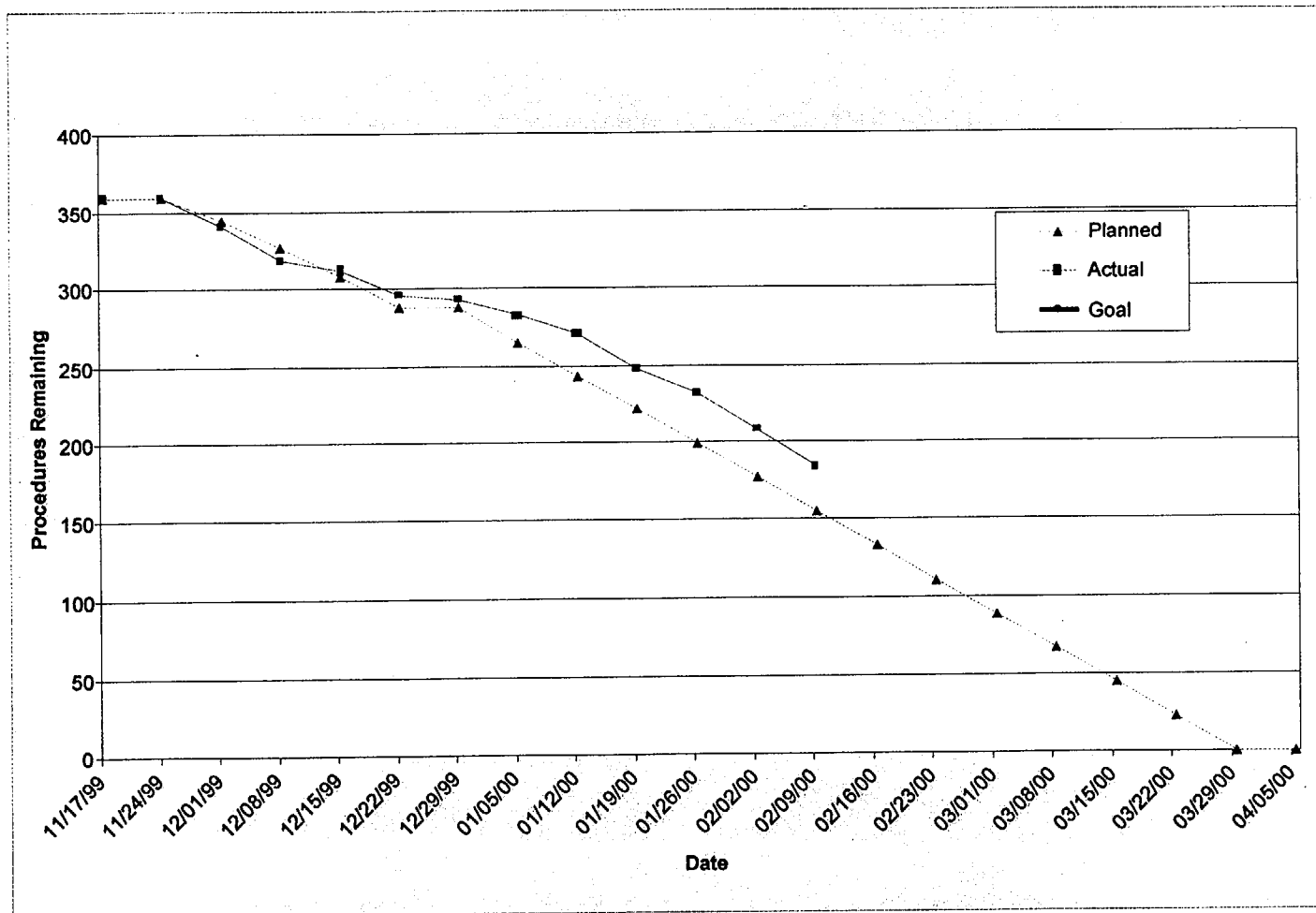
—●— To Go Hrs TOTAL

----- SITE Schedule 02/10

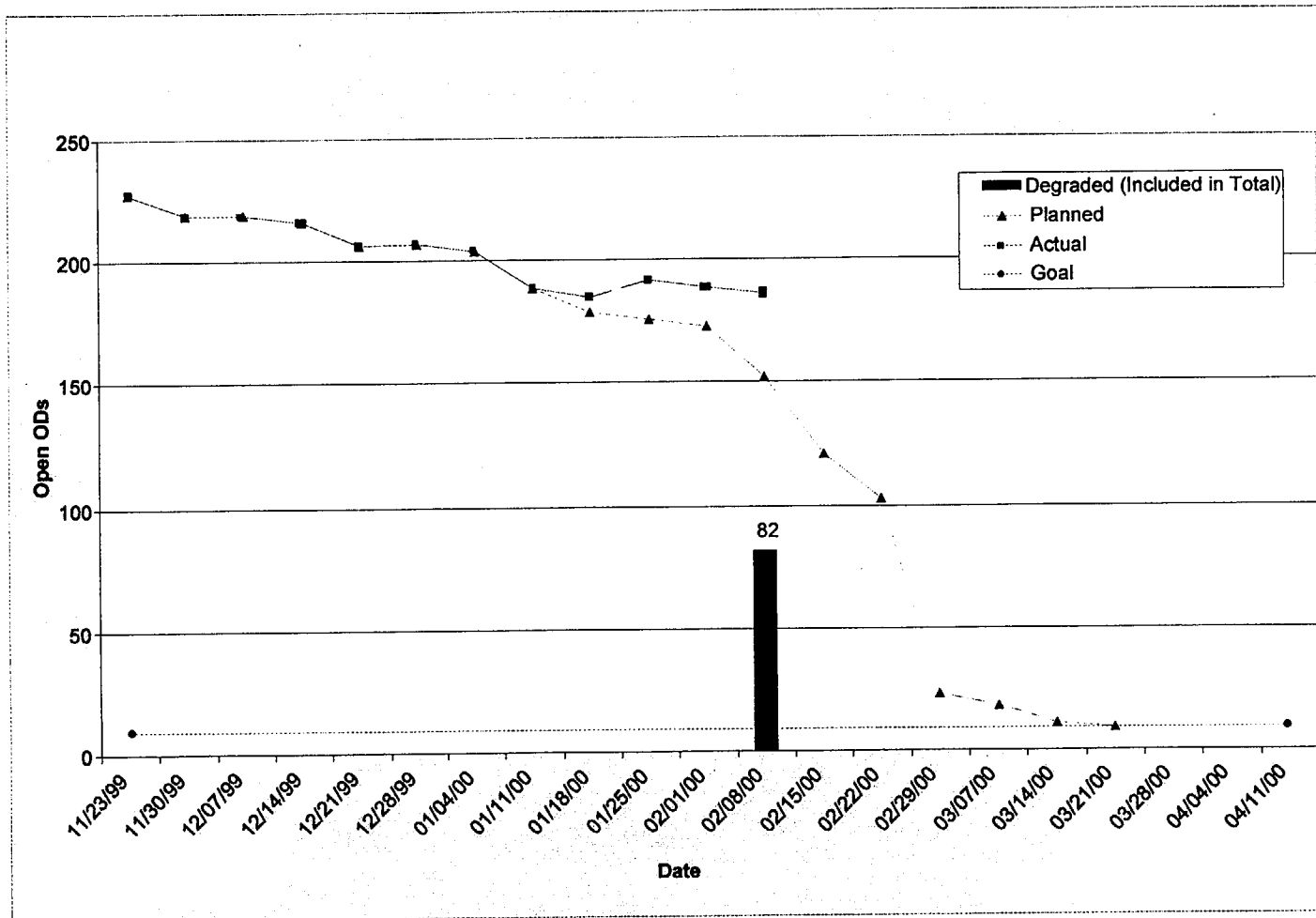
○ Completed HRs TOTAL



Operations Procedures Program (Unit 2 and Common)

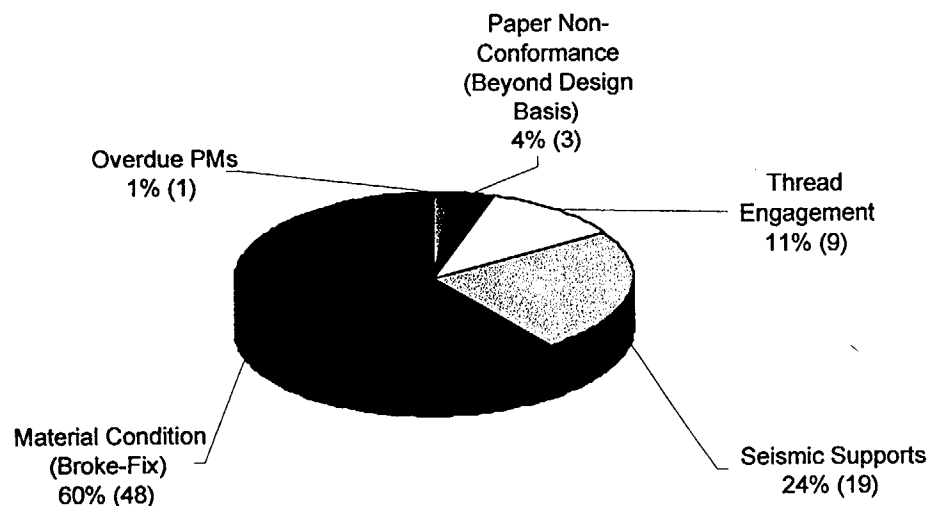


Operability Determinations

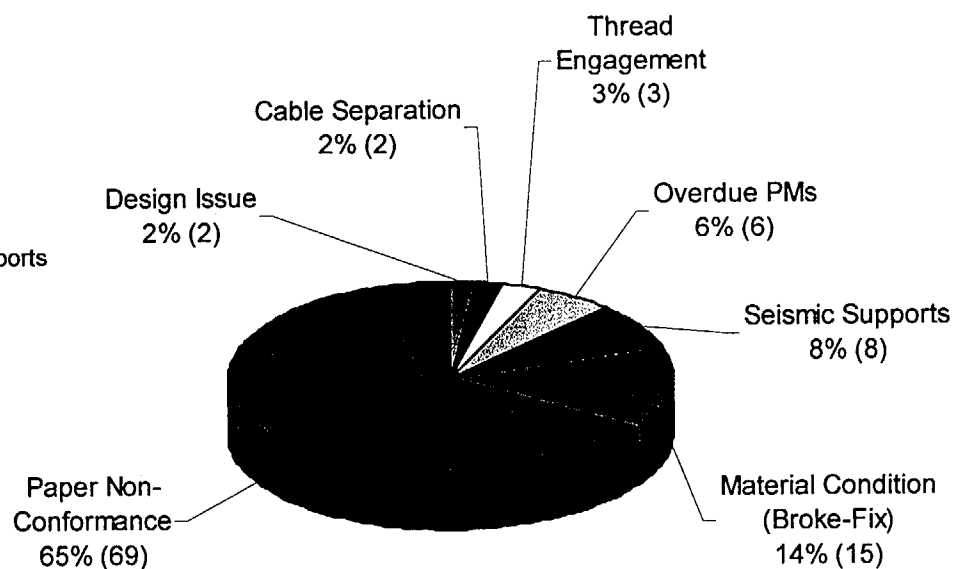


Breakdown of Unit 2 & Common Degraded and Non-conforming Conditions

Degraded
Unit 2 and Common



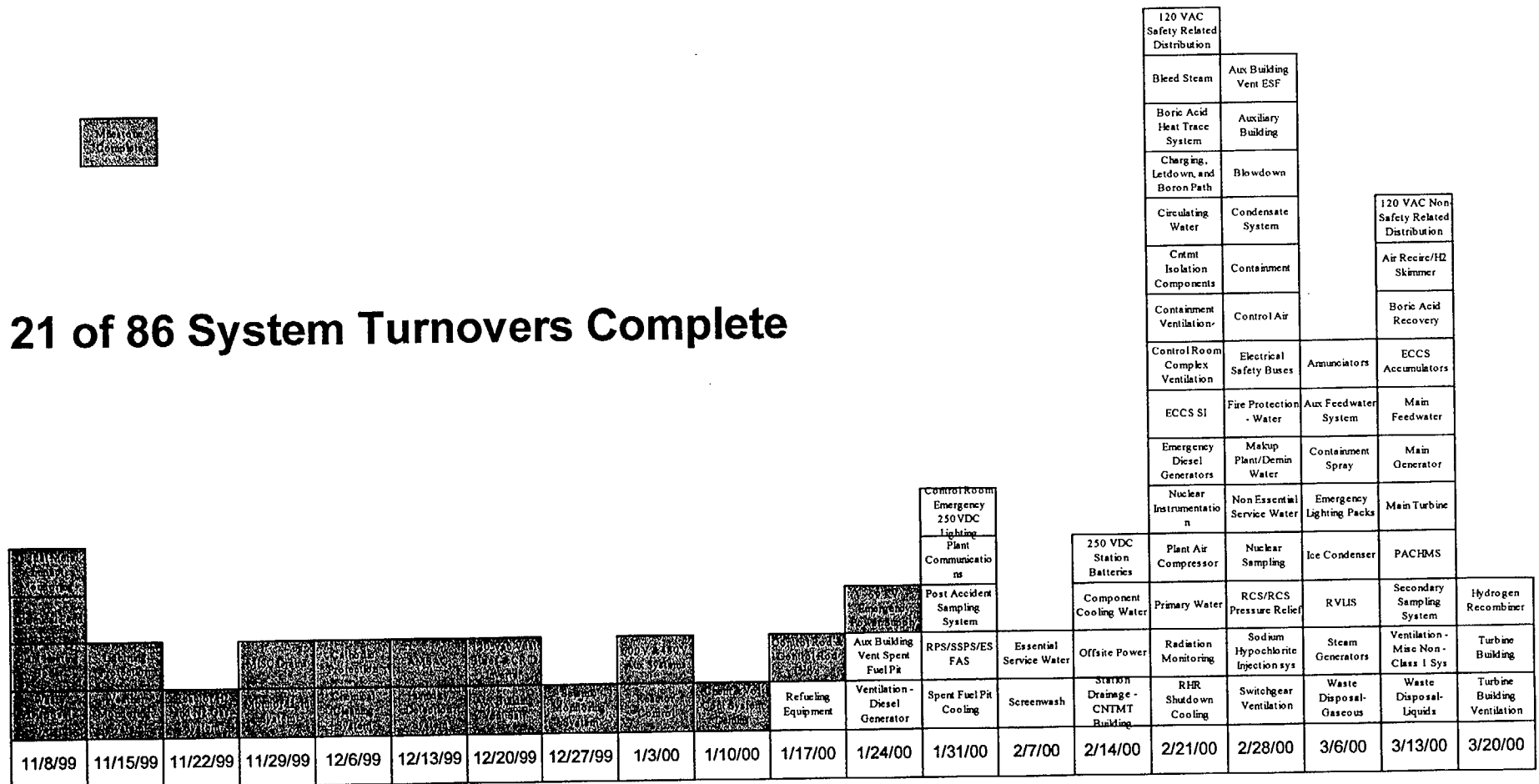
Non Conforming
Unit 2 and Common



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of the way.
AR PLANT

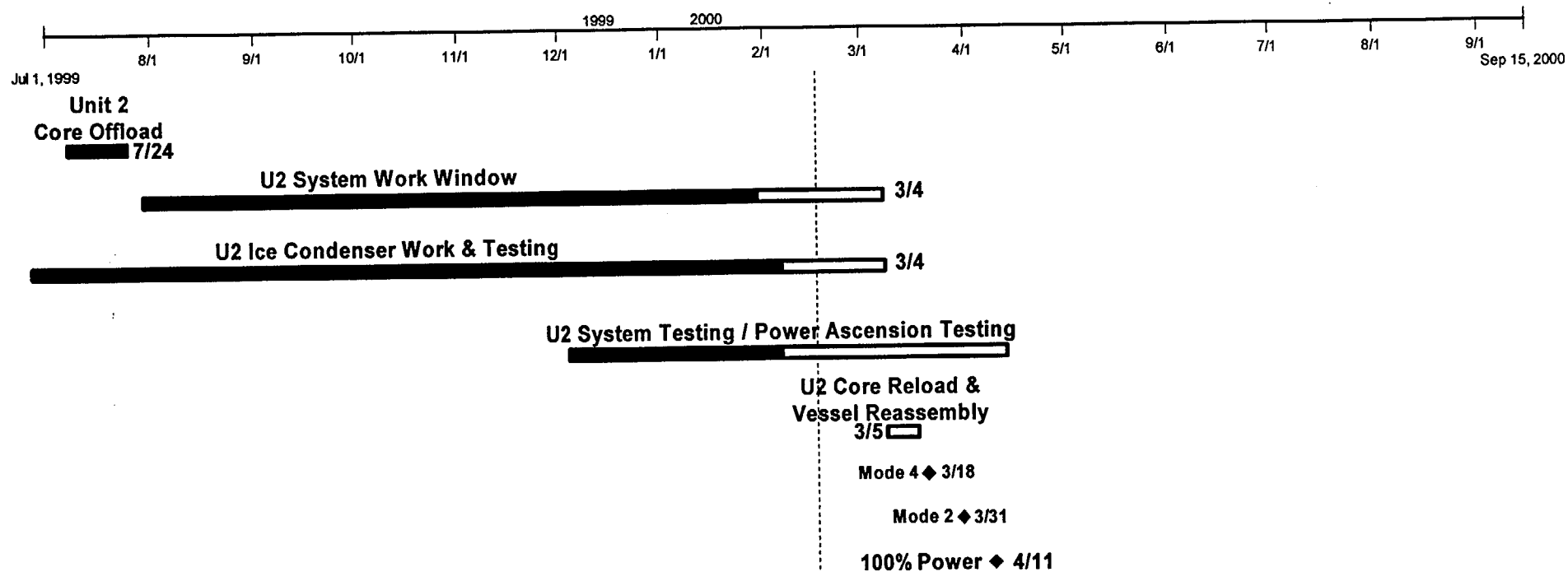
Systems Turnover to Operations

**Must be
Complete**



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DC Cook Unit 2 Internal Restart Schedule



Regulatory Activities

Robert Godley

Director - Regulatory Affairs

RESTART ACTION PLAN (RAP) PROGRESS AND PERFORMANCE CHART 1500 2/11/00

RAP Development & Approval										U2 RAP Work Activity Progress					U2 RAP Closure Packages					PA	NRC Inspection		
0350 Item	Accountable Managers	Condition Report (CR)		Restart Action Plan (RAP)			SMRT Approval	In Integrated Schedule?		Scheduled Activities % Complete					CPs with Compliance/CPs Total	Closure Package (CP) % Complete					Assessment Completed	Inspection Date(s)	IR Nos.
		RCA	CARB	Owner Org	Reg Compl	SRRB		Yes	No	0	25	50	75	100		0	25	50	75	100			
1	A-E D. Crouch / P. Gember	98-1181 99-0930	7/14/99	10/4/99	10/6/99	10/7/99	11/2/99	<input type="checkbox"/>	<input type="checkbox"/>	100					44 / 84		80	52			11/24/99	12/17/99	99033 Follow Up 2/28 - 3/9
2	A M. Danford / C. Hutchinson	97-3360	9/15/99	9/17/99	9/17/99	9/17/99	9/22/99	<input type="checkbox"/>	<input type="checkbox"/>	100					8 / 8		100				6/10/99	11/15/99	99024 Closed
	B	97-3380	9/15/99	9/17/99	9/17/99	9/17/99	9/22/99	<input type="checkbox"/>	<input type="checkbox"/>	100							100				11/15/99	11/15/99	99029
3	A S. Farlow / W. Elbert	98-0894	8/8/99	10/12/99	10/12/99	10/13/99	10/15/99	<input type="checkbox"/>	<input type="checkbox"/>	95					38 / 33		91				11/15/99	12/17/99	99028 Follow Up 3/22 - 3/28
	B D. Garner / R. Grumbr	98-3291	10/6/99	9/16/99	9/19/99	9/17/99	10/19/99	<input type="checkbox"/>	<input type="checkbox"/>	100					21 / 21		100				11/15/99	11/15/99	99029
	C S. Farlow / J. Kovarik	97-2312	9/15/99	9/23/99	9/24/99	9/24/99	11/5/99	<input type="checkbox"/>	<input type="checkbox"/>	100					12 / 12		100				11/2/99	11/19/99	99032 Closed
	D S. Farlow / K. Green	98-7575	7/28/99	10/19/99	10/22/99	10/19/99	10/25/99	<input type="checkbox"/>	<input type="checkbox"/>	100					6 / 6		100				11/15/99	11/15/99	99029
4	A & B R. Godley / R. Castiel	98-6339	8/25/99	9/21/99	9/20/99	9/21/99	9/21/99	<input type="checkbox"/>	<input type="checkbox"/>	99					16 / 16		81				9/2/99	9/13/99	99023 Closed
5	B. Wallace / W. Nelson	98-6687	4/30/99	7/30/99	8/3/99	8/25/99	N/A	<input type="checkbox"/>	<input type="checkbox"/>	100							100				N/A	11/10/99	99023 Closed
6	D. Haler / E. Young J. Allard / P. Schoepf	98-1130 98-2640	9/30/99	9/22/99	9/22/99	9/28/99	11/5/99	<input type="checkbox"/>	<input type="checkbox"/>	81					34 / 88		52	69			1/22/99	12/31/99	99028 Closed
7	K. Riches / J. Pollock / J. Gelson	N/A	N/A	9/24/99	9/24/99	9/24/99	11/15/99	<input type="checkbox"/>	<input type="checkbox"/>	100					0 / 1		100				11/9/99	11/19/99	99032 Pending 3/18 - 3/28
8	L. Thornberry / J. Sankey	98-1130 98-2640	11/11/99	9/27/99	9/28/99	11/18/99	11/24/99	<input type="checkbox"/>	<input type="checkbox"/>	85					21 / 30		63				11/28/99	11/28/99	99029
9	L. Thornberry / J. Sankey	98-1130 98-2640	10/14/99	10/13/99	10/13/99	10/14/99	10/27/99	<input type="checkbox"/>	<input type="checkbox"/>	87					4 / 9		44				11/15/99	11/15/99	99029
10	L. Thornberry / J. Gebbe	98-1226	10/5/99	8/5/99	8/10/99	10/5/99	11/1/99	<input type="checkbox"/>	<input type="checkbox"/>	89					4 / 8		50				11/15/99	11/15/99	99029
11	L. Thornberry / J. Gebbe	97-3429	9/15/99	9/23/99	9/23/99	9/23/99	10/5/99	<input type="checkbox"/>	<input type="checkbox"/>	100					16 / 16		100				10/1/99	12/17/99	99028 Follow Up 3/22 - 3/28
12	J. Glass / B. Chakrabarti	99-18478	10/7/99	10/7/99	10/8/99	10/8/99	11/8/99	<input type="checkbox"/>	<input type="checkbox"/>	100					11 / 11		100				11/22/99	12/31/99	99026 Closed
13	A S. Lacey / L. Thornberry	N/A	N/A	8/21/99	8/21/99	8/26/99	10/15/99	<input type="checkbox"/>	<input type="checkbox"/>	80					9 / 13		69				9/23/99	9/17/99	99002 3, 4, 7 Closed
	B	System and Containment Final Readiness Review of 13A																			See Note	3/20 - 3/31	
14	A G. Harland / D. Crouch	N/A	N/A	9/2/99	9/2/99	9/3/99	10/5/99														9/24/99	9/17/99	99013 Closed
	B R. Tinkle / J. Molden	99-13984	11/23/99	RST-1999-009-MNT	10/21/99	11/30/99															11/29/99	11/15/99	99034
	C T. Camilleri / M. Finzell	99-13597	11/23/99	SA-1999-003/014-ENP	11/24/99	12/11/99															12/14/99	11/15/99	99034
	D K. Richman / J. Weber	99-1657	8/11/99	RST-1999-005-OPS	9/10/99	11/4/99															11/22/99	2/7 - 2/11	
	E J. Pollock / K. Riches	N/A	N/A	SA-1999-008-NED	11/16/99	12/01/99															11/15/99	12/17/99	99029 Follow Up 3/22 - 3/28
	F T. McCool / L. Weber	98-49138	11/19/99	RST-1999-007-OPS	9/22/99	12/01/99															12/2/99	11/15/99	99034
	G	Programmatic Final Readiness Review of 14A								90					12 / 14		66				See Note	3/20 - 3/31	
15	A T. Noonan / L. Weber	N/A	N/A	9/2/99	9/2/99	9/3/99	10/5/99			90					9 / 12		75				9/24/99	9/17/99	99013 Closed
	B	Functional Area Final Readiness Review of 15A																			See Note	3/20 - 3/31	
16	J. Kinsey / R. Withrow	98-6150	9/17/99	9/8/99	9/13/99	12/9/99	12/22/99	<input type="checkbox"/>	<input type="checkbox"/>	56					6 / 38		14	37			< 2/21/00	3/8 - 3/10	

☒ - Approved/Complete
 ☐ - Approved with Comments
 ☐ - Scheduled Review Date
 ☐ - Tabled / Overdue
 GP - Completed as Green Package
 < - Complete Before This Date

☐ - Closed Pending IR
 ☐ - Inspection In Progress

% of Closure Packages approved by Compliance

% of Closure Packages received by Compliance

- Programmatic Breakdown in Surveillance Testing
 - Inadequate Instructions in Surveillance Tests
 - Acceptance Criterion Lack Sufficient Margin to Analysis Limit
 - Failure to Meet Technical Specification Requirements
 - Preconditioning of Equipment Prior to Surveillance Testing
 - Failure to Assess and Control the Quality of Contractors Performing Surveillance Testing
- Corrective Action Program Breakdown
- Programmatic Breakdown in the Maint. of the Design Basis
 - Inadequate Design Control
 - Failure to Update UFSAR
 - Failure to Consider Instrument Uncertainties
 - Consideration of System/Component Failure Modes

- Safety Evaluations
- Operator Training Issues
- Resolution of Ice Condenser Issues
- Resolution of Non-Safety Related Cables Going to Shunt Trip Coils
- Resolution of Hydrogen Recombiner Operability Issues
- Resolution of Distributed Ignition Technical Specification Issue
- Resolution of Containment Spray System Operability Issues
- Resolution of Hydrogen Mitigation System Operability and Mat'l Condition Issues
- Resolution of Containment Liner Pitting
- Systems and Containment Readiness Assessments

- Programmatic Readiness Assessment
 - Programmatic Problem Discovery
 - Contractor Control Program
 - Preventive Maintenance Program
 - Emergency Operating Procedures Program
 - Electrical Protection Coordination Including Fuse/Breaker Control Program
 - Operability Determination Program
 - Programmatic Final Readiness Review
- Functional Area Readiness Assessment
- Resolution of Operability of MOVs in the GL 89-10 Program

NOTE - Ready for Restart Affirmations

PA has shifted the focus of its restart oversight strategy from affirmation of RAP process implementation to focus more effectively and efficiently on the plant specific work products. As such, PA plans to issue final affirmations of readiness for restart only as part of its oversight and affirmation of readiness for Mode changes. The bases for these affirmations will be results of the System Turnover Vertical and Horizontal Inspection Teams which PA recently initiated plant management was briefed on this strategy before Christmas). As part of its affirmation of readiness for Mode change, will include final restart affirmation of each of the 16 NRC 3350 Issues (RAPs 1-16), and the major Functional Areas (including Operations, Maintenance, Engineering, Chemistry, Radiation Protection, Plant Protection, Training).

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Key License Changes

#	Subject	Unit(s)	Final Inputs to Licensing	Submittal Drafted	PORC Meeting	NSDRG Meeting	NRC Submittal Date	NRC RAI	AEP Response to RAI	NRC Approval/ Concurrence Required By
Licensing Submittals That Require NRC Action Prior to Restart of Unit 2										
1	Rod Insertion - Switchover USQ	1&2	Complete	Complete	Complete	Complete	9/17/99	10/26/99	11/10/99 11/19/99	12/23/99
2	Post Accident Containment Sump Inventory Issues (Sump Level, RWST Volume, Ice Mass & Melt Rate) - Cal Item #1	1&2	Complete	Complete	Complete	Complete	10/1/99	11/10/99	11/19/99	12/13/99
3	Containment Spray Pump/ Spray Additive Flow Surveillance Change to Standard Tech Spec	1&2	Complete	Complete	Complete	Complete	10/12/99	N/A	N/A	1/19/00
4	Accumulator Isolation Valve Breaker Rackout	1&2	Complete	Complete	Complete	Complete	11/5/99	N/A	N/A	12/23/99
5	RCS Volume - Administrative Tech Spec change eliminating RCS Volume in Section 5 using Standard Tech Spec format/methods	1&2	Complete	Complete	Complete	Complete	12/21/99	TBD	TBD	2/17/00
6	Modification of 0737 Order for Post Accident Hydrogen Monitor (currently 30 minutes)	1&2	Complete	Complete	Complete	Complete	12/22/99	N/A	N/A	2/4/00
7	HELB related AFW Pump Room HVAC Modification Submittal	1&2	Complete	Complete	2/10/00	2/11/00	2/11/00	TBD	TBD	3/17/00
Steam Generator Repair Project Work Activities/Issues That Require Action Prior to Restart of Unit 1										
7	Heavy Loads (SGRP)	1	Complete	Complete	Complete	Complete	9/23/99	10/18/99	11/10/99 (NRC Call 12/3/99)	12/7/99
8	RCS Chemistry Sampling in Modes 5 & 6	1&2	Complete	Complete	Complete	Complete	9/10/99	N/A	N/A	11/19/99
9	ZIRLO Fuel Cladding Amendment	1	Complete	Complete	Complete	Complete	11/3/99	N/A	N/A	1/6/00

Technical Issues

- Hydrogen Sub-Compartment
- Containment Sump/ Spray pH
- Reactor Coolant Seal Leakoff
- Control Room Habitability
- Lake Water Temperature Affects on ESW and Control Room Cooling
- NPSH for ECCS Pumps

◀ ***Resolved for Restart*** ▶

Technical Issue: Hydrogen Sub-Compartment

■ **Issue**

- Inconsistencies in the analysis for clad oxidation
- Changes not applied to § 50.44 hydrogen analyses

■ **Resolution**

- Bulk hydrogen generation analysis shows, with recombiner operation, hydrogen < 4%
- Sub-compartment hydrogen < 4%

■ **Status**

- Complete final analysis
- Complete UFSAR update

Technical Issue: Containment Sump/ Spray pH

■ Issue

- Design inputs in Large Break LOCA pH calculations changed
- Small Break LOCA and Steam Line Break pH not previously analyzed

■ Resolution

- New pH calculations before Unit 2 Restart
- License amendment request (LAR) for SAT volume and concentration

■ Status

- pH calculations scheduled to be complete by February 15th
- Pre-restart NRC approval of LAR not required as administrative controls will assure compliance with current TS

Technical Issue: Reactor Coolant Seal Leakoff

■ **Issue**

- Seal leak-off analysis needed for:
 - » Loss of Seal Injection (LOSI) event
 - » Station Blackout (SBO) event

■ **Resolution**

- LOSI: predictive thermal hydraulic model developed
- SBO: analyses to demonstrate piping and components capable
- Analyses to qualify components or demonstrate failure would not impact coping evaluation

■ **Status**

- LOSI: Owners Acceptance Review for analysis and UFSAR update scheduled to be complete by February 21st
- SBO : component analyses and perform Owners Acceptance Review scheduled to be complete by March 16th

Technical Issue: Control Room Habitability

■ Issue

- CR analysis assumptions challenge ability to meet GDC 19 for post-LOCA operator dose

■ Resolution

- Conduct tracer gas testing
- Modify ventilation system
- Reanalyze control room dose calculations using New Source Term
- Address X/Q values
- Submit a license amendment request

■ Status

- Scheduled to submit LAR in February
- Restart Unit 2 with compensatory measures

Technical Issue: Lake Water Temperature Affects on ESW and Control Room Cooling

■ Issue

- With elevated lake water temperature, essential service water (ESW) alone may not maintain control room temperature under the TS limit

■ Resolution

- Establish revised ESW temperature at 85°F
- Revise affected calculations
- Submit Technical Specification change

■ Status

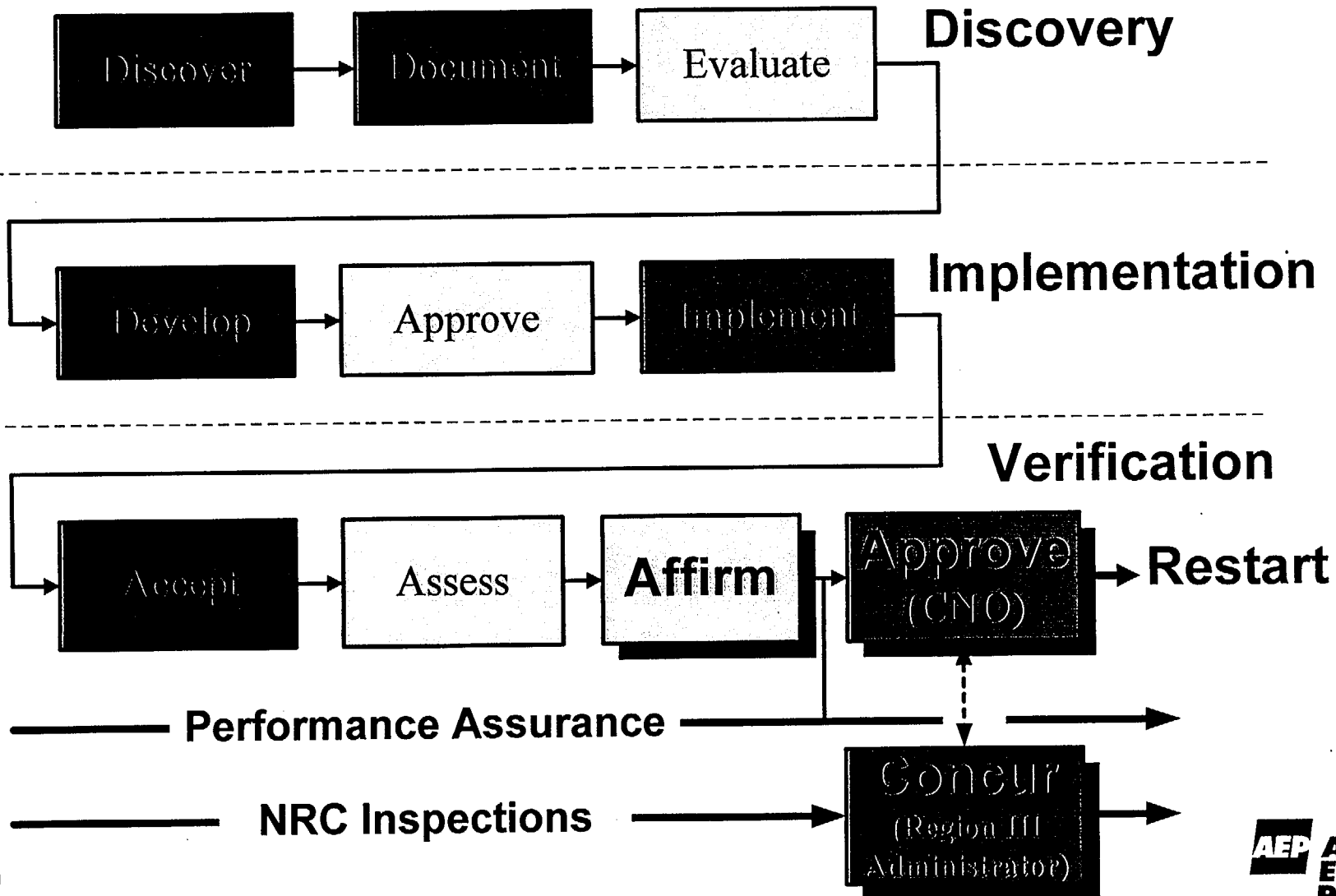
- Submittal targeted for April
- Review of potential ESW-related USQs on-going

Restart Concurrence Process & Closing

Bob Powers

**Senior Vice-President
Nuclear**

Restart Process



Restart Milestones

■ **Plant Operations Review Committee Reports to CNO**

- Functional Area Affirmations
- Shift Readiness Assessments
- Pre-mode 2 Power Ascension Program
- System and Containment Affirmation
- Regulatory Affairs Assessment

■ **Nuclear Safety Design Review Committee report**

■ **Independent Safety Review Group report**

■ **Employee Concerns Program report**

■ **P/A Assessments**

■ **CNO restart readiness determination**

■ **CNO requests / receives concurrence from RIII R/A**

■ **Commence Restart and entry into Mode 2**

Closing

■ Safely Completing Restart-required Work

■ Assuring Quality Results

◀ *We are Doing what We
Said We Would Do* ▶