



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
611 RYAN PLAZA DRIVE, SUITE 400  
ARLINGTON, TEXAS 76011-4005

December 2, 2004

John McGaha, President  
Entergy Operations, Inc.  
P.O. Box 31995  
Jackson, Mississippi 39286-1995

SUBJECT: NRC/ENTERGY OPERATIONS, INC. MANAGEMENT MEETING

Dear Mr. McGaha:

This refers to our meeting conducted at the NRC Region IV office in Arlington, Texas, on November 30, 2004. At this meeting, NRC and Entergy management discussed the performance of Arkansas Nuclear One, Grand Gulf Nuclear Station, River Bend Station, and the Waterford Steam Electric Station, Unit 3. Recent Entergy and NRC organizational changes and current regulatory issues were also discussed, as indicated in the enclosed slide presentations.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Should you have any questions concerning this matter, we will be pleased to discuss them with you.

Sincerely,

A handwritten signature in black ink, appearing to read "David N. Graves".

David N. Graves, Chief  
Project Branch B

Dockets:

ANO: 50-313; 50-368  
GG: 50-416  
RBS: 50-458  
WAT: 50-382

Licenses:

ANO: DPR-51; NPF-6  
GG: NPF-29  
RBS: NPF-47  
WAT: NPF-38

Enclosures:

1. Attendance List
2. Presentation Slides

cc:

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State Health Officer  
State Board of Health  
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Entergy Operations, Inc.

-4-

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- Electronic distribution by RIV:
- Regional Administrator (**BSM1**)
- DRP Director (**ATH**)
- DRS Director (**DDC**)
- Senior Resident Inspector (**TLH4**)
- Senior Resident Inspector (**PJA**)
- Senior Resident Inspector (**RWD**)
- Senior Resident Inspector (**MCH2**)
- Branch Chief, DRP/A (**WDJ**)
- Branch Chief, DRP/B (**DNG**)
- Branch Chief, DRP/D (**SCS**)
- Branch Chief, DRP/E (**WBJ**)
- Senior Project Engineer, DRP/A (**TRF**)
- Senior Project Engineer, DRP/B (**RAK1**)
- Senior Project Engineer, DRP/D (**GEW**)
- Senior Project Engineer, DRP/E (**VGG**)
- Staff Chief, DRP/TSS (**RVA**)
- RITS Coordinator (**KEG**)

ADAMS:  Yes     No    Initials:    dng     
 Publicly Available     Non-Publicly Available     Sensitive     Non-Sensitive

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- R:\\_GG\2004\11-30-04MS-DRP-All Entergy.wpd
- R:\\_RB\2004\11-30-04MS-DRP-All Entergy.wpd
- R:\\_WAT\2004\11-30-04MS-DRP-All Entergy.wpd

RIV/C/DRP/B				
DNGraves;mjs;dlf				
/RA/				
12/2/04				

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T=Telephone

E=E-mail

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## ANNUAL ASSESSMENT MEETING ATTENDANCE

LICENSEE/FACILITY	ENTERGY, Inc. Arkansas Nuclear One Grand Gulf Nuclear Station River Bend Station Waterford Steam Electric Station, Unit 3
DATE/TIME	November 30, 2004 -- 1:00 pm CST
LOCATION	U.S. NRC Region IV Office Harris Building 611 Ryan Plaza Dr. Suite 400 7 <sup>th</sup> Floor Conference Room Arlington, Tx
NAME (PLEASE PRINT)	ORGANIZATION
PETER ALTER	US NRC, SRI, RBS
DAVID GRAM	US NRC, Chief, Project Branch B, RTV
PAUL D HINNENKAMP	ENTERGY NUCLEAR, VP RBS
Tim Hoeg	USNRC / Region 4 / Branch A / GG
W.D. Johnson	NRC, Chief, Project Branch A, RTV
George A. Williams	Entergy Nuclear, SVP GGNS
Randall Edington	Vice President Nuclear and Chief Nuclear Officer, NPPD

## ANNUAL ASSESSMENT MEETING ATTENDANCE

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<b>NAME (PLEASE PRINT)</b>	<b>ORGANIZATION</b>
Jeff Forbes	Entergy.. ANO
Scott Schwind	NRC
Rick Deese	NRC
PABLO BENVENUTO	DRP-NRC
Joe Venable	EO1 WF-3
William B Jones	NRC
Michael C. Hy	NRC



**ANNUAL ASSESSMENT MEETING ATTENDANCE**

<b>LICENSEE/FACILITY</b>	ENTERGY, Inc. Arkansas Nuclear One Grand Gulf Nuclear Station River Bend Station Waterford Steam Electric Station, Unit 3
<b>DATE/TIME</b>	November 30, 2004 -- 1:00 pm CST
<b>LOCATION</b>	U.S. NRC Region IV Office Harris Building 611 Ryan Plaza Dr. Suite 400 7 <sup>th</sup> Floor Conference Room Arlington, Tx
<b>NAME (PLEASE PRINT)</b>	<b>ORGANIZATION</b>
Joe DeRoy	Entergy
Bill Campbell	Entergy
John McGaha	Entergy
Bruce Mallett	NRC
Art Howell	NRC
Anton Vogel	NRC
DWIGHT CHAMBERLAIN	NRC

## ANNUAL ASSESSMENT MEETING ATTENDANCE

<b>LICENSEE/FACILITY</b>	ENTERGY, Inc. Arkansas Nuclear One Grand Gulf Nuclear Station River Bend Station Waterford Steam Electric Station, Unit 3
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<b>NAME (PLEASE PRINT)</b>	<b>ORGANIZATION</b>
The following personnel attended the meeting via teleconference:	
Herb Berkow	NRR, DLPM, PD IV, Project Director
Thomas Alexion	NRR, DLPM, PD IV, Project Manager ANO-1
Drew Holland	NRR, DLPM, PD IV, Project Manager ANO-2
Bhalchandra Vaidya	NRR, DLPM, PD IV, Project Manager Grand Gulf
Meghan Thorpe-Kavanaugh	NRR, DLPM, PD IV, NSPDP
Michael Webb	NRR, DLPM, PD IV, Project Manager River Bend

## Nuclear Regulatory Commission Region IV



### PLANT PERFORMANCE INSIGHTS

ARKANSAS NUCLEAR ONE

GRAND GULF NUCLEAR STATION

RIVER BEND STATION

WATERFORD STEAM ELECTRIC STATION, UNIT 3

## Agenda

1:00	Introductions & Meeting Objectives	
1:10	NRC Regional Perspective	Mallett
1:40	Entergy Organization	McGaha
1:55	Entergy Performance Review	Campbell
2:25	ANO Plant Performance	Deese, et al.
2:40	ANO Plant Performance	Forbes
2:55	Grand Gulf Performance	Hoeg et. al.
3:10	Grand Gulf Performance	Williams
3:25	Break	



# Agenda

3:35	River Bend Performance	Alter, et. al.
3:50	River Bend Performance	Hinnenkamp
4:05	Waterford 3 Performance	Hay, et al.
4:20	Waterford 3 Performance	Venable
4:35	General Discussion & Closing Remarks	
5:00	Adjourn	



## **AGENCY ISSUES AND PERFORMANCE OBSERVATIONS**

**Presented by Dr. Bruce Mallett  
Regional Administrator, RIV**



## **DIRECTION SETTING ISSUES FOR THE AGENCY**

- **STRATEGIC PLAN**
  - **STRATEGIC OBJECTIVE**
  - **FIVE GOALS**
  
- **KEY CHALLENGE TOWARD  
SAFETY GOAL**
  - **MEASURE AND MONITOR SAFETY  
CONDITIONS**
    - **Promises or Actions**
    - **Early Detection of Problems**



- **KEY CHALLENGE TOWARD  
SECURITY GOAL**

- **EARLY DETECTION**
- **NEXT INSPECTION PROGRAM**

- **KEY CHALLENGE TOWARD  
OPENNESS GOAL**

- **INTERFACE WITH LOCAL COMMUNITY**
- **INTERFACE DURING EXERCISES**
- **PROVIDE RIGHT COMMUNICATION**



- **KEY CHALLENGE TOWARD EFFECTIVENESS AND MANAGEMENT GOALS**

- **MAXIMIZE KNOWLEDGE/EXPERIENCE**
- **ORGANIZATION CORRECT**
- **IMPACT OF SDP DECISION**



## **PLANT PERFORMANCE OBSERVATIONS**

- **Increasing Plant Trips**
- **Offsite Power/Switchyard Problems**
- **Operators – Erosion of Experience/Plant Knowledge**
- **ECCS Voiding Issues**
- **MC&A of Spent Fuel Pool**
- **Safety Culture/SCWE – Production vs. Safety Trends**
- **Materials Issues in RCS**
- **Shutdown Operations/Midloop Problems**

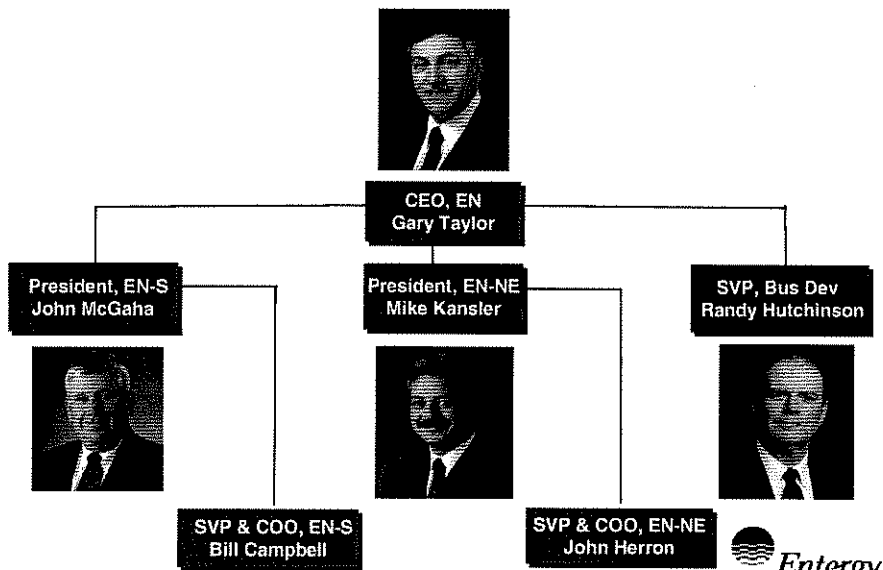


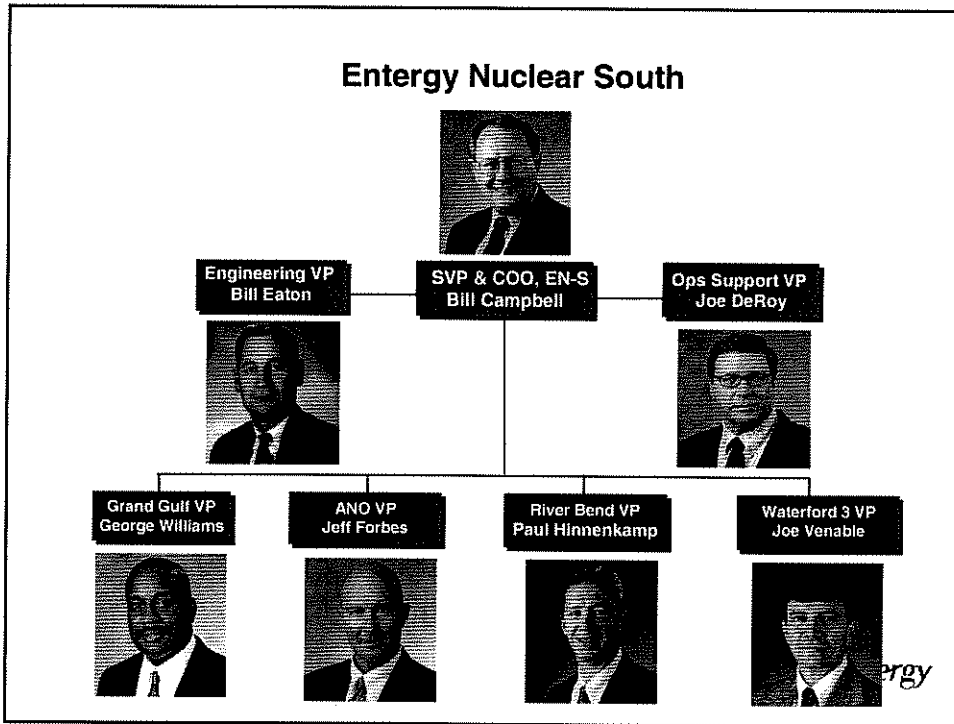
# Entergy Organization

**John McGaha**  
President



## The Leadership of Entergy Nuclear





## Organizational Changes

- VP Operations Support – Joe DeRoy
- VP Operations, GGNS – George Williams
- VP Operations, ANO – Jeff Forbes
- General Manager, W3 – Kevin Walsh
- General Manager, GGNS – Russ Brian
- Engineering Director, RBS – Joe Malara
- Engineering Director, W3 – Tim Mitchell





# ENS-Region IV Meeting

November 30, 2004

## **Bill Campbell**

Senior Vice President /  
Chief Operating Officer

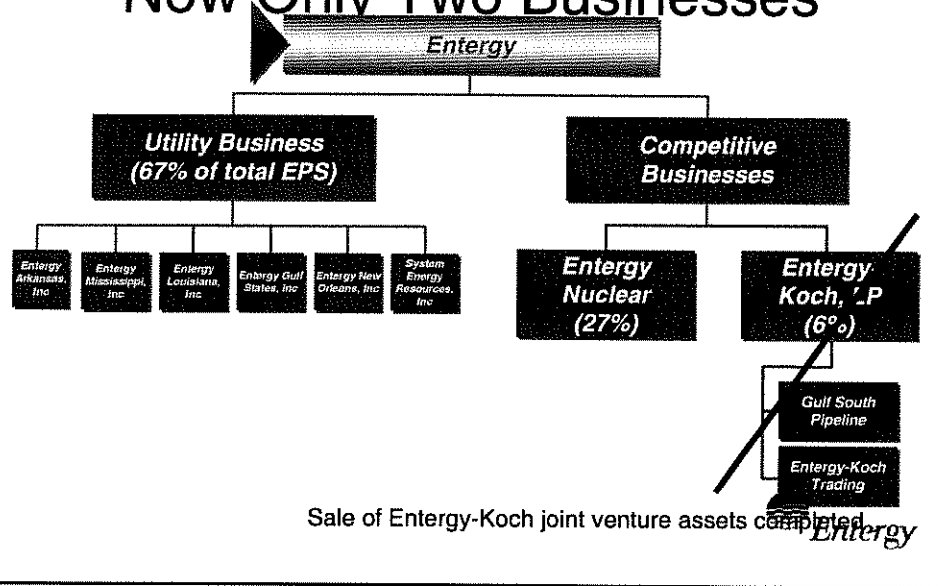


## Overview of ENS Performance

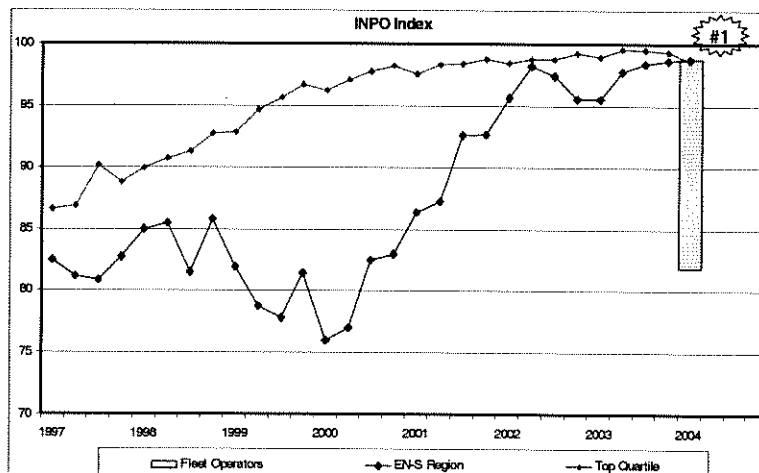
- Corporate Overview
- High Level Summary
- Accomplishments Since Last Meeting
- Areas of Continued Focus
- New and Emerging Challenges
- What Kind of Culture Do We Want?



# Entergy Corporate: Now Only Two Businesses



Performance Overview – Fleet INPO Index



## ENS Accomplishments

- Security Order Commitment Met
- GGNS – BWR6 Outage Dose Record
- RBS – Outage Dose & PCE Performance
- RBS - Cycle 12 Performance
- GGNS - #1 US Nuclear Generation 2003
- GGNS Outage – Zero Recordable Injuries
- ANO-1 Record B&W Outage Duration
- ANO-2 Record CE Outage Duration
- ANO Retention of INPO Rating
- 4 of 5 ENS Plants at INPO Index of > 99.95
- 4 of 8 Entergy Nuclear Sites INPO 1
- Waterford 2004 Exposure and PCEs



## Focus Areas

- Switchyard Reliability
- Radiological Performance
- Fuel Performance - RBS
- Voluntary Separation Program
- Reduction in Unplanned Automatic Trips/SCRAMs
- Improvements in Corrective Action Problem Identification and Corrective Action Effectiveness
- Outage Planning and Readiness
- Long range asset management and capital planning
- Fleet Alignment



## Areas of Continued Focus

- Safety culture and safety conscious work environment
- Organizational aging & staffing – knowledge retention
- Engineering performance – skills and standards
- Outage and on line maintenance execution/rigor
- Safety system availability
- Emergency preparedness
- Recent operations performance issues
- Security
- Corrective action trending and analysis

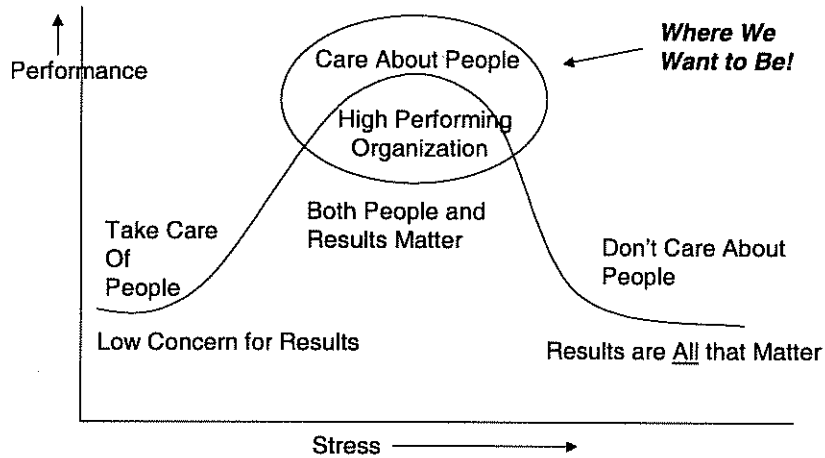


## New and Emerging Challenges

- Aging Workforce
- Renewed Focus on Training and Operational Experience
- Waterford Extended Power Uprate
- ANO1 Steam Generator and RVH Replacement
- Alloy 600 Issues
  - Pzr Heater Repairs
  - ANO2 Pressurizer Replacement – 2006



# What Kind of Culture Do We Want?



## Arkansas Nuclear One

**Jeff Forbes**

Site Vice President, Operations

**Rick Deese**

NRC Region IV, Senior Resident



# **ANO PERFORMANCE INSIGHTS**

**Presented by Rick Deese  
Senior Resident Inspector  
Arkansas Nuclear One**



## **PERFORMANCE INSIGHTS FROM OVERSIGHT PROCESS**

- **Substantive cross-cutting issue in PIR**
- **Fire Protection Issues**
- **Operability Evaluation Issues**



## **Substantive Cross-Cutting Issue in PIR**

- **Identifying and Entering Problems into the CAP**
- **Prioritizing and Evaluating Conditions**
- **Implementing Effective Corrective Actions**



## **Fire Protection Issues**

- **White Finding on Safe Shutdown Capability**
- **Inadequate Fire Prevention Features**
- **Triennial Fire Protection Inspection Observations**



## **Operability Evaluation Issues**

- **Inadequate Evaluations**
- **Use of Engineering Judgment**
- **Unstated Assumptions**



## **PERFORMANCE INSIGHTS FROM EVENTS**

- **Large Motor Failures**
- **Improper Electrical Connections**





## **Large Motor Failures**

- **Unit 1 Heater Drain Pumps**
- **Unit 2 Circulating Water Pump**



## **Improper Electrical Connections**

- **Main Feed Block Valve**
- **Containment Spray Pump**
- **Containment Cooling Fan**



## Accomplishments / Challenges

- Corrective Action Program
- Fire Protection
- Operability



## Accomplishments / Challenges

- Successful 1R18
- INPO Evaluation
- Graded Emergency Plan Exercise



## Focus on the Future

- Operability Evaluations
- Corrective Action Program
- Fire Protection
- Equipment Reliability
- Leadership Effectiveness
- Refueling Outage Preparation & Execution



## Grand Gulf

**George Williams**

Site Vice President, Operations

**Tim Hoeg**

NRC Region IV, Senior Resident



# **GRAND GULF NUCLEAR STATION PERFORMANCE INSIGHTS**

**Presented by Tim Hoeg  
Senior Resident Inspector  
Grand Gulf Nuclear Station**



## **PERFORMANCE INSIGHTS FROM OVERSIGHT PROCESS**

- **Maintaining Plant Design**
- **Reducing Human Performance Errors**



## **Maintaining Plant Design**

- **Standby Service Water System Basins**
- **Storage of Heavy Equipment in Containment**
- **Use of Safety Related Parts**



## **Reducing Human Performance Errors**

- **Safety Tagout and Valve Lineup Errors**
- **HPCS Injection**
- **Control Rod Mis-position**



## **PERFORMANCE INSIGHTS FROM EVENTS**

- **No Scrams or Forced Power Reductions**
- **Broken Instrument Air Line**
- **Service Transformer Oil Leak**
- **Smoke in the RCIC Room**



## **Accomplishments / Challenges**

- Safe Effective Outage (1RF13)
- Plant Performance
  - INPO Index: 100
  - Forced Loss Rate: 0
- Switchyard Upgrades
- Plant Air System Upgrades



## Accomplishments / Challenges

- Management / Supervision Engagement
- Human Performance / Operations Performance
- Emergency Preparedness Excellence
- Strong Corrective Action & Assessment



## Focus on the Future

- **INPO**
  - Evaluation & Assessment
  - Operations Training Accreditation Renewal
- **Margin Recovery**
  - Kaowool
  - SSW Basins
  - Plant Air System Upgrade
  - Switchyard – final phase
  - Radial Wells
  - Feedwater Heater Bay Cable Replacement
- **Dry Cask Storage Implementation**
- **RF14 Preparations**



## River Bend Station

**Paul Hinnenkamp**  
Site Vice President, Operations  
**Peter Alter**  
NRC Region IV, Senior Resident



## **RIVER BEND STATION PERFORMANCE INSIGHTS**

**Presented by Peter Alter  
Senior Resident Inspector  
River Bend Station**





## **PERFORMANCE INSIGHTS FROM OVERSIGHT PROCESS**

### **Awareness of Operational/Safety Impact**

- **Auxiliary Building Roof Leaks**
- **Foreign Material in ECCS Pump Rooms**
- **Secondary Containment Door Failures**
- **Diesel Generator Preconditioning**



## **PERFORMANCE INSIGHTS FROM EVENTS**

- **Main Turbine Valve Testing**
- **Impact of Systems “Outside the Fence”**
- **Refuel Outage 12**



- **Main Turbine Valve Testing**

- **Impact of Systems “Outside the Fence”**

- **Switchyard Breakers**
- **Cooling Towers**
- **Transformers**



## **Refuel Outage - 12**

- **Tagging Errors**
- **Loss of Div 1 ESF Switchgear**
- **Loss of RSS 2**



## Accomplishments / Challenges

- **August 15, October 1 Plant Events**
  - McGraw Edison Breaker Response Time
  - Cooling Tower Drift
- **RF 12 Performance**
  - Human Performance / Rigor in Execution of Work
  - Equipment Reliability Improvement
- **Continued Improvement in Fuel Condition**
  - Conservative Operating Strategy
  - Excellent Reactor Water Chemistry
  - No Cycle 12 failures
  - Positive RF 12 Inspection Results



## Accomplishments / Challenges

- **Radiological Safety Performance**
  - Dose Reduction Recognition
  - Improved ALARA Planning
  - Source Term Reduction Plan
  - Occupational Exposure Control
- **Successful Evaluated EP Exercise**
  - Co-located Exercise
  - FEMA and NRC Evaluated
  - FEMA Deficiency Resolved



## Focus on the Future

- Focus Areas:
  - Unit Operation / Operational Decision Making
  - Human Performance
  - Equipment Reliability
  - Discipline in the Rigor and Quality of Maintenance Work Activities
- Dry Fuel Storage Implementation
- INPO E&A



## Waterford 3

**Joe Venable**

Site Vice President, Operations

**Mike Hay**

NRC Region IV, Senior Resident



# **WATERFORD 3 PERFORMANCE INSIGHTS**

**Presented by Mike Hay  
Senior Resident Inspector  
Waterford Steam Electric Station Unit 3**



## **PERFORMANCE INSIGHTS FROM OVERSIGHT PROCESS**

- **Corrective Action Issues**
- **Design Control Issues**



## **Corrective Action Issues**

- **Emergency Diesel Generator Fuel Oil**
- **Repetitive Main Feedwater Isolation Valve Issues**
- **Control Room Envelope**
- **Alloy 600 Instrument Nozzles and Pressurizer Heater Sleeve Leaks**



## **Design Control Issues**

- **Safety Injection Recirculation Piping Voids**
- **Emergency Diesel Generator Fuel Oil**



## Accomplishments / Challenges

- Safety Performance
  - Zero lost time accidents and two OSHA recordables
  - CR Generation, 2004 (4055) / 03 (3600) / 02 (2133)
  - 2.357 rem for calendar year as of 11-29-04
  - Zero personnel contaminations in 2004
- Plant operational performance
  - YTD capability factor of 99.71
  - INPO Index YTD of 99.91
  - Successful Emergency Planning ingestion pathway exercise and strong response to Hurricane Ivan



## Focus on the Future

- Engineering rigor and design margin
- Work instructions and work execution
- Equipment Reliability
- Power Uprate / Refuel 13



# CLOSING REMARKS

