



# NRC Region II Meeting Robinson Nuclear Plant



**Progress Energy**

**April 4, 2006**



# Agenda

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Introduction.....Tom Walt

Plant Performance &  
Recent Accomplishments.....Dan Stoddard

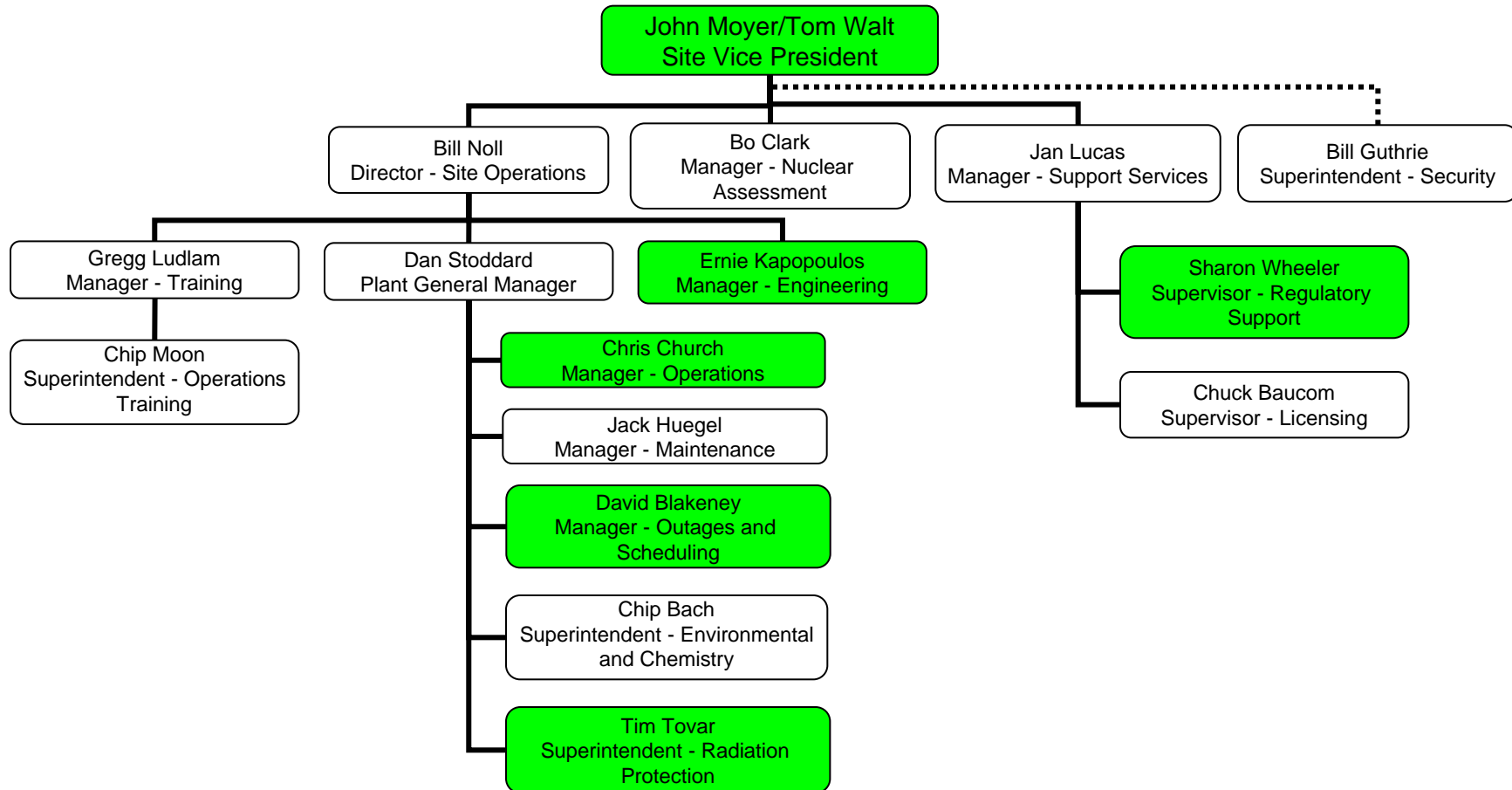
Engineering Projects.....Chris Church

Regulatory Support.....Jan Lucas

Training, Organization, & Leadership.....Gregg Ludlam

Closing Remarks.....Tom Walt

# Plant Organization





# Plant Performance & Recent Accomplishments

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Dan Stoddard  
Plant General Manager



# 2004/2005 Plant Performance

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- 2004
  - ▶ Capacity Factor – 92.07%
  - ▶ Forced Loss Rate – 0.67%
  - ▶ Dose – 131.125 Rem
- 2005
  - ▶ Capacity Factor – 92.77%
  - ▶ Forced Loss Rate – 0.04%
  - ▶ Dose – 64.662 Rem

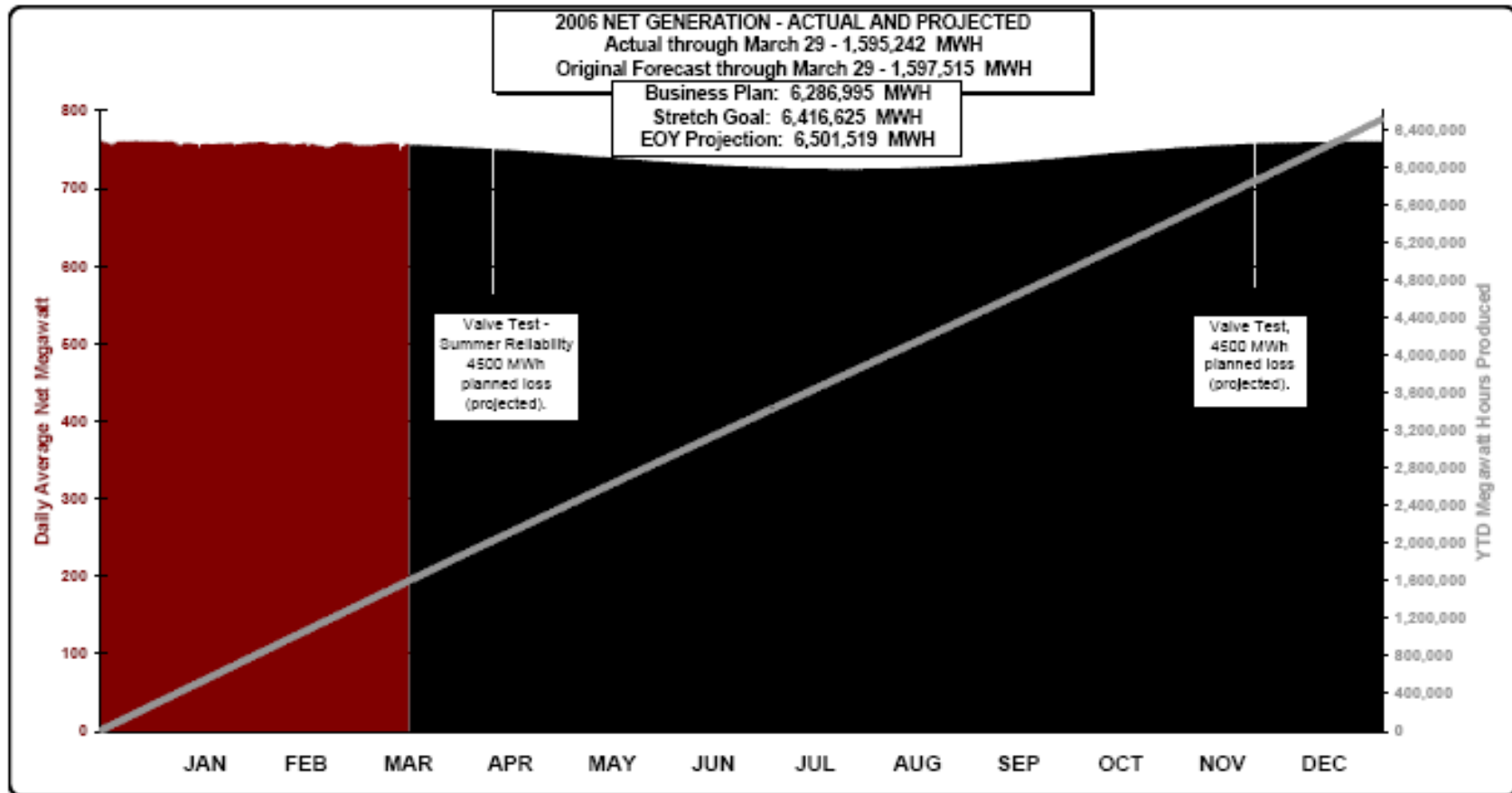


# Current Operating Status

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	<u>Year To Date</u>
Days On-Line	160
Capacity Factor	106.58%
Capability Factor	100%
Forced Loss Rate	0%
INPO Index	100
On-Line Dose	1053 mRem

# Net Generation



# Refueling Outage 23

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- September 17 To October 25, 2005
- Scope
  - ▶ Polar crane maintenance/modifications
  - ▶ Reactor vessel head replacement
  - ▶ Upper internals lift rig inspection
  - ▶ Refueling
  - ▶ Two Appendix R modifications
  - ▶ North service water header inspection/repairs
  - ▶ Transformer reliability improvements
  - ▶ Secondary piping replacement



# Refueling Outage 23

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- Performance
  - ▶ Site level Human Performance Events – 0
  - ▶ OSHA recordable events – 1
  - ▶ Radiation exposure – 60.825 Rem
  - ▶ Outage duration – 38 Days, 8 Hours
  - ▶ Clearance errors – 0
  - ▶ Fire Brigade response – 0
  - ▶ Completion of original scope Work Tickets – 98%

# RPV Head Replacement

- Design Approach
  - ▶ Early site input
  - ▶ RO-22 walkdowns
  - ▶ Designed for installation
- Planning
  - ▶ Detailed plan and schedule
  - ▶ Equipment hatch transfers
  - ▶ Detailed staging and sequencing plan



# RPV Head Replacement

- Single Piece Forging
- A690 Penetrations
- Welded CRDM Housings
- Simplified Assembly Structure
  - ▶ Integral radiation and missile shields
  - ▶ Internal air ducts and plenum
  - ▶ Quick connect cabling



# RPV Head Replacement

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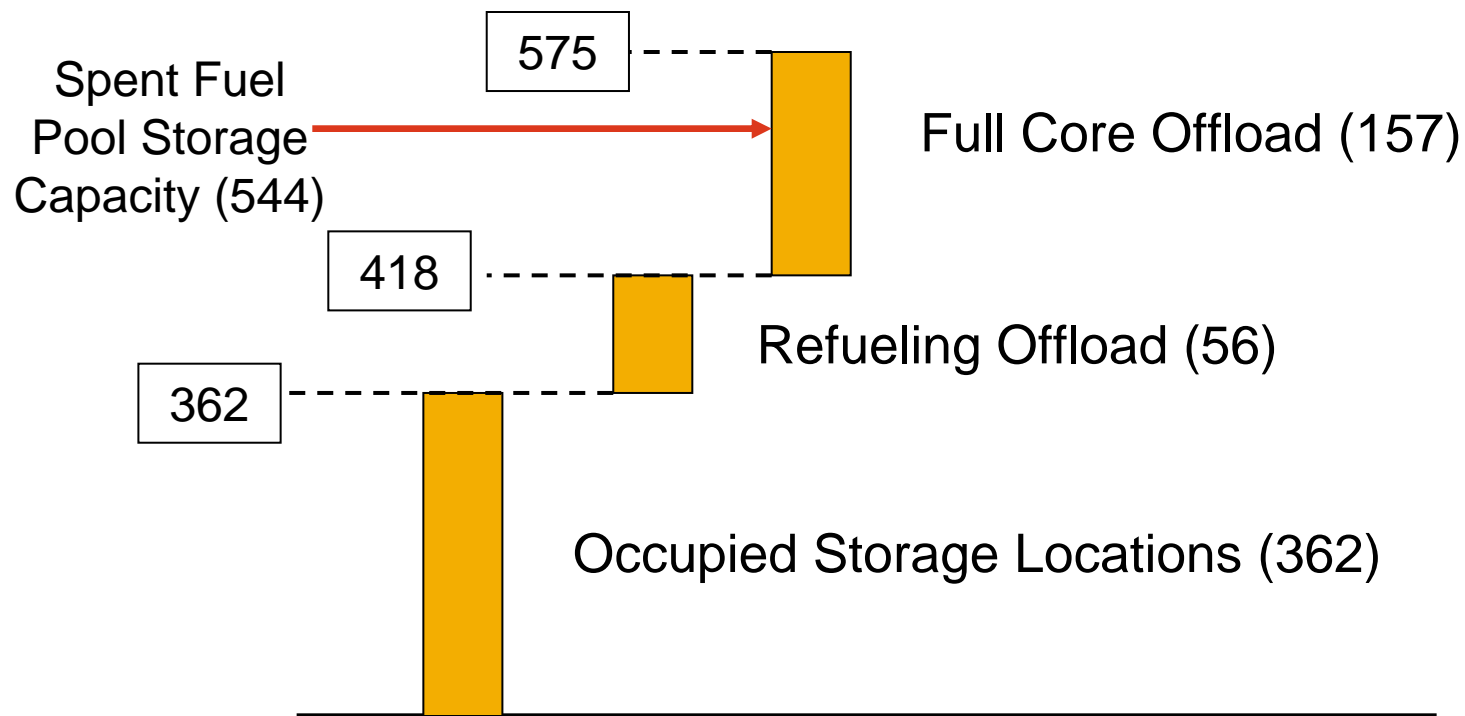
- No Recordable Injuries
- Shortest Westinghouse Head-Off To Head-On Schedule
  - ▶ 17 days, 19 hours
- Low Exposure
  - ▶ 6.891 Rem vs. goal of 9.989 Rem
- Fewest Westinghouse Field Procedure Changes
- Satisfactory NRC Inspection Results
  - ▶ Design, NDE, heavy lifts





# Spent Fuel Management

Full Core Offload Capability Would Not Have Existed Following Fall 2005 Refueling Outage



# Spent Fuel Management

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- ISFSI Construction
  - ▶ Railroad track relocation
  - ▶ Pad construction
  - ▶ 10 Horizontal Storage Modules
  - ▶ Heavy haul travel path
  - ▶ ISFSI Security tie-in to Protected Area

# Spent Fuel Management



## ISFSI Construction





# Spent Fuel Management

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- ISFSI Construction
  - Cask handling crane upgrades
  - Cask handling crane structure
    - ◆ Structure steel upgrades and welding
    - ◆ Structure pilings



# Spent Fuel Management



- Spent Fuel Pool Structure
- Cask Preparation Area Construction
- Cask Leveling Plate

## ISFSI Construction



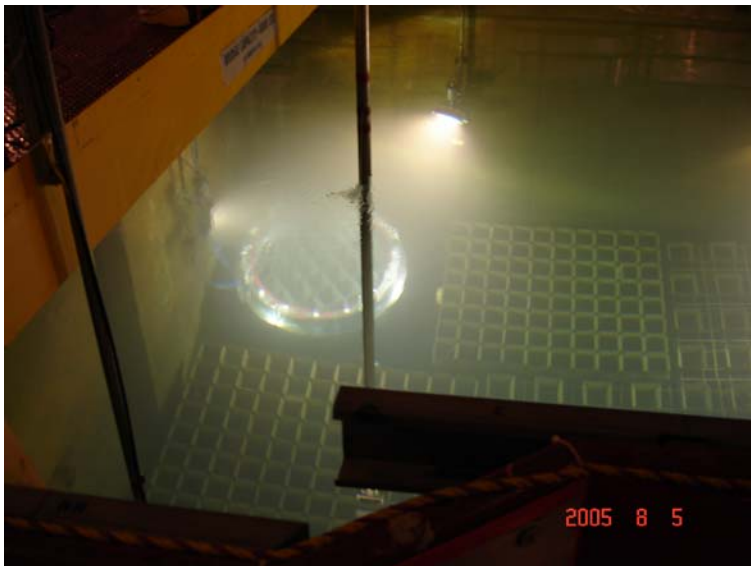
# Spent Fuel Management

- Training And Dry Runs
  - ▶ Procedures
  - ▶ Welding and vacuum drying formal training and personnel certification
  - ▶ NRC inspections
  - ▶ Fuel loading, transport, and HSM loading dry runs

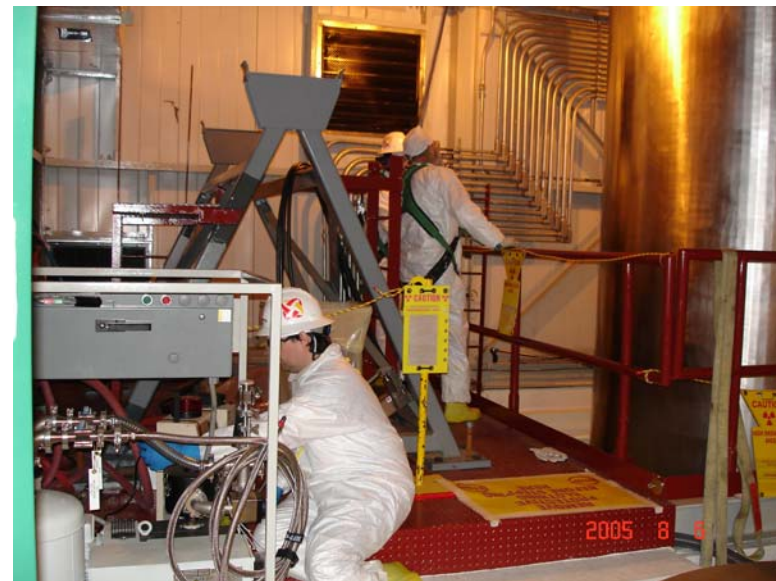


# Spent Fuel Management

## Dry Fuel Storage Campaign



24 Fuel Assemblies in Cask



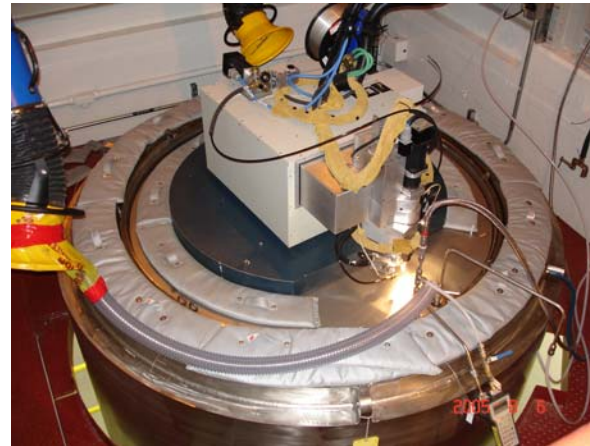
Loaded Cask Going into Cask Prep Area



# Spent Fuel Management



Vacuum Drying



Welding  
on Inner  
Lid

## Dry Fuel Storage Campaign

Cask  
Cover  
Installed



# Spent Fuel Management



Loaded Cask



Setting Cask on Transporter

## Dry Fuel Storage Campaign

# Spent Fuel Management

## Dry Fuel Storage Campaign



Driving Up New Heavy Haul Path



Aligning Canister



Inserting Canister



# Spent Fuel Management

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- Dry Fuel Storage Campaign Summary
  - Dose projection
    - ◆ 1675 mRem per cask; 8 Rem total
  - Actual dose
    - ◆ Cask #1: 296 mRem
    - ◆ Cask #2: 252 mRem
    - ◆ Cask #3: 163 mRem
    - ◆ Cask #4: 211 mRem
    - ◆ **Total for 4 Casks: 922 mRem**



# Spent Fuel Management

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- Dry Fuel Storage Campaign Dose Summary
  - ▶ Schedule
    - ◆ One cask per week as scheduled
  - ▶ Full core offload capability sustained
  - ▶ Spent Fuel Pool loading supports Security objectives

# WANO Evaluation

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- Crew Performance Observations
  - ▶ Week of January 23
  - ▶ Simulator and in-plant
- On-Site Evaluation Completed March 6-17
- Formal Exit On April 13



# Engineering Projects

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Chris Church  
Manager - Engineering

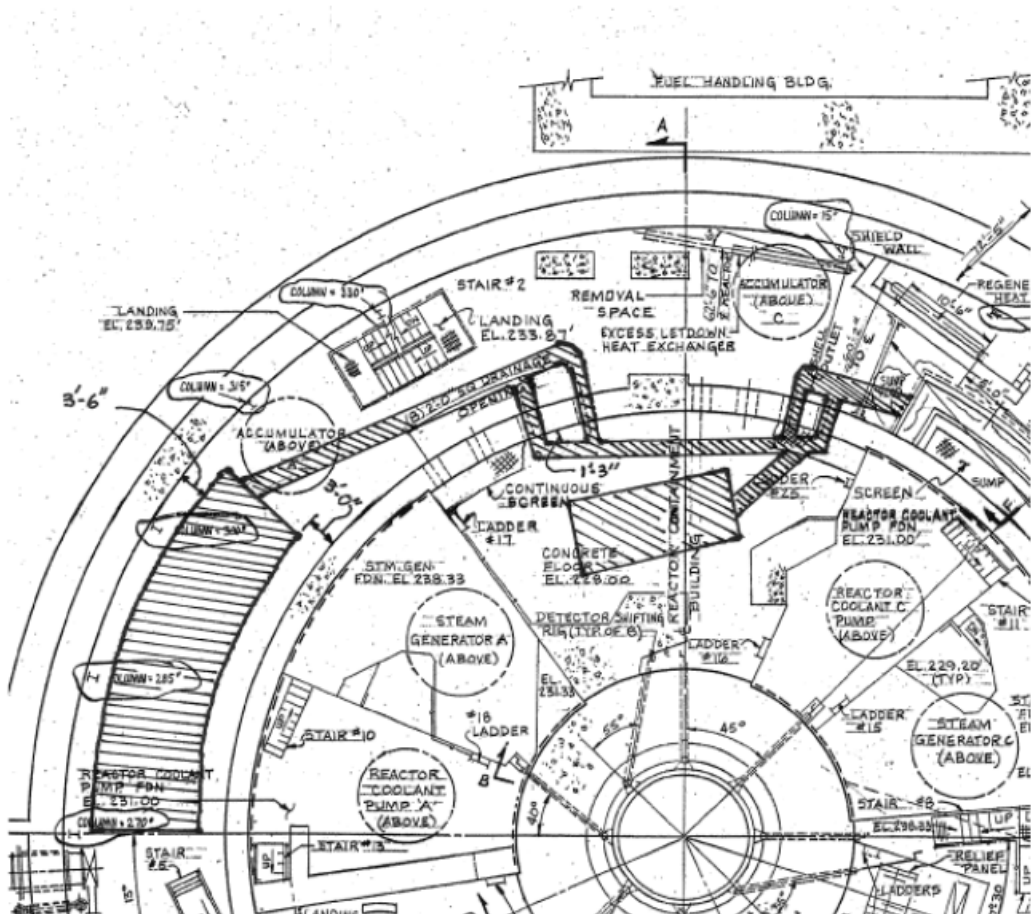


# Containment Sump

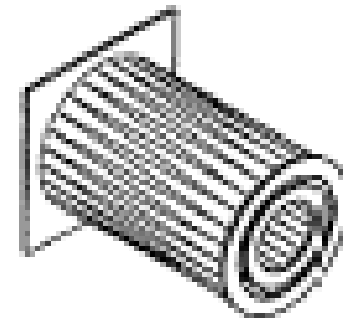
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- Compensatory Measures Implemented (NRC Bulletin 2003-01)
- Progress Toward Issue Resolution (Generic Letter 2004-02)
  - RO-23 inspections
    - ◆ Design scoping and laser scanning
    - ◆ Latent debris assessment
  - Complete strainer design and install in April 2007 (RO-24)

# Containment Sump



## Expected Design of New Strainer



# Fire Protection

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- Safe Shutdown Re-Validation Project Continuing (Fleet Solution)
  - Modifications completed during RO-23 to resolve identified vulnerabilities
- Commitment Made To NFPA 805 Conversion
- Resolution Of HEMYC Concerns

# Safety Related Cables To Intake

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- Original Cables Direct-Buried, Exhibiting Signs Of Aging
- Replacement Plan For Seismic Duct Bank
  - ▶ Study in 2006
  - ▶ Design in 2007
  - ▶ Implement in 2007/2008
  - ▶ Tie-in during RO-25

# Main Generator And Exciter

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- Asset Management Plan
- EPRI Study (2005)
- Install Bushings, CTs, And Discharge Monitors In 2007 (RO-24)
- Install Flux Probes, Vibration Instruments, And RTDs In 2008 (RO-25)
- New Exciter Installation
- Refurbish Old Exciter In 2009



# Switchyard Transformers

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- RO-23 Maintenance
  - ▶ TMAP
  - ▶ Fault pressure relay upgrade
  - ▶ Power cabling
- EPRI Study During 2006
- Long Range Plan For Replacement In 2010/2011



# Regulatory Support

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Jan Lucas

Manager – Support Services



# Emergency Preparedness

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- Broader Role - Preparing For The Future
- NRC Bulletin 2005-02
  - ▶ Addressed actions for Security-related events
    - ◆ Accelerated NRC notification
    - ◆ On-site protective measures
    - ◆ ERO augmentation
    - ◆ EAL revision for Security-based events
    - ◆ Drill and exercise program
  - ▶ Revised procedures and EALs
  - ▶ Completed training of ERO
  - ▶ Implementation completed January 10, 2006

# Emergency Preparedness

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- B.5.b Improvements
  - ▶ Communications capabilities
  - ▶ Notification of fire brigade personnel
  - ▶ Staging additional equipment
  - ▶ Changes in assembly points
  - ▶ Additional mitigation strategies
  - ▶ Unified incident command

# Emergency Preparedness

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- EAL Conversion Project
  - ▶ NUREG-0654 to NEI 99-01
  - ▶ Benefits
  - ▶ Schedule
    - ◆ NRC submittal targeted for May 2006
    - ◆ Seeking NRC approval in January 2007
    - ◆ Target implementation in March 2007
    - ◆ Graded Exercise second half of 2007

# Emergency Preparedness

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- WebEOC
  - ▶ National Incident Management System (NIMS) recommends adopting standard communications tool
  - ▶ WebEOC implemented in State and County Emergency Operations Centers
  - ▶ Implementation at RNP will complete standardization initiative for State of South Carolina
  - ▶ Target implementation 3<sup>rd</sup> Quarter 2006

# Emergency Preparedness

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- Siren Upgrade
  - ▶ Progress Energy fleet initiative
  - ▶ Siren acoustical study in 2006
  - ▶ Siren replacement in 2007

# Key Licensing Actions

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- Alternative Source Term
  - ▶ Large Break LOCA analysis under review
  - ▶ Resolves Control Room tracer gas testing results
- Technical Specifications Changes Needed For 2007 Refueling Outage
  - ▶ TSTF-449 (Steam Generator inspections)
  - ▶ CV sump surveillance requirement





# Training, Organization, & Leadership

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Gregg Ludlam  
Manager - Training



# Operator Training

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- License Class HLC-06 In Progress
  - ▶ Generic Fundamentals completed
  - ▶ NRC examination prep week scheduled for January 2007
  - ▶ NRC examination scheduled for February 2007
- Requalification Program Inspection Scheduled For February 2007

# Managing Transition

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- Voluntary Early Retirement – 32 Employees
  - ▶ Effective planning and execution utilized
  - ▶ 83 out of 394 people are in new positions (21% of work force)
  - ▶ New employees indoctrinated into RNP culture

# Managing Transition

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- Change Management Plan
  - ▶ Transition of knowledge
  - ▶ Tracking of qualifications
  - ▶ New employee orientation
- Succession Planning
  - ▶ Mentoring program
  - ▶ Succession planning interviews

# 10 Key Convictions

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1. We will value our employees.
2. We will maintain managerial integrity.
3. We will focus on safety and quality.
4. We will be the first to find our problems.
5. We will have a robust Corrective Action Program.
6. We will understand and rigorously maintain our Design and Licensing Basis.
7. We will have objective performance measures.
8. We will continually benchmark ourselves against the industry leaders.
9. We will actively groom a healthy regulatory interface.
10. We will have a meaningful succession plan.



# RNP 2006 Priorities

1. Personnel Safety & Human Performance
2. Safe & Reliable Plant Operations
3. Employee & Leadership Development
4. Focus on Fundamentals
5. Continuous Improvement through Self Evaluation
6. Preparations for RO-24



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# Closing Remarks



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