

# **Southern Nuclear Interface Meeting with the NRC**

**February 27, 2003**

# Southern Nuclear Operating Company

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**Welcome by:**

**Jack Woodard**

**Executive Vice President**

# Meeting Agenda

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8:30 – 8:45	Welcome	Jack Woodard
8:45 – 9:15	Vogtle Status Update	Jeff Gasser
9:15 – 9:45	Hatch Status Update	Lewis Sumner
	BREAK	
10:00 – 10:30	Farley Status Update	Barnie Beasley
10:30 – 11:00	New Engineering Organization	John Garlington
11:00 – 11:15	Industry Materials Program	Louis Long
11:15 – 11:30	MRP Issues	Larry Mathews
11:30 – 12:00	LUNCH (in auditorium)	
12:00 – 1:30	NRC Topics	
	BREAK	
1:45 – 2:45	Tour of New CEOC	Walt Lee
2:45 – 3:00	Closing Comments	Louis Long

# Vogtle Electric Generating Plant

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**Jeff Gasser – Vice President**



# Vogtle's Major Issues

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## Human Performance

- In-field observations focus
- Use of Human Performance tools
  - Personnel Safety
  - Parallel Observations
- Training
- Alignment Sessions

# Vogtle's Major Issues

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## Main Feed Regulating Valve Controls

- Sporadic movement experienced
- Suspect problems with positioners and 7300 cards
- Replacement positioner being tested in a non-critical application
- Evaluating Control System design change to increase redundancy

# Vogtle's Major Issues

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## Heater Drain Pump Reliability

- Vibration problems have resulted in derates
- Refurbishment specification upgraded
- Industry experience review in progress

# Edwin I. Hatch Nuclear Plant

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**Lewis Sumner – Vice President**



# Hatch's Major Issues

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## Self Assessment

- Not as effective as could be in improving performance
- Management emphasis on process importance to improvement needs strengthening
- New procedure in place
- Management attention on process rigor has been increased

# Hatch's Major Issues

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## **Work Management / Maintenance Effectiveness**

- Work Management planning and execution needs improvement
- 12-Week Work Process
- Performance Indicators
- Peer team addressing work management issues
- Indicators in place to monitor planning effectiveness

# Hatch's Major Issues

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## Equipment Reliability

Reliability of some important plant equipment could be improved by improving:

- Work Management Process
- Maintenance Effectiveness
- Preventative / Predictive Maintenance Program
- Prioritization / Management of System Engineering
- Troubleshooting Effectiveness

# Hatch's Major Issues

## Equipment Reliability

- Unit 1 & Unit 2 Offgas Systems
- Turbine Building Chillers
- Leaking SRVs & SRV Reliability
- Leaking Joints & Fittings in the Condenser Bay
- Sticking Control Rods
- Recirculation System - Flow Control
- Unit 1 Cooling Towers
- Unit 2 'B' Steam Jet Air Ejector Reliability
- RHR Service Water Pump Reliability
- Unit 2 Main Steam Isolation Valve Limit Switches & Stem-to-Disc Failure

# Joseph M. Farley Nuclear Plant

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**Barnie Beasley – Vice President**



# Farley's Major Issues

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## Meeting Standards in Field

- In-field observations focus
  - Procedure Blitz
  - Personnel Safety Focus
  - Foreign Material Exclusion Observation Focus
  - Radiation Practice Practical Training
  - Security and Fire Door Focus
  - Housekeeping/Cleanliness
  - Simulator Observations
- Strategic Analysis Review
- Employee Alignment Sessions

# Farley's Major Issues

## Reactor Vessel Head Replacement

- Unit 2 fall 2002 outage –
  - No indication of leakage, boron wastage, or stress corrosion cracking.
- Unit 1 spring 2003 outage –
  - Reactor vessel head inspection including 69 penetrations.
  - Bare metal visual & ultrasonic inspection
  - Challenge: Removal of thermal sleeves to allow tool access
- Unit 1 Reactor, bottom of vessel –
  - Remote visual inspection will be performed during spring outage
- Reactor Vessel Head Replacement Project.
  - Contract in place for delivery in 2004 for Unit 1 fall outage and 2005 for Unit 2 fall outage



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# Farley's Major Issues

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## Cooling Tower Replacement Project

- 2 Unit - 30 month program - Replace all cooling towers
- Old Redwood towers - New Fiberglass towers
- Unit 1 - Began construction - January 7, 2003  
Scheduled completion - July 2004
- Unit 2 - Scheduled to begin January 2004  
Scheduled completion - July 2005
- Increase summer peak output by 48 MWe
- Challenge:
  - Budget
  - Construction while units are operating



# Farley's Major Issues

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## Plant Materiel Condition & Cleanliness

- Plant mid-level materiel condition
- Strategic focus on specific areas/systems/components
- Current actions address Service Water Systems and Diesel Generators

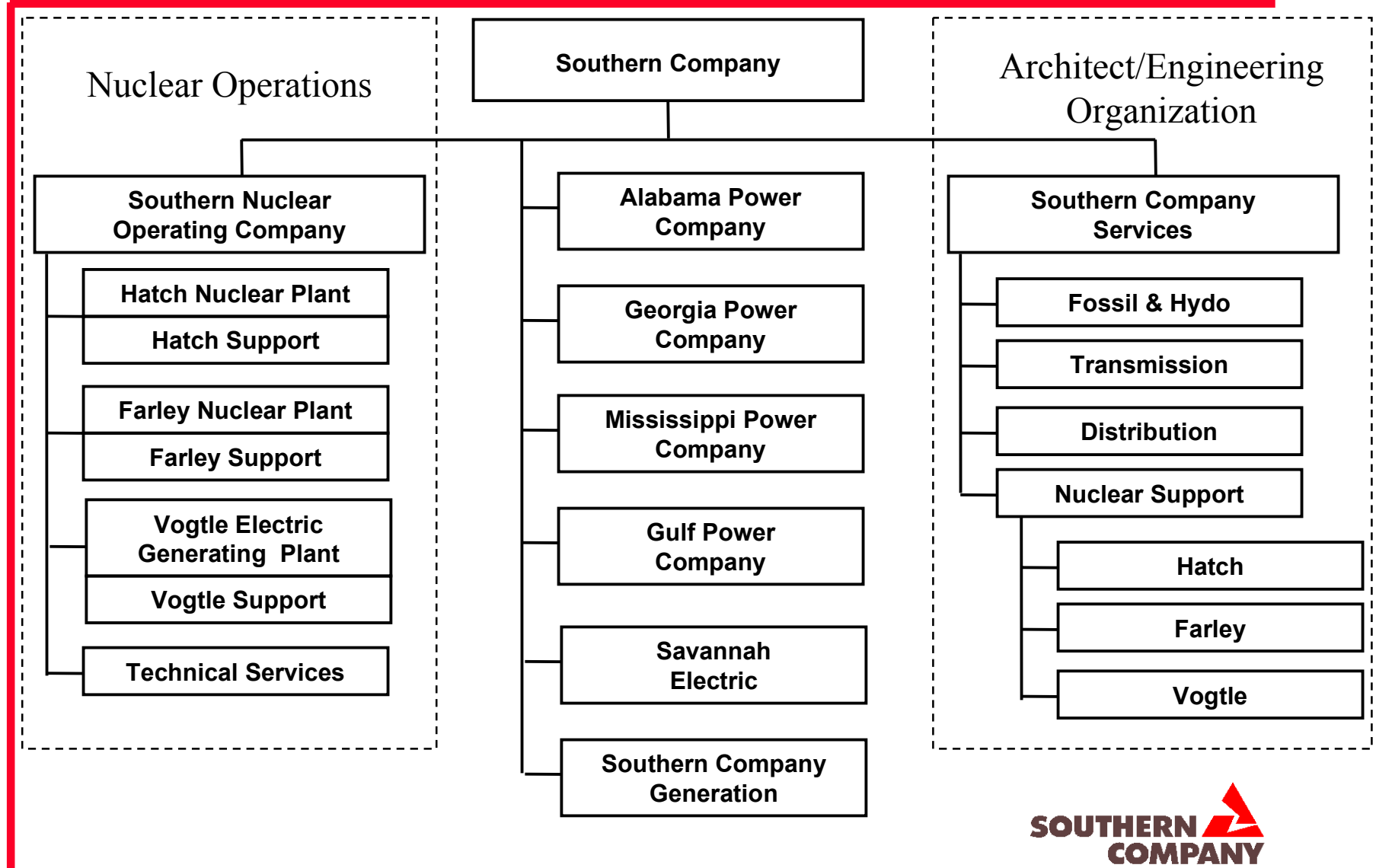
# SNC Engineering Organization

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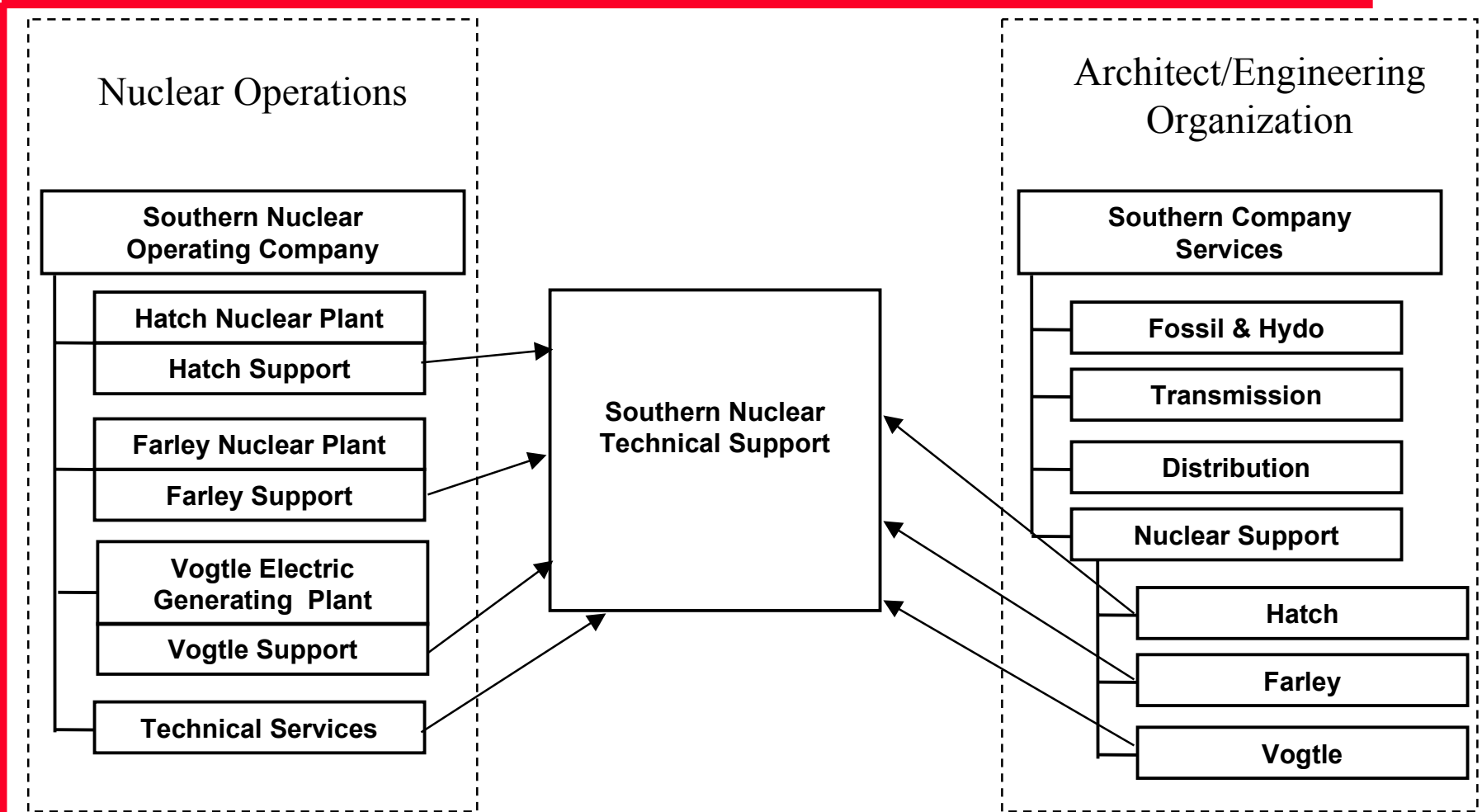
**John Garlington – Vice President**



# SNC Engineering Organization

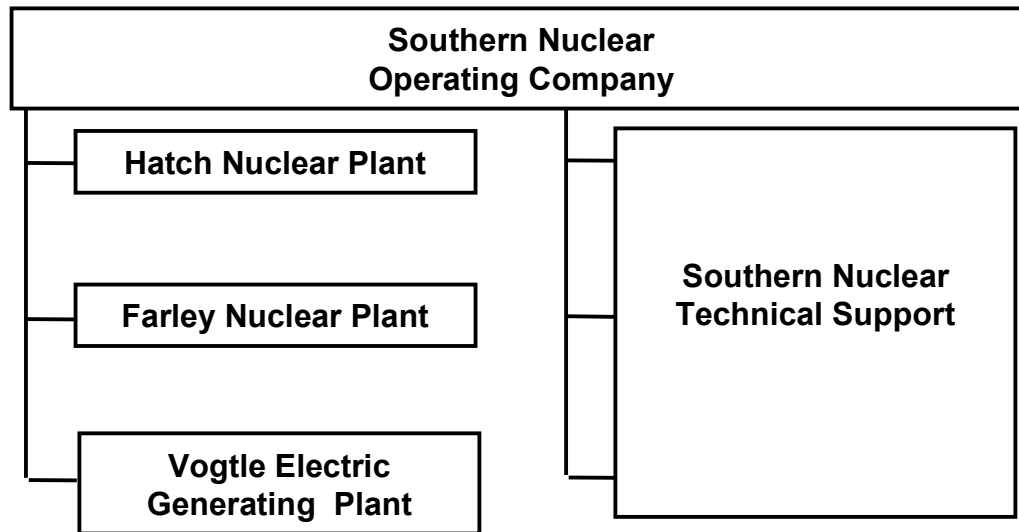


# SNC Engineering Organization

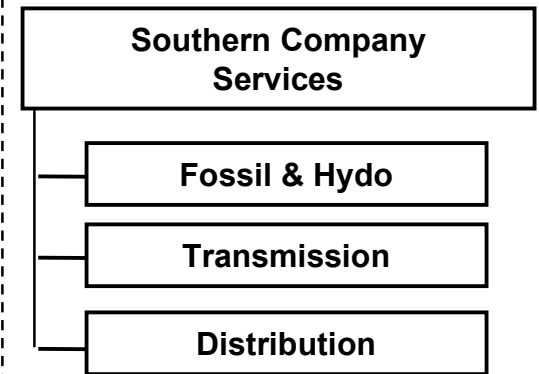


# SNC Engineering Organization

## Nuclear Operations

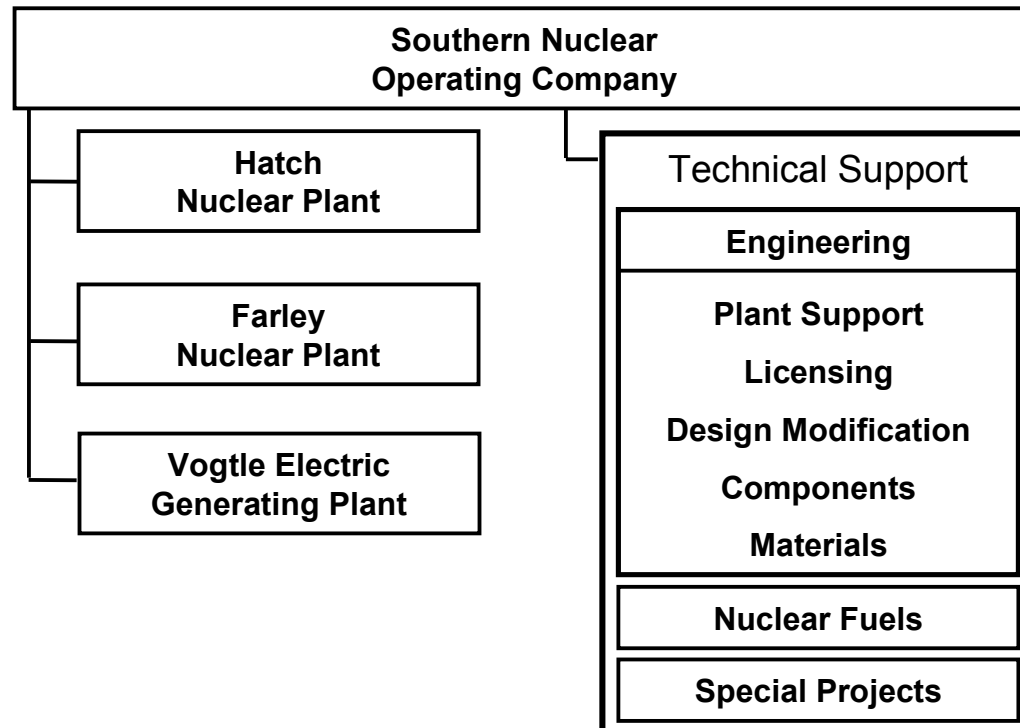


## Architect/Engineering Organization



# SNC Engineering Organization

## Nuclear Operations & A/E



# SNC Engineering Organization

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## Project VPs & Executive Line Management

- Responsibilities/accountabilities were not reduced
- Retained the authority to direct the support for their plant

## Matrixed Reporting to GM Nuclear Support

- Plant Support Managers
- Plant-specific Licensing Managers

# Features of the Organization

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## Plant Support Organizations

- Provides each plant a single point of contact for support
- Retains plant-specific expertise
- Dedicated resources allow quick response to operational issues

## Licensing Organization

- Combines generic & plant-specific licensing organizations under single Nuclear Licensing Manager
- Retains a unique plant specific contact point for NRC PM
- Facilitates fleet wide licensing initiatives



# Features of the Organization

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## Design Modifications Department

- Serves all three plants allowing better application of expertise
- Design configuration sections dedicated to maintaining design documentation
- E-FIN (Fix it Now) Teams located on site provide fast response

## Component Engineering

- Serves all three plants with deep expertise
- Valves, Diesels, Turbine Generators, Heat Exchangers and other common components

## Materials and Inspection Services

- Specialty expertise for the evolving materials issues

# SNC Engineering Organization

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## Benefits of the Organization

- Promotes best practices and standardization
- Reduced handoffs & interfaces
- Improved information sharing across the projects
- Expertise applied in a broad fashion

# Materials Program Self Assessments

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**Louis Long – VP Technical Support**



# Materials Programs Self Assessment

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## Background

- Indian Point 2 - February 2000
  - Alloy 600 base metal - SG tube rupture
- VC Sumner - October 2000
  - Alloy 82/182 weld - vessel nozzle to hot leg pipe
- Oconee 1&3; ANO 1 - November 2000 - March 2001
  - Alloy 600 base metal and Alloy 82/182 welds - through wall leaks at 11 CRDM nozzles
- Davis-Besse - March 2002
  - Alloy 600 base metal and Alloy 82/182 welds - through wall leaks and boric acid corrosion

# Materials Programs Self Assessment

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## NEI Task Force on Materials

- Formed by NEI Executive Committee
- Charter
  - Assess Status of Industry Programs
  - Ensure Effective Deployment
  - Resolve Any Funding Issues
  - Report Results and Recommendations to NSIAC

# Materials Programs Self Assessment

## Groups/Programs Surveyed

- EPRI Issue Programs
  - BWRVIP
  - MRP
  - RFP
  - SGMP
- Owners Group Programs
  - BWROG
  - B&WOG
  - CEOG
  - WOG
- Other
  - NDE Center
  - Water Chemistry Control
  - PDI

# Materials Programs Self Assessment

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## Materials Task Force Membership

- Garry Randolph - Ameren, Chairman
- Chris Crane - Exelon
- Carl Terry - Constellation Nuclear
- Mike Tuckman - Duke
- **Jack Woodard - Southern Nuclear**
- **Lou Long - Southern Nuclear**
- Rick Jacobs - INPO

# Materials Programs Self Assessment

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## Status

- Initial Results of Self Assessments Completed
- NRC Surveyed
- Initial Results and Recommendations Made
- Presentation to NSIAC in second quarter of 2003



# Materials Programs Self Assessment

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## Preliminary Findings

- No Overview of All Programs
- Funding Equity Questions
- Responsibility for Leadership not Shared
- Focus on short-term solutions
- Inability to Enforce Guidelines
- Participation Inconsistent
- Communication Between Programs Informal
- Regulatory Approach Inconsistent

# Materials Reliability Project

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**Larry Mathews – Alloy 600 ITG Chairman**



# Southern Nuclear Leadership of Industry Materials Related Committees - EPRI

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## Leadership Positions

PMMP SC: Chairman, **Jack Woodard**

BWRVIP: Executive Chair, Mitigation Committee;  
Executive Oversight Committee, **Lewis Sumner**  
Assessment Committee Chairman, **Robin Dyle**  
Repair Focus Group Chairman, **Denver Atwood**

SGMP: TAG Chairman; IIG Vice-Chair, **Forrest Hundley**

Robust Fuels: Executive Chairman, **Louis Long**  
Working Groups 3 and 4 Chairman, **Bruce Hunt**  
Noble Metal Chemistry Chairman, **Ken Turnage**

MRP: Member IIG; Alloy 600 ITG Chairman, **Larry Mathews**

# Southern Nuclear Leadership of Industry Materials Related Committees

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## Leadership Positions

BWROG: Executive Committee Chairman, **Lewis Sumner**

WOG: Operations Subcommittee Chairman, **Tom Tynan**

NEI Task Force on Dissimilar Welds: Chairman, **Robin Dyle**

ASME Section XI: Member; Section XI Subcommittee;  
Executive Committee; Former Vice Chairman;  
Alloy 600 Task Force Chairman, **Robin Dyle**

ASME OM Committee: Member, Main Committee; OM Code  
Subcommittee Vice Chairman, **Dennis Swann**

EPRI Performance Initiative: Vice Chairman, **Gary Loftus**

# Materials Reliability Project Issues

## Four Issue Task Groups

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### Internals

- Long Range Pro-Active Research
- Actively Manage IASCC, void swelling, and other internals degradation issues
- Important for long range inspection programs, especially in license renewal period

### Fatigue

- Thermal Fatigue Interim Guidelines Issued, Final Guidelines under development
- Environmental Fatigue Issues, Draft Interim Staff Guidance issued for comment, License Renewal Issue

# Materials Reliability Project Issues

## Four Issue Task Groups

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### Reactor Pressure Vessel

- Working closely with staff on PTS Re-evaluation and Master Curve approach

### Alloy 600

- Head Penetrations and all other Alloy 600/82/182 locations
- Current Activities on:
  - North Anna 2 Head Destructive Examination
  - Boric Acid Corrosion Testing
  - Safety Assessments/Inspection Plans
  - Mitigation Technologies
  - Inspection Technology Demonstration Program
  - Alloy 600, 690, and weld metal crack testing

# Materials Reliability Project Issues

## Recent Order for Head Inspections

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### Farley 1

- March, 2003, 17.6 EDY, R18
- Planned inspections consistent with order
- Penetrations have threaded bottom

### Farley 2

- Spring, 2004, 17.2 EDY, R16
- Order requires volumetric re-inspection, even though inspection in fall, 2002 showed no defects

### Vogtle 1

- Fall, 2003, 2.7 EDY, R11
- Supplemental Visual and Insulation Modification
- Bare Metal Visual not required until 2006 (completed last outage)
- Volumetric exam planned for 1R13, 2006, consistent with order

### Vogtle 2

- Spring, 2004, 2.5 EDY, R10
- Supplemental Visual and Insulation Modification
- Bare Metal Visual not required until 2007 (completed last outage)
- Volumetric exam planned for 2R12, 2007, consistent with order



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# Farley 1 Head Inspection Plans

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- 100% Bare Metal Visual
- Remove all thermal sleeves, part length drive shafts, and retention collars/caps
- UT/ET of entire nozzle inner surface using open housing probe
- Weld new thermal sleeves back in place



# Corporate Emergency Operations Center

## CEOC Emergency Response Organization

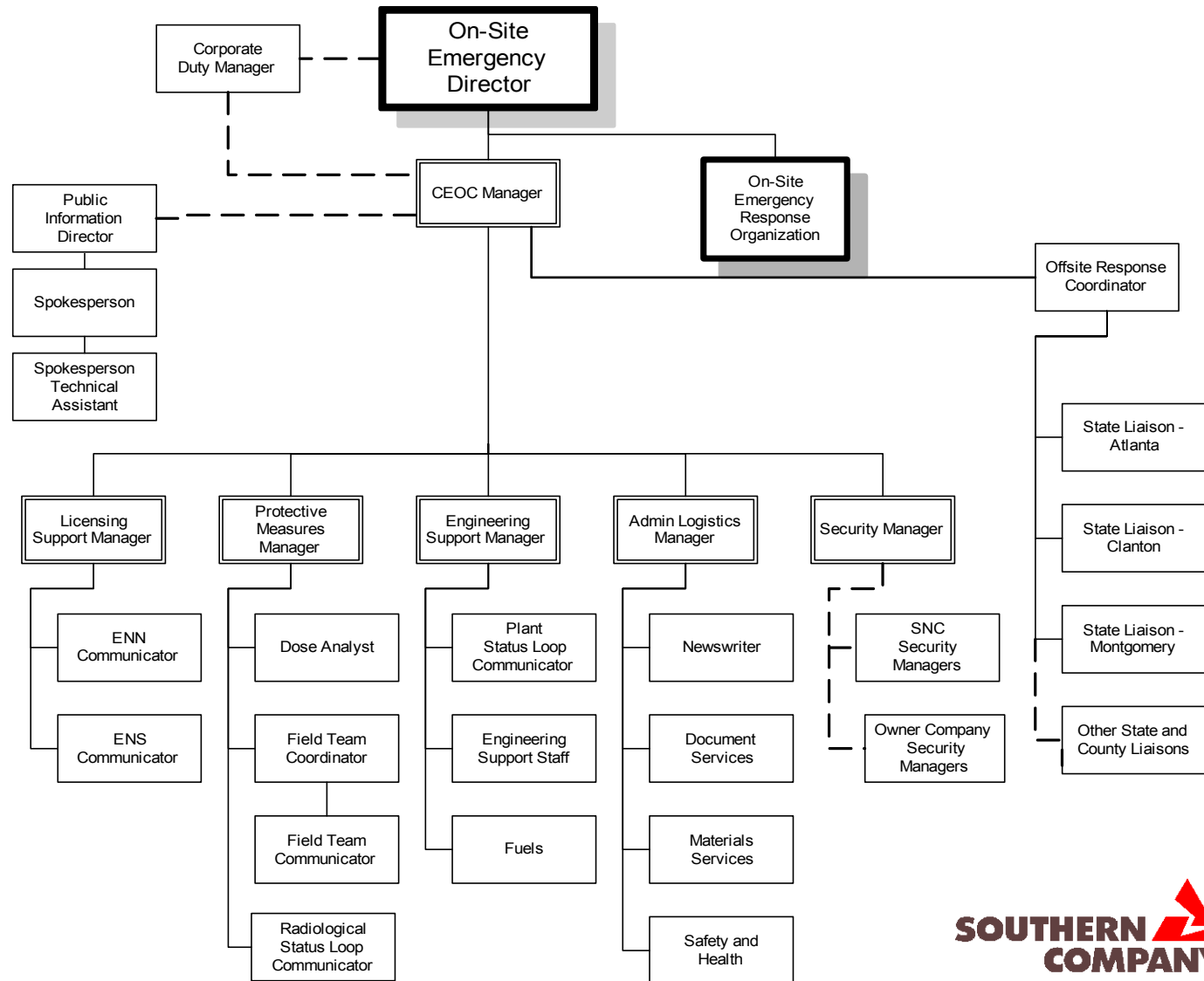
- Allows site organization to focus on plant response
- Provides for all Corporate EOC and Plant EOF functions
- Scheduled rotation of 20 positions (minimum 4 deep)
- Staffs key positions to ensure Plant Specific needs met
- Utilizes “All-Call” recall with 60 minute response

## CEOC Facility Design

- Dedicated facility command center within HQs infrastructure
- Supports multi-site accident response capability
- Integrates electronic data sharing among facilities/agencies

**Walt Lee – EP Coordinator**

# CEOC Emergency Response Organization



# **Southern Nuclear Operating Company**

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**Closing Comments By:**

**Louis Long**

**Vice President – Technical Support**