

JANUARY 17, 1996

Carolina Power & Light Company  
ATTN: Mr. W. R. Robinson  
Vice President - Harris Plant  
Shearon Harris Nuclear Power Plant  
P. O. Box 165, Mail Code: Zone 1  
New Hill, NC 27562-0165

SUBJECT: MEETING SUMMARY - SHEARON HARRIS NUCLEAR PLANT SERVICE WATER  
SELF-ASSESSMENT RESULTS

Dear Mr. Robinson:

This refers to the meeting conducted at your request at our Region II Office on January 11, 1996. The purpose of the meeting was to discuss the status of your self-assessments and ongoing actions concerning service water. It is our opinion that this meeting was beneficial to us in aiding our understanding of your ongoing engineering programs.

In accordance with section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and its enclosures will be placed in the NRC Public Document Room.

Should you have any questions concerning this matter, please contact us.

Sincerely,  
ORIGINAL SIGNED BY  
PAUL FREDRICKSON

Paul E. Fredrickson, Chief  
Special Inspection Branch  
Division of Reactor Safety

Enclosures: 1. Meeting Attendees  
2. Licensee Handout

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(cc w/encls cont'd)  
 Uva Holland, Chairman  
 Board of County Commissioners  
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## MEETING ATTENDEES

### Carolina Power and Light

G. Rolfson, Manager, Harris Engineering Section  
T. Walt, Manager, Performance Evaluation and Regulatory Affairs  
D. Alexander, Supervisor, Licensing  
C. Brown, Supervisor, Support Systems  
D. Hawley, Senior Engineer  
W. McGoun, Project Engineer

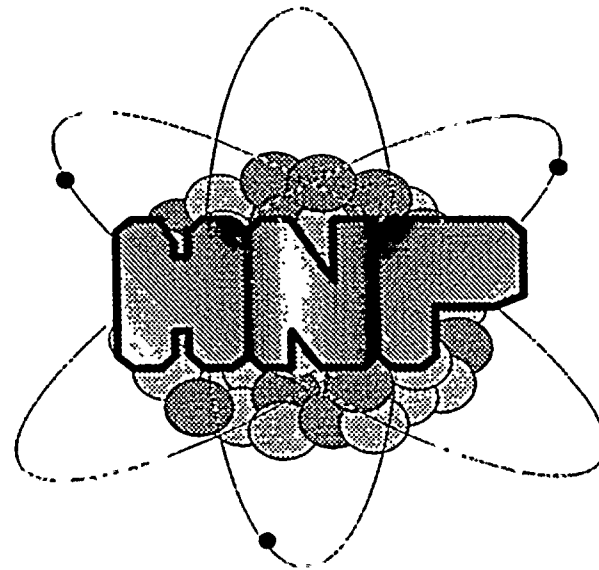
### Nuclear Regulatory Commission

A. Gibson, Director, Division of Reactor Safety (DRS)  
J. Brady, Project Engineer, Division of Reactor Projects (DRP)  
C. Casto, Branch Chief, DRS  
H. Christensen, Branch Chief, DRS  
P. Fredrickson, Branch Chief, DRS  
M. Shymlock, Branch Chief, DRP  
P. Kellogg, Project Manager, DRS  
\*T. Lee, Project Manager, Office of Nuclear Reactor Regulation  
\*D. Roberts, Resident Inspector, DRP

\*By Telephone

ENCLOSURE 1

# Harris Nuclear Plant Technical Presentation Service Water Systems



**CP&L**

January 11, 1996

ENCLOSURE 2

# **Service Water Systems**

## **Purpose**

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**Discuss assessments and ongoing actions for the Harris Nuclear Plant Service Water systems.**

# Service Water Systems Agenda

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- Assessments Conducted
- Results and Actions
- Summary

# **Service Water Systems Assessments Conducted**

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- **Conducted two assessments (Fall 1994)**
- **Assessed implementation of GL 89-13 program including a knowledgeable industry consultant**
- **Performed Service Water System Operational Performance Inspection (SWSOPI) utilizing utility/industry team of nine individuals in accordance with NRC TI 2515/118**



# Service Water Systems

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- **Programmatic Issues**

- ◆ Program documentation
- ◆ Test/inspection procedures
- ◆ Program implementation

- **Technical Issues**

- ◆ Single failure reviews
- ◆ Ultimate heat sink
- ◆ ESW flow

# **Service Water Systems Programmatic Issues**

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## **Issue:**

- **Program Documentation**

## **Actions:**

- **Created living program document to identify scope, responsibility, and controls activities**
- **Defined responsibilities for site staff, including program manager**

# Service Water Systems Programmatic Issues

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## Issue

- Test/Inspection Procedures

## Actions

- Revised test/inspection procedures
  - ◆ Improved inspection guidance
  - ◆ Strengthened acceptance criteria
  - ◆ Added guidance for actions if acceptance criteria not met
- Training

# Service Water Systems Programmatic Issues

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## Issue

- Program Implementation

## Actions

- Reviewed committed program scope
- Completed heat exchanger inspections
- Initiated pipe inspections
- Reassessed chlorination commitment

# **Service Water Systems Technical Issues**

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## **Issue**

- **Incomplete single failure reviews of Essential Services Chilled Water (ESCW) and Component Cooling Water (CCW)**

## **Actions**

- **Completed single failure reviews**

# Service Water Systems Technical Issues

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## Issue

- **Ultimate Heat Sink (UHS)**

## Actions

- **Design basis clarified**
  - ◆ **Architect/Engineer (A/E) Analysis performed analysis**
  - ◆ **Determined maximum allowable UHS temperature to be 94° F (has never been exceeded)**
  - ◆ **Established plant controls**
- **Confirmed licensing basis requirements for both auxiliary and main reservoirs**

# Service Water Systems

## Technical Issues

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### Issue

- Emergency Service Water (ESW) flow

### Actions

- Reviewed ESW thermal and hydraulic design calculations
- Revised ESW flow test acceptance criteria based on design calculations
- ESW tested for new acceptance criteria
- Determined minimum allowable main reservoir level to be 215 feet
- Established plant controls

# **Service Water Systems Self-SWSOPI Identified Weaknesses**

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## **Issue**

- **Analyses not initiated for some ESW inspection results**

## **Actions**

- **Evaluated and determined that specific examples were satisfactory**
- **Revised procedures to provide method of documenting inspections and results to ensure appropriate investigation and resolution**



# **Service Water Systems**

## **Self-SWSOPI Identified Weaknesses**

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### **Issue**

- **Some calculations revised without complete understanding of the Design Basis**

### **Actions**

- **Reviewed and revising calculations as necessary; results acceptable**
- **Recalculated heat loads for margin refinement**
- **Continue other engineering improvement initiatives**

# **Service Water Systems**

## **Self-SWSOPI Identified Weaknesses**

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### **Issue**

- **Procedural guidance for operators**

### **Actions**

- **Completed operations procedure revisions**

# **Service Water Systems Self-SWSOPI Identified Weaknesses**

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## **Issue**

- **Surveillance test program implementation**

## **Actions**

- **Added four valves to IST program**
- **Began assessment of surveillance testing required to satisfy Technical Specifications - to be completed in Summer 1996**

# **Service Water Systems**

## **Self-SWSOPI Identified Weaknesses**

### **Issue**

- **Interface between design and other plant groups**

### **Actions**

- **Addressing identified problems**
- **Implemented "plant engineer" concept**
- **Continue other engineering improvement initiatives**

# **Service Water Systems**

## **Self-SWSOPI Identified Strengths**

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- **Overall design of the ESW, CCW, and ESCW System**
- **Original design calculations and specifications are thorough**
- **Ongoing rigorous assessment of and proposed improvements to the GL 89-13 program**
- **Material condition and housekeeping**

# **Service Water Systems Summary**

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- **Improved management of program**
- **Increased knowledge of system limitations**
- **Enhanced monitoring/ability to detect degradation**
- **Reviewing Technical Specification surveillance program**
- **Developing recommendations for margin improvement**