



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET SW SUITE 23T85
ATLANTA, GEORGIA 30303-8931

March 14, 2003

Carolina Power & Light Company
ATTN: Mr. James Scarola
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 - HARRIS NUCLEAR PLANT

Dear Mr. Scarola:

This refers to the open meeting that was conducted at the Region II Office in Atlanta, Georgia, on March 10, 2003, at 1:00 p.m. The meeting's purpose was to discuss CP&L's plans and schedules regarding changes to your fire protection program at the Shearon Harris Nuclear Power Plant. A list of attendees as well as a copy of your slides are enclosed.

It is our opinion that this meeting was very beneficial and provided the NRC with a good understanding of your planned changes to the fire protection program.

In accordance with 10 CFR 2.790 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 meeting, please contact me at (404) 562-4605.

Sincerely,

/RA/

Charles R. Ogle, Chief
Engineering Branch 1
Division of Reactor Safety

Docket No.: 50-400
License No.: NPF-63

Enclosures: 1. List of Attendees
2. Licensee Presentation Handouts

cc w/encls: (See page 2)

cc w/encls:

James W. Holt, Manager
Performance Evaluation and
Regulatory Affairs CPB 9
Progress Energy
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Robert J. Duncan II
Director of Site Operations
Carolina Power & Light Company
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Benjamin C. Waldrep
Plant General Manager--Harris Plant
Carolina Power & Light Company
Shearon Harris Nuclear Power Plant
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Support Services
Carolina Power & Light Company
Shearon Harris Nuclear Power Plant
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John R. Caves, Supervisor
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(cc w/encls cont'd - See page 3)

(cc w/encls cont'd)

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Herb Council, Chair
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Tommy Emerson, Chair
Board of County Commissioners
of Chatham County
Electronic Mail Distribution

LIST OF ATTENDEES

Nuclear Regulatory Commission

J. Brady, Senior Resident Inspector, Harris Nuclear Power Plant
C. Casto, Director, Division of Reactor Safety, (DRS), Region II (RII)
P. Fredrickson, Chief, Reactor Projects Branch 4, Division of Reactor Projects, DRP, RII
J. Fuller, Nuclear Safety Intern, Engineering Branch 2, DRS, RII
V. McCree, Deputy Director, DRP, RII
C. Ogle, Chief, Engineering Branch 1, DRS, RII
C. Patel, Senior Project Manager, Office of Nuclear Reactor Regulation, Division of Licensing
Project Management
C. Payne, Team Leader - Fire Protection, Engineering Branch 1, DRS, RII
W. Rogers, Senior Reactor Analyst, Engineering Branch 1, DRS, RII
R. Schin, Senior Reactor Inspector, Engineering Branch 1, DRS, RII
N. Staples, Nuclear Safety Intern, Engineering Branch 1, DRS, RII

Carolina Power & Light Company

G. Attarin, Corporate Chief Engineer
J. Caves, Supervisor, Licensing
R. Duncan, Director, Site Operations
J. Ertman, Corporate Fire Protection Engineer
A. Khanpour, Manager, Engineering
S. Laur, Supervisor, PSA
E. McCartney, Superintendent, Engineering
T. Morton, Manager, Support Services
J. Yadusky, Licensing Engineer

**Nuclear Regulatory Commission
Region II
March 10, 2003**

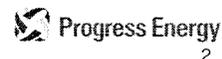
Harris Nuclear Plant

Fire Protection



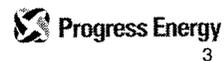
Attendees

- Bob Duncan – Director, Site Operations
- Abdy Khanpour – Manager, Engineering
- Eric McCartney – Superintendent, Engineering
- Terry Morton – Manager, Support Services
- John Caves – Supervisor, Licensing
- John Yadusky – Licensing Engineer
- George Attarian – Corporate Chief Engineer
- Jeff Ertman – Corporate Fire Protection Engineer
- Steve Laur – Supervisor, PSA



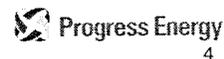
Agenda

- Overview of Fire Protection Inspection Findings
- Summary of Root Causes
- Corrective Actions
- Overview of Project Plan



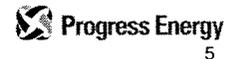
Overview of Inspection Findings

- Failure to identify cables potentially affected by fires
- Inconsistency between Safe Shutdown Analysis and implementing procedure
- Some non-feasible manual actions
- Technical compliance
 - Lighting
 - Manual actions not approved



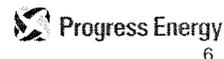
Summary of Root Causes

- Original licensing mid 1980s
 - ▶ Errors in analysis
 - ▶ Separation issues resolved with using manual actions as the first choice
 - ▶ Abnormal Operating Procedure (AOP) for safe shutdown was a single procedure for both MCR fire and plant area fires
 - ▶ Applied a rigorous validation process for remote shutdown manual actions
 - ▶ Original submittal did not separate remote shutdown from MCR shutdown



Summary of Root Causes

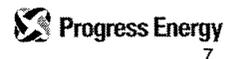
- Early 1990s
 - ▶ Separated fire response into two AOPs
 - ▶ Distinction between manual actions for remote shutdown and 3.G.2 areas not made
 - ▶ Validation not done for manual actions in 3.G.2 areas
- Assessments focused on conventional fire protection – barriers, detection, suppression, equipment impairments



Fire Protection Corrective Actions

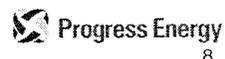
Interim immediate actions completed

- Revised Safe Shutdown Procedures
- Assigned 1 Additional SSD AO To Shift
- De-energized MOVs Where Possible To Eliminate Hot Short Potential
- Removed plexiglas cover for TDAFW fuse
- Established fire watch coverage for identified issues



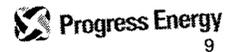
On-Shift Staffing

- Developed drill scenarios for ACP fire area using Plant Simulator
 - Conducted drill scenarios with spurious actuations inserted for all 5 shifts with 1 Auxiliary Operator
 - All crews successful in achieving shutdown
 - Success defined by remote shutdown time line
 - Will validate all remaining fire areas



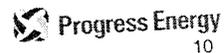
Project Plan Goals

- Restore compliance for identified deficiencies
- Fire Hazards Analysis design validation
 - SSA validation
 - Clear documentation of compliance
- Validation of fire response
 - Design adequately reflected in operational response procedures
 - Training



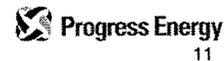
Project Plan Goals

- Improve system reliability
 - Validate QA program
 - Optimize surveillances and testing
- Reduce plant risk for operational implementation
 - Reduce operator manual actions to the greatest extent possible
- Improve self-evaluation
 - Establish program health monitoring schedule that verifies design basis through implementation on a periodic basis



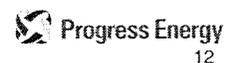
Project Plan Scope

- Results of root cause analysis
- Corrective action program trends
- Industry issues
- Identified 14 tasks to be included in plan
 - ▶ Design modifications
 - ▶ Benchmarking
 - ▶ Administrative control upgrades



Project Plan Schedule

- SSA validation
 - ▶ Contractor selection in progress
 - ▶ Begin prior to R11
 - ▶ Expected completion in mid 2004



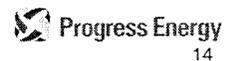
Resolution

- Immediate Design Changes
 - ▶ Design in progress
 - ◆ VCT outlet valve cables, 1CS-165 & 166
 - ◆ Protect CSIP flow paths in all fire events
 - ◆ Eliminate manual actions in ACP fire area
 - ◆ Utilize Interam fire wrap, qualified to GL 86-10, Supplement 1 standards
 - ▶ Evaluating MCC hot short solutions
 - ◆ Cable reroutes
 - ◆ Valve interlocks



Design Validation

- Validation of SSA
 - ▶ Develop safe shutdown equipment list
 - ▶ Select SSEL cables
 - ▶ Load cable database
 - ▶ Utilize automated software analysis methods
 - ▶ Revise safe shutdown procedure



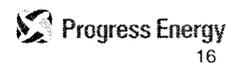
Additional Program Improvements

- Administrative controls
 - ▶ Transient combustibles
- Training and Qualification
 - ▶ Program manager
 - ▶ General engineering population
 - ▶ Operations crews
 - ▶ Station management



Risk Insight

- Fire areas identified in findings, except ACP room, have full detection and suppression
- Affected cable routes are greater than 20 feet from fixed ignition sources
- Multiple hot short spurious actions are required to cause loss of a safe shutdown function



Summary

- Original design used manual actions instead of separation
- HNP now understands regulatory requirements and safety impact of manual actions
- Aggressively pursuing resolution of known issues and validation of remainder of analysis
- Propose quarterly update meetings with Region II
- HNP will update LER as necessary to include additional discovery



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