



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 REGION II
 101 MARIETTA STREET, N.W.
 ATLANTA, GEORGIA 30323

Report No.: 50-400/89-26.

Licensee: Carolina Power and Light Company.
 P. O. Box 1551
 Raleigh, NC 27602

Docket No.: 50-400

License No.: NPF-63

Facility Name: Harris

Inspection Conducted: October 2-6, 1989

Inspector: *E. Lea* 10/30/89
 E. Lea Date Signed

Approved by: *McKensie Thomas for F. Jape* 11-1-89
 F. Jape; Section Chief Date Signed
 Quality Performance Section
 Division of Reactor Safety

SUMMARY

Scope:

This routine, unannounced inspection was in the areas of Commercial Grade Procurement and Design, Design Changes and modifications.

Results:

A total of seven PCRs were reviewed to determine the adequacy of the licensee procurement program, and the technical support provided. Special attention was focused on commercial grade procurement. For the PCRs and their associated procurement packages reviewed, the use of commercial grade items in safety related application was limited. The dedication process selected by the licensee for ITE breakers, which were procured commercial grade, was inadequate (the inadequacy will be addressed in an upcoming resident inspector's report). The procurement of safety related items, which are unique to nuclear, were performed adequately.

In the areas inspected, violations or deviations were not identified.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *J. Hammond, Manager, Onsite Nuclear Safety
- *C. Hinnant, Plant General Manager
- *C. McKenzie, Manager, Quality Assurance Engineering
- *L. Olsen, Project Specialist, Technical Support
- *D. Tibbitts, Director, Regulatory Compliance
- *R. Van Metre, Manager, Technical Support
- *M. Wallace, Senior Specialist, Regulatory Compliance
- *L. Woods, Engineering Supervisor, Technical Support

Other licensee employees contacted during this inspection included engineers, operators and administrative personnel.

NRC Resident Inspector

- *M. Shannon

*Attended exit interview

Acronyms and initialisms used throughout this report are listed in the last paragraph.

2. PROCUREMENT, DESIGN CHANGES AND MODIFICATIONS (37700/38703)

The inspector performed a cursory review of the programs for the procurement of components and equipment currently installed in safety related applications at Shearon Harris Nuclear Power Plant. The review addressed the procedures that govern the procurement process, with special emphasis given to the upgrade/dedication of commercial grade items for use in safety-related application. To evaluate the implementation of the program, the inspector reviewed plant procedures, plant change requests, modifications, maintenance work orders, procurement package and interviewed licensee personnel.

The procurement of materials and components used at Shearon Harris is governed by plant procedure PMC-001, Procurement and Cataloging of Parts, Materials, Equipment, and Services, Revision 4. Procedure TMM-104, Determination of Technical and QA Requirements for Procurement Document, establishes the method for determining and assigning both technical and QA requirements for the materials and components purchased. TMM-104 also defines the methods used to dedicate commercial grade items for use in safety related applications.

The inspector selected the following PCRs to review. Each PCR was reviewed to determine if there was a need to procure new materials/components or a need to upgrade existing ones:

PCR-1957
PCR-2271
PCR-3700
PCR-3709
PCR-3732
PCR-3801
PCR-4007

PCR-1957, Auxiliary Feedwater Agastat Changeout, was initiated to address a blowdown valve positioning problem which occurred when a low low level signal in any steam generator is received. Upon receipt of a low low level in any steam generator the AFW pump auto starts and the blowdown valves should close. The problem occurred once the signal was received, in that the blowdown valves did not have adequate time to move off the "open" limit switch within the five second period allowed by the time delay relays. If the valves did not travel off the open limit switch within the time provided, a "seal-in" in the blowdown valve circuitry would occur. The "seal-in", which is in the open position, would result in the blowdown valves returning to their full open position.

The two Agastats used had a range of 0.5-5 seconds. The original setpoint was one second. The setpoint was changed to five seconds via FCR-SI-989 during blowdown pre-operational testing. The licensee realized that the five second setpoint was at the upper limit of the relays' range, and that these instruments are unreliable at either end of their range. The recommended action was to replace the relays with two model 7012PCLL Agastats (1.5-15 seconds). The licensee later realized that the five second setpoint was still too low to assure closure of the blowdown valves.

The licensee then initiated PCR 2271, Blowdown Time Delay, to add time delay relays in series with the existing relays. The relays added were 20-200 seconds, with a setpoint of 120 seconds.

The licensee then decided that it was no longer necessary to change the existing relays from 0.5-5 seconds to 1.5-15 seconds. They instead changed the setpoint to 4.5 seconds, which should be within the time delay relay's reliable operating range. The total time allowed to assure blowdown valve closure is 124.5 seconds. The auto start of the AFW pumps remained the same (4.5 seconds).

The inspector reviewed the original Ebasco purchase data to determine how the Agastat relays were procured. The Agastats purchased were provided under contract number NY-43528. They were purchased for installation in a Sequencer Panel which is Class 1E. Qualification of the panel and components supplied were provided in compliance with IEEE-344 and IEEE-323 standards. Documentation reviewed supported the qualifications of the components purchased.

The inspector also reviewed the purchase order and other documentation associated with the relays installed under PCR 2271. The purchase order contained sufficient information to assure that the component being procured would meet the design requirement/qualifications of original components.

Not all PCRs required material/component changes. PCR-3792, ASCO Model Discrepancies, was written to resolve discrepancies that occurred when PCR-3269 was written. PCR-3792 provided calculation corrections for Qualified Lives (Q.L.) for the elastomers and coils used in various ASCO solenoid valves. These valves are used in various applications throughout the plant. The calculations are used to establish maintenance scheduling, such as preventive maintenance and replacement intervals. The calculations are also used to establish suitability for various applications, such as EQ or non-EQ applications. The PCR also indicated that the responsible group, which is engineering, did not provide specific enough information in PCR-3269 to assure that all required documents were changed.

Inadequate information was also noted in one other PCR reviewed. The PCR was reviewed at the request of the resident inspector to address URI 89-17-01. The URI was identified in the Resident Inspector Report No. 50-400/89-17. The URI addressed the use of commercial grade ITE molded case circuit breakers in safety related applications. It appeared that the licensee's technical/engineering group did not provide specific testing requirement to assure that the commercial grade circuit breakers were adequate for safety-related applications. The licensee's dedication of the breakers was performed through PCR-4007. Complete details will be provided in a future resident inspector's report.

Within these areas, no violations or deviations were identified.

3. Exit Interview

The inspection scope and results were summarized on October 6, 1989, with those persons indicated in paragraph 1. The inspector described the areas inspected and discussed in detail the inspection results. Proprietary information is not contained in this report. Dissenting comments were not received from the licensee.

4. Acronyms and Initialisms

AFW	Auxiliary Feedwater
FCR	Field Change Request
IEEE	Institute of Electrical and Electronics Engineers
PCR	Plant Change Request
PMC	Procurement and Material Control
QA	Quality Assurance
TMM	Technical Support Management Manual
URI	Unresolved Item