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

Report Nos.: 50-400/24

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

Docket Nos.: 50-400 License Nos.: NPF-63

Facility Name: Harris

Inspection Conducted: October 5-9, 19922

Inspector: _____ Oct 15, 1992
W. P. Kleinsorge P.E. Date Signed
Reactor Inspector

Approved by: _____ 10/26/92
J.J. Blake, Chief Date Signed
Materials and Process Section
Engineering Branch
Division of Reactor Safety

SUMMARY

Scope:

This routine, announced inspection was conducted in the area of Inservice Inspection (ISI), and followup on licensee actions on previous enforcement issues.

Results:

In each of the areas examined the inspector determined that nondestructive test (NDE) examiners were conducting conservative examinations in accordance with the appropriate test procedures. NDE procedures were also noted to be very detailed, well organized and technically effective in implementing the applicable code requirements. Supervisors, engineers, and NDE examiners contacted during this inspection were very knowledgeable in their areas of responsibility.

The licensee's actions on Unresolved Item 50-400/89-31-01 prior to this inspection were incomplete and ineffective. By the end of this inspection the licensee had put in place adequate measures to address this issue. This item remains open pending NRC review of the operability of pipe support MS-H-345.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*E. Black, Nondestructive Examination (NDE) Unit
*L. Cribb, Manager Quality Control
*C. Hinnant, General Manager, Harris Plant
*M. Hamby, Project Specialist Regulatory Compliance
*L. Hewett, NAP
*R. Johnson, Inservice Inspection ISI
*J. Nevill, Manager, Technical Support
C. Osman, Principal NDE Specialist-NDE Service Unit
*W. Seyler, Assistant to Site Manager
*G. Tucker, ISI
*M. Wallice, Regulatory Compliance
*E. Willett, Manager, Outages and Modifications
*R. Winton, ISI

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

NRC Resident Inspectors

*J. Tedrow, Senior Resident Inspector (SRI)
*M. Shannon, Resident Inspector (RI)

*Attended exit interview

2. Inservice Inspection (ISI)

The inspector reviewed documents and records, and observed activities, as indicated below, to determine whether ISI was being conducted in accordance with applicable procedures, regulatory requirements, and licensee commitments. The applicable code for ISI is ASME B&PV Section XI, 1983 Edition with Addenda through Summer 1983 (83S83). The plant has completed the fourth fuel cycle, and is in the second outage of the second 40 month period, of the first ten year ISI interval (I1,P2,O2). The plant received its operating license January 12, 1987 and commenced commercial operations on May 2, 1987. The licensee has contracted with Nuclear Energy Services Inc (NES) to perform liquid penetrant (PT), magnetic particle (MT), remote visual (VT), and ultrasonic (UT) examinations under the umbrella of the NES Quality Assurance (QA) program. The licensee has contracted with CONAM Nuclear Inc. (CNI) a wholly owned subsidiary of Babcock and Wilcox Nuclear Service Co.(BWNS) to conduct Eddy Current (EC) examination of Steam Generator (S/G) tubing. Data acquisition and primary data analysis is conducted by

CNI, secondary analysis is conducted by BWNS, and the resolution analysis is conducted by CNI or BWNS EC-III examiners under the umbrella of the CNI QA program. Direct VT examinations of hangers and snubbers are being conducted by CP&L under the umbrella of the CP&L QA program.

a. ISI Program Review, (73051)

The inspector reviewed the following documents relating to the ISI program to determine whether the plan had been approved by the licensee and to assure that procedures and plans had been established for the applicable activities. Documents were reviewed for technical content.

Documents Reviewed

ID	Revision	Title
CNI-QAP-001	(R2)	Quality Assurance Program
CNI-QCI-001	(R1)	Quality Control Instruction Manual
CP&L-RMP-006	(R1)	Records Storage Area
CP&L-ISI-100	(R4)	Control of Inservice Activities
CP&L-TMM-107	(R3)	PRISIM Administration
CP&L-AP-037	(R5)	Control of Computer/Calculator Software
CP&L		ISI Component Listing and Ten Year Plan

Relative to the review above the inspector noted the following:

- The "ISI Component Listing and Ten Year Plan" is a computer data base, the PRISIM (Programmed Inservice Inspection Management) system. The original data base was the CP&L Ten Year Program Plan ISI submitted to the NRC. This data base has been changed a number of times since the programs inception, however no records exist describing the changes, the basis for those changes, when those changes were made, or who approved those changes. Procedure CP&L-ISI-100 requires that changes to PRISIM be controlled but does not specify how that is to be accomplished. Further CP&L-ISI-100

permits minor boundary and scheduling changes to be made by the Manager of ISI, but does not define what is considered minor scheduling or boundary change. The licensee indicated that they were in compliance with the letter of CP&L-100 for the following reasons. PRISIM requires a password to access and change the data. The licensee indicated that they provided passwords only to authorized personnel, therefor changes are controlled. The licensee stated that all changes were of a minor scheduling or boundary nature. At the time of this inspection the type, basis or number of changes could not be determined as there are no records. The inspector examined three other data bases (Offsite Dose Calculation Manual, Equipment Data Base System, and Surveillance Test System) and determined that the lack of specificity for data changes appears to be isolated to PRISIM. The licensee indicated that they would compare the current data with the original submittal to assure that PRISIM is still in compliance with ASME B&PV Code Section XI. Further they indicated they would establish a more definitive change control system for PRISIM.

- Procedure CP&L-RMP-006 includes environmental controls for the storage of radiographs consistent with the recommendations of the film manufacturer Kodak, but is silent on industry recommendations for storage position and packaging. In addition the procedure does not provide periodicity for surveys of film condition and ageing. The inspector reviewed a licensee audit of radiograph storage and film condition, and found it to be comprehensive. The inspector examined the radiograph storage area and found it to be well ordered consistent with regulatory commitments, and the Kodak and industry recommendations. The environment was properly controlled with instruments calibrated at an appropriate periodicity.

b. Review of NDE Procedures, (73052)

The inspector reviewed the procedures listed below to determine whether these procedures were consistent with regulatory requirements and licensee commitments. The procedures were also reviewed for technical content.

Procedures Reviewed

ID	Revision	Title
CNI-42-EC-214	(R0)	Procedure For Cleanliness and Control of Foreign Material in Steam Generators
CNI-42-EC-228	(R1)	LAN Acquisition of Westinghouse Model D Steam Generator Tubing MIZ-18 Digital Eddy Current System Shearon Harris Nuclear PWR Plant
CNI-99-CNTP-003	(R3)	Procedure for the Certification of Nondestructive Test Personnel
CNI-42-QC-010	(R2)	Eye Examination Procedure for Assuring Visual Accuracy
CP&L		Steam Generator Eddy Current Data Analysis Guidelines for Carolina Power and Light
NES-83A0291	(R3)	Visual Examination for Nuclear Power Systems and Related Components
NES-80A5060	(R3)	Visual Examination Scan Plan for Reactor Pressure Vessel Internals

Procedures were well written and appropriate for their intended application.

c. Observation of Work and Work Activities, (73753)

The inspector observed work activities, reviewed certification records of NDE equipment and materials, and reviewed NDE personnel qualifications for personnel who had been utilized in the ISI examinations during this outage. The observations and reviews conducted by the inspector are documented below.

Activities Observed

Visual (VT) Examination

The inspector viewed a video tape of the remote VT-3 examination of the internal surfaces of the Reactor Pressure Vessel (RPV), and performed an independent re-examination of components that had been direct VT-3 and VT-4 examined during this outage. The inspector performed an independent evaluation of the indications obtained to confirm the NDE examiner's evaluation.

Visual Examinations Observed

Exam Type	Component Examined
Remote	RPV Belt line & Bottom Head Interior (VT-3)
Remote	RPV Outlet Nozzles N2, N4, and N6 (VT-3)
Remote	RPV Flange Mating Surface/Stud Holes (VT-3)
Remote	RPV Core Support Ledge and Keyways (VT-3)
Remote	RPV All Accessible Areas for Debris (VT-3)
Direct	Auxiliary Feedwater Pipe Support AF-H-191 (VT-3)
Direct	Main Steam Pipe Support MS-H-411 (VT-3)
Direct	Containment Spray Pipe Support CT-H-220 (VT-3 and VT-4)
Direct	Containment Spray Additive Tank 1X-SAB Support 1CT-CSAT-H-002 (VT-3)

With regard to the examinations above the inspector noted that there was a section approximately one inch long on both welds securing the Containment Spray Additive tank to its support left unwelded. These welds are in excess of ten feet long. These unwelded sections are not reflected on any of the tank drawings or in the preservice or inservice data. The missing weld sections are of no structural consequence. The licensee indicated that they would evaluate this condition and appropriately document the condition.

The inspector reviewed the certification, qualification, and visual acuity documentation for the following VT examiners:

Examiner Certification Documentation Examined

NES

SL VT-II and SS VT-II.

CP&L

JM VT-II TB VT-II GDL VT-II RW VT-II

The examinations were performed satisfactorily.

Eddy Current (EC) Examination

The inspector observed EC data acquisition and primary data analysis activities associated with the S/Gs, and reviewed: qualification and certification, and visual acuity documentation for the following EC examiners; certification documentation for the following remote data acquisition units; and documentation for the following calibration standards.

EC Examiner Records Examined

CNI

EAB EC-IIB	CYF EC-IIA	JJF EC-III	DKG EC-IIB
GSH EC-IIA	JEM EC-IIA	MJF EC-IIA	RHM EC-IIA
WGK EC-IIB	DES EC-IIA		

BWNS

RMB III	RLD EC-II	EMK EC-IIA	TLM EC-II
BCM EC-IIA	THM EC-II	CDN EC-I	JCO EC-II
KEO EC-I	RAP EC-IIA	DRP EC-II	MPP EC-I
TAR EC-IIA	PAT EC-IIA	TCW EC-IIA	

RDAU Records Examined

Zetec S/N 265	Zetec S/N 149
BWNS S/N 5001473	BWNS S/N 5001475

Calibration Standards Records Examined

Z-8709	Z-8710	Z-8711	Z-8712	Z-8713
Z-8714	Z-8715	Z-8716	Z-9046	Z-9047

Calibration Standards Records Examined Cont.

Z-9048	Z-9049	Z-9050	Z-9051	Z-9052
Z-9053	Z-9125	Z-9126	Z-9127	Z-9128
Z-9129	Z-9130			

CNI is acquiring data with MIZ-18A remote data acquisition unit and transmitting the data via fiber optic cable to the remote onsite analysis facility. Analysis is being accomplished with Zetec EDDYNET MIZ-18 ANALYSIS software.

During this outage (RFO4) the licensee intends to accomplish the following examinations:

Bobbin Examination

All U-bends rows 1 and 2
- Periphery of tube bundle - loose parts
- T-slot region - Anti Vibration Bar concern
- Rows 46-49, Columns 23-92 - tube expansion in preheated
- All prior indications
- Every twelfth column - sample plan

Motorized Rotating Pancake Coil

- First two support intersections on hot leg and the tube sheet transition area

Data acquisition and analysis was performed satisfactorily.

Within the areas examined, no violations or deviations were identified.

3. Followup (92701)

(OPEN) Unresolved Item 400/89-31-01: Visual Examination of Snubbers

This item concerns the intent of the Technical Specifications (TSs) as implemented by procedure PLP-106, related to the inspection of snubbers. The inspectors of record in NRC Report 50-400/89-31, during an independent re-examination of an outdoor snubber No. 711, previously examined by the licensee, noted trapped standing rain water in the associated support (ID MS-H-345), connecting that snubber to the building wall. Those inspectors indicated that some anchor bolts had been submerged by the water, resulting in the rusting of the anchor bolts and stiffener

plates in the support. The inspectors questioned the operability of the support due to the rust and questioned why the licensee's visual examiner had not identified this degraded condition during their recent examination. Report 50-400/89-31, stated "The licensee's engineer stated that only the snubber itself is inspected and that the rest of the components of the support structure do not require examination by the procedure or local practice." The inspectors pointed out that was not consistent with additional requirements of the procedure, and pending the licensee's resolution of this conflict this matter was identified as an Unresolved Item.

This inspector reviewed the Corrective Action Program (CAP) package for this item noting that the licensee's position was unchanged. CP&L indicated that their "intent was to perform examinations on snubbers up to and including (snubber) attachments and as required by the TSs". A review of TS implementing procedure (CP&L-PLP-106) revealed that snubbers are to be inspected for "OPERABILITY" with definitive acceptance criteria provided, and stated "fasteners for attachment of the snubber to the component and the snubber anchorage are functional" with no documented acceptance criteria for "functional". The licensee indicated that though undocumented, the acceptance criteria for "functional" is provided in preexamination training of examiners. The examiners are required to indicate on the snubber inspection report whether the support for that snubber is functional. This inspector verified that the examiner had determined that support MS-H-345 had been determined to be functional on October 13, 1989.

In discussions with the licensee this inspector indicated that undocumented verbally transmitted acceptance criteria can unintentionally change over time. On reflection the licensee indicated that they would document the acceptance criteria for the "**functionality**" of TS examined snubber supports and anchorages.

This inspector asked whether the licensee had evaluated the corrosion (rust) on the support anchor bolts and stiffener plates that had prompted the inspectors of record in NRC Report 50-400/89-31, to question the operability of support MS-H-345. The licensee indicated that they had not but expeditiously issued Work Request 92-APBP1 to accomplish that task.

The root cause of the standing rain water problem is the absence of drain provisions in some outdoor structures with upward facing cavities. To correct this shortcoming, in 1989, the licensee drained the standing water in the upward

facing cavities from this and ten other outdoor supports and filled those upward facing cavities with penetration seal material (foam). The inspector performed a walkdown inspection of the eleven supports that had their upward facing pockets filled with foam, and noted that in a number of cases the foam was "floating" well above flush. When the foam was depressed water issued from the cavities, thus indicating that the foam material was improperly installed or unsuited to the function of keeping rain water out of the upward facing cavities. This inspector examined additional outdoor structures and noted that there were many more examples where rain water was trapped by upward facing cavities due to the absence of drain provisions. The licensee issued Work Request 92-APBX1 and Adverse Condition Report No. 92-473 to address the above issue.

The licensee had not addressed the concern relating to support operability prior to filling the upward facing cavities with foam. The foam did not prevent the cavity from refilling with water there by perpetuating the condition that initiated the original concern. Prior to this inspection the licensee's actions related to this matter were ineffective and incomplete. This unresolved item will remain open pending NRC review of the operability of support MS-H-345.

In the areas inspected, no violations or deviations were identified.

4. Exit Interview

The inspection scope and results were summarized on October 9, 1992, with those persons indicated in paragraph 1. The inspector described the areas inspected. Although reviewed during this inspection, proprietary information is not contained in this report. Dissenting comments were not received from the licensee.

5. Acronyms and Initialisms

ASME	-	American Society of Mechanical Engineers
B&PV	-	Boiler and Pressure Vessel
BWNS	-	Babcock and Wilcox Nuclear Service Co.
CP&L	-	Carolina Power and Light
CNI	-	CONAM Nuclear Inc.
CAP	-	Corrective Action Program
ID	-	Identification
ISI	-	Inservice Inspection
LAN	-	Local Area Network
MT	-	Magnetic Particle
NDE	-	Nondestructive Examination
NES	-	Nuclear Energy Services

No.	-	Number
NPF	-	Nuclear Power Facility
NRC	-	Nuclear Regulatory Commission
P.E.	-	Professional Engineer
PRISIM	-	Programmed Inservice Inspection Management
PT	-	Liquid Penetrant
PWR	-	Pressurized Water Reactor
QA	-	Quality Assurance
R	-	Revision
RDAU	-	Remote Data Acquisition Unit
RI	-	Resident Inspector
RPV	-	Reactor Pressure Vessel
S/G	-	Steam Generator
SR	-	Safety Related
SRI	-	Senior Resident Inspector
TS	-	Technical Specification
UT	-	Ultrasonic
VT	-	Visual