



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II  
SAM NUNN ATLANTA FEDERAL CENTER  
61 FORSYTH STREET SW SUITE 23T85  
ATLANTA, GEORGIA 30303-8931**

October 25, 2001

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, North Carolina 27562-0165

**SUBJECT: SHEARON HARRIS NUCLEAR POWER PLANT - NRC INTEGRATED  
INSPECTION REPORT 50-400/01-04**

Dear Mr. Scarola:

On September 29, 2001, the Nuclear Regulatory Commission (NRC) completed an inspection at your Shearon Harris reactor facility. The enclosed report presents the results of that inspection which were discussed on October 2, 2001, with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, the inspectors identified one issue of very low safety significance (Green). This issue was determined to involve a violation of NRC requirements. However, because of its very low safety significance and because it has been entered into your corrective action program, the NRC is treating this issue as a non-cited violation, in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you deny this non-cited violation, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001, with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Shearon Harris facility.

Since September 11, 2001, your staff has assumed a heightened level of security based on a series of threat advisories issued by the NRC. Although the NRC is not aware of any specific threat against nuclear facilities, the heightened level of security was recommended for all nuclear power plants and is being maintained due to the uncertainty about the possibility of additional terrorist attacks. The steps recommended by the NRC include increased patrols, augmented security forces and capabilities, additional security posts, heightened coordination with local law enforcement and military authorities, and limited access of personnel and vehicles to the site.

The NRC continues to interact with the Intelligence Community and to communicate information to you and your staff. In addition, the NRC has monitored maintenance and other activities which could relate to the site's security posture.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) components of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

Sincerely,

*/RA/*

Brian R. Bonser, Chief  
Reactor Projects Branch 4  
Division of Reactor Projects

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

Enclosure: Inspection Report  
w/Attachment

cc w/encl: (See page 3)

cc w/encl:

Terry C. Morton, Manager  
Performance Evaluation and  
Regulatory Affairs CPB 9  
Carolina Power & Light Company  
Electronic Mail Distribution

Chris L. Burton  
Director of Site Operations  
Carolina Power & Light Company  
Shearon Harris Nuclear Power Plant  
Electronic Mail Distribution

Robert J. Duncan II  
Plant General Manager--Harris Plant  
Carolina Power & Light Company  
Shearon Harris Nuclear Power Plant  
Electronic Mail Distribution

Richard J. Field, Manager  
Regulatory Affairs  
Carolina Power & Light Company  
Shearon Harris Nuclear Power Plant  
Electronic Mail Distribution

John R. Caves, Supervisor  
Licensing/Regulatory Programs  
Carolina Power & Light Company  
Shearon Harris Nuclear Power Plant  
Electronic Mail Distribution

William D. Johnson  
Vice President & Corporate Secretary  
Carolina Power & Light Company  
Electronic Mail Distribution

John H. O'Neill, Jr.  
Shaw, Pittman, Potts & Trowbridge  
2300 N. Street, NW  
Washington, DC 20037-1128

Mel Fry, Director  
Division of Radiation Protection  
N. C. Department of Environmental  
Commerce & Natural Resources  
Electronic Mail Distribution

Peggy Force  
Assistant Attorney General

State of North Carolina  
Electronic Mail Distribution

Public Service Commission  
State of South Carolina  
P. O. Box 11649  
Columbia, SC 29211

Chairman of the North Carolina  
Utilities Commission  
P. O. Box 29510  
Raleigh, NC 27626-0510

Robert P. Gruber  
Executive Director  
Public Staff NCUC  
P. O. Box 29520  
Raleigh, NC 27626

Vernon Malone, Chairman  
Board of County Commissioners  
of Wake County  
P. O. Box 550  
Raleigh, NC 27602

Richard H. Givens, Chairman  
Board of County Commissioners  
of Chatham County  
Electronic Mail Distribution

Distribution w/encl: (See page 4)

Distribution w/encl:

R. Laufer, NRR  
 A. Boland (Part 72 Only)  
 RIDSNRRDIPMLIPB  
 PUBLIC

OFFICE	DRP/RII	DRP/RII	DRP/	DRP/RII	DRS/RII	DRS/RII	DRS/RII
SIGNATURE	GMacDonald:vg	JBrady	RHagar	EBrown	MScott	ETesta	DJones
NAME	gm	jb	bh	bb (for)	ml (for)	et	dj
DATE	10/22/2001	10/22/2001	10/22/2001	10/22/2001	10/18/2001	10/18/2001	10/18/2001
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO
OFFICE	DRS/RII	DRS/RII					
SIGNATURE	FWright	DThompson					
NAME	kb (for)	kb (for)					
DATE	10/18/2001	10/18/2001	10/ /2001	10/ /2001	10/ /2001	10/ /2001	10/ /2001
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

U. S. NUCLEAR REGULATORY COMMISSION

REGION II

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

Report No: 50-400/01-04

Licensee: Carolina Power & Light (CP&L)

Facility: Shearon Harris Nuclear Power Plant, Unit 1

Location: 5413 Shearon Harris Road  
New Hill, NC 27562

Dates: July 1 - September 29, 2001

Inspectors: J. Brady, Senior Resident Inspector  
R. Hagar, Resident Inspector  
E. Testa, Senior Health Physicist (Sections 2OS2, 2PS1 & 2PS2)  
D. Jones, Senior Health Physicist (Section 2PS1)  
F. Wright, Senior Health Physicist (Section 2PS3)  
M. Scott, Senior Reactor Inspector (Section 1R07)  
D. Thompson, Physical Security Inspector (Sections 3PP1&3PP2)  
E. Brown, Resident Inspector (Sections 1R05&1R12)

Approved by: B. Bonser, Chief  
Reactor Projects Branch 4  
Division of Reactor Projects

Enclosure

## SUMMARY OF FINDINGS

IR 05000400-01-04, on 07/01/01 - 09/29/01, Carolina Power & Light, Shearon Harris Nuclear Power Plant, Unit 1. Fire Protection.

The inspection was conducted by resident inspectors, a physical security inspector, a reactor inspector and three regional health physics inspectors. The inspection identified one Green finding which was a non-cited violation. The significance of most findings is indicated by their color (green, white, yellow, red) using IMC 0609 "Significance Determination Process" (SDP). Findings for which the SDP does not apply are indicated by "No Color" or by the severity level of the applicable violation. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at <http://www.nrc.gov/NRR/OVERSIGHT/index.html>.

### A. Inspector Identified Findings

#### **Cornerstone: Mitigating Systems**

- Green. A non-cited violation of the fire protection program required by 10 CFR 50.48 and license condition 2F was identified for failure to incorporate adequate separation, isolation, or barriers to protect redundant safe-shutdown division features for pressurizer power operated relief valves and their associated block valves from the effects of fires in switchgear room A. A deficiency in the procedures for mitigating fires in the switchgear rooms was also identified.

The safety significance was very low because of the low probability of the complicated fire scenarios necessary to cause the hypothesized malfunctions to occur. (Section 1R05)

### B. Licensee Identified Violations

None.

## Report Details

The unit operated at 100 percent of rated thermal power from the beginning of this inspection period until August 29. The unit began a planned coast down (gradual decrease in reactor power) at a rate of approximately 0.8 percent/day. That decrease continued until September 22, when the unit was shutdown to begin refueling outage #10. At the end of this inspection period, the unit remained in that outage.

### 1. REACTOR SAFETY

#### **Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity**

#### 1R04 Equipment Alignment

##### a. Inspection Scope

##### Partial Walkdown

For the systems identified below, the inspectors reviewed the identified plant documents to determine correct system lineup, and observed equipment to verify that the system was correctly aligned:

- 1) B Residual Heat Removal/Low Pressure Safety Injection while the A train was out of service on July 3
  - Procedure OP-111, "Residual Heat Removal System," Revision 18
  - Procedure OP-110, "Safety Injection System," Revision 15
  - Drawing 2165-S-1324, "Simplified Flow Diagram Residual Heat Removal System," Revision 11
  - Drawing 2165-S-1310, "Simplified Flow Diagram Safety Injection System," Revision 11
- 2) B Containment Spray while the A train was out of service on August 1
  - Procedure OP-112, "Containment Spray System," Revision 15
  - Drawing 2165-S-0550, "Simplified Flow Diagram Containment Spray System," Revision 14
- 3) A Auxiliary Feedwater while the B train was out of service on August 15
  - Procedure OP-137, "Auxiliary Feedwater," Revision 17
  - Drawing 2165-S-544, "Simplified Flow Diagram Feedwater System Unit 1," Revision 33
- 4) B Emergency Diesel Generator while the A train was out of service on August 22.
  - Procedure OP-155, "Diesel Generator Emergency Power System," Revision 20.

- Drawing 2165-S-563, "Simplified Flow Diagram Diesel Fuel Oil System," Unit 1, Revision 8.
- Drawing 2165-S-633S01, "Simplified Flow Diagram Emergency Diesel Generator Lube Oil and Air Intake & Exhaust System - Unit 1," Revision 10.
- Drawing 2165-S-0633S02, "Simplified Flow Diagram Emergency Diesel Generator 1A-SA & 1B-SB Jacket Water System Unit 1," Revision 10.
- Drawing 2165-S-0633S03, "Simplified Flow Diagram Emergency Diesel Generator 1A-SA & 1B-SB Fuel Oil and Drainage Systems Unit 1," Revision 6.
- Drawing 2165-S-0633S04, "Simplified Flow Diagram Emergency Diesel Generator 1A-SA & 1B-SB Starting Air System Unit 1," Revision 19.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

.1 Baseline Inspections

a. Inspection Scope

Within the areas identified below, the inspectors observed the following to determine whether any conditions adversely affected fire protection defense-in-depth features:

- transient combustible materials;
- any welding or cutting being performed in the area;
- the physical condition of the fire detection devices;
- the physical condition of the automatic suppression system (where used);
- the availability and general condition of portable fire extinguishers;
- the physical condition of manual suppression systems, including fire hoses and hose stations;
- the material condition of electrical raceway fire barrier systems;
- the material condition of the fire door(s);
- the condition of ventilation fire dampers;
- the material condition of the structural steel fire-proofing (where used);
- the physical condition of seals in accessible electrical and piping penetrations; and



- the adequacy of compensatory measures, where degraded features were identified.

The inspected areas include the following:

- A switchgear room
- B switchgear room
- cable spreading room
- A chiller area
- B chiller area
- control room

The inspectors witnessed the licensee's inspection of several Reactor Auxiliary Building (RAB) fire dampers in accordance with procedure FPT-3428, "Fire Damper Inspection 18 Month Interval RAB 190, 216, 305, and 332 Elevation Modes: All," Revision 10, to determine whether the licensee's inspections verified that RAB fire dampers were functional and operable.

b. Findings

No findings of significance were identified.

.2 (Closed) Unresolved Item (URI) 50-400/01-03-01, PORV safe shutdown fuse coordination issue

a. Inspection Scope

The inspectors reviewed the following documents:

- Action Request (AR) 30818, which documented this deficiency and identified corrective actions,
- AR 43523, which documented the lack of guidance from the fire pre-plans and AOP-36 for switchgear room fires in relation to unnecessarily de-energizing electrical buses, and
- Licensee Event Report (LER) 50-400/2001-002-00.

b. Findings

A violation of the fire protection program required by 10 CFR 50.48 and license condition 2F was identified for failure to incorporate adequate separation, isolation, or barriers to protect redundant safe-shutdown division features for Pressurizer Power

Operated Relief Valves (PORV) and their associated block valves from the effects of fires in switchgear room A. A deficiency in the procedures for mitigating fires in the switchgear rooms was also identified. The safety significance was very low because of the low probability of the complicated fire scenarios necessary to cause the hypothesized malfunctions to occur.

As described in NRC IR 50-400/01-03, this URI involved inadequate fuse coordination for two PORV block valves (1RC-115 and 1RC-117). Preliminary review had revealed that this condition could have been risk-significant with respect to a fire in the A switchgear room fire area, which contains the switchgear and distribution buses for all safety and non-safety alternating current (AC) and direct current (DC) power for one of the two trains of equipment. The URI had been opened for determining the risk significance of the reported condition.

A Phase III significance determination process evaluation of the performance deficiency was performed in accordance with NRC Manual Chapter 0609. That evaluation determined that the deficiency was of very low significance (Green). Two fire scenarios in Switchgear Room A, involving the deficiency, were considered in the evaluation as the most credible to cause core damage, as described below:

- The first fire scenario involved a fire resulting in a hot short opening a reactor coolant system PORV and causing a small break loss of coolant accident (SBLOCA). However, the fire damage was evaluated to be insufficient to fail the compartment's emergency core cooling system (ECCS) train electrical buses leaving the two ECCS trains available for SBLOCA mitigation. The significance of this fire scenario was very low because of the low probability of a self-sustaining fire combined with the low probability for failure of both ECCS trains.
- The second fire scenario involved a PORV opening due to a hot short, loss of the ECCS electrical buses in the compartment from the fire, and the PORV sticking open when DC power failed to the PORV that would generate a closed demand signal. In this scenario only the ECCS train in the B Switchgear Room was available for SBLOCA mitigation. The significance of this fire was very low because of the low probability of a self-sustaining fire combined with the low probability of a PORV not closing upon loss of DC power and a failure of the one available ECCS train.

10 CFR 50.48 requires that all operating nuclear power plants have a fire protection program that satisfies Criterion 3 of Appendix A to 10 CFR 50. Operating license condition 2.F, Fire Protection Program, requires that the fire protection program described in the Final Safety Analysis Report (FSAR) be implemented and maintained in effect. The Fire Protection Program described in the FSAR requires that redundant safe shutdown division features be protected by physical separation, isolation, or barriers. The reported condition represents the licensee's failure to incorporate adequate separation, isolation, or barriers to protect redundant safe-shutdown division features. This item is in the licensee's corrective action program as AR 30818 and has been designated as a Non-cited Violation (NCV) consistent with Section VI.A.1 of the NRC Enforcement Policy. It is identified as NCV 50-400/01-04-01, Inadequate fuse coordination for PORV block valves.

As noted above, the licensee identified this violation, by initiating AR 30818 and by

submitting LER 50-400/2001-002-00. However, as described in NRC IR 50-400/01-03, while reviewing related circumstances, the inspectors identified an additional deficiency associated with the licensee-identified violation, in that while conducting research required to assess the risk significance of the licensee-identified violation in accordance with Appendix F, "Determining Potential Risk Significance of Fire Protection And Post-fire Safe Shutdown Inspection Findings," of NRC Manual Chapter 0609, "Significance Determination Process," the inspectors found that the licensee's procedures for mitigating fires in the switchgear rooms did not provide adequate guidance to protect the safety-related electrical buses. (Each switchgear room houses both safety-related and non-safety-related AC and DC power for one train of electrical equipment.) The inspectors noted that although this deficiency was not a violation of regulatory requirements, it was risk-significant in that it related to one of the factors used in Appendix F of MC 0609 to determine risk significance. The inspectors also noted that the licensee had not identified this deficiency in either their root-cause investigation associated with AR 30818, or in their determination of the risk significance of the violation, as documented in calculation HNP-F/PSA-0022, "Evaluation of Risk Significance of a Fire in 1A-SA Switchgear Room," Revision 0. The licensee acknowledged this deficiency by initiating AR 43523.

#### 1R07 Heat Sink Performance

##### a. Inspection Scope

The inspector selected two risk important heat exchangers (HX), the two dams that retain the water for the ultimate heat sink (UHS), and portions of the Emergency Service Water (ESW) and Essential Services Chilled Water (ESCW) Systems for evaluation. These were the Unit 1 Charging System Injection Pumps' (CSIP) room coolers, the ESCW condenser, the ESW pump strainers, the ESW piping inspections and flow balance, ESCW flow balance, and systems' chemistry. The inspector selected these items to verify that: selected heat exchanger test methodology was consistent with accepted industry practices, or equivalent; test conditions were appropriately considered; test criteria were appropriate and met; test results appropriately considered differences between testing conditions and design conditions; test frequency was appropriate; and, test results considered test instrument inaccuracies and differences. The inspector walked down the ESW intake structures with the system engineer.

For established acceptance criteria, the inspector checked for consistency with accepted industry standards (Electric Power Research Institute Service Water Heat Exchanger Testing Guidelines, TR-107397) or equivalent (NRC Generic Letter 89-13, Service Water System Problems Affecting Safety-Related Equipment); to determine if as-found results were appropriately dispositioned such that the final condition was acceptable.

The inspector reviewed maintenance histories, valve stroke tests, test procedures, and preventive maintenance programs on selected components such as the ESCW temperature control valves, air handling fans and motors, and ESW strainers. These reviews were compared to Inservice Test Inspections, Technical Specifications, FSAR, and design documents.

The inspector reviewed portions of the licensee's effort to control corrosion of the ESW and ESCW piping that provides safety related cooling to the plant. The inspector selected to verify: that chemical treatments and methods used to control biotic fouling corrosion (such as shells and microbiological induced corrosion) were sufficient to ensure required ESW performance; that testing was consistent with design assumptions; and, that the licensee had entered heat exchanger/sink performance problems into their corrective action program and effective corrective action had been taken.

The inspector reviewed the reports on the UHS dam inspections. The inspector walked down the main and auxiliary dams with the system engineer.

The inspector reviewed potential common cause problems such as ESW strainers, ESCW flow control valves, and ESW piping coating inspection (video tape of a 1998 B train inspection), pipe cleaning techniques, and component repairs and replacements. The inspector reviewed the operational occurrences, corrective and routine plant work orders, and periodic (health) reports available on the above HX and systems. Documents reviewed during the inspection are listed as an attachment to this report.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

The inspectors reviewed licensed operator requalification simulator training for crew E on August 7. This observation included plant shutdown and cooldown. The scenarios tested the operators' ability to shutdown and cooldown the plant. The inspectors verified clarity and formality of communication, use of procedures, alarm response, control board manipulations, group dynamics and supervisory oversight. The training was done utilizing Exercise Guide SD-SIM-17.09.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation

a. Inspection Scope

For the equipment issues described in the ARs listed below, the inspectors reviewed the licensee's implementation of the Maintenance Rule (10 CFR 50.65) with respect to the characterization of failures, the appropriateness of the associated a(1) or a(2) classification, and the appropriateness of either the associated a(2) performance criteria or the associated a(1) goals and corrective actions:

<u>AR Number</u>	<u>Subject/Description.</u>
44565	Inoperable Refueling Water Storage Tank level transmitter (L-992)
27755	Train B Condenser Vacuum pump fail to start
44518	Train A Hydrogen Analyzer failure
22395	Functional failure of the WC-2A Emergency Service Chilled Water refrigeration unit
47477	Failure of relay CZ-D69SA-1 to open when air handler AH-15A started
20142	1MS-266 has functional failure for [the Main Steam system]

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

The inspectors reviewed the licensee's risk assessments and the risk management actions used by the licensee to manage risk for the plant configurations associated with the following planned activities:

- Removal of the A train Residual Heat Removal/ Low Head Safety Injection system and the A train Component Cooling Water system from service with the B Condenser Vacuum pump out of service on July 3
- Removal of the B train Auxiliary Feedwater pump from service on August 15
- Removal of the A train Emergency Diesel Generator from service on August 22
- Removal of the Turbine-Driven Auxiliary Feedwater pump from service on September 4.

The inspectors reviewed the emergent work activities described in AR 48376, "Valve 1RH-39 (an isolation valve between Reactor Coolant System loop 3 and a Residual Heat Removal pump) Failed To Stroke," to verify that any increase in risk was promptly assessed, and that any required risk management actions were implemented. The inspectors observed whether licensee actions were appropriate to minimize the probability of initiating events, maintain the functional capability of mitigating systems, and maintain barrier integrity.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

For the operability evaluations described in the Engineering Service Requests (ESRs) listed below, the inspectors evaluated the technical adequacy of the evaluations, to ensure that operability was properly justified and the subject component or system remained available, such that no unrecognized increase in risk occurred:

<u>ESR No.</u>	<u>Rev. No.</u>	<u>Title</u>
00-00431	2	OST-1122 "OPERABILITY Determination for [Under Voltage] Relays Train A"
01-00120	0	"Coupling Failure on [Emergency Service Water] Traveling Screen-July 2001"
01-00105	0	"Operability Determination for [Reactor Auxiliary Building Emergency Exhaust System] Boundary on Boot Seals"

b. Findings

No findings of significance were identified.

1R16 Operator Work-Arounds

a. Inspection Scope

The inspectors reviewed Operator Work-Around 272, "RCP elevated No. 1 seal leak-off causes need for frequent filter swaps," to determine whether the functional capability of the related system or human reliability in responding to an initiating event was affected. The inspectors specifically considered whether the workaround affected the operators' ability to implement abnormal or emergency operating procedures.

The inspectors reviewed the cumulative effects of the Operator Work-Arounds listed below, to determine whether those effects could increase an initiating event frequency, affect multiple mitigating systems, or affect the ability of operators to respond in a correct and timely manner to plant transients and accidents.

<u>Number</u>	<u>Description</u>
272	RCP elevated No. 1 seal leak-off causes need for frequent filter swaps
269	Containment purge trips during rain storms
268	250V battery room temperature control
261	Leakage into the pressurizer relief tank
264	1A-SA safety bus ground fault test causes an alarm
263	1NI-241 nitrogen valve leaks-by the seat
259	1SI-1 and 1SI-2, boron injection tank inlet valves, actuators do not fully shut valves requiring operators to manually shut and torque them.
255	Vent stack radiation monitors inoperable after a plant trip requiring manual resetting
254	Cooling tower basin level control valve automatic control not working
253	6.9kv motors generate trouble alarms when started
250	Reactor Coolant Pump standpipe fill valves will not work in automatic

The inspectors also reviewed the licensee's cumulative assessment of operator work-arounds dated July 8, to determine whether their assessment had adequately evaluated the cumulative affect of these items.

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications

.1 Modification to the Emergency Safeguards Sequencer Relay Setpoints for Load Blocks 7 and 8

a. Inspection Scope

The inspectors determined that the following parameters were affected by this design modification:

- energy needs
- control signals

To determine the design adequacy of the modification with respect to the above parameters, the inspectors reviewed the following documents:

- Engineering Service Request (ESR) 00-00253, “Sequencer Timer Tech Spec Change,” Revision 0 and 1
- Technical Specification 4.8.1.1.2.f.3
- Final Safety Analysis Report Sections 7.3 and 8.3

The inspectors reviewed that modification preparation, staging, and implementation to ensure that these aspects of the modification did not impair the following:

- Emergency/abnormal operating procedure
- Key safety functions
- Operator response to loss of key safety functions

The inspectors observed/reviewed post-modification testing to verify that the testing will maintain the plant in a safe configuration, that no unintended system interaction will occur, that system, structure, and component performance affected by the modification meets the design basis, that testing validates the basis of any modification design assumptions, and that the modification test acceptance criteria have been met. The inspectors observed all or portions of the following post-modification testing associated with ESR 00-00253 and reviewed the test records:

Test Procedure		
<u>Number</u>	<u>Title</u>	<u>Relation to modification</u>
EPT-33	“Emergency Safeguards Sequencer System Test,” Revision 28	Collects data from sequencer testing for relay timing
EPT-443	“Emergency Safeguards Sequencer Relay Trend and Analysis,” Revision 5	Analyzes data from EPT-33 to determine actuation times for start and end of sequencer load blocks.

b. Findings

No findings of significance were identified.

.2 Installation of Fuel Racks in Spent Fuel Pool C

a. Inspection Scope

The inspectors determined that the only major parameter affected by this design modification was the materials compatibility/functional properties related to rack construction. To determine the design adequacy of the modification with respect to the above parameters, the inspectors reviewed the following documents:



- Engineering Service Request (ESR) 96-00442, "Install Racks in Spent Fuel Pool C," Revisions 0,1, and 2
- Amendment 103 to the Facility Operating License including the safety evaluation report, issued December 21, 2000, for the expansion of spent fuel storage capacity;
- Holtec International Rack Documentation Packages under Contract XTA7000024 for spent fuel racks A1, A2, B1, B2, C1, C2, D1, D2, E1, E2, E3, F1, F2, D1, D2, and Bearing Pads
- CP&L Surveillance Inspection Reports of U. S. Tool and Die dated May 5, 1999, and October 22, 1999
- Receipt Inspection Reports for spent fuel racks A1, A2, B1, B2, C1, C2, D1, D2, E1, E2, E3, F1, F2, D1, D2, and Bearing Pads

The inspectors reviewed modification preparation, staging, and implementation to ensure that these aspects of the modification did not impair the following:

- Emergency/abnormal operating procedures
- Key safety functions
- Operator response to loss of key safety functions

Post-modification testing of the fuel racks was not possible and was therefore not reviewed.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

For the post-maintenance tests listed below, the inspectors reviewed the test procedure and either witnessed the testing and/or reviewed test records to determine whether the test was adequate for the scope of the maintenance work performed and demonstrated that the affected equipment was functional and operable:

Test Procedure		
<u>Number</u>	<u>Title</u>	<u>Related maintenance task</u>
OST-1216	“Component Cooling Water System Operability,” Revision 14	Change motor oil and inspect and lubricate actuators on several system valves.
OST-1076	“Auxiliary Feedwater Pump 1B-SB Operability Test Quarterly Interval Modes 1-4,” Revision 11	Lubricate the motor-to-pump coupler and sample the pump’s lubricating oil.
OST-1411	“Auxiliary Feedwater Pump 1X-SAB and 1AF-68, 1AF-106, 1AF-87 Forward Flow Operability Test Quarterly Interval Modes 1-3,” Revision 17	Uncoupled overspeed trip test of the turbine-driven auxiliary feedwater pump turbine

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities

a. Inspection Scope

Refueling Outage 10 (RFO 10) started on September 22. The following is a description of the scope of inspections performed during this inspection period for refueling and outage-related activities:

- Prior to the outage, to verify that the licensee had appropriately considered risk, industry experience, and previous site-specific problems, the inspectors reviewed the licensee’s outage risk control plan as implemented through procedure OMP-003, “Outage Shutdown Risk Management,” Revision 10. The inspectors reviewed the licensee Key Safety Function Availability Checklist (Attachment 1 to OMP-003) for each plant configuration defined in the plan, to verify that each checklist defined how the key safety functions were provided and identified the systems/system trains that provided those functions, while the unit was in the corresponding configuration. The inspectors also reviewed various plant operating manual procedures to confirm that the licensee had developed mitigation/response strategies for losses of the following key safety functions:
  - Decay Heat Removal
  - Electrical Power Distribution
  - Inventory Control
  - Reactivity Control
  - Pressure Control
  - Containment
- During the outage, the inspectors verified at various times that the configuration-

specific Key Safety Function Availability Checklist was posted at conspicuous spots throughout the plant, including the main control room. The inspectors routinely reviewed licensee outage risk control plan implementation to ensure that the licensee maintained operable the systems that provided the key safety functions.

- The inspectors reviewed licensee activities to verify that clearance tags were properly hung and that associated equipment was properly configured to support clearance functions on a random sampling basis.
- The inspectors observed portions of and reviewed plant data for the cool-down to Operational Mode 5 (Reactor Coolant System average temperature <200 F), to verify that TS cool-down restrictions were followed.
- The inspectors reviewed fuel handling operations to verify that those operations and related activities were being performed in accordance with both the TS and the following procedures:

<u>Number</u>	<u>Title</u>	<u>Revision</u>
FMP-106	“New Fuel Receipt Inspection and Storage Location Verification”	13
FHP-020	“Refueling Operations”	26
FHP-014	“Fuel and Insert Shuffle Sequence”	24
PLP-114	“Relocated Technical Specifications and Design Basis Requirements”	11
OST-1817	“Refueling Machine Operability Modes: 100 Hours Prior to Fuel Movement in Pressure Vessel”	7
OST-1818	“Auxiliary Hoist Operability 100 Hours Before Control Rod Drive Movement in the Reactor Vessel Modes 5, 6”	7
OST-1819	“Spent Fuel Bridge Crane Overload Interlock Test Weekly Interval During Crane Operations Modes: All”	7

The inspectors reviewed licensee tracking of fuel assembly movement during core offload, and of new fuel assemblies during receipt and inspection. The inspectors specifically reviewed licensee activities related to new fuel assemblies numbered N33 and N54, and offloaded fuel assemblies M01, M23, & M58.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

For the surveillance tests listed below, the inspectors examined the test procedure and either witnessed the testing and/or reviewed test records to determine whether the scope of testing adequately demonstrated that the affected equipment was functional and operable:

<u>Number</u>	<u>Rev.</u>	<u>Title</u>
MST-I0209	4	"Pressurizer Level Loop (L-0460) Operational Test"
EST-702	17	"Moderator Temperature Coefficient - [End of Life]"
OST-1092*	10	"1B-SB [Residual Heat Removal] Pump Operability Quarterly Modes 1-2-3"
MST-I0139	5	"Main Steam Feedwater Flow Loop 3 (F-0495/F-0496) Operational Test"
OST-1013	16	"1A-SA Emergency Diesel Generator Operability Test Monthly Interval Modes 1-2-3-4-5-6"
MST-I0651	11	"Transmitter Noise Analysis Time Response Test"

\*This procedure included inservice testing requirements.

b. Findings

No findings of significance were identified.

**Cornerstone: Emergency Preparedness**

1EP6 Drill Evaluation

a. Inspection Scope

The inspectors observed an emergency preparedness drill conducted on July 17, to verify licensee self-assessment of classification, notification, and development of protective-action recommendations.

b. Findings

No findings of significance were identified.

**2. RADIATION SAFETY**

**Cornerstone: Occupational Radiation Safety**

2OS2 As Low As Reasonably Achievable (ALARA) Planning and Controls

a. Inspection Scope

The inspectors evaluated the plant collective exposure history, current exposure dose trends, and the year 2001 annual site dose goal to determine if the licensee was implementing ALARA practices as required by 10 CFR 20.1101(b). The inspectors evaluated procedure, CRC-160, "Plant Start-up and Shutdown Chemistry Checklists," Revision 18, planned for Refueling Outage 10 (RFO 10) Steam Generator Replacement. Radiation work permits for the outage were evaluated, as were ALARA work plan dose estimates. The inspectors attended two ALARA committee meetings that reviewed, discussed and approved the most significant dose jobs. The inspectors toured the mockup training facility and evaluated the mock-up training plan. The inspectors evaluated Nuclear Assessment Section Report HNAS 01-024, "HNP RFO-10 Pre-Outage Assessment," dated March 28, 2001.

The following initial ALARA work plans for RFO 10 were evaluated for lessons learned and dose goal planning:

<u>Radiation Work Permit Number(s)</u>	<u>Title</u>
01-001	RFO-10 Refueling Activities
01-002	Seal Table Maintenance Activities
01-003	Reactor Coolant Maintenance
01-012 & 01-205	Install/Remove Insulation
01-013 & 01-203	Shielding Installation and Removal
01-011 & 01-206	Installation and Removal of Scaffold
01-207	Steam Generator Replacement Reactor Coolant System Severance/Machine/Weld/Primary Foreign Object Search and Retrieval
01-209	Rig Out Old Steam Generator/Transport/Rig in New Steam Generator

b. Findings

No findings of significance were identified.

**Cornerstone: Public Radiation Safety**

## 2PS1 Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems

### a. Inspection Scope

The inspectors reviewed the licensee's most recent Radioactive Effluent Release Report which delineated the quantities of radionuclides released in liquid and gaseous effluents during the calendar year (CY) 2000 and the radiation doses to the public resulting from those releases. The inspectors evaluated the report to determine whether it included the information and data required to be reported to demonstrate conformance with 10 CFR 20.1302, 10 CFR 50.36a, and 10 CFR 50, Appendix I. The inspectors reviewed the recent changes to Offsite Dose Calculation Manual (ODCM) and evaluated whether those changes were technically justified and consistent with the guidance provided by Regulatory Guide 1.109 and NUREG-0133.

The inspectors toured the plant and assessed whether the major components of the radioactive effluent release and monitoring equipment were configured as described in Chapter 11 of the FSAR. During the tours the inspectors observed thirteen effluent monitoring instruments to evaluate their material condition and to determine whether they were in service as specified by the ODCM. The inspectors assessed whether compensatory sampling and analyses were performed as required for one monitor (Turbine Building Vent Stack) which was out-of-service at the time of the tours. The inspectors observed the alarm set-points of four effluent monitors and evaluated the methodology used to establish those set point values to determine whether alarm set-points were established and applied in accordance with the ODCM.

The inspectors reviewed the records for the most recent calibrations of six effluent monitoring instruments and one gamma spectroscopic instrument in the count room to determine whether their calibrations were current with respect to ODCM requirements. The inspectors reviewed the results of interlaboratory comparisons made during CY 2000 and the first quarter of CY 2001 for samples typical of plant effluents to determine whether the licensee had maintained the quality of analyses consistent with the program guidance provided by Regulatory Guide 4.15. The inspectors evaluated the effectiveness of characterization and resolution of selected effluent monitoring related issues identified in self-assessments and ARs.

The inspectors reviewed the following licensee documents:

<u>Document No.</u>	<u>Document Title</u>
(none)	"Annual Radioactive Effluent Release Report - January through December 2000"
(none)	"Offsite Dose Calculation Manual," Revision 13
HPP-500	"Radiation Monitoring System Data Base Manual"
CRC-851	"ODCM Software Instructions and Documentation"
CRC-853	"Reporting Radioactive Gaseous Releases"

CRC-854	“Reporting Radioactive Liquid Releases”
RCP-703	“Calibration and Quality Control Set-up of the Genie Gamma Spectroscopy System”
MST-I0325	“Treated Laundry and Hot Shower Tank Pumps Discharge Radiation Monitor REM-1WL-3540 Calibration”
MST-I0329	“Secondary Waste Sampling Tank Pumps Discharge Radiation Monitor REM-21WS-3542 Calibration”
MST-I0343	“WPB Stack 5 Radiation Monitor (REM-*1WV-3546) Calibration”
MST-I0376	“Plant Vent Stack Accident Monitor RM-21AV-3509-1SA Calibration”
MST-I0411	“Main Plant Stack Flow Rate Monitor and Isokinetic Sampling System Calibration”
MST-I0412	“WPB Stack 5 Flow Rate Monitor and Isokinetic Sampling System Calibration”
CHEM-99-001	“Self-Assessment”

In addition, the inspectors reviewed the ARs numbered 17024, 18862, 21285, 22345, 25269, 29275, 44734, and 45374.

b. Findings

No findings of significance were identified.

2PS2 Radioactive Material Processing and Transportation

a. Inspection Scope

The inspectors evaluated the licensee’s facilities, and the licensee’s processes and programs for the collection, processing, treatment, shipping, storage and disposal of radioactive materials and radwaste. The inspectors reviewed the in-plant liquid and solid waste systems: the waste processing and sampling program; shipment activities and records; assurance of quality, including corrective action reports; and training. The inspectors made facility tours and reviewed system descriptions in Chapter 11 of the FSAR, reviewed liquid waste and recycle system flow diagrams, and reviewed system changes in accordance with 10 CFR 50.59. The inspectors also toured radwaste equipment, and storage locations used for processed radwaste.

The inspectors evaluated the licensee’s Process Control Program Manual (PCP) Revision 7, and reviewed: process documentation; scaling factors (derivation, sampling type, sampling frequency, and effect of changing plant conditions); determination of waste characteristics and waste classification; and Radioactive Material Shipment Procedures.

The inspectors reviewed the licensee’s 10 CFR 61 analysis for waste characterization and scaling factors. For detailed review against the requirements contained in 10 CFR Parts 20, 61 and 71, and 49 CFR Parts 100-177, the inspectors selected the Shipping Records numbered 00-063, 00-080, 01-011, 01-034, 01-040, and 01-05.

The inspectors evaluated the licensee’s program for assurance of quality in the radwaste processing and radioactive materials transportation program by reviewing a quality assurance audit, self assessments, and seven Corrective Action Problem Investigation Process Reports and Safety Assessment/ Screening Review/Safety Evaluations involving the radwaste and transportation program.

The inspectors evaluated the licensee’s program for training personnel involved in the radwaste and radioactive materials transportation program with regard to the requirements contained in NRC IE Bulletin 79 -19, and DOT 49 CFR Part 172, Subpart H.

The following licensee documents and procedures were examined during the inspection:

<u>Document No.</u>	<u>Document Title</u>
DCF 2000P20305	“Safety Assessment/ Screening Review/Safety Evaluation”
HPP-880	“Spent Nuclear Fuel Shipping and Receipt,” Revision 20
HPS-NGGC-0001	‘Radioactive Material Receipt and Shipping Procedure,” Revision 12
HPS-NGGC-0002	“Vendor Cask Utilization Procedure,” Revision 7
RR-SF-01-01	“Round Robin Spent Fuel Shipping Assessment Report”
RR-ERC-01-01	“Round Robin Environmental and Radiation Control Report”

The inspectors also reviewed the ARs numbered 44576, 43670, 43169, 31284, 29438, 29433, 28921, 26262, and 23743.

b. Findings

No findings of significance were identified.



## 2PS3 Radiological Environmental Monitoring Program (REMP)

### .1 Environmental Monitoring

#### a. Inspection Scope

The inspectors evaluated analytical environmental procedures and self-assessment reports, and interviewed laboratory technicians and supervisors to evaluate compliance with the ODCM, Radiological Effluent Monitoring Program, Technical Specifications, and 10 CFR 20 requirements. The inspectors accompanied environmental monitoring personnel taking environmental samples, and observed the material condition of thermo-luminescent detectors, and water-sampling and air-sampling equipment. The inspectors observed a water sample preparation for analysis, and reviewed environmental air sampler calibration records. The inspectors reviewed the following documents:

- inter-laboratory comparison program cross-check results for laboratories,
- quality control (QC) activities for radiation assessment instruments in the environmental laboratory,
- selected National Institute Standards and Technology certificates for radioactive sources used in calibrations of radioactivity monitoring instrumentation,
- environmental laboratory staff qualifications,
- the Harris Annual Radiological Environmental Operating report for calendar year 2000, and
- the results of the Environmental Cross Check Program for year 2000 and First Quarter 2001,

The inspectors also reviewed a recently completed modification package for the site meteorological monitoring system: ESR 00-00372, "6070 Meteorological and Environmental Systems," Revision 0. The licensee made the modifications to the meteorological monitoring system to improve system reliability. The modification included new detection sensors, computers, and communication equipment. A 10 CFR 50.59 evaluation was performed and draft changes to the FSAR were included in the design package. The modification provided the system with temporary backup power and fiber optic cable to the site to improve communications with the instrumentation from the tower to the licensee's plant computers. The inspectors reviewed the operability of the meteorological monitoring equipment and operator access to real time meteorological conditions.

#### b. Findings

No findings of significance were identified.

## .2 Unrestricted Release of Material From The Radiological Control Area

### a. Inspection Scope

The inspectors reviewed the licensee's criteria for the survey and release of potentially contaminated material, and verified that the licensee had established guidance for responding to an alarm of the small tool monitors. The inspectors also reviewed operation, calibration, and response checks for the licensee's small tool monitors.

### b. Findings

No findings of significance were identified.

## .3 Identification and Resolution of Problems

### a. Inspection Scope

The inspectors reviewed the following documents:

- Audit report 99-19-SP-C, "Material Dedication and Laboratory Services," dated December 15, 1999, which addressed Radiological Effluent Monitoring Program activities,
- various radiochemistry condition reports.

The inspector reviewed licensee corrective actions for identified problems concerning the environmental monitoring laboratory.

### b. Findings

No findings of significance were identified.

## 3. **SAFEGUARDS**

### **Cornerstone: Physical Protection**

#### 3PP1 Access Authorization

### a. Inspection Scope

The inspector evaluated licensee procedures, Fitness For Duty (FFD) reports, and licensee audits. Additionally, the inspector interviewed five representatives concerning their understanding of the behavior observation portion of the personnel screening and FFD program. In interviewing these personnel, the inspector evaluated the effectiveness of their training and abilities to recognize aberrant behavioral traits, physiological indications of narcotic and alcohol use, and work call-out reporting

procedures. Licensee compliance was evaluated against requirements in the Harris Nuclear Plant Physical Security Plan and associated procedures, and 10 CFR Part 26, Fitness For Duty Programs.

- SEC-NGGC-2130, "Continued Behavioral Program"
- SEC-NGGC-2140, "Fitness For Duty Program"
- SEC-NGGC-2142, "For Cause Chemical Testing"
- SEC-NGGC-2147, "Reporting of Safeguards and Fitness For Duty Events"
- SEC-NGGC, 2141, "Fitness For Duty Unscheduled Work Call Outs"

b. Findings

No findings of significance were identified.

3PP2 Access Control

a. Inspection Scope

The inspector observed access/search activities on several occasions during the inspection period. In observing the access control activities, the inspector assessed whether officers could detect contraband prior to it being introduced into the protected area. The protective barriers for the Final Access Control facility were inspected to ensure compliance with protection standards in the Physical Security Plan. The inspector reviewed the licensee's requirements to ensure that a single individual was not capable of making an initial access badge and granting access without a second party verification. Nuclear Generation Group, Standard Procedure, SEC-NGGC-2101, paragraph 9.18.1, "Protection Against the Internal Threat," describes the actions taken within the company to protect against an internal threat or allowing an unauthorized individual to gain unescorted access. The inspector also reviewed access controls to ensure that an intentional separation of tasks between the unescorted access certification process and security computer badge activation has been implemented so a new badge cannot be activated without independent verification in both processes. Licensee compliance was evaluated against requirements in the Harris Nuclear Plant Physical Security Plan and associated procedures, and 10 CFR Part 73.55, "Requirements for Physical Protection of Licensed Activities in Nuclear Power Reactors Against Radiological Sabotage," and Part 73.56, "Personnel Access Authorization Requirements for Nuclear Power Plants."

b. Findings

No findings of significance were identified.

#### 4. OTHER ACTIVITIES

##### 4OA1 Performance Indicator Verification

##### .1 Mitigating Systems, Barrier Integrity

##### a. Inspection Scope

The inspectors verified the Performance Indicators (PIs) listed in the table below to determine their accuracy and completeness against requirements in Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 0:

Cornerstone: Barrier Integrity, Mitigating Systems		
<i><u>Performance Indicator</u></i>	<i><u>Verification Period</u></i>	<i><u>Records Reviewed</u></i>
Reactor Coolant System Specific Activity	July, 2000 to June, 2001	plant chemistry data
Reactor Coolant System Leakage	July, 2000 to June, 2001	Operator Logs
Safety System Functional Failures	July, 2000 to June, 2001	<ul style="list-style-type: none"> <li>• licensee event reports</li> <li>• related condition reports</li> </ul>

##### b. Findings

No findings of significance were identified.

##### .2 Physical Protection

##### a. Inspection Scope

The inspector evaluated Harris Nuclear Plant programs for gathering and submitting data for the Fitness-For-Duty/Personnel Reliability Program, Personnel Screening Program, and Protected Area Equipment PIs. The evaluation included tracking and trending reports and security event reports for the PI data submitted from the third quarter of 2001. Licensee performance was evaluated against requirements in NEI 99-02, Rev. 0.

##### c. Findings

No findings of significance were identified.

40A2 Problem Identification & Resolution

As noted in section 1R05.2, while reviewing a licensee-identified violation, the inspectors identified an additional associated deficiency. The inspectors noted that this associated deficiency was not a violation of regulatory requirements, but was risk-significant. The inspectors also noted that the licensee had not identified this deficiency in either the root-cause investigation associated with the violation, or in their determination of the risk significance of the violation.

40A3 Event Follow-up

(Closed) LER 2001-002-00, "Unanalyzed Condition Due to Inadequate Fuse Coordination." This issue is addressed in Section 1R05 of Inspection Report 50-400/01-03 as URI 50-400/01-03-01 and in Section 1R05 of this report. The corrective actions were to replace the PORV block valve indicating fuses with appropriate ones. The inspectors reviewed the significant adverse condition investigation for AR 30818, including completed design change ESR 01-00061, "PORV Block Valve SSD Fuse Coordination Deficiency Fix," Revision 0, and completed Work Orders 00142302-01, -02, and -03. The inspectors found that the corrective actions were completed.

40A5 Other

.1 Steam Generator Replacement Inspection

This inspection report documents completion of several inspections that were required by IP 50001, "Steam Generator Replacement Inspection," but completed in accordance with baseline inspection procedures. The table below identifies those inspections, by correlating specific IP 50001 requirements with the corresponding sections of this report.

IP 50001 Section	Inspection Scope	Section of This Report
02.02.c, 02.03.f	Planning & Preparation for Radiation Protection Program Controls	2PS1
02.02.d	Security Considerations	3PP1,3PP2

40A6 Meetings, including Exit

.1 Exit Meeting Summary

The inspectors presented the inspection results to Mr. Jim Scarola, Site Vice President, and other members of licensee management on October 2. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary. No proprietary information was identified.

**PARTIAL LIST OF PERSONS CONTACTED**

Licensee

D. Alexander, Nuclear Assessment Manager  
G. Attarian, Harris Engineering Support Services Manager  
C. Burton, Director Site Operations  
J. Caves, Licensing Supervisor  
R. Duncan, Harris Plant General Manager  
J. Eads, Emergency Preparedness Supervisor  
R. Field, Regulatory Affairs Manager  
T. Hobbs, Operations Manager  
J. Holt, Major Projects Manager  
M. Munroe, Training Manager  
T. Natale, Outage and Scheduling Manager  
J. Scarola, Harris Plant Vice President  
P. Summers, Environmental & Radiation Control Manager  
B. Waldrep, Maintenance Manager

NRC

B. Bonser, Chief, Reactor Projects Branch 4

**ITEMS OPENED, CLOSED, AND DISCUSSED**Opened and Closed

50-400/01-04-01	NCV	Inadequate fuse coordination for PORV block valves. (Section 1R05.2)
-----------------	-----	---

Previous Items Closed

50-400/2001-002-00	LER	Unanalyzed Condition Due to Inadequate Fuse Coordination (Section 4OA3)
--------------------	-----	--

50-400/01-03-01	URI	PORV safe shutdown fuse coordination issue (Section 1R05.2)
-----------------	-----	--

## List of Documents Reviewed

### Section 1R07

- OST-1041, "A Train HVAC Safety Related ESCW TCVs, ISI Operability Test Quarterly Interval," Rev. 7
- PM-E0009, "480 VAC Motor Preventive Maintenance," Rev. 7
- PM-M0011, "Equipment Lubrication Schedule," Rev. 16
- MPT-M0087, "Reliance Motor Lubrication," Rev. 8
- LP-T-6522B, "Charging Pump Room AH-9 (1B-SB) Area Temperature (loop cal., typical)," Rev. 6
- OWP-HVAC, "Emergency Ventilation," Rev. 3
- WR/JO 93-ANFB1, AH-9-1B ( air handler work orders, Typical)
- WR/JO 98-AFRE1, AH-9-1A
- WR/JO 00-AAPZ1, AH-9-1A
- WR/JO 97-ACTY1, AH-9-1A
- WR/JO 97-AEFY1, AH-9-1B
- WR/JO 97-ABNL1, AH-9-1A
- WR/JO 96-AAYR1, AH-9-1A
- System Code 8210 CSIP Coolers PMs List
- CSIP Fan Motor Vibration Data, taken September 4, 2001
- APP-ALB-023, "Annunciator Panels Procedure," Rev. 25
- OMM-16. "Generic Rounds Guidance," Rev. 43
- EPT-058, "HVAC Flow Balance," Rev. 5, completed March 21, 1996 (air flow)
- EPT-058, "HVAC Flow Balance," Rev. 5, completed September 7, 1997
- EPT-058, "HVAC Flow Balance," Rev. 5, completed December, 10, 1997
- EPT-058, "HVAC Flow Balance," Rev. 5, completed October 22, 1997
- EPT-058, "HVAC Flow Balance," Rev. 5, completed December 10, 1997
- APP-ALB-028, "Annunciator Panels Procedure," Rev. 7
- RAB HVAC Periodic System Review, dated 6/27/01
- OP-172, "Reactor Auxiliary Building HVAC System," Rev. 22
- PIC-1029, "Calibration of PYCO Temperature Indication Switch (CSIP room)"
- SD-172, "Reactor Auxiliary Building HVAC System," Rev. 15 (System Description)
- ESW Flow Balance Data, taken August, 28. 2001 (with five year trend graphs)
- SD-148, "Essential Services Chilled Water System," Rev. 12 (System Description)
- System Code 4085 ESCW PM List
- ESCW Chillers Monthly Lube Oil Chemistry Reports
- ESCW System Periodic Review, dated 7/23/01
- EPT-054 "Essential Service Chilled Water Flow Balancing (Individual Air Handler Throttle Valve Setting)," Rev. 10
- EPT-163, "Generic Letter 89-13 Inspections," Rev. 9
- WR/JO 98-AEJB1, ESCW TC-01CY-9434BSBV (chiller work orders, Typical)
- WR/JO 97-ALMC1, PS-01SW-9209ASA
- WR/JO 00-AGBJ1, 1CH-E005:009
- WR/JO 99-AIXI1, 1CH-E005:018
- WR/JO 98-AENE1, 1CH-E005:018
- WR/JO 99-ACKR1, 1CH-E005:004
- WR/JO 99-AAUJ1, 1CH-E005:004



- WR/JO 98-AIUD1. 1CH-E005:004
- ESCW RFO 10 Outage Work Order List
- ESCW ISI Valve Stroke Trend Data, seven years
- EOP-EPP-002, "Loss of All AC Power Recovery without SI Required," Rev. 14
- EOP-EPP-003, "Loss of All AC Power Recovery with SI Required," Rev.15
- OMM-004 "Post-Trip/Safeguards Actuation Review," Rev. 14
- AOP-026, "Loss of Essential Service Chilled Water System," Rev. 9
- Essential Chilled Water Turbopak Units Quarterly Inspection/Checks Modes 1-6, Rev. 14
- OP-148, "Essential Service Chilled Water system," Rev. 16
- Simplified Flow Diagram - CPL-2165-S-0998, "HVAC Essential Services Chilled Water," 4/27/99
- ESCW, Raw Pond, Cooling Tower and ESW Monthly Chemistry Reports, September 2001
- OMM-016, "Operator Logs," Rev. 43
- MPT-M0091, "Heat Exchanger Opening/Closure for NRC Generic Letter 89-13 Inspections," Rev. 9
- ESR9800448, "Evaluation of Large-Bore B Train ESW Interior Pipe Coating," Rev. 0
- ESW Pump Motor Bearing Lube Oil Chemistry Trend Reports (last six years)
- OST-1215, "Emergency Service Water System Operability Train A Quarterly Interval," Rev. 24 (Typical)
- ESR9700504, "Evaluate RFO 7 GL 89-13 Testing," Rev. 0
- ESR0000218, "RFO 9 Generic Letter 89-13 Test/Inspection Evaluation," Rev. 0
- EPT-282, "Emergency Service Water Piping Erosion/Corrosion Monitoring Program," Rev. 0
- R.P. Adams Company, Inc. Automatic Strainer Parts List Drawing ST-33480, dated 8/1/79
- WR/JO 97-AGUE1, 1SW-E041 (ESW strainer work orders, Typical)
- WR/JO 98-AEGG1, 1SW-E041
- WR/JO 00-AAUI1, 1SW-E041
- WR/JO 00-AGLQ1, SW-S22SB
- SD-139, "Service Water System," Rev. 12
- ESW Strainer PM Schedule (current)
- SD-142, "Reservoir Complex," Rev. 4
- LAW Engineering and Environmental Service, Inc. 2000 Water Control Structures Inspection Report, dated December 2000
- CP&L Letter Serial HNP-97-213, Corrections and Additions to Auxiliary Reservoir Dam Audit Data, dated December 8,1997
- CP&L Letter Serial HNP-98-047. Response to Licensee Actions Needed on Category I Auxiliary Reservoir Dam, dated April 9, 1998
- NRC letter, Results of Dam Safety Audit Related to the Category I Auxiliary Reservoir Dam at the Shearon Harris Nuclear Power Plant, dated October 2, 1997
- NCR 20010906, Coating Condition Not Evaluated