



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II  
SAM NUNN ATLANTA FEDERAL CENTER  
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ATLANTA, GEORGIA 30303-8931

March 20, 2000

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

*Sharon DOE 2000-08  
BSM 9/4/2000*

SUBJECT: NRC INTEGRATED INSPECTION REPORT 50-400/99-08

Dear Mr. Scarola:

On February 19, 2000, the Nuclear Regulatory Commission (NRC) completed an inspection at your Shearon Harris facility. The enclosed report presents the results of that inspection. The results of that inspection were discussed with you and other members of your staff on February 24, 2000.

The inspection was an examination of 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. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of this inspection, the NRC has determined that a low risk significance violation of NRC requirements occurred. The issue was entered into your corrective action program, and is discussed in the summary of findings and in the body of the attached inspection report. This issue, which involved the failure to maintain the required water level above stored fuel assemblies, was determined to involve a violation of NRC requirements, but because of its low safety significance the violation is not cited. If you contest this non-cited violation you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, 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 Nuclear Power Plant.

*C/4*

CP&L

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In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be placed in the NRC Public Document Room.

Sincerely,

/RA/

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

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

Enclosure: Integrated Inspection Report

cc w/encl: (See page 3)

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

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

Report No: 50-400/99-08

Licensee: Carolina Power & Light (CP&L)

Facility: Shearon Harris Nuclear Power Plant, Unit 1

Location: 5413 Shearon Harris Road  
New Hill, NC 27562

Dates: November 21, 1999 - February 19, 2000

Inspectors: J. Brady, Senior Resident Inspector  
R. Hagar, Resident Inspector  
D. Thompson, Safeguards Inspector (Sections 3PP1, 3PP2, and 4OA2)  
J. Kreh, Emergency Preparedness Inspector (Section 1EP1 and 4OA2)  
A. Hutto, Resident Inspector, H.B. Robinson Plant (Section 1EP1)

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

Enclosure

## SUMMARY OF FINDINGS

### Shearon Harris Nuclear Power Plant, Unit 1 NRC Inspection Report 50-400/99-08

The report covers a thirteen-week period of resident inspection. In addition, it includes the results of announced inspections by a regional safeguards inspector and a regional emergency preparedness inspector.

The significance of issues is indicated by their color (GREEN, WHITE, YELLOW, RED) and was determined by the Significance Determination Process as discussed in the attached summary of the NRC's Revised Reactor Oversight Process.

#### **Barrier Integrity**

- GREEN. A non-cited violation was identified for multiple failures to maintain Spent Fuel Pool water level 23 feet above stored boiling water reactor (BWR) fuel assemblies as required by Technical Specification 3.9.11. Licensee Event Report (LER) 50-400/1999-01-00 had reported that nine BWR assemblies had not been fully seated in the spent fuel storage racks because on each of the affected assemblies, a channel fastener had caught on the top of the storage racks. The safety significance of the violation is low because the depth of the water above the top of the *active* fuel was never less than 23 feet. Therefore, the violation did not affect the ability of the water barrier to absorb 99 per cent of the assumed iodine gas activity that could be released from a rupture of an irradiated fuel assembly. (Section 4OA4.2)

## Report Details

The unit operated at 100% of rated thermal power from the beginning of this inspection period until December 14, when the unit was manually tripped (shut down) following a failure of the "A" condensate pump. After repairs to that pump and several other components were completed, the unit was returned to full power on December 17. The unit remained at full power through the end of the inspection period.

### 1. REACTOR SAFETY

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

#### 1R03 Emergent Work

##### a. Inspection Scope

The inspectors reviewed the following emergent items, as described in the referenced Work Requests/Job Orders (WR/JOs) and/or Action Requests (ARs), to verify that the licensee had taken the necessary steps to demonstrate that emergent work activities were adequately planned and controlled to avoid initiating events, and to verify that the licensee ensured the functional capability of accident mitigation systems:

<u>Reference</u>	<u>Title/Description</u>
99-AGAQ1	Feed train problems that caused a reactor trip
00-AAAI1	A emergency diesel generator alarms due to circuit card problems

##### b. Observations and Findings

No findings were identified and documented through this inspection.

#### 1R04 Equipment Alignment

##### a. Inspection Scope

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

- Main steam system (steam generator power-operated relief valves and safety relief valves),
- "A" emergency diesel generator,
- Residual heat removal system
- "A" Auxiliary feedwater and turbine-driven auxiliary feedwater systems

For the emergency service water system, the inspectors reviewed various documents to determine the correct system lineup, including plant procedures, drawings, and the updated Final Safety Analysis Report. In addition, the inspectors reviewed outstanding maintenance work requests on the system and performed a walkdown to identify any discrepancies between the existing system equipment lineup and the correct lineup. The inspectors also reviewed related Condition Reports (CRs) to verify that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact mitigating system availability

b. Observations and Findings

No findings were identified and documented through this inspection.

1R05 Fire Protection

a. Inspection Scope

The inspectors reviewed current action requests, work orders, and impairments associated with the fire suppression system. The inspectors reviewed the status of ongoing surveillance activities to determine whether they were current to support the operability of the fire protection system. The inspectors also observed the fire protection detection and suppression equipment in the cable spreading rooms, the "A" and "B" safety-train electrical switchgear rooms, and the control room to determine whether any conditions or deficiencies existed which would impair the operability of that equipment. In addition, the inspectors inspected the licensee's compensatory measures that were in place while the diesel-driven fire pump was out of service in late November.

The inspectors observed the performance of the plant fire brigade during their response to a fire in the laundry area of the waste processing building on February 15. The fire began in and was confined to a clothes dryer that was being used to launder anti-contamination clothing.

b. Observations and Findings

No findings were identified and documented through this inspection.

1R09 Inservice Testing (IST) of Pumps and Valves

a. Inspection Scope

For the inservice tests listed below, the inspectors reviewed the test procedures to ensure that the procedures were consistent with applicable American Society of Mechanical Engineers (ASME) code requirements. The inspectors also observed performance of the tests and/or reviewed related records, to verify that testing was being conducted in accordance with the procedures. These reviews were completed for the following IST tests:

<u>Number</u>	<u>Rev.</u>	<u>Title</u>
OST-1411	11	"Auxiliary Feedwater Pump 1X-SAB and 1AF-68, 1AF-106, 1AF-87 Forward Flow Operability Test"
OST-1104	15	"Containment Isolation Inservice Inspection Valve Test Quarterly Interval Modes 1 - 6"
OST-1056	6	"Containment Ventilation Isolation Valve ISI Test Quarterly Interval" for 1CP-6
OST-1215	21	"Emergency Service Water System Operability Train "B" Quarterly" for 1SC-37
OST-1111	12	"Auxiliary Feedwater Pump 1X-SAB Operability Test Monthly"

b. Observations and Findings

No findings were identified and documented through this inspection.

1R11 Licensed Operator Requalification

a. Inspection Scope

The inspectors reviewed licensed operator performance during the January 11 graded emergency-plan exercise.

b. Observations and Findings

No findings were identified and documented through this inspection.

1R12 Maintenance Rule Implementation

a. Inspection Scope

For the equipment issues described in the CRs and 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/CR Number</u>	<u>Title/Description</u>
AR 1717	A Demineralized water system transfer pump failure (CR 99-00038)
CR 98-00728	Duration of preventive maintenance on safety injection system valves exceeded unavailability criteria for system 2080



- |          |  |
|----------|--|
| AR 16143 | AH-4A failed to start in low speed during OST -1010  |
| AR 4187  | Incorrect installation of the shuttle valve assembly on the "A" preheater bypass valve air intensifier         |
| AR 8596  | Failure of an isolator card in the circuit which indicates flow rate in the "A" essential service water header |

b. Observations and Findings

No findings were identified and documented through this inspection.

1R13 Maintenance Work Prioritization & Control

a. Inspection Scope

The inspectors reviewed the licensee's risk impact assessments for removing from service those components associated with the emergent work items listed in Section 1R03. The inspectors also reviewed the licensee's consideration of the risk significance of work in the fuel handling building.

While completing the Maintenance Rule implementation inspection of a failure of the demineralized water system transfer pump (AR 1717/CR 99-00038), the inspectors noted that the licensee had initiated corrective action to address inappropriate work-prioritization practices. The inspectors reviewed the licensee's procedures for managing the work process (ADM-NGGC-0104, "Work Management Process," Rev. 8), and for managing risk associated with maintenance activities (WCM-001, "On-Line Maintenance Risk Management," Rev. 6), to verify that the licensee had implemented the identified corrective action, and that the corrective action had been effective in preventing recurrence.

b. Observations and Findings

No findings were identified and documented through this inspection.

1R15 Operability Evaluations

a. Inspection Scope

For the operability evaluations described in the Engineering Service Request (ESR) 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>
99-00451	0	"Fire Wrap Discrepancy"
96-00321	0	This evaluation was referenced in a 12-2-99 Night Order related to an E-6B reactor auxiliary building exhaust fan pressure transmitter and control problem.
99-00465	0	"Jogging Emergency Service Water Traveling Screen Motors"
00-00016	0	"1BD-45 Stroke Time Evaluation"
00-00033	0	"Operability Determination for Valves 1SP-948 and 1SP-949"
00-00045	0	"[Essential Services Chilled Water] [net positive suction head] Operability Determination"
00-00047	0	"Controlotron Flow Measurement on [Charging/Safety Injection Pump] Recirculation Line"

b. Observations and Findings

No findings were identified and documented through this inspection.

1R16 Operator Workarounds

a. Inspection Scope

During this inspection period, several times each week, the inspectors reviewed the licensee's list of identified operator workarounds to determine whether any identified workarounds affected either the functional capability of the related system or human reliability in responding to an initiating event. During these reviews, the inspectors specifically considered whether any identified workaround affected the operators' ability to implement abnormal or emergency operating procedures. In addition, the inspectors attended a licensee meeting on November 30, in which licensee management reviewed each identified workaround. The inspectors also reviewed the December 29 report of the licensee's monthly audit of identified operator workarounds, which included the licensee's assessment of the cumulative impact of those workarounds. The inspectors specifically reviewed Workaround #255, "Vent Stack Radiation Monitors Become Inoperable After A Reactor Trip Due To Loss Of Power."

b. Observations and Findings

No findings were identified and documented through this inspection.

1R19 Post Maintenance Testinga. 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 scope of testing adequately verified that the work performed was correctly completed and demonstrated that the affected equipment was functional and operable.

<u>Test Procedure</u>		
<u>Number</u>	<u>Title</u>	<u>Related maintenance task</u>
MPT-M0037	"Limitorque Actuator Magnesium Rotor Inspection"	Preventive maintenance on refueling water storage tank to residual heat removal pump "B" isolation valve, 1SI-323 (AGND002)
OST-1024	"On-site Power Distribution Verification"	Repair to 7.5kva uninterruptible power supply to the SII instrument bus (99-AIFJ1)
OST -1191	"Steam Generator [power operated relief valve] and Block Valve Operability Test"	Calibration of "B" power operated relief valve set point (AGVH-001)
OST-1007	"[Chemical & Volume Control System/Safety Injection] System Operability Test Train "A" Quarterly Interval Modes 1-4"	Preventive maintenance on the actuator for 1CS-182, an isolation valve on the recirculation line associated with the A charging/safety injection pump (PM-M0014)

b. Observations and Findings

No findings were identified and documented through this inspection.

1R20 Refueling and Outage Activitiesa. Inspection Scope

The inspectors reviewed the outage plan and prioritization of the work associated with the December 14-15, 1999, forced outage following a reactor trip. The review focused on the work which the licensee needed to complete before achieving criticality and synchronizing the unit to the grid. The inspectors also attended the Plant Nuclear Safety Committee meeting that reviewed those priorities. The inspectors observed the startup process to determine whether mode change prerequisites were followed.

b. Observations and Findings

No findings were identified and documented through this inspection.

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>
OST-1124	16	"Train "B" 6.9 KV Emergency Bus Under Voltage Trip Actuating Device Operational Test"
MST-I0492	16	"Diesel Generator 1B-SB Engine Control Cabinet Inspection, Pneumatic Logic Device Replacement and Thermostat Calibration"
EST-221	9	"Type C [Local Leak Rate Test] of Containment Purge Makeup Penetration (M-57)"
OST-1007	18	"[Chemical & Volume Control System/Safety Injection] System Operability Test Train "A" Quarterly Interval Modes 1-4"
MST -I0202	5	"Containment Spray Recirculation Sump 1A Level Loop Calibration"

b. Observations and Findings

No findings were identified and documented through this inspection.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the following ESRs to determine whether system operability/availability was affected, that configuration control was maintained, and that post installation testing was performed:

<u>ESR Number</u>	<u>Rev. Number</u>	<u>Title/Description</u>
99-00378	0	"Temporary Disable of Annunciators ALB-8/5-5A and 5-5B." This modification disabled the C reactor coolant pump standpipe level alarm due to a grounding problem inside containment.
99-00230	0	"Temporary Coredrill Cover" This modification provided temporary fire protection and security barriers on a vital area wall while the wall was being modified.

b. Observations and Findings

No findings were identified and documented through this inspection.

**Cornerstone: Emergency Preparedness**

1EP1 Drill, Exercise, and Actual Events

a. Inspection Scope

The inspectors reviewed the objectives and scenario for the Shearon Harris Nuclear Power Plant biennial, full-participation emergency preparedness 2000 exercise to determine whether they were designed to suitably test major elements of the licensee's emergency plan.

During the period January 10-13, 2000, the inspectors observed and evaluated the licensee's performance in the exercise, as well as selected activities related to the licensee's conduct and self-assessment of the exercise. The exercise (rescheduled from September 21, 1999) was conducted on January 11, 2000 from 12:30 p.m. to 5:05 p.m. Licensee activities inspected during the exercise included those occurring in the Control Room Simulator, Technical Support Center, Operational Support Center, and Emergency Operations Facility. The NRC's evaluation focused on the risk-significant activities of event classification, notification of governmental authorities, onsite protective actions, offsite protective action recommendations, and accident mitigation activities. The inspectors also evaluated command and control, the transfer of emergency responsibilities between facilities, communications, adherence to procedures, and the overall implementation of the emergency plan. The inspectors attended the post-exercise critique to evaluate the licensee's self-assessment process, as well as the presentation of critique results to plant management.

In addition, the inspectors observed a training drill on February 1.

b. Observations and Findings

No findings were identified and documented through this inspection.

### 3. SAFEGUARDS

#### Cornerstone: Physical Protection

##### 3PP1 Access Authorization

###### a. Inspection Scope

The inspectors interviewed representatives of licensee management and escort personnel concerning their understanding of the Behavior Observation portion of the personnel screening and Fitness For Duty (FFD) program. In interviewing these personnel the inspectors reviewed the effectiveness of their training and abilities to recognize aberrant behavioral traits.

###### b. Observations and Findings

No findings were identified during this inspection.

##### 3PP2 Access Control

###### a. Inspection Scope

The inspectors observed access control activities on February 14 and 15, 2000, and the seven day equipment testing on February 15, 2000. In observing the access control activities the inspectors assessed whether officers could detect contraband before it was introduced into the protected area. Additionally, the inspectors assessed whether the officers were conducting access control equipment testing according to regulatory requirements.

###### b. Observations and Findings

No findings were identified and documented through this inspection.

### 4. OTHER ACTIVITIES

##### 4OA2 Performance Indicator Verification

#### Physical Protection Cornerstone

##### .1 Protected Area Security Equipment Performance Indicator

###### a. Inspection Scope

The inspectors reviewed the licensee's program for the collection and submittal of data for the Protected Area Equipment Performance Indicator (PI). Specifically, a random

sampling of the licensee's tracking, trending, and analysis of perimeter security equipment problems coupled with alarm history logs and problem identification reports were reviewed.

b. Observations and Findings

No findings were identified and documented through this inspection.

.2 Personnel Screening Program PI

a. Inspection Scope

The inspectors reviewed the licensee's program for the collection and submittal of data for the Personnel Screening Program PI. Specifically, a random sampling of logged events relating to the access authorization personnel screening program were reviewed.

b. Observations and Findings

No findings were identified and documented through this inspection.

.3 Fitness For Duty (FFD)/Personnel Reliability Program PI

a. Inspection Scope

The inspectors reviewed the licensee's program for the collection and submittal of the semiannual FFD/Personnel Reliability Program PI, laboratory error reports, and a random sampling of logged events relating to the FFD program.

b. Observations and Findings

No findings were identified and documented through this inspection.

Emergency Preparedness Cornerstone

.4 Emergency Response Organization (ERO) Drill/Exercise PI

a. Inspection Scope

On November 30, 1999, the inspectors assessed the accuracy of the PI for ERO drill and exercise performance (DEP) through review of documentation relative to an ERO full-scale drill held on October 14, 1999, and two licensed-operator requalification (LOR) drills conducted on October 20, 1999. In addition, the inspectors reviewed and discussed the licensee's methodology for calculating the DEP PI.

b. Observations and Findings

No findings were identified and documented through this inspection.

.5 ERO Drill Participation PI

a. Inspection Scope

On November 29, 1999, the inspectors assessed the accuracy of the PI for ERO drill participation through review of source records for selected individuals (approximately 10 percent) from the roster of key ERO personnel as of September 30, 1999.

b. Observations and Findings

No findings were identified and documented through this inspection.

.6 Alert and Notification System Reliability PI

a. Inspection Scope

On November 29, 1999, the inspectors assessed the accuracy of the PI for alert and notification system (ANS) reliability through review of the licensee's records of annual full-cycle tests, quarterly growl tests, and biweekly silent tests of its siren system in the 10-mile radius around the Harris Plant. Records from January 1, 1998 to the present were selectively reviewed, with a focus on test results since June 1, 1999.

b. Observations and Findings

No findings were identified and documented through this inspection.

4OA3 Event Follow-up

a. Inspection Scope

The inspectors reviewed the licensee actions following the December 14, 1999, manual reactor trip following the loss of the "A" condensate pump. The inspectors evaluated the response of the mitigating systems and whether required notifications had been made.

b. Observations and Findings

All mitigating systems performed as required. No findings were identified and documented through this inspection.

4OA4 Other

- .1 (Closed) Licensee Event Report (LER): 50-400/1999-009-00: Reactor Trip and Auxiliary Feedwater Actuation. The December 14, 1999, manual reactor trip resulted from low steam generator level. The low steam generator level was caused by the loss of the "A" condensate pump motor, due to a ground fault, resulting in loss of the "A" feed train. The total loss of one feedwater train resulted in a condition where steam generator levels could not be maintained even with a designed runback of reactor power. Operators



manually tripped the reactor when steam generator levels approached the automatic trip setpoint. All mitigating systems performed as designed. No findings were identified and documented through this inspection.

- .2 (Closed) LER: 50-400/1999-001-00: Spent Fuel Pool water level not maintained greater than 23 feet above stored boiling water reactor (BWR) fuel assemblies. This LER reported a violation of Technical Specification 3.9.11 for failing to maintain spent fuel pool water level 23 feet above the top of the fuel assemblies. Nine BWR fuel assemblies had not been fully seated in the spent fuel storage racks because a fuel assembly channel fastener had caught on the top of the fuel rack. The licensee's review of operating logs showed that Technical Specification 3.9.11 had not been met on numerous occasions from August 14, 1997, until January 6, 1999. This violation is being treated as a non-cited violation, consistent with the Interim Enforcement Policy for pilot plants. This violation is in the licensee's corrective action program as Condition Report 99-00050. This violation is designated as NCV 50-400/99-08-01, Spent Fuel Pool water level not maintained greater than 23 feet above stored fuel assemblies.

The inspectors considered that this violation could have significance with respect to the potential release of radioactive materials only if it affected:

- the frequency of a significant event that could cause a release of radioactive materials from a stored fuel assembly,
- the availability or operability of a system or feature designed to mitigate the effects of such a release, and/or
- the integrity of a system or feature that acts as a barrier against such a release.

The inspectors assessed the impact of this violation in each of those areas, as follows:

General The inspectors noted that the only effect of this violation was that several fuel assemblies were not fully seated in their respective channels in the spent fuel racks because the assemblies were suspended approximately 4 inches above the bottom of the rack by interactions between assembly channel fasteners and the walls of the spent fuel rack channels. The tops of the affected assemblies thus extended approximately 4 inches higher in the pool than they would have if the assemblies had been fully seated.

Initiating events The inspectors reviewed the licensee's assessment of this condition, as documented in ESR 99-00013, "Evaluation of Boiling Water Reactor Fuel Assemblies Supported by Channel Fastener," Revision 0, and noted that the licensee determined that a seismic event or breaking of the channel fastener could cause or allow the suspended fuel assemblies to fall unimpeded to the bottom of the racks. However, the licensee also determined that such a fall would not affect the structural integrity of either the affected assembly or the rack channel into which the affected assembly would fall. The inspectors found that the licensee's determination included a sound technical basis, and that the conclusions were adequately supported. Since the only effect of this violation would not increase the likelihood of damage to an affected assembly, the inspectors concluded that

this violation did not increase the frequency of a significant event that could cause a release of radioactive materials from a stored fuel assembly.

Mitigating systems The inspectors visually examined the fuel pool configuration, and observed that no part of any system or feature designed to mitigate the effects of events in the fuel pool is located at or near the tops of the spent fuel racks. The only effect of the violation was that the tops of the affected assemblies extended approximately 4 inches higher in the pool than they would if the assemblies had been fully seated, and since no part of a mitigating system is located at or near the area that could be affected by the violation, the inspectors considered that the violation had no effect on any system or feature designed to mitigate events in the fuel pool.

Barrier integrity The inspectors considered that this violation relates to three barriers against the release of radioactive materials from the Spent Fuel Pool, as follows:

Depth of Water: The Technical Specification requires 23 feet of water above the top of the fuel assemblies. The Technical Specification bases state that a minimum water depth of 23 feet above the top of the active fuel is required to satisfy the licensing-basis requirement for removing 99% of the assumed iodine gas activity that could be released from a rupture of an irradiated fuel assembly. The inspectors considered the reason the Technical Specification value was measured at a point above the top of the active fuel was because it is easier to measure from the top of the fuel assembly. The top of the active fuel is not readily observable from the outside of the fuel rods. The licensee's analysis calculated where the theoretical top of the active fuel was and determined that the subject violation did not reduce the depth of water above the fuel to less than the 23 foot value in the licensing basis. The inspectors concluded that the subject violation did not have any measurable effect on the effectiveness of the fission product absorbing water barrier.

Subcriticality: The violation resulted in several fuel assemblies being displaced approximately 4 inches above the assembly positions assumed in fuel pool subcriticality analyses. The inspectors noted that during the period of this violation, the Spent Fuel Pool configuration included two barriers to prevent criticality: one barrier was that a neutron-absorbing material had been incorporated into the rack channel walls, and the other was that a relatively high concentration of a neutron-absorbing material (> 2000 ppm Boron) had been dissolved in the water in the pool.

The licensee's evaluation showed that the active portion of the fuel was still surrounded by neutron absorber in the 4 inch extended position. The Boron concentration in the pool was essentially unchanged during the period of the violation. Consequently, the inspectors considered that there had been no effect on the subcriticality barrier.

Assembly Integrity The licensee's visual examination of the spent fuel racks, as documented in the subject ESR, revealed that the violation had not damaged the integrity of either the affected assemblies or the corresponding rack channels.

Because the subject violation:

- had no effect on the frequency of any initiating event,
- had no effect on any mitigating system or feature,
- did not have any measurable effect on the effectiveness of any barrier against the release of radioactive materials,

the inspectors concluded that the risk significance of the subject violation was well below the threshold for increased regulatory response, and have therefore designated its risk significance as GREEN.

- .3 (Closed) LER: 50-400/1999-002-00: Reactor trip due to not removing a temporary device from a relay following calibration. The non-safety relay caused a loss of production but did not introduce a safety issue. All mitigating systems performed as designed.
- .4 (Closed) LER: 50-400/1999-006-01: Containment Isolation Valve Technical Specification Noncompliance. This item was addressed in Inspection Report 50-400/99-04 and included in violation 50-400/99-04-03.
- .5 (Closed) LER: 50-400/1999-004-00: Unit trip due to the degraded condition of a steam generator water level flow control valve. This reactor trip was reviewed in Inspection Reports 50-400/99-01 and 50-400/99-02.
- .6 (Closed) VIO: 50-400/01014: The inspectors reviewed the proposed and implemented corrective actions that the licensee had taken to avoid further regulatory concerns with the Access Authorization Program and determined that the corrective actions were acceptable.

#### 4OA5 Management Meetings

##### .1 Exit Meeting Summary

The inspectors presented the inspection results to members of licensee management on February 24, 2000. 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

NRC

B. Bonser, Chief, Reactor Projects Branch 4  
R. Laufer, Harris Project Manager, NRR

Licensee

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K. Altman, Major Projects Manager  
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G. Kline, Harris Engineering Support Services Manager  
T. Natale, Training Manager  
K. Neushaeffer, Plant Support Services Manager  
J. Scarola, Harris Plant Vice President  
B. Waldrep, Maintenance Manager  
E. Wills, Environmental & Radiation Control Manager

## ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-400/1999-08-01	NCV	Spent Fuel Pool water level not maintained greater than 23 feet above stored fuel assemblies (Section 40A4)
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Closed

50-400/1999-009-00	LER	Reactor Trip and Auxiliary Feedwater Actuation (Section 40A4)
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50-400/1999-001-00	LER	Spent Fuel Pool water level not maintained greater than 23 feet above stored BWR fuel assemblies (Section 40A4)
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50-400/1999-002-00	LER	Reactor trip due to not removing a temporary device from a relay following calibration (Section 40A4)
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50-400/1999-006-01	LER	Containment Isolation Valve Technical Specification Noncompliance (Section 40A4)
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50-400/1999-004-00	LER	Unit trip due to the degraded condition of a steam generator water level flow control valve (Section 40A4)
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50-400/1999-08-01	NCV	Spent Fuel Pool water level not maintained greater than 23 feet above stored fuel assemblies (Section 40A4)
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50-400/01014	VIO	Failure to comply with the Regulations in 10 CFR Part 73 and the provisions of the Harris Security Program related to the Access Authorization Program in four examples (Section 40A4)
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Discussed

None

## NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

<b>Reactor Safety</b>	<b>Radiation Safety</b>	<b>Safeguards</b>
<ul style="list-style-type: none"> <li>● Initiating Events</li> <li>● Mitigating Systems</li> <li>● Barrier Integrity</li> <li>● Emergency Preparedness</li> </ul>	<ul style="list-style-type: none"> <li>● Occupational</li> <li>● Public</li> </ul>	<ul style="list-style-type: none"> <li>● Physical Protection</li> </ul>

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent little effect on safety. WHITE findings indicate issues with some increased importance to safety, which may require additional NRC inspections. YELLOW findings are more serious issues with an even higher potential to effect safety and would require the NRC to take additional actions. RED findings represent an unacceptable loss of safety margin and would result in the NRC taking significant actions that could include ordering the plant shut down.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. The color for an indicator corresponds to levels of performance that may result in increased NRC oversight (WHITE), performance that results in definitive, required action by the NRC (YELLOW), and performance that is unacceptable but still provides adequate protection to public health and safety (RED). GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken

based on a licensee's performance. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, as described in the matrix. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings.

More information can be found at: <http://www.nrc.gov/NRR/OVERSIGHT/index.html>.