



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W., SUITE 2900
ATLANTA, GEORGIA 30323-0199

Report No.: 50-261/95-27

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

Docket No.: 50-261

License No.: DPR-23

Facility Name: H. B. Robinson Unit 2

Inspection Conducted: September 17 - October 21, 1995

Lead Inspector:

M B Shymlock for
W. T. Orders, Senior Resident Inspector

11-17-95
Date Signed

Other Inspector: J. Zeiler, Resident Inspector

Approved by:

M B Shymlock
Milton B. Shymlock, Chief
Reactor Projects Branch 4
Division of Reactor Projects

11-17-95
Date Signed

SUMMARY

SCOPE:

This routine, resident inspection was conducted in the areas of plant operations, maintenance activities, engineering efforts, and plant support functions. As part of this effort, backshift inspections were conducted.

RESULTS:

In the Plant Operations area, one violation was identified involving an inadequate clearance for removing the B Emergency Diesel Generator from service. While implementing this clearance, the engine air start piping was depressurized through the engine's air start distributor causing the engine to unexpectedly start and run without normal engine support equipment properly aligned (paragraph 3.a).

REPORT DETAILS

1. PERSONS CONTACTED

Licensee Employees:

- *B. Baum, Director, Human Resources
- *M. Brown, Superintendent, Design Control
- *P. Cafarella, Superintendent, Mechanical Systems
- *G. Castleberry, Manager, Plant Electrical Engineering
- *B. Clark, Manager, Maintenance
 - T. Cleary, Manager, Mechanical Maintenance
- *D. Crook, Senior Specialist, Licensing/Regulatory Compliance
 - C. Gray, Manager, Materials and Contract Services
- *D. Gudger, Senior Specialist, Licensing/Regulatory Programs
- *M. Herrell, Manager, Training
- *C. Hinnant, Vice President, Robinson Nuclear Plant
 - P. Jenny, Manager, Emergency Preparedness
- *J. Keenan, Director, Site Operations
- *R. Krich, Manager, Regulatory Affairs
 - E. Martin, Manager, Document Services
- *B. Meyer, Manager, Operations
- *G. Miller, Manager, Robinson Engineering Support Services
- *H. Moyer, Manager, Nuclear Assessment Section
 - B. Steele, Manager, Shift Operations
 - D. Stoddard, Manager, Operating Experience Assessment
 - R. Warden, Manager, Plant Support Nuclear Assessment Section
- *D. Whitehead, Manager, Plant Support Services
- *T. Wilkerson, Manager, Environmental Control
- *D. Young, Plant General Manager

Other licensee employees contacted included technicians, operators, engineers, mechanics, security force members, and office personnel.

NRC Personnel:

- *W. Orders, Senior Resident Inspector
- *J. Zeiler, Resident Inspector

*Attended exit interview

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

2. PLANT STATUS AND ACTIVITIES

Operating Status

The unit operated at or near full power for the entire report period.

3. OPERATIONS

a. Plant Operations (NRC Inspection Procedure 71707)

The inspectors evaluated licensee activities to determine if the facility was being operated safely and in conformance with regulatory requirements. These activities were assessed through direct observation of ongoing activities, facility tours, discussions with licensee personnel, evaluation of equipment status, and review of facility records. The inspectors evaluated the operating staff to determine if they were knowledgeable of plant conditions, responded properly to alarms, and adhered to procedures and applicable administrative controls. Selected shift changes were observed to determine that system status continuity was maintained and that proper control room staffing existed.

Routine plant tours were conducted to evaluate equipment operability, assess the general condition of plant equipment, and to verify that radiological controls, fire protection controls, physical protection controls, and equipment tagging procedures were properly implemented.

Emergency Diesel Generator B Unexpected Start During Tagout

On September 26, while operations personnel were in the process of implementing LCTR 95-01384 for removing the B EDG from service for scheduled maintenance, the engine started unexpectedly. The engine ran for approximately 7 minutes until shutdown locally by tripping the engine fuel racks.

Prior to the start, normal engine support equipment such as pre-lube and cooling water had been isolated in accordance with the clearance. Due to this, the licensee performed an evaluation to ensure that no engine damage had occurred during the event. This evaluation was conducted with assistance from the engine manufacturer. The inspectors reviewed the results of this evaluation and discussed details with the EDG system engineer. The engine manufacturer identified one area of concern involving the engine lube oil system. Since the lube oil strainer drain valve was open when the engine started, the manufacturer indicated that the lube oil filters could have deformed under the increased oil system flow condition. Subsequent inspection of these filters revealed that there was no damage; however, as a preventative measure, they were replaced. Following the completion of maintenance and inspection, the engine was tested successfully and returned to service without further complications. The inspectors determined that the licensee's evaluation and testing was adequate, although, greater consideration should have been given for the potential damage to the air start distributor. During the event, air was not automatically isolated to the distributor shortly after startup as would occur on a normal start. Increased wear and potential damage to the internal valves and springs in

the distributor can occur if air is continuously admitted to distributor. Subsequently, the licensee evaluated in greater detail the potential for this to occur. The results of this evaluation determined that there was not sufficient air volume admitted during the event to damage the distributor.

The inspectors reviewed the initial operator responses to the event. Upon hearing the engine start, an Auxiliary Operator who was outside the EDG room contacted the control room and was instructed to close the manual air start isolation valves (to prevent any further chance of air entering the engine) and then to shutdown the engine from the local control panel. The Auxiliary Operator closed the air start valves, but was unsuccessful in shutting the engine down from the local control panel. This should have been expected since prior steps in the clearance had de-energized electrical power to the control panel, thus, disabling the normal shutdown capability. In a subsequent call to the control room, the Auxiliary Operator was instructed to close the fuel racks, which was successful in stopping the engine. The inspectors determined that shutdown of the engine could have been accomplished sooner if the control room operators had been more familiar with details of the clearance. However, since the engine did not experience any damage during the event, the inspectors concluded that the extra time involved did not adversely impact the engine during this event.

The inspectors reviewed LCTR 95-01384, the sequence of events for the unexpected engine start, and discussed the event with the operators involved. The clearance was developed to remove the engine from service in order to conduct an annual inspection and general engine work. One of these work items included the replacement of valve, DA18B, located in the engine's air start system piping. DA18B is the upstream manual isolation valve to one of the two parallel air start solenoid valves (DA19B) that open on an engine start signal and allow the admission of compressed air into the air start distributor which starts the engine. The individual preparing the clearance selected upstream air start valves DA14B and DA28 as the isolation boundary for DA18B. This boundary configuration allowed a 65 foot section of 2 and 2.5 inch air start piping to remain pressurized directly upstream of the air start solenoid valve DA19B. When DA19B was deenergized in accordance with the clearance, it failed open allowing the residual compressed air that was contained within the isolation boundary to be admitted into the engine's air start distributor. The clearance preparer indicated that he understood that deenergizing the air start solenoid valves would vent air trapped in the air start piping through the air start distributor. A decision was made when the clearance was being prepared that there was not enough isolated air volume to start the engine. The inspectors noted that this decision was not based on a clear understanding of the actual length of piping or volume involved and a walkdown of the piping had not been performed.

The inspectors also reviewed procedure OMM-05, Clearance and Test Request, which provides the requirements for properly isolating equipment that is being removed from service. Section 5.1 of this procedure requires that systems which normally operate at temperatures and pressures above ambient condition shall be vented and drained if necessary for the work to be performed. Further, the procedure requires that vent and drain valves used to depressurize a system should be tagged in the open position. The inspectors determined that this procedure was not followed, in that, proper provisions for depressurizing the air start piping, such as opening a high point vent valve within the isolation boundary, or loosening an existing flange in the piping, was not considered or utilized in the clearance.

TS 6.5.1.1, Procedures, Tests, and Experiments, requires in part, that written procedures be established, implemented, and maintained, covering the activities recommended in Appendix A of Regulatory Guide 1.33, Rev. 2, 1978, including procedures for controlling the clearance of safety-related equipment.

Contrary to the above, LCTR 95-01384 was inadequate in that, it did not provide adequate instructions for ensuring that the air start system piping associated with the B EDG was properly isolated and depressurized. This issue is considered a violation of the requirements of TS 6.5.1.1 and is identified as Violation 50-261/95-27-01: Inadequate Clearance Results in Unexpected Emergency Diesel Start.

During review of this event, the inspectors recalled a similar event involving an inadequate clearance that occurred on April 17, 1995, during maintenance on valve VI-18A, steam supply valve. The clearance boundary for this work failed to properly isolate the steam supply to the Steam Driven Auxiliary Feedwater Pump resulting in it inadvertently starting. This issue was one of three examples of Violation 95-19-01, addressed in NRC Inspection Report 50-261/9519, dated July 17, 1995. The inspectors reviewed CR 95-00961 which addressed this event. Corrective actions included counseling the clearance preparer and enhancing the model clearances for future work on valve VI-18B. The inspectors noted that this CR had been classified as "Non-Significant," therefore, a formal root cause evaluation was not performed. The inspectors considered the effectiveness of corrective actions for this event to have been questionable as result of the similarity to the clearance problems identified with the unexpected EDG start. Both of these issues involved improper clearance assumptions. The licensee indicated that the root cause evaluation for the EDG start event would address the corrective action for the clearance program.

Control Room Instruments Affected by Radio Usage

The inspectors noted on several occasions during routine control room tours, that hand held radio transmissions, seemed to be having an adverse effect on the trace of the unit electrical output chart recorder. When the inspectors asked the operators about these observations, they were told that indeed the radios did have an effect on the chart recorder, but to their knowledge, no other control room equipment seemed to experience interference from the radios. The inspectors also identified to operations management that a sign which had been previously posted on the door leading from the control room to the adjoining protection electronics equipment (Hagan) room, warning that radios were not to used inside, had been removed. This was identified to the operations management.

The inspectors discussed this issue with the engineering staff to determine if there was a formal program in place to address radio frequency interference. The licensee informed the inspectors that there was no formal program, and initiated a condition report to facilitate an evaluation of the problem. At the end of this report period, the licensee's efforts to address this issue are incomplete, and will be addressed in the next report.

Housekeeping Discrepancies with Potential Seismic Impact

During a walkdown of the Hagan Room, the inspectors noted that electrical test equipment and furniture (e.g., chair, file cabinet, table, and ladder) were in close proximity to the reactor protection system cabinets. The inspectors questioned engineering personnel whether this unsecured material had been evaluated with regards to its potential seismic interaction with the reactor protection cabinets. They recalled performing seismic evaluations for the furniture in the past, but were unable to provide this documentation. Licensee engineering personnel conducted a walkdown of the Hagan room. Several of the unsecured items were removed or relocated, including the electrical test equipment. The licensee initiated CR 95-02419 to address the improper storage of this equipment. They determined that none of the items had been close enough to be a significant interaction threat to the reactor protection cabinets. The inspectors agreed with this assessment, but, concluded that general housekeeping control of electrical test equipment could be improved in this area. Based on these observations and discussions with I&C personnel who perform protection system testing in the Hagan room, there was not a good understanding of the potential seismic impact when storing/placing equipment or material near safety-related equipment.

The inspectors reviewed procedures AP-02, Plant Conduct of Operations, and, AP-10, Housekeeping Instructions, which describe the plant housekeeping requirements for controlling work

activities, conditions, and environments. While these procedures require that all employees properly store loose work items, it did not provide guidance for evaluating the seismic acceptability of storing/locating unsecured tools/material near safety-related equipment. The inspectors discussed these observations with plant management and reviewed the planned corrective actions for CR 95-02419. Specific corrective actions included the following: 1) perform plant walkdowns to identify material which may represent a seismic concern, 2) provide instructions for evaluating the placement of unsecured equipment around safety-related equipment, 3) establishing storage areas for unsecured equipment, and, 4) providing training to all plant personnel on the new guidance. The inspectors concluded that these corrective actions were comprehensive toward heightening plant personnel and management awareness to the adverse impact of unsecured material in areas containing safety-related equipment.

Onsite Follow-up Of Written Reports Of Non-Routine Events

The following Licensee Event Reports were reviewed to assess the safety significance of the issue, the corrective actions proposed or taken by the licensee, the licensee's compliance with the applicable reporting requirements, and the validity of the licensee's review and evaluation of the subject of the report:

LER 93-001	TS 3.0 Implementation Due To Excessive PPS Leakage
LER 93-004	Unusual Event Caused By Reactor Coolant System Leakage
LER 93-005	Apparent Temperature Violation Of The Boric Acid Storage Tank
LER 93-006	Inadequate EDG Ventilation System Due To Bypassed Air
LER 93-007	Ventilation System Outside Design Basis Due To Positive Pressure Condition
LER 93-007-01	Ventilation System Outside Design Basis Due To Positive Pressure Condition
LER 93-009	TS 3.0 Entry For Service Water Pump Operability Testing
LER 93-012	Engineered Safety Feature Actuation
LER 93-013	TS Specification 3.10.1.3 Implementation Due To Exceeding Rod Insertion Limits
LER 93-014	Surveillance Tests Exceeded Technical Specification Test Intervals

After having reviewed the licensee's corrective actions proposed or taken, the licensee's compliance with the applicable reporting requirements, and the validity of the licensee's review and evaluation of the issues addressed by these reports, these LER's are closed.

- b. Effectiveness of Licensee Control in Identifying, Resolving, and Preventing Problems (NRC Inspection Procedure 40500)

NAS Identified Clearance Deficiencies and Resulting Site Stand-Down

On September 6, NAS personnel were witnessing work activities associated with WR/JO 95-ADT11 for troubleshooting degraded service water flow through the Primary Air Compressor. During this activity, NAS observed a maintenance individual manipulate a valve that was incorrectly believed to be within the valve clearance boundary established for the work. In accordance with OMM-005, Clearance and Test Request, only operations personnel are allowed to manipulate valves or components within clearance boundaries. The only exception is components on which maintenance is actually being performed. Based on these observations, NAS determined that the maintenance personnel did not have a clear understanding of the clearance boundaries or the requirements of OMM-005 regarding manipulation of components within clearance boundaries. NAS ordered the work to be stopped until the problems were corrected. The inspectors reviewed the assessment results performed by NAS and considered them to be an example of good performance based assessment capability. The actions to stop work and correct the deficiencies were representative of a good safety focus.

On September 13, licensee management initiated a work "stand-down" to address the clearance problems identified. The following actions were taken associated with this stand-down:

- all section and unit managers met with their personnel and discussed details of the event, management expectations that personnel verify and understand clearance boundaries prior to beginning work, and, expectations that personnel understand and comply with the requirements of OMM-005,
- this event was to be included in refueling outage training for contract personnel, and,
- an analysis was to be performed within 60 days to determine if additional training on other site programs was warranted.

The inspectors reviewed these actions and determined that they were comprehensive toward preventing recurrence. The inspectors noted that licensee management was sensitive to the seriousness of

the potential consequences involved with this issue and was supportive of NAS efforts to correct the weaknesses identified.

No violations or deviations were identified. Based on the information obtained during the inspection, the area/program was adequately implemented.

c. Followup - Operations (NRC Inspection Procedure 92901)

(Closed) IFI 50-261/93-21-06: Vital Battery Terminal Fractures

This IFI documented observations of deformed and cracked vital battery terminal posts.

Both vital batteries were replaced during Refueling Outage 16. Procedure PM-411, Disassembly, Cleaning, Assembly, And Testing Of A and B Station Battery Cell Connections, has been revised to incorporate appropriate torque valves.

Engineering Evaluation 93-134 was performed to verify that the B battery was operable with the degraded terminal posts until it was replaced. This item is closed.

(Closed) IFI 50-261/93-33-03: Need For Verification Of CV Spray And Turbine Auto Stop Circuitry Continuity Following Routine Testing

This IFI documented deficiencies in routine testing of the containment spray system and turbine auto stop circuitry. The deficiencies were associated with continuity testing of circuitry following routine testing.

The procedures involved, OST-351, CV Spray and MST-11, Turbine Autostop Testing, were revised to incorporate continuity tests. This item is closed.

(Closed) VIO 50-261/93-28-04: Three Examples Of Inadequate Or Failure To Follow Procedure

This violation involved the following three issues:

1. A situation on September 13, 1993, in which the licensee failed to follow procedure, MMM-006, Calibration Program, for documenting an engineering evaluation or other appropriate justification to support using a dead weight tester for the calibration of a pressurizer pressure transmitter;
2. An occurrence on November 8, 1993, in which Maintenance Procedure CM-121, Pressurizer Spray Valve Maintenance, PCV-455A/B was inadequate to facilitate maintenance on valve

PCV-455B in that it did not represent the valve as installed;

3. An incident on September 16, 1993, in which, procedure CM-704, Service Water Pump Motor Maintenance, was inadequate to facilitate maintenance on the D service water pump in that it provided erroneous guidance for setting the pump impeller clearance.

The corrective steps that have been taken included the following:

1. Plant personnel have reviewed the calibration records associated with the dead weight testers used to calibrate the Pressurizer pressure transmitters. They determined that the accuracy of calibration of the transmitters exceeds the 0.25% of reading stated in MMM-006, Calibration Program. MMM-020, Control Of Portable Measuring And Test Equipment, will be changed to reflect an allowed accuracy of 0.06% of reading. This will provide an accuracy of reading that exceeds the accuracy of the pressurizer pressure transmitters. The Pressurizer Pressure Protection Transmitters, 6XPT-455PT-456, and PT-457 were recalibrated.
2. Procedure CM-121, Pressurizer Spray Valve Maintenance, PCV-455A/B, has been revised to require verification of match marks prior to proceeding with valve disassembly and reassembly during maintenance. Also, the procedure now reflects the "as installed" orientation of the actuator on the valve body.
3. A revision to CM-704, Service Water Pump Motor Maintenance, has been completed to correct the deficiencies noted pertaining, in part, with impeller clearance.

This item is closed.

(Closed) VIO 50-261/93-11-01: Failure to Make a Timely Notification to the NRC of a Notification to State Authorities

This issue involved the licensee's failure to make a timely 4-hour non-emergency notification to the NRC after contacting the State of South Carolina regarding an NPDES permit limit violation. In accordance with 10 CFR 50.72(b)(2)(vi), notifications to other government agencies, regarding among other topics, protection of the environment, require a 4-hour non-emergency NRC notification to be made.

The licensee responded to this violation by letter dated August 2, 1993. The root cause was attributed to the failure to understand the specific reporting requirements of 10 CFR 50.72(b)(2)(vi). Licensee personnel had historically interpreted this criteria to apply to the communications involving offsite radiological

releases or plant deaths. The inspectors reviewed procedure AP-30, NRC Reporting Requirements. The procedure was revised to include clarification of the NRC reporting requirements. Specific plant examples were provided for each of the notification requirement categories. One of the examples added to the 4-hour notification category included notifications made as a result of exceeding NPDES permit requirements. In addition, formal training was provided for operations and regulatory affairs personnel on the lessons learned from this issue and clarifications of the NRC reporting requirements. The inspectors determined that licensee corrective actions for this issue was adequate and had been properly implemented. Based on this review, this violation is closed.

(Closed) VIO 50-261/93-18-01: Operations Failure to Follow Procedures, Three Examples

This issue involved three separate examples where operations personnel failed to follow plant procedures. The first issue involved three valves that were found improperly locked using chain link. The second issue involved an ERFIS alarm for control rod position deviation that went undetected and not acted upon by the control room reactor operator for several hours. The third issue involved a reactor operator who flashed the field of the emergency diesel generator at the wrong engine speed.

The licensee responded to this violation by letter dated October 11, 1993. Licensee corrective actions for these issues were part of broader actions to address weaknesses in personnel procedure adherence and attention to detail. Specific corrective actions for the first issue included re-verifying that all valves in the locked valve program were properly secured using chain devices. The inspectors reviewed completed valve lineup documentation and verified that this action was completed. Licensee corrective actions to address the second violation example included adding administrative controls for providing increased observation and monitoring of Control Room indications. The inspectors reviewed OMM-23, Operator Logs and Rounds, which requires that the reactor operator review important plant parameters via the ERFIS Group Trend printout on an hourly basis. The inspectors verified that the operators were completing these reviews. Specific licensee corrective actions for the third issue involved counselling the operator involved relative to management expectations of procedure compliance. This emphasis on procedure compliance was also discussed with all other licensed and non-licensed operators.

The inspector determined that licensee corrective actions for these issues were adequate and had been properly implemented. Based on this review, this violation is closed.

(Closed) VIO 50-261/93-18-03: Failure to Maintain Design Control of Reactor Auxiliary Building Ventilation System

This issue involved the failure to implement adequate measures to maintain the integrity of the Reactor Auxiliary Building Ventilation System design between January 1992 until July 1993. The licensee had implemented modifications and performed maintenance during this period which degraded the system and had not adequately performed post maintenance testing to verify the system's design requirement for maintaining a negative building pressure. A negative building pressure ensures that the air flow is directed into the building and not outward.

The licensee responded to this violation by letter dated October 11, 1993. Corrective actions included rebalancing the RAB ventilation system (flow balance test completed on June 9, 1994) to ensure, among other design requirements, that the RAB was maintained at a negative pressure. The inspectors reviewed the flow balance test results verifying that the acceptance criteria for negative pressure in the RAB was met. As part of the flow balance evaluation, the number and location of existing pressure gauges in the RAB were reviewed by the licensee and determined to be adequate. As a backup to the existing building pressure gauges, provisions were made for installing portable pressure instrumentation at various locations in the building. Provisions for periodically monitoring the RAB negative air pressure were also developed. The inspectors reviewed the Inside Auxiliary Operator's Log which was revised to include a check of the RAB pressure once per shift. The licensee also provided formal training for design engineering personnel on the need to consider the effect of modifications on the RAB ventilation system capability to maintain its design requirements. This training was completed for selected personnel on April 8, 1994.

The inspector determined that licensee corrective actions for these issues were adequate and had been properly implemented. Based on this review, this violation and LER are closed.

4. MAINTENANCE

a. Maintenance Observation (NRC Inspection Procedure 62703)

The inspectors observed safety-related maintenance activities on systems and components to determine if the activities were conducted in accordance with regulatory requirements, approved procedures, and appropriate industry codes and standards. The inspectors reviewed associated administrative, material, testing, radiological, and fire prevention controls requirements to determine licensee compliance. In particular, the inspectors observed/reviewed the following maintenance activities detailed below:

WR/JO ABIL-001: Calibration of Spray Additive Flow
Instruments FI-949 and FIT-949
WR/JO ABBW-001: Calibration of Containment Spray Pump A
Pressure Gauge PI-945
WR/JO 95-AMNL1: Investigate Problem with Boric Acid Bypass
Meter Flow Indication

Troubleshooting of Unexplained Turbine Governor Valve Movement

On October 3, the control room reactor operator noticed that the number 2 turbine governor valve was slowly closing as indicated by valve position on the RTGB. The operator placed the turbine controls in manual which stopped the valve movement. During this time period, the Net Megawatt recorder indicated that turbine load had decreased by 5 Megawatts (electric). Following the event, I&C was instructed to investigate this problem by checking for any electrical problems with the turbine Electro-Hydraulic Controller which controls the movement of the governor valves. These efforts included taking voltage measurements in the controller panel with the turbine in both automatic and manual mode to verify that the governor valve demand signals were proper. The test results confirmed that the valves were operating properly. The licensee later determined that the problem may have been related to higher than expected moisture in the turbine EHC oil and was continuing with this investigation at the end of the report period.

The inspectors witnessed I&C technicians troubleshooting the turbine Electro-Hydraulic Controller under WR/JO 95-AMDH1. Overall, the conduct of this troubleshooting was satisfactory. Noteworthy was the continuous I&C supervision and engineering support provided during the activity. However, the inspectors did note one item that was not indicative of good maintenance practice. This involved the I&C technician's use of turbine control system training material to reference voltage test points as opposed to using controlled, technical information. When this was brought to the attention of the I&C supervisor, who was present during the activity, the inspectors were informed that he had already instructed the technician to not use this information during the field activity work.

b. Surveillance Observation (NRC Inspection Procedure 61726)

The inspectors evaluated certain safety-related surveillance activities to determine if these activities were conducted in accordance with license requirements. For the surveillance test procedures listed below, the inspectors determined that precautions and LCOs were adhered to, the required administrative approvals and tagouts were obtained prior to test initiation, testing was accomplished by qualified personnel in accordance with an approved test procedure, test instrumentation was properly calibrated, the tests were completed at the required frequency, and that the tests conformed to TS requirements. Upon test

completion, the inspectors verified the recorded test data was complete, accurate, and met TS requirements, test discrepancies were properly documented and rectified, and that the systems were properly returned to service. Specifically, the inspectors witnessed and/or reviewed portions of the following test activity:

MST-003 T-Average and Delta-Temperature Protection
Channel Testing

No violations or deviations were identified. Based on the information obtained during the inspection, the area/program was adequately implemented.

5. ENGINEERING

a. Engineering Support Activities (NRC Inspection Procedure 37551)

Throughout the inspection period, engineering evaluations of problems and incidents were reviewed and discussions were held with engineering personnel to assess the effectiveness of the licensee's controls for identifying, resolving, and preventing problems. Based on these inspections, the engineering staff was effective and timely in responding to plant problems and interfacing with operations.

b. Engineering Followup (NRC Inspection Procedure 92703)

(Closed) URI 50-261/95-23-01: Inadequate Justification for Plant Operation With One Pressurizer Spray Valve Inoperable

This issue involved the adequacy of the licensee's operability justification that the pressurizer pressure control system was operable with one of the two pressurizer spray valves (PCV-455A) out of service. Spray valve PCV-455A was removed from service and isolated on August 8, 1995, after experiencing erratic position indication. During the previous inspection, the inspectors reviewed Expert Operability Analysis For OD 95-015, dated August 7, 1995, which documented the licensee's evaluation of the impact with the inoperable spray valve. It was determined that the evaluation did not fully justify operation with only one spray valve. Specifically, it did not adequately address design basis information that implied that both spray valves were necessary for controlling pressure during a 10 percent step load reduction, as well as the need for redundant emergency power requirements for the spray valves.

During this report period, the inspectors reviewed revisions 1 and 2 to Expert Operability Analysis For OD 95-015, dated August 11 and September 1, respectively. The inspectors determined that these evaluations provided adequate justification for continued operability of the pressurizer pressure control system with one valve unavailable. This was based primarily on the licensee's

review of Chapter 15 of the Final Safety Analysis Report, which, determined that there were no accidents that the plant was designed for that took credit for the spray valves to help mitigate. While the second spray valve is required to accommodate step load changes between 5 and 10 percent without challenging the Pressurizer Power Operated Relief valves, this loading or unloading rate is considered to be initiated by planned operator actions. The inspectors verified that limitations existed to restrict operator loading and unloading to 5 percent. With regard to emergency electrical power, the licensee determined that there was no design requirement for the valves to receive redundant electrical power. The inspectors discussed the licensee's position and evaluation results with NRC personnel in the department of Nuclear Reactor Regulation, who agreed with these conclusions. The inspectors considered this URI closed.

No violations or deviations were identified. Based on the information obtained during the inspection, the area/program was adequately implemented.

6. PLANT SUPPORT (NRC Inspection Procedures 71707 and 71750)

Throughout the inspection period, facility tours were conducted to observe personnel activities as they relate to radiation protection and security. The tours included entries into the protected areas and the radiologically controlled areas of the plant and included assessment of radiological postings and work practices. During these inspections, discussions were held with radiation protection and security personnel. The inspections confirmed the licensee's compliance with 10 CFR, Technical Specifications, License Conditions, and Administrative Procedures.

The inspectors considered noteworthy the good radiation controls observed while witnessing maintenance personnel check the calibration of the A Containment Spray Pump discharge pressure associated with WR/JO ABBW-001. This activity was continuously controlled and monitored by radiation control personnel to ensure that there was no contamination spread during the maintenance activity.

No violations or deviations were identified. Based on the information obtained during the inspection, the area/program was adequately implemented.

7. EXIT INTERVIEW

The inspectors met with licensee representatives (denoted in paragraph 1) at the conclusion of the inspection on October 26. During this meeting, the inspectors summarized the scope and findings of the inspection as they are detailed in this report. The licensee representatives acknowledged the inspector's comments and did not identify as proprietary any of the materials provided to or reviewed by

the inspectors during this inspection. No dissenting comments from the licensee were received

<u>Item Number</u>	<u>STATUS</u>	<u>Description/Reference Paragraph</u>
VIO 95-27-01	Opened	Inadequate Clearance Results in Unexpected Emergency Diesel Start (paragraph 3.a)
LER 93-001	Closed	TS 3.0 Implementation Due To Excessive PPS Leakage (paragraph 3.a)
LER 93-004	Closed	Unusual Event Caused By Reactor Coolant System Leakage (paragraph 3.a)
LER 93-005	Closed	Apparent Temperature Violation Of The Boric Acid Storage Tank (paragraph 3.a)
LER 93-006	Closed	Inadequate EDG Ventilation System Due To Bypassed Air (paragraph 3.a)
LER 93-007	Closed	Ventilation System Outside Design Basis Due To Positive Pressure Condition (paragraph 3.a)
LER 93-007-01	Closed	Ventilation System Outside Design Basis Due To Positive Pressure Condition (paragraph 3.a)
LER 93-009	Closed	TS 3.0 Entry For Service Water Pump Operability Testing (paragraph 3.a)
LER 93-012	Closed	Engineered Safety Feature Actuation (paragraph 3.a)
LER 93-013	Closed	T.S. Specification 3.10.1.3 Implementation Due To Exceeding Rod Insertion Limits (paragraph 3.a)
LER 93-014	Closed	Surveillance Tests Exceeded Technical Specification Test Intervals (paragraph 3.a)
IFI 93-021-06	Closed	Vital Battery Terminal Fractures (paragraph 3.c)
IFI 93-33-03	Closed	Need For Verification Of CV Spray And Turbine Auto Stop Circuitry Continuity Following Routine Testing (paragraph 3.c)
VIO 93-28-04	Closed	Three Examples Of Inadequate Or Failure To Follow Procedure (paragraph 3.c)

VIO 93-11-01	Closed	Failure to Make a Timely Notification to the NRC of a Notification to State Authorities (paragraph 3.c)
VIO 93-18-01	Closed	Operations Failure to Follow Procedures, Three Examples (paragraph 3.c)
VIO 93-18-03	Closed	Failure to Maintain Design Control of Reactor Auxiliary Building Ventilation System (paragraph 3.c)
URI 95-23-01	Closed	Inadequate Justification for Plant Operation With One Pressurizer Spray Valve Inoperable (paragraph 5.)

8. ACRONYMS AND INITIALISMS

AP	Administrative Procedure
CFR	Code of Federal Regulation
CR	Condition Report
CV	Containment Vessel
EDG	Emergency Diesel Generator
EHC	Electro-Hydraulic Control
ERFIS	Emergency Response Facility Information System
I&C	Instrumentation And Control
IFI	Inspector Followup Item
LCTR	Local Clearance and Test Request
LER	Licensee Event Report
MMM	Maintenance Management Manual
MST	Maintenance Surveillance Test
NAS	Nuclear Assessment Section
NPDES	National Pollutant Discharge Elimination System
OMM	Operations Management Manual
PM	Preventative Maintenance
PPS	Penetration Pressurization System
RAB	Reactor Auxiliary Building
RTGB	Reactor Turbine Gauge Board
TS	Technical Specifications
URI	Unresolved Item
VIO	Violation
WR/JO	Work Request/Job Order