ENCLOSURE 2
U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

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Licensee:	Houston Lighting & Power Company
Facility:	South Texas Project Electric Generating Station, Units 1 and 2
Location:	8 Miles West of Wadsworth on FM 521 Wadsworth, Texas 77483
Dates:	June 29 through August 9, 1997
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EXECUTIVE SUMMARY

South Texas Project, Units 1 and 2
NRC Inspection Report 50-498/97-05; 50-499/97-05

This resident inspection included aspects of licensee operations, engineering, maintenance, and plant support. The report covers a 6-week period of resident inspection.

Operations

- Control room operators performed their duties in a professional manner, were attentive to control board indications, and maintained a good focus on safety (Section O1.1).

- The licensee failed to track the Technical Specification action statements associated with the inoperability of the hydrogen analyzer. This condition continued for 7 days without identification by on-shift operators (Section O1.2).

- A lack of understanding of corrective action for a previous event coupled with less than adequate communications and attention to detail resulted in an inadvertent partial drain down of the Unit 1 spent fuel pool (Section O1.3).

- Plant systems were maintained in good material condition. The instrument air system and selected containment isolation valves were properly aligned (Sections O2.1, O2.2, and O2.4).

- A reactor plant operator exhibited good attention to detail and safety system knowledge by identifying low hydraulic fluid level in a power-operated relief valve (Section O2.3).

- One example of an inadequate equipment clearance order resulted in an inadvertent start of a Unit 2 essential cooling water screen wash booster pump while the system was drained (Section O4.1).

Maintenance

- Planners failed to identify that painting of the air start solenoids could adversely affect Standby Diesel Generator 11 operability (Section O2.1).

- In general, maintenance activities were performed in accordance with management's expectations. However, several examples of the failure to properly implement maintenance related programs were discussed (Section M1.1).

- Surveillance test procedures were well performed and properly implemented Technical Specification surveillance requirements (Section M1.2).

- Craftsmen did not initially remove plastic bags from containment as required by the containment inspection procedure. A lack of understanding of previous corrective actions caused plant workers to not fully understand requirements regarding loose debris in containment (Section M4.1).

- A second example of the failure to establish an effective equipment clearance order boundary was identified when craftsmen breached an unisolated portion of the component cooling water system. In addition, craftsmen had prior opportunity to identify this condition (Section M4.2).

Engineering

- The actions of the engineers in stopping the attempted removal of the essential cooling water structure gantry crane was notable. The recalculation of the crane weight and potential impact on operability of the essential cooling water systems were considered to be conservative (Section E1.1).

- The licensee failed to perform adequate surveillance testing of the Pressurizer Pressure Interlock P-11 (Section E2.1).

- The identification of surveillance testing inadequacies associated with Permissive P-11 during an operational experience review was considered to be excellent (Section E2.1).

- Maintenance and engineering personnel properly evaluated the causes of a fire that initiated during a leak sealing evolution on main steam isolation Valve 2D. The associated temporary modification package was properly developed and reviewed. The use of an injection clamp during this evolution was considered conservative (Section E2.2).

- The licensee failed to assure that all of the requirements of IEEE 338-1997, Regulatory Guide 1.22, and Regulatory Guide 1.118, related to removing the AFW and containment spray systems from service, were correctly translated into the applicable procedure for testing of the AFW system.

Plant Support

- Routine observations of radiological work practices indicated that controls were in place and effective with one minor exception. Several contaminated area signs were not properly secured and had fallen down (Section R1.1).

- Routine observations of daily security force activities, secondary chemistry controls, emergency response facility readiness, and meteorological tower operability indicated appropriate management attention to these functional areas (Sections R1.2, P2.1, P2.2, and S1.1).

Report Details

Summary of Plant Status

At the beginning of this inspection period, Unit 1 was subcritical in Mode 2 after having completed drop testing of the rod cluster control assemblies. The reactor was taken critical at 12:04 a.m. on June 29, and Unit 1 was returned to full power on June 30. At the end of this inspection period, Unit 1 was operating at 100 percent steady-state power.

Unit 2 operated at essentially 100 percent reactor power throughout this inspection period.

I. Operations

O1 Conduct of Operations

O1.1 Control Room Observations (Units 1 and 2)

a. Inspection Scope (71707)

Using Inspection Procedure 71707, the inspectors routinely observed the conduct of operations in the Units 1 and 2 control rooms. Frequent reviews of control board status, routine attendance at shift turnover meetings, observations of operator performance, and reviews of control room logs and documentation were performed. In addition to full power operations, the inspectors observed portions of the response to a Unit 2 fire in the isolation valve cubicle which occurred on July 15.

b. Observations and Findings

During routine observations and interviews, the inspectors determined that the control room operators were continually aware of existing plant conditions. Operators responded to annunciator alarms in accordance with approved procedures. Annunciator alarms were promptly announced to the control room staff who, in turn, acknowledged by restating the announcement. The inspectors routinely attended shift turnover meetings. The on-shift operators provided clear and concise information to the oncoming operators. Oncoming operators routinely reviewed the control room logs, discussed current plant conditions, and verified major equipment status.

On July 15, maintenance personnel were repairing a leak on Main Steam Isolation Valve 2D. The mechanics stopped work momentarily and exited the Isolation Valve Cubicle (IVC) to take a break from the heat. A security officer entered the IVC as part of his routine tour. Shortly after entering the IVC, the officer reported by telephone to the Unit 2 control room that he observed a fire on the lagging adjacent to Main Steam Isolation Valve 2D. The inspector was in the control room when this call was received and observed that the shift supervisor questioned the security officer as to whether he observed smoke, steam, or a flame. The officer stated that he observed a small flame. As the shift supervisor was activating the fire brigade, a second call came into the control room from the IVC. One of the mechanics

reported that he used a fire extinguisher to put out the fire. The shift supervisor subsequently dispatched the fire brigade leader to verify that the fire was out and notified management of the event.

The inspector discussed the questioning of the security officer with the shift supervisor. The shift supervisor stated that the lagging was not flammable and he was not aware of any other burnable material in the vicinity of the valve. The shift supervisor also stated that a steam leak was much more likely to occur on the valve and would require different action than a fire.

The fire brigade leader determined that the fire was out. The inspector entered the IVC and observed that the fire had occurred on a small area of frayed lagging where some material from the leak repair had spilled. The mechanic stated that the material used in the leak repair was not supposed to burn. A condition report was written to investigate the cause of this event. The investigation and cause of this event are discussed in Section E2.2 of this report. The shift supervisor posted a fire watch in the area until no danger of reflash existed.

c. Conclusions

Licensed operators in the control room performed in a professional manner and were continuously aware of existing plant conditions with a good focus on safety. Shift turnover meetings were thorough and routinely attended by plant management. The response to annunciator alarms was prompt and accurate. The Unit 2 shift supervisor took prompt, conservative action in response to a reported fire in the IVC.

O1.2 Incorrect Tracking of Technical Specification Action Statement

a. Inspection Scope (71707)

On June 18, a licensed operator discovered that an incorrect operability assessment system (OAS) entry had been made when the Unit 2 Hydrogen Analyzer CM-4105 was found to be inoperable. The inspector reviewed Condition Report 97-10207, the procedures associated with OAS entries, and corrective actions proposed by the licensee.

b. Observations and Findings

On June 11, Hydrogen Analyzer CM-4105 failed a surveillance test, indicating that the analyzer was inoperable. Licensed operators created an OAS entry to track the action statement associated with Technical Specification 3.6.1.4. This action statement required that the analyzer be returned to service within 30 days or the unit be shut down.

However, the operators failed to recognize that Technical Specification 3.3.3.6 was also applicable. This specification required that the accident monitoring function of the hydrogen analyzer be returned to service within 7 days or the unit be placed in hot shutdown within the next 12 hours.

On June 18, during restoration of the hydrogen analyzer following corrective maintenance, an operator discovered that the OAS entry did not include the most restrictive Technical Specification action statement. Operators initiated Condition Report 97-10207 to investigate the problem and determine the root cause and corrective actions required. Although the 7-day allowed outage time had expired, the hydrogen analyzer had been returned to service with approximately 7 hours remaining in the 12 hours permitted to shut the unit down. In accordance with guidance recently issued in Enforcement Guidance Memorandum 97-013, a Technical Specification violation did not occur because the time clock of the action statement had not expired.

The inspectors reviewed Plant General Procedure 0PGP03-ZO-0039, Revision 9, "Operations Configuration Management." Section 5.5 provided guidelines for making OAS entries and stated, in part:

> "When any of the following systems/components are removed from service, THEN an OAS entry SHALL be initiated if the inoperability is expected to extend beyond the current shift and the system/component is required for the current plant mode.
>
> a. Equipment required by Technical Specifications"

The operators violated this requirement in that they failed to identify and enter the most restrictive Technical Specification action statement.

The corrective actions identified in the condition report require development of an on-line program that would flag any applicable Technical Specification when making OAS entries. Also, additional training of licensed operators in the identification of multiple Technical Specification requirements has been proposed. This would be conducted during applicable simulator training.

The inspector reviewed the violation and determined that: the violation was identified by licensee personnel; corrective actions had been developed to ensure that multiple Technical Specification requirements will be reviewed; the violation was not a repeat of a previous violation or finding; and the violation was not willful. Therefore, this non-repetitive, licensee-identified and corrected violation is being treated as a noncited violation, consistent with Section VII.B.1 of the NRC Enforcement Policy (NCV 499/97005-01).

c. Conclusion

The inspectors concluded that a violation of administrative requirements had occurred and was a result of less than adequate attention to detail to ensure that all applicable Technical Specifications were considered when making OAS entries. This condition existed for 7 days without identification by oncoming crews.

O1.3 Inadvertent Partial Drain of Spent Fuel Pool (Unit 2)

a. Inspection Scope (71707)

On June 19, mechanical maintenance technicians placed a submersible pump in the annulus between the inner and outer gates that separate the spent fuel pool and the fuel transfer canal in Unit 2. The pump was installed to drain the annulus between the gates to facilitate postmaintenance testing of the inner gate seal. At 1:05 p.m., the Unit 2 control room received a Spent Fuel Pool HI/LO Level alarm. Upon investigation, the field supervisor found that the spent fuel pool level was 66 feet (≈20.1 meters) mean sea level (msl), 2 inches (≈5.1 centimeters) lower than the earlier logged level. Water was draining from the spent fuel pool past the uninflated inner gate seal, through the deenergized pump and hose into the fuel transfer canal. The hose was removed, the gate seal was inflated, and the spent fuel pool level restored. Condition Report 97-10274 was developed to address this event. The inspectors reviewed this report and the associated procedures, evaluations, and licensee investigations.

b. Observations and Findings

An event review team was assembled to investigate the event. The investigation determined that upon completion of the inner gate seal replacement and prior to inflating the seal, the craftsmen placed the submersible pump in the annulus between the gates with a discharge hose going to the fuel transfer canal. At approximately 11:30 a.m., the craft energized and ran the pump for approximately 15 seconds to verify proper pump rotation. This was later determined to have started a siphon pathway through the idle pump.

Next, the craftsmen contacted the unit supervisor to have an operator connect and operate the air source to the seal in accordance with Plant Maintenance Procedure 0PMP04-FH-0005, Revision 4, "In Containment Fuel Storage Area and Spent Fuel Pool Gate Removal and Installation." The unit supervisor informed the mechanic that an operator was not available. The craftsmen then informed the unit supervisor of the status of the job and that they would be leaving the area to break for lunch. The unit supervisor directed the craftsmen not to run the pump until an operator was present and the gate seal was inflated. However, the craftsmen failed to inform the unit supervisor that they had momentarily run the pump. The siphon continued to drain the pool.

The inspector reviewed the condition report engineering evaluation to determine the postulated final level of the spent fuel pool if the siphon had continued undetected. In the evaluation, the engineering staff conservatively assumed the initial fuel transfer canal level was 3 feet (≈0.91 meters) lower than the spent fuel pool level. The actual difference in level was approximately 2 feet (≈61 centimeters). Based on the calculation, the lowest level the spent fuel pool could have achieved was 65 feet, 8 inches (≈20.0 meters) msl. The minimum level permitted by Technical Specifications was 62 feet (≈18.9 meters) msl. Therefore, the safety significance of this event was low.

Although licensee personnel determined that the root cause of this event was ineffective corrective action from a previous spent fuel pool siphoning event (documented in NRC Inspection Report 50-498/95-23; 50-499/95-23), a lack of understanding of potential siphoning effects and poor attention to detail also contributed to the event. The corrective actions for the previous event did not address the potential for personnel other than operators to be involved in activities that could cause inadvertent siphoning of the spent fuel pool. Nevertheless, adequate communications and oversight could have precluded a recurrence.

The corrective actions for this event included a revision to Procedure OPMP04-FH-0005 to require that an operator be present to coordinate the installation and operation of submersible pumps in the spent fuel pool.

c. Conclusions

Although of low safety significance, a repeat of a previous inadvertent siphoning event represents a failure to adequately control the use of submersible pumps in the spent fuel pool and connecting systems, a lack of understanding of potential siphoning effects, poor communications, and less than adequate oversight of spent fuel pool activities.

O2 Operational Status of Facilities and Equipment

O2.1 Plant Tours (Units 1 and 2)

a. Inspection Scope (71707)

The inspectors routinely toured the accessible portions of plant areas in Units 1 and 2. Areas of special attention during this inspection period included:

- Units 1 and 2 auxiliary feedwater cubicles
- Standby diesel generator Rooms 11 and 12
- Unit 1 fuel-handling building
- Isolation Valve Cubicles 1A, 1D, and 2B
- Units 1 and 2 turbine-generator buildings

b. Observations and Findings

In general, the inspectors observed that in both units, systems and components had been maintained in good material condition. However, the inspectors noted several minor labeling problems during a tour conducted inside the Unit 2 containment building. These inaccuracies were reported to the unit supervisor for correction.

On July 17, the inspectors toured Standby Diesel Generator 11. Painting activities were in progress in accordance with Work Authorization 97392. The work order authorized painting of the diesel below the catwalk and indicated that this would not affect critical components. During the tour, the inspectors noted a technician painting one of the air start solenoids. Excessive paint on the vent screen of this component could cause the failure of the diesel to start.

The inspectors discussed this with the unit supervisor. He stated that during the prejob briefing, a prohibition on painting of screens had been emphasized. In addition, he stated that the postmaintenance test would include an engine start and run. However, the inspectors noted that a run of the machine was not documented in the postmaintenance test matrix of the work order. The unit supervisor ensured that this was added to the package. The inspectors verified that this run was satisfactorily conducted on July 28.

c. Conclusions

The inspectors concluded that the material condition of systems and components observed in both units was noteworthy. The postmaintenance test matrix for testing a standby diesel generator following painting did not consider that the air start solenoids were critical components that could be adversely affected by painting and did not require a diesel run to verify that this was not the case.

O2.2 Containment Isolation Valve Alignment

a. Inspection Scope (71707)

The inspector reviewed the configuration and status of containment isolation valves as described in the Updated Final Safety Analysis Report Section 6.2.4 and Figure 6.2.4-1. The described configuration was compared to associated piping and instrumentation diagrams, and with Plant Surveillance Procedure 0PSP03-SI-0016, Revision 2, "Containment Integrity Checklist." The inspectors also verified the configuration of valves associated with the isolation of a sample of mechanical penetrations.

b. Observations and Findings

The inspectors verified that the sample of penetrations were aligned properly. All penetrations identified in Figure 6.2.4-1 were shown in the positions indicated in the

piping and instrumentation diagrams. However, several discrepancies were noted. Penetrations M-71 and M-87, the integrated leak rate test penetrations, were not shown on Figure 6.2.4-1. The inspectors verified that the penetrations were still installed and required a locked-closed valve and a blank flange to provide containment isolation.

During a review of Procedure 0PSP03-SI-0016, the inspectors noted that the manual valves associated with 10 penetrations were not included on the outside containment integrity checklist. The following penetrations were affected:

- Three trains of component cooling water to the residual heat removal system
    - Penetration M-33
    - Penetration M-35
    - Penetration M-37
- Three trains of component cooling water to the reactor containment fan coolers
    - Penetration M-24
    - Penetration M-25
    - Penetration M-27
- Four trains of auxiliary feedwater to the steam generator
    - Penetration M-28
    - Penetration M-84
    - Penetration M-94
    - Penetration M-95

Procedure 0PSP03-SI-0016 implemented the requirements of Technical Specification Surveillance Requirement 4.6.1.1.a. This specification required that:

> Primary containment integrity shall be demonstrated at least once per 31 days by verifying that all penetrations not capable of being closed by operable containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their positions

Licensee engineers stated that the penetrations addressed were not required to be closed during accident conditions. Therefore, the specification was not considered applicable to the 10 subject penetrations. However, the inspectors noted that certain manual valves providing isolation of piping within the penetration isolation scheme were not capable of automatic closure and were required to be closed during accident conditions.

The applicability of Technical Specification 4.6.1.1.a to the manual valves associated with the 10 subject penetrations will be reviewed further by the NRC. In addition, licensee personnel were reviewing the two penetrations not documented in the Updated Final Safety Analysis Report. These issues will be tracked as an unresolved item (URI 498;499/97005-02).

c. Conclusions

Two mechanical containment penetrations were not described in Figure 6.2.4-1 of the Updated Final Safety Analysis Report. The applicability of Technical Specification 4.6.1.1.a to the manual valves associated with 10 containment penetrations remained unresolved.

O2.3 Reactor Plant Operator Tours (71707)

The inspectors routinely discussed plant conditions with the reactor plant operators in the field. On July 31, a reactor plant operator identified low hydraulic fluid level in the Steam Generator Power-Operated Relief Valve 2B actuator during his routine rounds. The valve was declared inoperable and removed from service and subsequently repaired. The reactor plant operator exhibited good attention to detail and safety system knowledge.

O2.4 Engineered Safety Features Walkdown of Instrument Air System (71707)

On July 20, the inspectors performed a walkdown of the instrument air systems from the compressors to the distribution headers in Units 1 and 2. The material condition of the systems was good. Minor deficiencies were identified and appropriately documented by the licensee staff. The system flow path was verified to be in accordance with Piping and Instrumentation Diagrams 8Q119F00048 Sheet 1 and 8Q119F00049. No alignment discrepancies were identified and the system components appeared to be in good condition.

c. Conclusion

Although the AFW system would not respond following a valid engineering safety features signal during operability testing of the engineered safety features actuation system slave relays, the licensee was conducting its AFW system testing in accordance with Regulatory Guide 1.22. The licensee has decided to install a field change to install a second slave relay which will allow actuation of the AFW system during operability testing.

Although the bypassing of the AFW for testing purposes was not annunciated in the control room, as required by IEEE Standard 378, 1997, the licensee appropriately entered the Technical Specification 3.7.1.2 applicable action statement for each

AFW test. This action was noted and tracked by control room operators to completion. The licensee tracked the restoration status to restore the system following completion of the slave relay test.

The AFW steam-driven pump testing requires the inlet valves to be isolated by opening fused disconnects to prevent the pump from starting. This opening of the fused disconnects for the inlet valves does not trip the associated protection system channel nor does it cause the startup and operation of the associated Class-1E load group. Therefore, the AFW steam driven pump bypass testing does not fully conform to Regulatory Guide 1.118 since removal of the disconnect fuses does not cause the startup and operation of the associated Class-1E load group. However, the licensee had initiated a design change which will install a second slave relay, which will negate any further removal of the fused disconnects.

The licensee's failure to assure that all of the requirements of IEEE 338-1997 and Regulatory Guide 1.118 were correctly translated into the applicable procedure for testing of the AFW system was a noncited violation.

The inspector reviewed the issues identified in the condition reports and determined that they were not reportable in accordance with 10 CFR 50.73 because, overall, the AFW system was not outside its design basis. The removal of each AFW system during testing was conducted in accordance with the Technical Specification 3.7.1.2 action statement, noted in the control room, and tracked to completion.

O4 Operator Knowledge and Performance

O4.1 Essential Cooling Water Screen Wash Booster Pump 2A Inadvertent Start

On June 24, the Unit 2 operating staff removed the Train A essential cooling water system from service and established Equipment Clearance Order 97-76518 for planned maintenance activities. The system was also drained to support the maintenance activities. One of the maintenance activities was the replacement of a relay in the screen wash booster pump logic circuit in accordance with Design Change Package 95-14323-4. During the relay installation, Screen Wash Booster Pump 2A, a safety-related pump, inadvertently started. Condition Report 97-10415 was developed to address the failure of Equipment Clearance Order 97-76518 to prevent the pump from starting with the system drained.

The pump operated for approximately ten minutes with the system drained before it was secured by a control room operator. Following completion of maintenance activities and filling and venting of the essential cooling water system, Screen Wash Booster Pump 2A was tested. All acceptance criteria for flow, pressure, and vibration were met in accordance with Plant Surveillance Procedure 0PSP03-EW-0017, Revision 10, "Essential Cooling Water Train A Testing." Personnel safety was not affected since there was no work being

performed on the pump or screen wash system during the inadvertent start. This event was the result of an inadequate equipment clearance order boundary.

The inspectors reviewed Plant General Procedure OPGP03-ZO-ECO1, Revision 6, "Equipment Clearance Orders." Procedure OPGP03-ZO-ECO1 required that equipment clearance orders provide adequate boundaries to ensure personnel safety and equipment integrity. The execution of Equipment Clearance Order 97-76518 did not properly implement this safety-related procedure. The failure to properly implement this safety-related procedure was the first example of a violation of Technical Specification 6.8.1 (499/97005-04).

II. Maintenance

M1 Conduct of Maintenance

M1.1 General Comments on Field Maintenance Activities

a. Inspection Scope (62707)

The inspectors observed portions of the following on-going work activities identified by their work authorization numbers:

Unit 1:

- 95013550 Bench Test Charging Pump Cooler Air Handling Unit 11A/ Component Cooling Water Return Pressure Relief Valve (June 30)
- 114733 Rod Cluster Control Assembly Tool Repairs (July 17, 21)
- 347683 Residual Heat Removal Pump 1B Flange Leak Repair and Impeller Inspection (July 21)

Unit 2:

- 114761 Steam Generator 2A Main Steam Pressure Low Alarm Lead/Lag Card and Comparator Card Replacement and Calibration (July 16)
- 347818 Steam Generator 2D Main Steam Isolation Valve has a Small Hissing Steam Leak at the Body-to-Bonnet Flange

b. Observations and Findings

In general, the inspectors found the work performed during these activities thorough and conducted in a professional manner. The work was performed by

knowledgeable, qualified technicians utilizing approved procedures. Supervisors were observed providing an appropriate level of oversight. System engineers were observed providing quality technical support as needed. Prejob briefings were thorough and radiological controls were in place where applicable. However, exceptions to these general findings were identified as discussed below and in Sections M4.1, M4.2, and M8.1 of this inspection report.

During the observation of activities being performed in accordance with Work Authorization Number 95013550, the inspectors noted several minor discrepancies. Worker understanding of the procedural requirements was weak. Measurements taken were not precise enough to measure the stated parameter. The inspector observed several minor deviations from the procedure during this performance. Although workers deemed the actions to be technically equivalent to the procedural requirements, the inspector discussed expectations for procedural compliance with the technician's management.

On July 22, the inspectors observed portions of the leak sealant injection performed on main steam isolation Valve 2D. The injection was being performed by contract personnel in accordance with Temporary Modification TL2-97-8224-2. The work was properly performed by qualified technicians with proper oversight by licensee supervisory personnel. The work was performed utilizing the appropriate nuclear grade leak sealant and was conducted in accordance with the vendor procedure, as revised. The review of an earlier event associated with this work activity was documented in Sections O1.1 and E2.2 of this report.

c. Conclusions

In general, the observed maintenance activities were conducted in a professional manner. Personnel involved were thorough and met management's expectations for the implementation of the maintenance program. However, several minor discrepancies were observed during the testing and replacement of a relief valve.

M1.2 General Comments on Surveillance Testing

a. Inspection Scope (61726)

The inspectors observed portions of the following surveillance activities:

Unit 1:

- Plant Surveillance Procedure 0PSP03-AF-0003, Revision 6, "Auxiliary Feedwater Pump 13(23) Inservice Test"

Unit 2:

- Plant Surveillance Procedure 0PSP02-RC-0455, Revision 5, "Pressurizer Pressure ACOT"

b. Observations and Findings

The inspectors found that the observed surveillance activities were performed in accordance with approved procedures. The inspectors verified that the test equipment calibrations were current. Good communications between the control room operators and personnel performing the tests were noted. Pretest briefings were thorough and comprehensive. During the testing of Auxiliary Feedwater Pump 13, the inspectors noted several minor material deficiencies associated with valves in the pump discharge flowpath. These were reported to the reactor plant operators performing the test and condition reports were written to correct the problems. In addition, the performance of Procedure 0PSP02-RC-0455 was further discussed in Sections M8.2 and E2.1 of this inspection report.

c. Conclusions

The surveillance activities observed were performed in accordance with the applicable Technical Specification surveillance requirements and approved procedures. Minor material deficiencies associated with system valves were documented for correction.

M4 Maintenance Staff Knowledge and Performance

M4.1 Plastic Materials in Containment

a. Inspection Scope (61726)

On July 21, the inspectors observed the performance of work on Residual Heat Removal Pump 1B performed in accordance with Work Authorization Number 347683. Upon completion of a containment entry, the craftsmen removed their equipment and performed a visual inspection of the area in accordance with Plant Surveillance Procedure 0PSP03-XC-0002A, Revision 1, "Partial Containment Inspection (Containment Integrity Established)." The inspector noted that the craftsmen had left three plastic bags containing vibration probes. The craftsmen stated that bagging and leaving instrumentation was a standard practice. However, the unit supervisor was notified and he directed that the bags be removed. The inspectors reviewed this occurrence.

b. Observations and Findings

Procedure 0PSP03-XC-0002A, Form 2, Step 3.0 stated that the craftsmen shall,

> "Perform an inspection of the affected portion(s) of Containment AND travel route(s) to and from the work area(s) and ensure NO loose material is present. Document any discrepancies in the Remarks section of this form."

The procedure defines loose debris as, "any material that could become debris and possibly contribute to blocking the Emergency Sump Screens during Design Basis Accident conditions in Containment."

The failure of the craftsmen to initially remove the plastic bags from the work site was not a violation because the inspector prompted them to further evaluate the condition. In addition, the contribution of three plastic bags to blocking the sump screens would be negligible. However, this occurrence indicated that conflicts existed between work procedures and the containment inspection procedures. As documented in NRC Inspection Report 50-498/97-02; 50-499/97-02, previous problems associated with containment inspection had been cited as a repeat violation. Licensee corrective actions, at that time, had not been adequate to ensure that materials were properly removed from primary containment. The inspectors expressed concern that workers still did not understand the Technical Specification requirements to remove all loose material from containment.

In discussions with several individuals, the inspectors noted that some workers misunderstood provisions of Revision 1 to Procedure 0PSP03-XC-0002A. The procedure stated that, "any material discovered must be removed from the RCB and evaluated by a Senior Reactor Operator." Addendum 1 then provided the senior reactor operator with guidance for evaluating the condition. The individuals interviewed stated that if material met the acceptance criteria delineated in the guidance that it was acceptable to leave the material in containment. This did not conform with the procedural requirements.

Maintenance personnel documented the occurrence in Condition Report 97-11630. The licensee determined that the apparent cause of the event was the failure of the instrumentation and controls technicians to communicate their intent to leave the bags in containment with the unit supervisor. Corrective actions proposed included shop discussions of the event and of the requirements of Procedure 0PSP03-XC-0002A.

c. Conclusions

Maintenance personnel failed to initially remove plastic bags from containment upon completion of a containment entry. The inspectors determined that a lack of understanding of previous corrective actions caused maintenance workers to not

fully ensure that all loose material was removed from containment. Conflicts between standard work practices and the containment inspection requirements went unchallenged.

M4.2 Inadequate Equipment Clearance Order for Residual Heat Removal Pump 1B Maintenance Activities

a. Inspection Scope (62707)

On July 21, the inspectors observed portions of the Residual Heat Removal Pump 1B flange leak repair and impeller inspection. During the pump disassembly, mechanical maintenance personnel disconnected the component cooling water lines to the pump seal cooler and observed considerable flow of water from the lines. The mechanics initially attributed the water to the draining of long lines to the isolation valves. When the flow did not subside, the mechanics realized that the component cooling water system had not been isolated. They promptly reconnected the component cooling water fitting to stop the leak and contacted their supervisor and the control room. The inspectors reviewed this event, the licensee's response, and the associated documentation.

b. Observations and Findings

When the crew began the pump disassembly, the health physics technician asked one of the mechanics if the line connected to the seal cooler was a contaminated system. The mechanic stated that it was component cooling water and was not contaminated. He also stated that they would have to disconnect the line. The inspector asked the mechanic if the component cooling water system boundary was part of Equipment Clearance Order 97-1-71609. The mechanic stated that he would walk down the component cooling water portion of the equipment clearance order because he was not certain that the line was included in the equipment clearance order. After this discussion and before disconnecting the component cooling water line, the mechanics took a break and exited the reactor containment building.

As the mechanics resumed the pump disassembly, the inspector observed water dripping from the seal cooler fittings as they were being loosened. When the inspector questioned the mechanics about the water, one of the mechanics stated that the drainage was expected because the line between the seal cooler and the equipment clearance order boundary valve was long. Within a minute it became clear to the mechanics that the water flow was not decreasing and they reconnected the line to stop the leakage. The lead mechanic stopped the job and determined that the component cooling water line was not included in the equipment clearance order. The equipment clearance order was revised, the line isolated, and the work completed as planned.

Condition Report 97-11659 was developed to address the inadequate equipment clearance order. This event was identified as a significant condition adverse to quality, and an event review team was assembled to determine root cause and recommend corrective actions. The event review team identified the following root causes:

- The work package did not identify the need to establish a component cooling water boundary,
- The job scope was not fully understood by either the equipment clearance order preparer nor reviewer,
- The equipment clearance order acceptor did not adequately walk down the boundary.

The inspectors reviewed Plant General Procedure 0PGP03-ZO-ECO1, Revision 6, "Equipment Clearance Orders." Procedure 0PGP03-ZO-ECO1 required that equipment clearance orders provide adequate boundaries to ensure personnel safety and equipment integrity. The execution of Equipment Clearance Order 97-1-71609 did not properly implement this safety-related procedure. The failure to properly implement this safety-related procedure was the second example of a violation of Technical Specification 6.8.1 (498;499/97005-04).

c. Conclusions

This event and the event discussed in Section O4.1 of this inspection report have regulatory significance because equipment clearance orders establish necessary boundaries to protect critical equipment and to ensure personnel safety. Both of these events were of low safety significance because the consequences were relatively inconsequential. However, the fact that neither personnel safety nor equipment integrity were jeopardized cannot be attributed to the equipment clearance order quality. This event-disclosed, non-repetitive, licensee corrected violation is being cited because the licensee had prior opportunity to identify the inadequate equipment clearance order when the mechanics discussed the need to walk down the component cooling water boundary.

M8 Miscellaneous Maintenance Items (92902)

M8.1 Use of Lifting Device Without Proper Inspection (93001)

On July 17, during an observation of activities being performed under Work Authorization Number 114733. The inspectors observed a problem associated with the use of a temporary lifting device. Workers in the fuel handling building determined that an additional hoist was desirable while removing a refueling tool from the spent fuel pool. An electric hoist attached to a rail-mounted trolley on the refueling machine was utilized. The inspector asked the craftsmen and operators

present and was informed that no one had performed a daily inspection of the trolley, as required by the licensee's lifting program. Management was informed of the problem, and Condition Report 97-12532 was written to document the occurrence and evaluate appropriate corrective actions.

M8.2 (Closed) Licensee Event Report 50-498/97-007: Engineered Safety Features Actuation System Pressurizer Pressure System Interlock Not Fully Tested by Surveillance

This event was documented in Section E2.1 of this inspection report. The licensee's corrective actions included: immediate implementation of Technical Specification surveillance requirements; revision and reperformance of the appropriate surveillance test procedures; additional training for surveillance procedure writers; and the addition of new testing methodology in the surveillance procedure writer's guide to be completed by December, 1997.

III. Engineering

E1 Conduct of Engineering

E1.1 Removal and Dismantling of Crane Attached to Seismic Structure

a. Inspection Scope (37551)

The inspectors reviewed the documentation associated with the removal of the essential cooling water intake structure gantry crane. The potential for a large load drop on the roof of the seismic structure was evaluated. The following documents were reviewed:

- Unreviewed Safety Question Evaluation 97-0023, "Load Drop Evaluation for ECW Gantry Crane Removal."
- Condition Report Engineering Evaluation (CREE) 97-7961-2
- Calculation CC-8411, Revision 1
- Plant Change Form PCF334999A
- Plant General Procedure 0PGP03-ZA-0069, Revision 9, "Control of Heavy Loads"

b. Observations and Findings

On July 22, an attempt was made to remove the gantry crane from the essential cooling water intake structure. The lift attempt was terminated when the mobile lift crane's load cell indicated that the load was at the administrative limit allowed by

CREE 97-7961-2 and CREE 97-7961-6 and near the safe operating limits of the mobile lift crane for the operating radius and boom length. The gantry crane was then unhooked from the rigging and returned to the tie-down location where it was secured to the tie-down lugs until further evaluation could be performed.

The permanent seismic rail clips had been cut to allow the gantry crane to be lifted. CREE 97-7961-8 was generated to evaluate the impact of the removal of the seismic clips, the increased gantry crane weight, and a revised removal method using two cranes. The original weight calculation was based on weight of the steel in the crane components and had not considered that concrete had been added to the trolley after construction for tornado considerations. The revised calculations took the weight of the concrete into account.

The possible load drop effects upon the essential cooling water roof structure and adjacent commodities was reevaluated. In the anchored position, the gantry crane was determined to be adequately secured to resist seismic, as well as tornadic, loading without the seismic clips. The response of the crane to a postulated seismic event during gantry crane travel was also evaluated. A conservative, bounding analysis was used to demonstrate that a worst-case collapse scenario would not result in unacceptable consequences. An actual collapse was considered very unlikely by engineering judgment. The analysis showed that the roof could withstand the collapse impact with no loss of function.

The calculation was revised to consider a load drop of the 145 ton (131.5 metric ton) crane, and a collapse onto the roof. This assumed that the weight of the crane above the legs was 55 tons (49.9 metric tons), 36 percent more than the 40.5 tons (36.7 metric tons) used in the original calculation. Both of these conditions (drop and collapse) were shown to be acceptable. The actual measured weight was found to be 104.5 tons (94.8 metric tons), significantly less than the 145 tons (131.5 metric tons) that the roof could withstand based on the 3-foot load drop analysis.

The gantry crane was removed on July 25 in accordance with PCF 33499A and CREE 97-7961-8 without affecting the operability of any of the essential cooling water system trains.

c. Conclusions

The actions of the engineers in stopping the attempted removal of the essential cooling water intake structure gantry crane with a single mobile crane was good. The recalculation of the crane weight and the assessment of potential impact on operability of the essential cooling water systems were conservative. Engineering support was timely.

E2 Engineering Support of Facilities and Equipment

E2.1 Operability of Pressurizer Pressure Interlock P-11 (37551, 62707)

On July 7, the inspector observed technicians verify the operability of Pressurizer Pressure Interlock P-11 utilizing a revised Procedure 0PSP02-RC-0455. On June 19, engineers performing an operational experience review had identified deficiencies in the previous testing methods. Permissive P-11 had been declared inoperable and Technical Specification 3.3.2 Action 21 had been implemented to ensure that the interlock was in its required state. The technicians were knowledgeable of the system and the appropriate testing methods. The permissive was properly tested and returned to service. Observed indications verified that the permissive had been properly returned to service. The inspectors determined that the identification of this condition resulted from a quality operational experience review process.

As documented in Section M8.1 of this inspection report, the licensee properly reported this problem in Licensee Event Report 50-498/97-007. However, the failure to properly test Permissive P-11, prior to June 19, 1997, in accordance with Technical Specification Surveillance Requirement 4.3.2.1, Table 4.3.2 was a violation. This licensee-identified and corrected violation is being treated as a noncited violation, consistent with Section VII.B.1 of the NRC Enforcement Policy (498;499/97005-05).

E2.2 Fire During High Temperature Leak Sealing Activities

a. Inspection Scope (93702, 37551)

On July 15, a small fire was discovered on the insulation surrounding Main Steam Isolation Valve 2D during steam leak sealing activities. The crew performing the leak sealing activities left the area following a series of leak sealant injections. Shortly thereafter, a security officer making a routine patrol of the area observed the flames and contacted a nearby mechanic. The mechanic extinguished the flame with a fire extinguisher. The fire brigade was notified, the insulation removed, and the embers extinguished. The inspectors reviewed the licensee's response to and evaluation of the event; the event review team's report; and the temporary modification package associated with the leak sealing activity.

b. Observations and Findings

An event review team noted that the material safety data sheet indicated that the leak sealant material should not have caught fire in the specific application nor at the piping temperatures encountered. The team determined that mineral oil in the leak sealant material had leached out from under the injection clamp and collected in

the fiberglass insulation. The conditions were then sufficient to cause the oil to autoignite. Licensee engineers stated that the spontaneous ignition of oil soaked insulation can occur under the following conditions:

- The liquid is insufficiently volatile to evaporate rapidly.
- The insulation is sufficiently porous to allow oxygen to diffuse to the surface of the absorbed liquid.
- The oil leak is slow enough that the pores of the insulation are not blocked thereby excluding oxygen from the high temperature region.

The inspectors reviewed the licensee's corrective actions, which included, notifying other plants of the possibility for the leak sealant material to autoignite under certain conditions.

The inspectors reviewed Temporary Modification Package TL2-97-8224-2, which approved the installation of the injection clamp and sealant materials. The modification package designated a limited amount of leak sealant that could be utilized without additional reviews. A screening of the modification was performed which met the requirements of 10 CFR 50.59. Appropriate evaluations of the weight of the clamp and associated piping stresses were also performed. The inspector also determined that the use of an injection clamp vice direct injection of the flange was conservative.

c. Conclusions

Maintenance and engineering personnel properly evaluated the causes of a fire that initiated during the leak sealing evolution. The cause and the scientific phenomena were fully understood. The associated temporary modification package was properly developed and reviewed and utilized a conservative leak sealing technique. The requirements of 10 CFR 50.59 were met prior to modifying plant equipment.

E2.3 Design of the Auxiliary Feedwater System related to Engineered Safety Features Testing (37551)

a. Inspection Scope

The inspector reviewed Condition Reports 96-14496 and 96-16132 that identified several issues regarding compliance of the Auxiliary Feedwater (AFW) System design with industry standards during Engineered Safety Features (ESF) testing. On November 20, 1996, during a licensee review of Updated Final Safety Analysis Report (UFSAR) Section 7.3, licensee engineers identified that the AFW system testing circuitry did not appear to meet the requirements of Regulatory Guide 1.118 and IEEE Standard 338-1977. The licensee initiated Condition Report 96-14496 on November 20, 1996, to identify the issues with AFW system testing. Condition

Report 96-16132 was initiated on December 19, 1996, to prepare a modification evaluation package that would determine the impact of modifications to correct the deficient conditions.

The condition reports indicated that actuation test signals applied to the AFW system would cause the system to start and feed water to the steam generators. In order to prevent this action during testing, the system would be isolated with fused disconnects opened. As a result of a review of UFSAR Section 7.3, the licensee found that the design did not appear to be in accordance with Regulatory Guide 1.118 and its associated IEEE Standard 338-1977. UFSAR Table 3.12-1 indicated that the licensee conformed to this regulatory guide. In addition, the condition report indicated that the associated IEEE standard required the generation of a system level "bypass/inop" annunciator whenever a system was taken out of service. This did not occur during testing of the AFW system. The concern also applied to the safety injection and the containment spray systems whenever Refueling Water Storage Tank Outlet Valve SI-MOV-0001 was closed. It appeared that only the safety injection system level bypass/inop window on the control board was activated.

The inspector reviewed Condition Reports 96-14496 and 96-16132 and discussed this review with appropriate operations, system engineering, licensing, and management personnel.

b. Observations and Findings

The condition reports documented that the bypassing of the AFW for testing purposes was not annunciated in the control room. There are no annunciators for the manual discharge valves being shut, nor for the AFW steam-driven pump inlet valves opened fused disconnects. As such, the AFW motor-driven pump bypass testing did not fully conform to IEEE Standard 338-1977, which required that each test bypass condition utilized at a frequency of more than once a year shall be individually and automatically indicated to operators in the main control room in such a manner that the bypassing of a protective function is immediately evident and continuously indicated.

In both cases (fused disconnects or closed manual discharge valves) the inspector determined that because each system is isolated, the AFW system is in a bypass condition. The inspector also determined that this design flaw was applicable to the containment spray system, whenever Valve SI-MOV-0001 was closed. Although this condition is not automatically indicated to the operator in the main control room, when the system is bypassed, the inoperable status of the AFW train is logged and monitored by the operations personnel via the Technical Specification 3.7.1.2 action statement. The licensee had developed a field change to install a second slave relay that will inactivate the discharge motor-operated valve in the respective train. The field change had been scheduled to be

implemented during 1998 and 1999 refueling time frames. Once the second slave relay is installed, the system design will be in compliance with IEEE Standard 338-1977, because no manual or fused disconnects will be used. In addition, a valid engineered safety features signal will override the slave relay and activate the AFW train in test. However, this is the first example of a failure of the licensee to implement the design commitments related to the AFW and containment spray systems.

The licensee also identified that the AFW steam-driven pump bypass testing does not conform to Regulatory Guide 1.118, Section C.6.b, which stated that "...Removal of fuses or opening a breaker is permitted only if such action causes (1) the trip of the associated protection system channel, or (2) the actuation (startup and operation) of the associated Class-1E load group." Because the removal of the inlet valve disconnect fuses does not cause the startup and operation of the associated Class-1E load group, the AFW system bypass testing does not fully conform to Section C.6.b.

The inspector noted that a potential existed for an operator to reposition the inlet valve disconnect fuses should an accident occur during testing. However, this makeshift test setup, although not significant, does represent a deviation from the regulatory guide recommendations. Again, once the second slave relay is installed, the licensee will not remove the inlet valve disconnect fuses and they will be in full compliance with Regulatory Guide 1.118. Similar to the previous item, the licensee had identified this discrepancy and had implemented corrective actions to resolve the condition. This is a second example of a failure to implement the design commitments from Regulatory Guide 1.118 into the AFW system design.

The inspector also reviewed the related requirements of Plant Surveillance Procedure 0PSP03-SP-0009A, Revision 6, "SSPS Actuation Train A Slave Relay Test." In order to prevent injection of water into the steam generators during protection system testing, the following actions were accomplished in accordance with this test procedure:

- the AFW line for the respective motor-driven pump was isolated by shutting a manual isolation valve; and

- the steam-driven pump was isolated by opening fused disconnects to the inlet valve to prevent the steam driven pump from starting.

The inspector confirmed that the current testing method prevented actuation of the motor-driven AFW train as a result of shutting of the train's manual discharge isolation valve. The actuation of the steam-driven AFW train is similarly bypassed by opening the inlet valve disconnect fuses, which prevents steam entering the turbine. A licensee engineering evaluation conducted in December 1996, indicated that Regulatory Guide 1.22, "Periodic Testing of Protection System Actuation Functions," Section D, "Regulatory Position," allowed this type of bypass testing to

occur. The inspector noted that Section 2.c of the Regulatory Guide indicated that acceptable methods of including the actuation devices in the periodic tests of the protection system include preventing the operation of certain actuated equipment during a test of their actuation devices. In addition, Subsection b of the Regulatory Guide indicated that acceptable methods of including the actuation devices in the periodic tests of the protection system included testing all actuation devices and actuated equipment individually or in judiciously selected groups.

Based on a review of Regulatory Guide 1.22, the inspector confirmed that the licensee was conducting their actuation device testing in accordance with the regulatory guidance and that the bypass testing was acceptable. However, the inspector noted that this testing methodology did not specifically meet the description provided in the original FSAR design. UFSAR 7.3.1.2.2.5.4.5 stated that automatic actuation circuitry will override testing activities and actuate the system. The licensee had identified this discrepancy and had decided to install a field change to install a second slave relay which would inactivate the discharge motor-operated valve in the respective train. The field change had been scheduled to be implemented during the 1998 and 1999 refueling outage time frames. This is a third example of a failure to implement the design commitments from applicable regulatory guidance into the AFW system design.

10 CFR Part 50, Appendix B, Criterion III, "Design Control," requires, in part, that measures be established to assure that applicable regulatory requirements be correctly translated into specifications, procedures, and instructions. The three examples of the licensee's failure to assure that all of the requirements of IEEE 338-1997 and Regulatory Guide 1.118 were correctly translated into the applicable procedures for testing of the AFW system represents a violation of Criterion III of Appendix B to 10 CFR Part 50. However, the inspector determined that: the violation was identified by licensee personnel; corrective actions had been developed; the violation was not a repeat of a previous violation or finding; and the violation was not willful. Therefore, this noncrepetitive, licensee identified and corrected violation is being treated as a noncited violation, consistent with Section VII.B.1 of the NRC Enforcement Policy (NCV 498;499/97005-**fix numbering**).

In light of these findings, the inspector questioned whether these issues required a report to the NRC in accordance with 10 CFR 50.73(a)(2)(ii)(B), which stated that the licensee shall report any condition that was outside the design basis of the plant. The inspector noted that on November 26, 1996, the licensee had generated a reportability review for Condition Report 96-14496, wherein they concluded that the AFW system testing deficiencies were not reportable. The licensee stated that the testing of the AFW system was done with the system properly removed from service in accordance with the Technical Specifications, and that the testing adequately tests the system components in accordance with the Technical Specification requirements.

The inspector agreed with the licensee determination that the issues were not reportable because the testing of the AFW system was conducted with the applicable train properly removed from service in accordance with the Technical Specification 3.7.1.2 action statement. Based on the redundancy of having four trains, there was always a sufficient number of trains available, such that the AFW system was not degraded during the testing of one train of the system. In addition, the AFW train was taken out of service for testing with the full knowledge of all operators and monitored by entry in the control room log of the Technical Specification action statement. There were no ESF actuations involved. The testing conditions did not result in an inability to mitigate an accident or maintain safe shutdown (three remaining AFW systems were operable and only one AFW system is required to achieve safe cooldown), nor did it involve potential common mode failure mechanisms. Therefore, none of the other 10 CFR 50.73 criteria apply.

c. Conclusion

Although the bypassing of the AFW system for testing purposes and isolating the containment spray system suction was not annunciated in the control room, as required by IEEE Standard 378, 1997, licensed operators appropriately entered the Technical Specification 3.7.1.2 applicable action statement for each AFW test. This action was noted and tracked by control room operators to completion. The licensee tracked the restoration status to restore the system following completion of the slave relay test.

The AFW steam-driven pump design requires the inlet valves to be isolated during testing by opening fused disconnects to prevent the pump from starting. This opening of the fused disconnects for the inlet valves does not trip the associated protection system channel nor does it cause the startup and operation of the associated Class-1E load group. Therefore, the AFW steam driven pump bypass testing does not fully conform to Regulatory Guide 1.118 because removal of the disconnect fuses does not cause the startup and operation of the associated Class-1E load group. However, licensee engineers had initiated a design change that would install a second slave relay. This action would negate any further removal of the fused disconnects.

Although the AFW system would not respond following a valid engineering safety features signal during operability testing of the engineered safety features actuation system slave relays, the licensee was conducting its AFW system testing in accordance with Regulatory Guide 1.22. The licensee has decided to install a field change to install a second slave relay that would allow actuation of the AFW system during operability testing.

The licensee's failure to assure that all of the requirements of IEEE 338-1997, Regulatory Guide 1.22, and Regulatory Guide 1.118 were correctly translated into the applicable procedure for testing of the AFW system was a violation. This

nonrepetitive, licensee identified and corrected violation is being treated as a noncited violation, consistent with Section VII.B.1 of the NRC Enforcement Policy.

The inspector reviewed the issues identified in the condition reports and determined that they were not reportable in accordance with 10 CFR 50.73 because, the AFW system was never outside its design basis. The removal of each AFW system during testing was conducted in accordance with the Technical Specification 3.7.1.2 action statement, noted in the control room, and tracked to completion.

IV. Plant Support

R1 Radiological Protection and Chemistry Controls

R1.1 Tours of Radiological Controlled Areas

a. Inspection Scope (71750)

The inspectors routinely toured the mechanical-auxiliary and fuel handling buildings in Units 1 and 2. These tours included observation of work, verification of proper radiological work permits, sampling of locked doors, review of radiological postings, and observations of personnel entrance and egress from the radiological controlled areas.

b. Observations and Controls

Radiological housekeeping in the areas toured was very good. Doors required to be locked in accordance with Technical Specification 6.12.2 and the licensee's radiological program were properly secured. No entrance/egress discrepancies were identified.

However, on July 17, during a routine tour of the fuel handling building, the inspector identified eight contaminated area signs that had fallen down. The signs had been hung across portholes going into emergency core cooling system pump room sump areas. The radiation protection technician determined that high condensation in the area had loosened the adhesive used to hang the signs. The signs were immediately re-hung. The postings were later secured with bolts to the walls for more permanent mountings. The significance of this condition was low because access through the portholes would be difficult and unnecessary.

On July 17, the inspectors observed health physics technicians providing radiological control oversight in support of the rod cluster control assembly tool repair in Unit 1. Two technicians provided continuous coverage. One technician was in the contaminated area monitoring and making contamination surveys. The other technician operated an air monitor and provided support from outside the contaminated area. A thorough radiological protection briefing was conducted

before the start of the work. The tool laydown area was properly marked and plastic sheeting was placed on the refuelling deck to control contamination.

On July 21, the inspector accompanied maintenance and health physics technicians on an at-power containment entry in Unit 2. The purpose of the containment entry was to repair a flange leak on Residual Heat Removal Pump 2B. The prejob radiological protection briefing was thorough. The health physics technician verified that each worker had properly donned the protective clothing and was wearing alarming dosimetry that would indicate high dose rate areas. The workers were cognizant of radiological conditions and exhibited good work practices.

c. Conclusions

Routine radiological controls observed were considered in place and effective with one exception. On two occasions, the radiological work practices of health physics technicians and maintenance personnel were considered notable.

R1.2 Secondary Chemistry Controls

The inspectors routinely reviewed secondary water chemistry reports and radiation monitor alarm status. Secondary chemical analysis, the calculated primary to secondary leak rate, and indication from the Nitrogen-16 radiation monitors all confirmed steam generator tube integrity. The chemical analysis results provided evidence of management attention and commitment to maintaining chemistry parameters within appropriate limits.

P2 Status of EP Facilities, Equipment, and Resources

P2.1 Emergency Response Facilities (7175C)

The inspectors observed that the Technical Support Centers and Operations Support Centers in both units were readily available and maintained for emergency operation.

P2.2 Meteorological Towers and Indications (71750)

The inspectors routinely observed indication of meteorological conditions in the main control rooms of both units. The data obtained indicated that both the 10-meter and the 60-meter towers remained operable.

S1 Conduct of Security and Safeguards Activities

S1.1 Daily Physical Security Activity Observations (71750)

a. Inspection Scope (71750)

The inspectors observed the practices of security force personnel and the condition of security equipment on a daily basis. On one occasion, the inspector reviewed the practice of skirting temporary trailers on site.

b. Observations and Findings

The security officers searched packages and personnel in a professional manner. Vital area doors were verified to be locked and in working condition. The inspectors verified that isolation zones around protected area barriers were maintained free of equipment and debris. During backshift tours, the inspectors determined that the protected area was properly illuminated.

During this inspection period, the inspectors observed the placement of temporary trailers inside the protected area in preparation for the upcoming outage. In all cases, the trailers were properly skirted or had temporary lighting installed for illumination.

c. Conclusions

Daily security force operations were handled professionally. Trailers in the protected area were skirted or properly illuminated.

ATTACHMENT

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

T. Cloninger, Vice President, Nuclear Engineering
W. Cottle, Executive Vice President and General Manager Nuclear
B. Dowdy, Manager, Operations, Unit 2
J. Groth, Vice President Nuclear Generation
E. Halpin, Manager, Maintenance, Unit 2
S. Head, Licensing Supervisor
K. House, Supervising Engineer, Design Engineering Department
T. Jordan, Manager, Systems Engineering
M. Kanavos, Manager, Mechanical/Civil Design Engineering
A. Kent, Manager, Electrical/ Instrumentation and Controls Systems
B. Logan, Manager, Health Physics
R. Lovell, Manager, Operations, Unit 1
B. Masse, Plant Manager, Unit 2
G. Parkey, Plant Manager, Unit 1
T. Waddell, Manager, Maintenance, Unit 1

INSPECTION PROCEDURES USED

IP 37551: Onsite Engineering
IP 61726: Surveillance Observations
IP 62707: Maintenance Observation
IP 71707: Plant Operations
IP 71750: Plant Support
IP 92700: Onsite Followup of Written Reports at Power Reactor Facilities
IP 92902: Followup - Maintenance
IP 93001: OSHA Interface Activities

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

499/97005-01	NCV	Entry of Incorrect Technical Specification Action Statement into Operability Assessment System
498;499/97005-02	URI	Manual Valves in Certain Containment Penetrations not Surveilled in Accordance with Technical Specification 4.6.1.1.a
498;499/97005-03	NCV	Failure to _____

498;499/97005-03	VIO	Two Examples of Inadequate Equipment Clearance Order Boundaries
498;499/97005-05	NCV	Failure to Properly Test the Pressurizer Pressure Interlock P-11 in Accordance with Technical Specifications

Closed

499/97005-01	NCV	Entry of Incorrect Technical Specification Action Statement into Operability Assessment System
498;499/97005-04	NCV	Failure to Properly Test the Pressurizer Pressure Interlock P-11 in Accordance with Technical Specifications
50-498/97-007	LER	Engineered Safety Features Actuation System Pressurizer Pressure Interlock Not Fully Tested by Surveillance