APPENDIX B

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Inspection Report: 50-445/94-23
50-446/94-23

Licenses: NPF-87
NPF-89

Licensee: TU Electric
Skyway Tower
400 North Olive Street, L.B. 81
Dallas, Texas

Facility Name: Comanche Peak Steam Electric Station (CPSES), Units 1 and 2

Inspection At: Glen Rose, Texas

Inspection Conducted: October 2 through November 12, 1994

Inspectors: A. T. Gody, Jr., Senior Resident Inspector
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Approved: Dwight D. Chamberlain 12-6-94
Dwight D. Chamberlain, Chief, Project Branch B — Date
Division of Reactor Projects

Inspection Summary

Areas Inspected (Units 1 and 2): Routine, unannounced inspection, including onsite followup of events, plant operations, maintenance and surveillance observations, on-site engineering, plant support, followup of engineering, maintenance and plant support activities, followup of Licensee Event Reports, and foreign materials exclusion.

Results (Units 1 and 2):

- Plant Operations

Operations performance was generally very good with some exceptions noted. Plant tours and control room observations revealed that operators were thorough, communicated well, were generally knowledgeable of equipment status, demonstrated questioning attitudes, exhibited appropriate self-verification practices and attention-to-detail (Sections 3.1, 3.2, and 3.6).

Unit 2 refueling outage operations were performed well with excellent control, coordination, and support of contracted activities. Pre-evolution briefs were consistently thorough and focused appropriately on safety, planned system response, contingency and defense-in-depth planning, and a clear definition of responsibilities (Sections 3.4, 3.5, 3.8).

While operations performance was generally very good, exceptions involving the clearance approval process were noted. These exceptions occurred when the clearance approval process failed and reliance was placed on the operator to prevent damage or unplanned system response (Section 3).

- Maintenance

Maintenance and surveillance performance was generally very good. Maintenance was performed well and in accordance with station procedures. Quality control, engineering, and radiation protection involvement was evident. Maintenance and surveillance communications were very good. Pre job briefs were excellent. Foreign material exclusion controls were appropriate (Sections 4, 5, and 13).

- Engineering

Performance in the area of engineering was generally excellent. Support of plant operations and maintenance was evident. Emergent issues were responded to in a consistent and timely manner. While communications continued to be very good, one example where communication was slow regarding containment sump operability was noted. Maintenance engineering support of containment spray modifications was excellent. System engineering involvement in maintenance and operations was evident (Section 6 and 10).

- Plant Support

Performance in the area of plant support continued to be excellent although two examples of weak performance were noted. These included the filter carousal and refueling cavity fill contamination incidents. Radiological support for maintenance activities was excellent. Improvements appeared to have been made in the area of radiological worker knowledge of precautions and limitations in general access permits. Plant security continued to be a strength (Sections 3, 7, and 11).

Summary of Inspection Findings:

- Violation 445/9423-01; 446/9423-01 was opened (Section 11.1).
- Violation 445/9423-02; 446/9423-02 was opened (Sections 3.6 and 8.1).
- Violation 445/9423-03; 446/9423-03 was opened (Section 6.1).

- Licensee event reports 445/93-003, 445/93-007, 445/93-011, 446/93-001, 446/93-006, 446/93-007 were closed (Section 12).

- Unresolved Item 445/9319-01; 446/9319-01 was closed (Section 8).

- Temporary Instruction 2515/125, Foreign Material Controls," was completed (Section 13).

Attachments:

- Attachment 1 - Persons Contacted and Exit Meeting
- Attachment 2 - Acronyms

DETAILS

1 PLANT STATUS

At the beginning of this inspection period, Unit 1 was at 100 percent power. On October 31, power was briefly reduced to approximately 78 percent power for main turbine and main feedwater pump surveillances which were completed satisfactorily.

At the beginning of this inspection period, Unit 2 was at approximately 30 percent power following repairs completed during a brief forced outage because of a main feedwater pump failure on September 28. Power was raised to 100 percent on October 4. On October 6, a reactor downpower began in preparation for the first refueling outage. During the reactor shutdown on October 7, a digital rod position indication system failure required the plant to be tripped with reactor power in the intermediate range. At the end of this inspection period, the plant was in Mode 5, and the reactor core was completely reloaded with the vessel head in-place and fully tensioned.

2 ONSITE FOLLOWUP TO EVENTS (93702)

The inspectors responded to events to verify that the plant responded as designed and that the licensee operated the plant safely and in accordance with license and regulatory requirements.

2.1 Unit 2 - Reactor Trip

On October 7, while inserting Unit 2 Group D control rods to shut down the reactor for the first refueling outage, the digital rod position indication (DRPI) system for Control Rod H-8 failed. Licensed operators manually tripped Unit 2 control rods as required by Technical Specifications (TS). At the time of the trip, reactor power was in the intermediate range with decay heat being removed by auxiliary feedwater and steam dumps. Non-safeguards 6.9 kV Buses were already being supplied by the Unit 2 Startup Transformer 2ST as part of the normal shutdown sequence. Operators took appropriate immediate actions to verify that the reactor was shutdown, all rods were inserted, and that the adequate shutdown margin existed. Investigation of the failure of the DRPI system revealed a bad encoder card in the control cabinet inside containment and that the appropriate alarms and indications for this type of failure were received.

Control Rod H-8 position indication problems had been noted approximately 2 hours prior to the failure when Control Rod H-8 position indication deviated from the remainder of Group D by indicating outward rod motion of one step when the remainder of Group D was inserted one step. The licensee immediately stopped all rod motion and, following troubleshooting, determined that Control Rod H-8 was actually aligned with and moving in the same direction as the other control rods in Group D, indicating that the problem existed in the digital rod position indication system.

The licensee's troubleshooting involved several partial core flux maps, a rod control system and rod position indication system walkdown, and finally several controlled rod movements.

2.2 Conclusions

The inspection concluded that the licensee's efforts to assure proper rod motion were appropriate. Initial troubleshooting activities were sufficiently thorough to conclude that the rod in question was trippable. Operator response and attention to detail throughout the troubleshooting activities and reactor trip were very good. Communications and engineering support throughout the troubleshooting evolution were excellent.

3 PLANT OPERATIONS (71707, 37551)

The inspectors performed this inspection to ensure that the licensee operated the facility safely and in conformance with license and regulatory requirements and that appropriate management oversight to assure safe plant operation was evident.

The methods used to perform this inspection included direct observation of activities and equipment, observation of control room operations, tours of the facility, interviews and discussions with licensee personnel, independent verification of safety system status and TS limiting conditions for operation, verification of corrective actions, and review of facility records.

3.1 Plant Tours

Plant tours were conducted in the safeguards buildings, auxiliary building, electrical control building, the emergency diesel generator rooms, the turbine buildings, the fuel storage building, and the service water pump intake structure. The inspectors also accompanied auxiliary operators during shift rounds. Auxiliary operators were thorough and generally knowledgeable of equipment status and plant conditions, exhibited good questioning attitudes regarding deficient conditions, and then followed through to ensure the deficiencies were corrected. The inspectors toured Unit 2 containment and observed work in progress for Refueling Outage 2RF01. Very good defense-in-depth measures were taken in Unit 2 to reduce the risk of affecting protected equipment during the refueling outage. For example, barriers were erected to restrict access to and notify personnel of equipment important to plant safety.

Special housekeeping zones, defined in licensee Procedure STA-607, "Housekeeping Control," were established in accordance with procedure and generally met management expectations. The inspectors performed a detailed inspection of licensee foreign material exclusion requirements in accordance with Temporary Instruction 2515/125. The results of this inspection are documented in Section 13 of this report.

3.2 Control Room Observations

Routine observations of control room operations were conducted during both normal and backshift working hours. Control room operators and auxiliary operators demonstrated excellent attention to detail, questioning attitudes, and appropriate self-verification practices in day-to-day operation of the plant with few exceptions.

3.3 Unit 2 - Power Reduction, Reactor Shutdown, and Plant Cooldown

The inspectors observed portions of the power reduction, reactor shutdown, and plant cooldown for the 2RF01.

The power reduction was performed in accordance with the requirements of Procedure IPO-003B, Revision 1, "Power Operations," on October 6 and 7. Communications between the reactor operator and the balance-of-plant operator were good as were the communications between the control room operators and the auxiliary operators in the field. The unit supervisor maintained excellent control of the unit and provided good oversight of operator actions. When Control Rod H-8 position indication problems occurred on October 7, appropriate management attention and engineering support was evident. Licensee actions to troubleshoot the Control Rod H-8 problems were excellent. Nevertheless, Control Rod H-8 position indication problems ultimately required control rods to be tripped (Section 2.1).

On October 7, inspectors observed Unit 2 control room operators perform portions of Integrated Plant Operating Procedure IPO-005B, Revision 1, "Plant Cooldown From Hot Standby To Cold Shutdown," to cooldown and place the reactor coolant system in a solid condition. Operators carefully monitored plant parameters to ensure that procedural cautions and notes were satisfied. The evolution was well coordinated and controlled, and operators were knowledgeable of the procedure and the expected plant response.

3.4 Unit 2 - Reactor Head Removal

On October 13, the inspectors attended a briefing conducted by Westinghouse personnel in preparation for the removal of the Unit 2 reactor vessel head. Westinghouse, operations, and radiation protection personnel were present. The personnel performing the briefing reviewed the precautions, limitations, and notes as stated in Procedure MSM-CO-9901, "Reactor Vessel Head Removal and Installation." The responsibilities of all personnel involved in the activity were clearly defined during the briefing. Radiation protection personnel discussed the levels of radiation and contamination present in the cavity and on the reactor vessel head, the postings and necessary protective clothing to be worn, and the as low as reasonably achievable (ALARA) aspects involved in the head removal. Excellent communication was evident between the groups, and the briefing was sufficiently thorough to cover all precautions necessary to perform the head removal evolution.

3.5 Unit 2 - Refueling Outage 2RF01 Core Offload Activities

Refueling operations began on October 13. While filling the reactor cavity on October 15, low levels of loose contamination was discovered in the safeguards and auxiliary buildings. The loose contamination was a result of the reactor cavity flood operation and resulted in increased contamination control measures inside containment for the remainder of the inspection period. On October 17 and 18, the inspectors observed fuel movement from the reactor core through the refueling cavity and to the Unit 1 spent fuel pool in the fuel handling building.

The inspectors observed contract personnel inspect fuel assemblies while they were being withdrawn from the core. During the evolution, operations personnel were in constant communication with the control room from the refueling bridge regarding the location and status of the assemblies. The quality control department thoroughly inspected fuel assemblies through a site glass as they entered the Unit 1 spent fuel pool. Subsequent to the offload, the inspectors reviewed the fuel shuffle sheet which indicated that a few fuel assemblies removed from the core were twisted or bowed. The inspectors questioned nuclear engineering as to what inspections were conducted on these fuel assemblies and whether the assemblies would be reloaded in the core. Nuclear engineering stated that visual inspections were conducted on the assemblies in question, and determined that only one of the fuel assemblies had a slight bow; however, it was acceptable for core reload.

The quality control department thoroughly inspected fuel assemblies through a site glass as they entered the Unit 1 spent fuel pool. Licensee oversight of contract activities, which included manipulation of the fuel handling crane and the fuel handling tool, was evident. Timely and thorough radiation protection support was evident. Excellent communications and coordination were noted during all stages of fuel movement. The inspectors observed independent verification of fuel assembly numbers, spent fuel pool locations, and performed a review of recorded locations.

On October 19, the inspectors witnessed portions of the reactor cavity and vessel drain down from the control room. The operators performed the appropriate steps in accordance with Procedure RFO-102, Revision 6, "Refueling Operations."

3.6 Unit 2 - Emergency Diesel Generator (EDG) 2-02 Jacket Water Heater

On October 27, removal of Clearance 2-94-04565 was approved as part of efforts to place EDG 2-02 in auto start status following maintenance which involved draining the DG jacket water cooling system. During release of the clearance, the auxiliary operator reported smoke in the Unit 2 Train B diesel room. The licensee's investigation revealed that the EDG jacket water immersion heater was energized with no water in the system causing damage to the heater. Removal of Clearance 2-94-04565 did not call for the jacket water to be refilled prior to re-energizing the heaters or turning on the keep-warm pump. The licensee noted that during the clearance release, the auxiliary operator

had questioned the clearance processing center on the adequacy of the clearance release. Four levels of supervisors authorized the clearance release which directed the auxiliary operator to energize the heaters and turn on the keep-warm pump. However, it appeared that not one of the personnel involved was aware that the immersion heaters and keep-warm pump would be turned on in a system which was drained.

On October 28, electrical maintenance removed the damaged heater and determined that the heater needed to be replaced. The heater was replaced under Work Order (WO) 1-94-0-077568-00.

The inspectors reviewed the clearance order used to remove tags from the jacket water system and found that it directed the operator to place the jacket water immersion heater 2-02 breaker in the "on" position and to place the jacket water keep-warm pump and immersion heater to "auto". No precautions were noted in the clearance to ensure that the system was filled. In addition, the clearance removal directed the auxiliary operator to close jacket water cooling system drain valves which, at the time, should have given an indication that no water was in the system. Procedure SOP-609B, Revision 0, "Diesel Generator System," stated the necessary steps for restoring the jacket water cooling system which included ensuring that the jacket water cooling system was filled prior to energizing the jacket water immersion heater and turning on the keep-warm pump. The inspectors questioned whether damage to other jacket water immersion heaters had ever occurred in the past under similar circumstances. Previous failures occurred on September 17, 1989, and October 22, 1991, both of which involved damage to energized immersion heaters in a drained diesel generator jacket water cooling system. The licensees' corrective actions from the October 22, 1991, failure involved a procedure change that incorporated a note in Procedure SOP-609B to ensure the diesel generator jacket water cooling system was filled prior to energizing heaters and placing the keepwarm pump in auto. The inspectors concluded that the failure to follow the system operating procedure for the restart and operation of the EDG jacket water system was Example 1 of a violation of TS 6.8.1 (445/9423-02; 446/9423-02).

3.7 Unit 2 - EDG 2-02 Fuel Oil Leak

On October 26, the inspectors toured the EDG 2-02 room during part of the Refueling Outage 2RF01 test run. The inspectors identified that Fuel Oil Header Supply Vent Valve 2DO-0222 was leaking and vibrating excessively. As a result, the licensee initiated a work request for repair.

On October 31, the tubing to Valve 2DO-0222 failed due to vibration and cyclic fatigue experienced during the performance of Procedure PPT-S2-7409B, "Train B Diesel Generator 24-Hour Load Test." As a result of the failure, fuel oil was sprayed from the break and the licensee shut down EDG 2-02 to minimize the potential fire hazard due to the flammability of diesel oil. The licensee performed a visual inspection on all the equipment affected by the fuel oil spray and determined that no damage or fuel oil intrusion occurred. The

licensee initiated a design change notice (DCN) to remove Valve 2DO-0222 and replace it with a plug at the end of the tubing stub.

A previous failure of the same valve occurred on December 16, 1993. As a result, Operations Notification and Evaluation (ONE) Form 93-2420 was initiated. The licensee's investigation of the December 16, 1993, failure revealed that the tubing between the fuel oil header and Valve 2DO-0222 had failed. The licensee documented that six other valves on both EDGs 2-01 and 2-02 could be affected since they were connected to their respective header via stainless steel tubing. The tubing fitting between the fuel oil header and Valve 2DO-0222 was replaced with thicker wall tubing to match that of the seven other valves. Technical Evaluation (TE) 93-2438 was written to resolve ONE Form 93-2420 which concluded that to enhance longevity of the tubing to Valve 2DO-0222, vibration at the tail end tubing needed to be reduced by using the least amount of tubing length possible for the overall connection. Also, the licensee identified that these vent valves had been removed from the Unit 1 EDGs prior to initial plant operation. In order to develop a long term solution, a Minor Modification (MM) 94-159 was initiated to remove the seven vent and test connections on EDG 2-02 since it was concluded that they did not appear to serve a useful purpose on the EDGs, and that removal of the valves would remove a potential failure mechanism. The MM was approved by the manager of technical support and design engineering on April 10, but had not been approved for implementation until the event described above reoccurred on October 31.

As a result of the December 16, 1993, and October 31 failures, EDG 2-02 was placed in an accelerated test schedule. The licensee planned to implement MM 94-159 to remove this potential failure mechanism on an expedited schedule.

The inspectors concluded that although corrective actions were identified which would have precluded the October 31 occurrence, approval and implementation of the modifications did not occur.

3.8 Unit 2 - Refueling Outage 2RF01 Core Reload Activities

On November 3, the inspectors observed the Unit 2 core reload activities. The inspectors noted that personnel stationed adjacent to the spent fuel pool, refueling canal, and reactor cavity appropriately wore safety belts; however, the inspectors observed that occasionally workers did not attach safety belt lanyards to fixed supports for brief periods. The licensee corrected this practice immediately in nearly all cases. The inspector observed rags being used to wipe tools, ropes, lights, etc., to remove excess water as they were being removed from the contaminated water to minimize the spread of contamination. The inspectors observed that foreign material accountability was typically good with some exceptions such as an occasional unsecured rag or incomplete foreign material accountability list. When these observations were brought to the attention of the licensee, they were immediately corrected. The inspectors concluded that fuel reload activities were conducted safely and in accordance with established procedures.

3.9 Conclusion

Overall, operations personnel demonstrated excellent attention to detail, questioning attitudes, and appropriate self-verification practices with some noted exceptions. One exception involved system damage occurred when implementation of the EDG jacket water system clearance resulted in damage to the EDG 2-02 jacket water system immersion heater. Another similar event (Unit 2 Licensee Event Report 94-015, dated November 14, 1994) involved a reviewed and approved clearance that directed an operator to open a breaker to an instrument inverter when bypass power was not available. The subsequent deenergization of the instrument inverter resulted in an unplanned engineered safety feature actuation. Both of these events indicate a weakness in the clearance review and approval process. Nevertheless, the inspectors observed excellent pre-job briefs, formal and complete shift turnovers, formal communications, accurate control room logs, and generally thorough clearances packages. Auxiliary operators were typically knowledgeable of plant conditions and exhibited excellent ownership for plant housekeeping.

4 MAINTENANCE OBSERVATIONS (62703, 37551)

During this inspection period, the inspectors observed and reviewed the selected maintenance activities listed below to verify compliance with regulatory requirements and licensee procedures, required quality control department involvement, required equipment cleanliness, proper use of safety tags, proper equipment alignment, proper radiation worker practices, use of calibrated test instruments, and proper postmaintenance testing. Specifically, the inspectors witnessed the following activities:

- Corrective maintenance performed on Unit 2 to repack Valve 2-PV-2453B, which is the motor-driven auxiliary feedwater (MD AFW) pump 2-01 discharge to SG 2-02 flow control valve. This maintenance was performed in accordance with WO 1-94-074159-00.

- Design modification implemented on Unit 2 as directed by WO 2-94-072479-00, in accordance with Containment Spray Pump 2-04 to replace the four-vane impeller with a five-vane impeller to reduce the amount of vibration on the containment spray pump and piping system.

- General maintenance on Unit 2 Containment Spray Pump 2-03 to collect vibration data as directed by WO 4-94-076295-00.

- Preventive maintenance on Unit 2 EDG 2-02 as directed by WO 3-94-335999-01 for EDG firing pressure and cold compression inspections.

- Preventive maintenance on Unit 2 EDG 2-02 as directed by WO 4-94-066778-00 in accordance with Procedure PPT-P0-9910, Revision 4, "Slow Start and Break-In Run for Emergency Diesel Generators with EGA Electronic Governors."

- Corrective maintenance on Unit 2 EDG 2-02 as directed by WO 4-94-066778-00 in accordance with Procedure MSE-CO-0862, Revision 0, "DG Electronic Governor Setting and Alignment."

Selected observations from review of maintenance-related activities are discussed below.

4.1 Unit 2 - Motor-Driven Auxiliary Feedwater (MD AFW) Pump 2-01 Pump Discharge Valve 2-PV-2453B to SG 2-02 Flow Control Valve

On October 4, the inspector observed corrective maintenance on the motor driven auxiliary feedwater pump discharge valve performed in accordance with WO 1-94-074159-00. The WO directed mechanical maintenance to repack Valve 2-PV-2453B, due to a small leak on the valve that was present when the pump was in operation. Valve 2-PV-2453B is the MD AFW Pump 2-01 pump discharge to SG 2-02 flow control valve. Mechanical maintenance personnel partially disassembled the valve in accordance with Procedure MSM-GO-8202, Revision 2, "Graphite Valve Packing and Live Loading," but had difficulties completely removing the valve packing. As a result, the mechanics had to disassemble the valve further to remove the packing. Valve actuator disassembly was done in accordance with the applicable steps of Procedure MSM-CO-8811, "Fisher Globe Valve Maintenance." Repacking was accomplished, and the valve was reassembled.

The inspector noted that, although the maintenance personnel were aware of the housekeeping requirements, the housekeeping zone was not posted until well into the maintenance activity. The inspector noted that the work was completed within the TS allowed outage time but the delay associated with removal of the packing resulted in the MDAFW pump being out of service longer than anticipated. Good communications were noted between mechanical maintenance and instrumentation & controls maintenance. The procedures defined in the WO were followed.

4.2 Unit 2 - Containment Spray Pump 2-04 Impeller Changeout

The inspectors witnessed portions of the impeller changeout per Design Modification (DM) 94-19 to modify Containment Spray Pump (CSP) 2-04 to reduce the vibration on the CSP and piping system. This DM was implemented on Unit 2 as directed by WO 2-94-072479-00.

DM 94-19 was implemented this outage to remove the four-vane and install five-vane impellers in the containment spray pumps. The inspectors periodically toured the work sites to observe maintenance, ensure proper foreign material exclusion practices, proper radiation worker precautions, and that applicable procedures were followed.

During maintenance on CSP 2-04, mechanical maintenance used tools and equipment that were calibrated. The inspectors observed that the maintenance performed required special foreign material exclusion (FME) controls. The

inspectors noted tnat the FME log was in the process of being updated to include the items that were already within the housekeeping zone.

4.3 Conclusion

The inspectors concluded that maintenance was performed in accordance with procedures. Quality control, engineering and radiation protection involvement, and self-verification was evident. Maintenance personnel took steps to assure equipment cleanliness was maintained. Communications during maintenance was very good. Clearance procedures and personnel safety guidelines were generally well followed.

5 SURVEILLANCE OBSERVATIONS (61726)

The inspectors reviewed this area to ascertain whether the licensee conducted surveillance of safety significant systems and components in accordance with Technical Specifications and approved procedures. Specifically, the inspectors witnessed portions of the following surveillance tests:

- Procedure OPT-205B, Revision 2, "Containment Spray System Test," Unit 2.
- Procedure INC-7382B, Revision 1, "Analog Channel Operational Test and Channel Calibration Neutron Flux Source Range Channel N32," Unit 2.
- Procedure PPT-S2-7409B, Revision 2, "Train B Diesel Generator 24-Hour Load Test," Unit 2. This surveillance included testing of the Unit 2 Train B, solid state safeguards sequencer.
- Procedure OPT 214B, Revision 0, "Diesel Generator Operability Test," Unit 2.
- Procedure SOP-609B, Revision 0, "Diesel Generator System," Unit 2.

Selected observations from the review of surveillance activities are discussed below.

5.1 Unit 2 - Containment Spray Pump 2-03 Test

During 2RF01, DM 94-19 was implemented to modify the containment spray pumps by replacing the four-vane impellers with five-vane impellers as directed by WO 4-94-076295-00. DM 94-19 was initiated due to previously identified vibration-related problems. As part of the postmaintenance testing of the new impellers, operations performed an operability surveillance in accordance with Procedure OPT-205B, Revision 2, "Containment Spray System Test." In addition, the WO instructed maintenance engineering to perform Procedure PPT-TP-94B-10, "Containment Spray Vibration Monitoring Test Specification," to collect vibration data on the Unit 2 containment spray system for piping system evaluation. The inspectors observed as operations started Unit 2 CSP 2-03 in

accordance with procedure. Subsequently, maintenance engineering obtained the vibration data at various locations on the CSP and its associated piping.

The licensee reviewed the results of the test and concluded that the CSP 2-03 piping vibration improved significantly at nearly all data points. However, vibration data collected on one point for the CSP 2-03 piping indicated a significant increase in vibration. The licensee concluded that the increased vibration was attributed to the Train A containment spray system piping and valve arrangement and implemented a design modification to replace Vent Valve 2CT-0237 in the Train A containment spray test header with a lighter valve. The licensee also replaced 2CT-0238 in the Train B containment spray test header because of a similar arrangement which could have high vibration.

The inspectors reviewed the results of the vibration analysis, compared them to results from previous tests where the CSP's were run with the four-vane impeller, and agreed with the licensee's conclusion that the vibration amplitude decreased significantly at nearly all data points. During performance of the tests, the inspector verified all test equipment was calibrated. Excellent communication between maintenance and design engineering was noted. The test was performed in accordance with procedure.

5.2 Unit 2 - Analog Channel Operational Test and Channel Calibration Neutron Flux Source Range Channel N32

On November 1, the inspectors witnessed I&C technicians perform an Analog Channel Operational Test (ACOT) and channel calibration on Neutron Flux Source Range Channel N32. The ACOT was performed on Unit 2 in accordance with Procedure INC-7382B, Revision 1, "Analog Channel Operational Test and Channel Calibration Neutron Flux Source Range Channel N32." The purpose of the procedure was to verify and, if required, re-establish accuracies and control function of the signal processing equipment contained in the Unit 2, Neutron Flux Source Range Channel, N32. Performance of this test satisfies several technical specification requirements. The inspectors verified that the ACOT was performed within eight hours of Mode 6, as required. Excellent repeat-backs were noted. The I&C technicians were very thorough and used appropriate self-verification methods for ensuring all applicable steps, verifications, and precautions were implemented. No discrepancies were noted.

5.3 Unit 2 - Train B Diesel Generator 24-Hour Load Test and Solid-State Safeguards Sequencer Test

On October 30, inspectors witnessed performance and test engineers perform portions of EDG 2-02 testing in accordance with Procedure PPT-S2-7409B, Revision 2, "Train B Diesel Generator 24-Hour Load Test." The purpose of the procedure was to satisfy numerous 18-month technical specification surveillance test requirements. EDG 2-02 was started in accordance with OPT-214B, Revision 0, "Diesel Generator Operability Test." During the run on October 31, EDG 2-02 was shut down because of spraying fuel oil from a broken fitting to Valve 2DO-0222 (Section 3.7).

On October 31, EDG 2-02 was retested for the 24-hour load test after the failure of the initial test as discussed in paragraph 3.7. Auxiliary operators performed hourly logs on EDG parameters for trending purposes. The inspector noted good questioning attitudes by the auxiliary operators when parameters deviated from expected conditions. When visually inspecting EDG 2-02 at the end of the 24-hour run, the inspector noted very few minor oil and water leaks.

The Train B Solid State Safeguards Sequencer and the respective EDG actuated components were also tested in accordance with PPT-S2-7409B. Prior to the testing, a pre-job brief was conducted in the control room by the unit supervisor with the appropriate maintenance engineers and operators attending. The brief was thorough and included a good overview of what actions were to be performed by those involved in the test. The unit supervisor ensured that operators were aware of their individual responsibilities. The operators, as well as maintenance engineering, independently verified the prerequisites for the test. When the test was performed, all sequencing actuated as expected. However, during the performance of the test, an unexpected alarm was actuated, 2-ALB-2B, "Safeguard Sequencer Train A/B Relay Failure." The licensee determined that a circuit card was defective that did not affect operability of the sequencer or the validity of the test.

Overall, the planning and coordination for the EDG 2-02 24-hour run and subsequent Train B solid state safeguards sequencer test were very good. Control and coordination of the test was excellent. Performance and test personnel worked aggressively to accomplish the expected goals. The inspector noted good communications between maintenance engineering and operations prior to, during, and subsequent to the test.

5.4 Conclusion

The inspectors concluded that surveillances were performed safely and in accordance with procedure. Excellent pre-job briefs and communications were noted. Surveillance prerequisites were verified and both maintenance and operations personnel anticipated the expected system responses.

6 ONSITE ENGINEERING (37551)

6.1 Unit 1 and 2 Containment Sump Structures

During a walkdown of the Unit 2 containment sump structures by the system engineer on November 2, a number of gaps and holes were found in the support structures. The purpose of the walkdown was to address recent industry experience on containment sumps. The walkdown revealed that the screens themselves were found to be constructed per design requirements. However, gaps and holes which appeared to have been made during construction of the sump screen support structures were found with dimensions that appeared greater than the design requirement of 0.115 inches. The system engineer, could not determine if they had been previously evaluated so a TE 94-1462 was written to require an engineering review.

TE 94-1462 was assigned to mechanical engineering and further inspection on November 4, revealed that 48 unanalyzed holes or gaps existed in each Unit 2 containment sump structure. The maximum dimension, approximately 3/8 (0.375) inch by 1-1/4 (1.250) inch, was greater than the FSAR design requirement of 0.115 inch. As a result, mechanical engineering wrote ONE Form 94-1424 at 5:30 p.m. (CST) on November 4, and contacted Westinghouse engineering for an engineering evaluation.

At 8:10 a.m. (CST) on November 5, the operations department received the ONE Form, declared the Unit 2 containment sumps inoperable, and determined that the finding on the Unit 2 containment sumps was a 4 hour non-emergency reportable condition per 10 CFR 50.72(b)(2)(iii)(D). Unit 2 was operating in Mode 6; therefore, no TS action was required other than maintaining the unit in Mode 5. The 4 hour non-emergency report was made at 11:09 a.m. (CST) on November 5. Operations also determined that additional engineering review was necessary to evaluate if a potentially similar condition existed in the Unit 1 containment screen structures. Unit 1 was operating at 100 percent power.

The Westinghouse engineering evaluation which considered the potential ingestion of coating debris into the Emergency Core Cooling Systems (ECCS) through the Unit 1 and 2 containment sump structures concluded that, using best engineering judgment, the identification of the gaps in the sump structure was not expected to adversely affect the long term ECCS operation. On November 6, the licensee performed a containment entry to inspect and repair, if necessary, the Unit 1 containment sump structures. This inspection revealed 40 unanalyzed gaps or holes in each containment sump structure. The maximum dimension was approximately 3/4 (0.75) inch by 2 inch. The licensee concluded that an engineering evaluation performed for Unit 2 bounded the findings in the Unit 1 containment sump structures, and was sufficient for an initial judgment that the containment sumps and emergency core cooling systems were operable.

The inspector participated in telephone discussions with Region IV and the Office of Nuclear Reactor Regulation to discuss operability of the Unit 1 and 2 containment sumps. During these discussions, the licensee indicated that they considered the sumps operable based on the Westinghouse evaluation, but that the containment sumps would be restored to their original design. The Unit 2 containment sumps would be repaired prior to startup from the Unit 2 refueling outage 2RF01 and the Unit 1 containment sumps would be completed during or before the next Unit 1 refueling outage.

The inspector concluded, based on the licensees findings, that the containment sump structure design basis requirements were not correctly translated into the actual "as-found" construction of the Unit 1 and 2 containment sump structures. Final Safety Analysis Report (FSAR), Section 6.2.2, "Containment Heat Removal Systems," indicates that the design of the containment sumps include a fine mesh screen with a 0.115 inch opening, which ensures that the 3/8 inch diameter containment spray nozzle orifices and the fuel grid assemblies in the reactor core do not clog. Based on this, the inspector concluded that the as-found condition of the containment sump structures

represented a violation of Criterion III of 10 CFR Part 50, Appendix B, "Design Control," which requires that measures be established to assure that the design basis for structures and systems important to safety are correctly translated into specifications and drawings (445/9423-03; 446/9423-03).

The inspector toured the Unit 1 containment on November 11 to verify that assumptions made in the licensee's evaluation concerning the type of debris that could be found in containment were adequate. The Unit 1 containment was found to be clean. No loose equipment or trash was found that could have a potentially negative affect on ECCS operation. Based on visual inspection of the Unit 1 containment material condition and cleanliness, the inspector verified that the licensee's evaluation of safety significance and containment sump operability was adequate. The inspector noted that it took 14 hours after the ONE Form was written by mechanical engineering to initially inform plant operations of this potential operability issue.

6.2 Conclusion

Throughout the Unit 2 refueling outage, the inspectors observed generally excellent engineering support to maintenance and operations. Of particular note was engineering support of fuel assembly inspections, emergency diesel generator work oversight, containment spray system modifications, and the resolution of emergent issues such as the DRPI failure and the containment sump structures discussed below. However, one instance was noted where a delay in communications between mechanical engineering and plant operations delayed a potential operability determination from being made.

7 PLANT SUPPORT ACTIVITIES (71750)

The inspectors performed routine inspections to evaluate licensee performance in the following areas: radiological controls, chemistry, and physical security.

The inspectors verified that radiological protection personnel maintained appropriate controls over high radiation areas and that plant areas were properly posted. Licensee activities within radiologically controlled areas were observed to verify that personnel followed appropriate radiation worker practices. The inspectors verified that effluent and environmental radiation monitors and meteorological tower indications remained operable and that appropriate compensatory actions were taken for those which were out of service.

Radiation protection support of the refueling outage was excellent with exceptions as noted in sections 3.5 and 11.1. Of particular note was the support provided to refueling cavity operations, steam generator eddy current and sludge lancing activities, work in the Unit 2 loop rooms, seal table work, and to the rad waste efforts to minimize the impact of resin sluice problems on plant operations.

Inspection of the licensee's security program during this reporting period included verification of the integrity of protected area barriers, maintenance of isolation zones around these barriers, and protected area personnel access measures. The inspectors observed as security performed a verification of personnel wearing the appropriate site badges and as car searches were performed as part of security's routine activities.

The inspectors toured plant areas to identify potential fire hazards and evaluate personnel control of materials and ignition sources. The inspectors routinely reviewed secondary water activity and primary plant chemistry analyses, and verified that these parameters remained within TS and procedural limits.

8 FOLLOWUP - OPERATIONS (92901)

8.1 (Closed) Unresolved Item 445/9319-01; 446/9319-01

On May 15, 1993, during Unit 1 reactor power ascension from approximately 50 percent to approximately 67 percent power, the power ramp limit of 3 percent per hour was exceeded. At the conclusion of the reporting period for NRC inspection report 445/93-19; 446/93-19, the licensee's investigation and corrective actions associated with this event had not been completed. As a result, Unresolved Item 445/9319-01; 446/9319-01, was opened. A formal investigation was conducted by the NRC to ascertain whether licensed operators on shift at the time of the event knew that they had exceeded the limit for increasing power and whether they had attempted to conceal this fact. The investigation did not develop evidence to support these suspicions and the investigation was subsequently closed on November 8, 1994. Nevertheless, a violation of Technical Specification 6.8.1 did occur on May 15, 1993, when contrary to IPO-003B, Revision 0, "Power Operations," operators exceeded the maximum specified power ramp rate of 3 percent per hour. This was identified as Example 2 of a violation of TS 6.8.1 (445/9323-02; 446/9323-02).

9 FOLLOWUP - MAINTENANCE (92902)

9.1 Followup - One Form 94-1387, Fire Hosed Sucked Into Station Service Water Pump 2-02

On October 29, a Flour Daniels Maintenance Services scaffold foreman dispatched a four-person crew to remove scaffolding and other material from the service water intake bay. A short time later, a crew member came out of the bay to inform the supervisor that a 4 inch fire hose used to transfer water from the station service water (SSW) Pump 2-01 intake bay appeared to be stuck. When the foreman arrived at the scene, the foreman was told that the hose had been sucked into SSW Pump 2-02. The foreman pulled on the firehose and felt the vibration of the pump. He immediately instructed two nearby electricians to inform the control room of the situation. Concurrently, the Unit 2 control room reported service water system alarms and oscillating flow and pressure indications for SSW Pump 2-02. Control room operators received

the report that a fire hose had been sucked into SSW Pump 2-02 and the pump was immediately secured.

As a result of this event, the licensee planned to evaluate its work policy in the SSW intake bay and formally document corrective actions in a plant incident report. The inspector concluded that the event was a near miss from both a personnel and equipment safety perspective and that licensee actions in response to the event were appropriate.

10 FOLLOWUP - ENGINEERING (92903)

10.1 Followup - One Form 94-1207 Regarding Boric Acid Transfer Pump Motor Leads Falling Off

The inspectors reviewed ONE Form 94-1207 and the licensee's corrective actions associated with boric acid transfer Pump 2-02 motor leads, which were found to easily separate from the stator windings. The inspectors held discussions with electrical maintenance and procurement engineering. Engineering determined that the motor leads breaking could be attributed to the torsional stresses imposed on the leads when the motor connection box is rotated during installation on the pump motor. As a result, a larger connection box with a design to prevent it from having to be removed, was installed on boric acid transfer Pump 2-02, and will be installed on all replacement stators of this type. In addition, electrical maintenance investigated other locations in the plant where this type motor was installed for a review of failure histories. The inspectors concluded that the licensee performed a thorough and complete investigation, which included 10 CFR Part 21 considerations. The inspector concluded that corrective actions taken were appropriate.

11 FOLLOWUP - PLANT SUPPORT (92904)

11.1 Fuel Building Contamination

On September 26, Radiation Protection (RP) workers performed a series of filter transfer evolutions to remove spent filters from their respective systems and place them into a storage vault. One of the evolutions resulted in a spread of contamination on two levels of the Fuel Building (FB). The initial task was to transfer used filters from a roll-around cart in the Auxiliary Building and the Tri-Nuke filter cask in the FB to a radiation vault/high integrity container (HIC) on a trailer positioned in the train bay of the FB. The next evolution involved transferring used filters in a filter carousal to the HIC and then repair a seal on the removable plug in the bottom of the carousal. This seal was leaking and had caused contamination in the immediate area during the last manipulation of the carousal on June 2.

The filter carousal is a shielded container, which was designed and manufactured by the licensee as an ALARA device to prevent personnel from receiving elevated doses from the filter transfer process. The carousal contains eight cylinders that are rotated manually inside a shielded shell.

On top of the carousal, an opening allows filters to be loaded into a cylinder, and then rotated to align another cylinder for loading another filter. The carousal can be loaded with seven filters, leaving the eighth cylinder empty and positioned directly under the opening on top of the carousal aligned with the removal plug hole at the bottom. Both of these openings are covered with removable plugs whenever filters are not being placed in or removed from the carousal. In order to transport the spent filters from the filter carousal, the bottom plug hole is removed, and the loaded carousal is lifted by an overhead crane and placed on top of the HIC. The cylinders are then aligned with the bottom hole and rotated until each filter is released into the HIC. The carousal has been used to transfer seal water filters, CVCS letdown filters, and seal water return filters.

The contamination incident resulted from the removal of the bottom plug. After lifting the carousal to position it on a cart to remove the bottom plug, rags were discovered beneath the carousal plug that had been placed under the plug to absorb liquid leaking from the carousal. The moisture had evaporated from the rags, which caused them to be dry. The Radioactive Material Control (RMC) technicians placed the contaminated rags in a plastic bag, but did not spray them to contain any potential loose contamination, or survey them to ascertain the extent of contamination. The licensee intended to repair the seal after the carousal was unloaded. An RMC technician held a plastic bag containing the rags under the plug to catch any contamination that might be released as the plug was removed and also held the plug as another RMC technician removed the four nuts. As the last nut was removed, the technician was unable to hold the plug and it fell on the rags in the bag and tore the bag. Elevated contamination levels were found in areas around the carousal, in the train bay, and in two levels in the FB. Air currents carried the contamination down a corridor toward the Auxiliary Building. Subsequently, the plug was double-bagged and transferred to Fuel Building Decon Room 250 and the carousal's contents were deposited into the HIC. Then, the carousal was placed in the decontamination room. Simultaneously, the contamination clean-up commenced and was successfully completed within a few hours. The contamination in the FB corridor before decontamination was 2000 - 5000 dpm/100 cm^2.

ONE Form 94-1189 was generated, which stated that the incident indicated a breakdown in radiological controls. The licensee performed an investigation with all personnel involved in the incident. Many of the weaknesses identified by the licensee were related to inadequate pre-job planning. Contamination control measures were not considered even though past experience indicated a potential contamination spread. Surveys were not performed for the planned activity and previous surveys of the carousal, plug, and trailer were not readily communicated or made available to appropriate personnel due to division of responsibilities within the RP Department. The responsibilities of the 12 RP personnel involved were not clearly defined. Many communications problems existed due to conflicting responsibilities. Past experience with the use of the carousal was not adequately incorporated into the specific RWP or a separate procedure. In addition, there were many contributing factors to this event. These factors included that RP workers

were narrowly focused on radiation hazards involved and did not consider the potential contamination hazards. The initial transfers which involved the Tri-Nuke filter cask were to be done quickly due to high dose rates. When the time came for the plug removal, the RMC technicians continued to hurry as they removed the plug.

All personnel involved with this job wore appropriate protective clothing and personnel dosimetry consisting of TLD badges and Merlin electronic dosimeters. No personnel were contaminated. Two of the RMC technicians received between 19 and 24 mrem which were the maximum doses received during this evolution. A Beta Aerosol Beacon continuously monitored the air for radioactivity and displayed 2 DAC-hrs in the area, which was well below the licensee's administrative limit of 20 DAC-hrs.

The inspectors concluded that the licensee's immediate corrective actions in response to the event were appropriate to minimize personnel exposure. In addition, long term corrective actions are planned, which include clearly defining the responsibilities of certain functions within the RP organization, the use of engineering controls and/or containment devices for the filter carousal, and incorporating guidelines regarding the use of the filter carousal in appropriate filter transfer procedures or RWPs.

The inspectors found that no surveys were performed during the carousal activities by the RMC technicians from the time the carousal was lifted off the cart until contamination became apparent. The RMC technicians that were in the work area did not have survey instruments with them, and they did not take contamination smears within the area. Surveys were performed after the elevated contamination levels became apparent. These surveys revealed contact dose rates of 3.6 R/hr (gamma) and 24 rad/hr (beta) for the plug and removable contamination on the cart from a swipe of 160 mrad/hr. The contamination levels in the Fuel Building were 2,000 - 50,000 dpm/100 cm^2 and those found on the radiation vault/HIC trailer were 3000-5000 dpm/100 cm^2. The failure to perform surveys as required by procedure was identified as a violation of TS 6.11.1 (445/9423-01; 446/9423-01).

12 ONSITE REVIEW OF LICENSEE EVENT REPORTS (92700)

12.1 (Closed) Licensee Event Report 445/93-003: Actuation of Unit 1 Train A Solid State Safeguards Sequencer

The inspector reviewed LER 93-003 pertaining to a Unit 1 spurious Safety Injection Signal (SIS) actuation from the Train A Solid State Safeguards Sequencer (SSSS). The review included the licensee's corrective actions to preclude repetition. The root cause of the event was attributed to a failed monitoring piece of equipment that was connected to the SSSS. Corrective action included removal of the monitoring device and replacement of the system card chassis. The inspector reviewed the associated corrective actions and verified their completion. The inspector concluded that licensee actions in response to this event were appropriate.

12.2 (Closed) Licensee Event Report 445/93-007: Manual Reactor Trip Initiated Due to High Stator Temperature on Reactor Coolant Pump

The inspector reviewed LER 93-007 pertaining to the Unit 1 manual reactor trip initiated due to high stator temperature on reactor coolant pump 1-04. The review included the licensee's proposed and completed corrective actions to preclude repetition. The root cause of the event was attributed to a faulty Resistance Temperature Detector (RTD), which caused the excessive temperature indication. Subsequent testing indicated that the actual stator temperature of the RCP motor did not actually reach the 300 degree setpoint which would require the initiation of a manual reactor trip. The immediate corrective action included disconnecting the affected RTD, and connecting another available RTD, in the same motor to functionally test the circuit. In addition, the abnormal operating procedure was revised to provide additional guidance to be used to anticipate actual high temperatures conditions from RTD failures. The inspector concluded that licensee actions in response to this event were appropriate.

12.3 (Closed) Licensee Event Report 445/93-011: Reactor Trip Caused by Personnel Error During Main Turbine Electro-Hydraulic Control (EHC) System Troubleshooting

The inspector reviewed LER 93-011 pertaining to the Unit 1 reactor trip caused by personnel error during main turbine EHC System troubleshooting. The root cause was attributed to I&C technicians believing the task was of low risk, not being sufficiently familiar with the EHC circuitry, and performing work without appropriate approval. Corrective actions included a thorough event review with lessons learned, and a revision of the formal training to include aspects from this event and provide detailed objectives and lessons regarding the EHC circuitry. The inspector concluded that licensee actions in response to this event were appropriate.

12.4 (Closed) Licensee Event Report 446/93-001: Containment Ventilation Isolation Occurred During Breaker Replacement

On February 7, 1993, a Train B Containment Ventilation Isolation (CVI) occurred when a breaker was tripped at a Non-1E instrument power distribution panel to allow replacement of the breaker. The licensee found that an auxiliary tripping relay associated with the breaker for Train B CVI was not shown on the one-line drawing for the Non-1E instrument power distribution panel. Corrective actions included a correction to the one-line drawing in error and a review of schematics with other auxiliary relays associated with CVI. The inspector reviewed the licensees corrective actions and concluded that they were appropriate.

12.5 (Closed) Licensee Event Report 446/93-006: Engineered Safety Feature (ESF) Actuation Due to Main Feedwater Pump(s) Trip

On July 3, 1993, Unit 2 was in Mode 3 in preparation for a reactor startup when auxiliary feedwater auto start fuses were installed in accordance with

Procedure IPO-002B, "Plant Startup From Hot Standby," Step 5.1.30, which resulted in an ESF actuation. The ESF actuation occurred because operators overlooked the caution statement which specifies, in part, that at least one main feedwater pump shall be reset prior to replacing fuses to avoid an ESF actuation. Corrective actions included restoring the plant to its normal lineup and reemphasizing management expectations concerning procedure usage. The licensee's corrective actions were reviewed and verified to be implemented by the inspector and were found to be appropriate.

12.6 (Closed) Licensee Event Report 446/93-007: Reactor Protection System Actuation Due to Spike on Source Range Channel

On September 17, 1993, during a plant shutdown of Unit 2 while I&C Technicians were troubleshooting the front panel meter of Source Range N-31, two separate flux doubling actuations occurred. Further troubleshooting revealed that the log pulse integrator board had failed. Corrective actions included training for I&C Technicians, and a shift order and procedure modification to direct that the associated flux doubling circuit be placed in block prior to performing work on the source range drawer when below the P-6 setpoint. The inspector reviewed the licensee's corrective actions and concluded that they were appropriate.

13 FOREIGN MATERIALS EXCLUSION CONTROLS (TEMPORARY INSTRUCTION 2515/125)

The purpose of this inspection was to determine whether the licensee had implemented effective procedures to prevent foreign material from inadvertently entering safety systems during maintenance activities, outages, and routine operations.

13.1 Procedures

The inspectors reviewed licensee procedures governing foreign material exclusion controls, which included Procedure STA-607, Revision 14, "Housekeeping Control," and Procedure STA-612, Revision 3, "System Cleanness Control and Cleaning."

STA-607 established the requirements for housekeeping controls and was applicable to all quality-related structures and areas, including the refueling cavity area inside containment, the reactor cavity, other areas inside containment, and the areas around and above the spent fuel pool. The procedure indicated that the controls should be used as a guideline for non-quality related areas, systems, and structures. STA-607 defined the minimum housekeeping requirements for all areas inside the protected area and described the conditions when special housekeeping zones should be established, such as maintenance activities on systems important to safety and refueling operations. This procedure also indicated that special housekeeping zones and special instructions should be specified in applicable work documents. Furthermore, STA-607 defined the housekeeping zones, which required the establishment of foreign material exclusion controls and described the process for personnel, material, and tool accountability.

STA-612 provided the requirements for implementing cleanness control into procedures and work orders. Attachment 8.B of this procedure listed the cleanness class and cleaning medium requirements for various plant systems. The procedure provided details on determining the required cleanness level for systems and incorporation of these requirements into work orders.

The inspectors determined that the procedures governing foreign material exclusion adequately defined work control processes and practices related to the accountability of materials, parts, and tools in defined areas of the plant and during activities such as maintenance and refueling. In addition, these procedures were found to be applicable to all quality-related structures and areas, and plant fluid systems, components, and equipment.

13.2 Foreign Material Exclusion Problem History

The inspectors reviewed Operations Notification and Evaluation (ONE) Forms for the previous 12 months, which documented conditions in which foreign material was found in systems, or failing to follow procedures related to foreign material exclusion. The inspectors concluded that the events described in these ONE Forms were isolated occurrences and did not represent a significant breakdown in the licensee's foreign material exclusion controls.

13.3 Observation of Foreign Material Exclusion Controls

On October 27, the inspector observed housekeeping controls established during the performance of Procedure RFO-204, Revision 8, "Verification of Core Loading," Section 6.3.1, "Core Load Verification." This section of the procedure was performed in order to verify the proper location of fuel assemblies and fuel assembly inserts in the spent fuel pool. Housekeeping controls utilized by the personnel were proper and in accordance with STA-607, Revision 14, "Housekeeping Control." All materials, tools, and personnel which entered the area around the spent fuel pool were properly documented on Form STA-607-1, "Personnel and Material/Tool Accountability Log," or on Form STA-607-6, "Long Term Material Accountability Log." A person was assigned to serve as the Accountability Control Individual to implement the foreign material exclusion requirements, including the logging of personnel, tools, and materials into and out of the established housekeeping zone. Upon completion of the activity, the inspector verified that the exit of personnel and removal of materials and tools from the area was properly documented on the accountability forms and were accurately accounted for.

During this reporting period the inspectors observed numerous other licensee activities, which required the establishment of foreign material exclusion controls including observations documented in Sections 3.8 and 4.2 of this report. With a few minor exceptions, these controls were established and implemented in accordance with Procedures STA-607 and STA-612.

ATTACHMENT 1

1 PERSONS CONTACTED

1.1 Licensee Personnel

O. Bhatty, Senior Regulatory Affairs Specialist
M. R. Blevins, Assistant to Vice President of Nuclear Operations
R. C. Byrd, Construction Operations Support Group Manager
D. L. Davis, Maintenance Overview Manager
S. L. Ellis, Instrumentation & Control Maintenance Manager
W. G. Guldemond, System Engineering Manager
T. A. Hope, Regulatory Compliance Manager
D. C. Kross, Operations Support Manager
J. J. LaMarca, Unit 1 Outage Manager
B. T. Lancaster, Plant Support Manager
M. L. Lucas, Maintenance Manager
D. R. Moore, Operations Manager
J. W. Muffett, Station Engineering Manager
N. C. Paleologos, Vice President, Nuclear Operations
D. C. Kay, Health Physics Supervisor
S. L. Smith, Work Control Center Manager
D. W. Snow, Regulatory Compliance Engineer
M. W. Sunseri, Maintenance Engineering Manager
C. L. Terry, Group Vice President, Nuclear Production

The personnel listed above attended the exit meeting. In addition to the personnel listed above, the inspectors contacted other personnel during this inspection period.

1.2 NRC Personnel

A. T. Gody, Jr., Senior Resident Inspector
K. M. Kennedy, Resident Inspector
V. L. Ordaz, Resident Inspector

2 EXIT MEETING

An exit meeting was conducted on November 15, 1994. During this meeting, the inspectors reviewed the scope and findings of the report. The licensee did not express a position on the inspection findings documented in this report. The licensee did not identify as proprietary any information provided to, or reviewed by, the inspectors.

ATTACHMENT 2

ACRONYMS

ACOT	analog channel operational list
ALARA	as low as reasonably achievable
CSP	containment spray pump
CVCS	chemical and volume control system
CVI	containment ventilation isolation
DCN	design change notice
DM	design modification
DRPI	digital rod position indication
ECCS	emergency core cooling systems
EDG	emergency diesel generator
EHC	Elector-Hydraulic Control
ESF	engineered safety feature
FB	fuel building
FME	foreign material exclusion
FSAR	Final Safety Analysis Report
HIC	high integrity container
MDAFW	motor driven auxiliary feedwater
MM	minor modification
ONE	operations notification and evaluation
RCP	reactor coolant pump
RMC	radioactive material control
RP	radiation protection
RTD	resistance temperature detector
RWP	radiation work permit
SIS	safety injection signal
SSSS	solid state safeguards sequencer
TE	technical evaluation
TS	technical specification
WO	work order