U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-255/92018(DRP)

Docket No. 50-255 License No. DPR-20

Licensee: Consumers Power Company
212 West Michigan Avenue
Jackson, MI 49201

Facility Name: Palisades Nuclear Generating Plant

Inspection At: Palisades Site, Covert, MI

Inspection Conducted: June 9 through July 13, 1992

Inspectors: J. K. Heller B. L. Jorgensen
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Approved By: B. L. Jorgensen, Chief 7/27/92
Reactor Projects Section 2A Date

Inspection Summary

Inspection from June 9 through July 13, 1992 (Report No. 50-255/92018(DRP))
Areas Inspected: Routine unannounced inspection by the resident inspectors of actions on previously identified items, plant operations, reactor trips, radiological controls, maintenance, surveillance, reportable events, and NRC Region III requests. No Safety Issues Management System (SIMS) items were reviewed.

Results: No unresolved items or deviations were identified. Two open items and one non-cited violation were identified.

The strengths, weaknesses and open items are discussed in paragraph 11, "Management Interview." In summary: Strengths were noted during post trip response, startup Plant Review Committee activities, manufacturing of spent fuel dry casks, planning and proposed response for potential degradation of a primary coolant pump seal and supervision of trainees during reactivity changes. Weaknesses were noted in a 10 CFR 50.72 notification, post trip review and a radiological shielding evaluation. The non-cited violation is discussed in paragraph 8.b.

DETAILS

1. Persons Contacted

Consumers Power Company

*G. B. Slade, Plant General Manager
*T. J. Palmisano, Plant Operations Manager
P. M. Donnelly, Safety & Licensing Director
*K. M. Haas, Radiological Services Manager
J. L. Hanson, Oper>+ions Superintendent
R. B. Kasper, Maintenance Manager
K. E. Osborne, Sy em Engineering Manager
D. J. Malone, Radiological Service Superintendent
D. G. Malone, Operations Staff Support Supervisor
K. A. Toner, Electrical/I&C/Computer Engineering Manager
*R. W. Smedley, Licensing Engineer
*J. Haumersen, Electrical/I&C Superintendent
*J. L. Kuemin, Licensing Administrator

Nuclear Regulatory Commission (NRC)

C. J. Paperiello, Deputy Regional Administrator
W. D. Shafer, Chief, Reactor Projects Branch 2
B. L. Jorgensen, Chief, Reactor Projects Section 2A
*J. K. Heller, Senior Resident Inspector
J. F. Schapker, Senior Project Inspector
Zelig Falevits, Senior Project Inspector
D. Passehl, Resident Inspector

* Denotes some of those present at the Management Interview on July 15, 1992

Other members of the plant staff, and members of the contract security force, were also contacted during the inspection period.

2. Operational Safety Verification (71707, 71710, 93702, 42700)

Routine facility operating activities were observed as conducted in the plant and from the main control room. Plant startup, steady state power operation and transient response were observed as applicable.

The performance of reactor operators and senior reactor operators, shift engineers, and auxiliary equipment operators was observed and evaluated. Included in the review were procedure use and adherence, records and logs, communications, shift/duty turnover, and the degree of professionalism of control room activities.

Evaluation, corrective action, and response for off normal conditions were examined. This included compliance to any reporting requirements.

a. General

The plant operated at essentially full power during this reporting period, except as noted in paragraph 2.b.

b. Reactor Trip

On July 1, at 12:32 p.m, the unit tripped from 100 percent power, due to a loss of load, when the turbine monitoring/control computers malfunctioned. The SRI and the Palisades Region III section chief, who was onsite for his quarterly site visit, responded to the control room to assess control room activities. No problems were noted with command and control of the event.

The malfunction occurred because connectors from several circuit boards vibrated loose and generated the turbine trip signal. A visual inspection of the circuits by the vendor of the control system determined that the connectors were not properly secured following work activities during the last refueling outage. Tests confirmed the loose connector theory. Prior to startup the connectors were tested to assure they were properly secured. All safety systems responded as designed. On July 3, at 8:17 p.m., the reactor was made critical and the unit was returned to service at 2:23 a.m. on July 4.

During the trip, several components did not respond as anticipated.

(1) The "A" non safety related 4160 V bus did not fast transfer to an alternate power supply. This occurred because the alternate supply breaker had a mechanical interlock that was slightly out of adjustment. Adjustments were made and the fast transfer circuit tested several times before returning the plant to service. This problem was not observed on any of the other breakers.

    This bus is the power source for two of the four primary coolant pumps. Since this transfer occurred at approximately the same time as the loss of load, the crew initially diagnosed that the trip was caused from low primary coolant system flow. The initial 10 CFR 50.72 notification - made at 1:00 p.m. - identified this as the cause of the reactor trip. This information was corrected during a subsequent notification, approximately three hours later when the inspector identified that the initial 10 CFR 50.72 notification had not been updated.

(2) The "B" safety injection tank depressurized by approximately 25 psi following the trip because of a relief valve that malfunctioned. It was repaired prior to returning the unit to service.

Several weeks earlier the safety injection tank had depressurized by a similar amount while cover gas pressure was being adjusted. The licensee concluded that the most likely cause was a relief valve problem that required an outage to facilitate a repair. The repair was deferred to the next forced outage because the problem did not create a safety problem or affect tank operability.

(3) The control room annunciator chime malfunctioned for several minutes. This problem has occurred on previous trips. The problem did not hinder the operators ability to respond. This is the subject of a future design change.

(4) During the post trip review, one of the plant computers indicated that the upper detector for the "C" power range instrument detected high nuclear power for several minutes after the trip. The problem was traced to a circuit card, which was replaced prior to returning the unit to service. The problem was isolated to the input to the computer and did not affect any of the inputs to the reactor protective system.

This item was of note to the inspector, since the same problem was identified by the inspector during a review of a December 1991 plant trip. At that time, the licensee indicated that it was a data display problem. The problem apparently was not identified for resolution during the recently completed 1992 refueling outage.

The inspector discussed this item with several shift supervisors. One supervisor indicated that this problem has occurred several times before. A review of previous trip reports revealed that this has occurred during every trip for several fuel cycles. The inspector discussed this item at the exit. This problem did not create a safety problem, but indicated a weakness with post trip data review.

(5) Tours of the containment identified several minor leaks, that were resolved without a mode change to facilitate repairs.

The inspector has no questions at this time. Additional reviews will be performed when the LER is issued.

c. Plant Review Committee (PRC)

The inspector attended the startup PRC. The items documented above were presented by knowledgeable individuals who described the problems and the corrective actions. The PRC membership discussed the problems and the technical merit of the solutions.

The inspector verified that the PRC composition met Technical Specification composition requirements and a voting quorum was present.

d. Criticality

The inspector observed the licensee make the unit critical on July 3. The criticality was accomplished by diluting to predicted critical boron concentration and then withdrawing the control rods to achieve plant criticality. The estimated critical rod height and boron concentration were within the predicted target band. The reactivity changes were performed by trainees under direct supervision of a reactor operator. Additionally, a superintendent was on shift as a reactivity manager.

e. Tours

(1) Tours of the control room were routinely made. During these visits the inspector observed that shift personnel requirements were always met, that the operators were cognizant of changing plant conditions, the equipment status board and LCO board were maintained up-to-date and the operators were performing assigned tasks in accordance with plant procedures. Several of the activities observed were:

(a) Control rod movement per SOP 6.
(b) A mode change from hot shutdown to critical per GOP 3.
(c) Power escalation after synchronization per GOP 5.
(d) Post Trip Actions per EOP 1.
(e) Reactor Trip Recovery per EOP 2.
(f) Addition of cove. gas to the Safety Injection tanks per SOP 3.

(2) Tours of the auxiliary and turbine building were routinely performed. Most were performed without the presence of the licensee staff. Minor observations were identified and resolved.

Several observations pertaining to containment penetration cooling for the main steam lines were discussed with system engineering.

(a) The support for the duct work for penetration 3, "Main Steam Line for S/G B," was not attached to the wall.

(b) The support for the duct work for penetration 4, "Main Steam Line for S/G A," was a wire that had a rusty appearance.

(c) Both steam pipes were not centered in the penetration, which means that the ventilation flow nozzles were not evenly placed around the piping. Both penetrations have a temperature element that was located near ventilation nozzles. The placement of the temperature probe does not appear to be in the optimal position to obtain critical temperature profiles of the concrete nearest the piping.

These items were discussed with the responsible system engineering section chief. These observations will require some review by the system engineer and are considered an open

item until the reviews are complete. (Open Item 255/92018-01(DRP)).

f. Primary Coolant Pump Seal Staging

On July 10, 1992, the lower seal for the "B" reactor coolant pump started to "un-stage" or malfunction. The licensee evaluated the problem, established a forced outage schedule, determined that the lower seal had not totally "un-staged" and the remaining seals were "staging" properly. The pump design has three seals that are capable of functioning with full system pressure and a fourth vapor seal.

The inspector reviewed alarm response procedure number 5 and interviewed several operators. The operators were knowledgeable of the condition and able to discuss the symptoms of a failed seal. The alarm response procedure documented the operator actions and provided the expected seal leakoff pressure, temperature and flow conditions if a single or several pump seals failed.

One open item and no violations, deviations or unresolved items were identified.

3. Radiological Controls (71707)

The inspector reviewed the Active Plant Shielding Log and found three active shielding locations. The inspector randomly selected shielding file 63 revision 1, "Shielding For Safety Injection, Containment Spray and Shutdown Cooling," for additional review. The review was accomplished by performing a visual inspection of the shielded area and using Administrative Procedures 7.14, "Control and Use of Shielding and Associated Equipment"; 9.13, "Temporary Modification Control"; and 3.07, "Safety Evaluations" as references.

a. The inspector found that the shielding consisted of six lead blankets firmly affixed around the pipe. This was actually documented in the file

b. The file contained quarterly surveys of the area. Independent surveys performed by the inspector were in agreement with licensee results.

c. The shielding file indicates that the shielding was "temporary" until the licensee was ready to flush the lines. The shielding evaluation was dated September 1988. Administrative procedure 7.14

does not define "temporary". However administrative procedure 9.13 does contain a definition of 90 days.

d. The shielding installation/removal record at Section 3 (item 2), stated that the system was not in service. This response eliminated the requirement for a safety evaluation and only required that a static evaluation be considered. The file contained a one page calculation, showing that installation of three lead blankets was acceptable. This analysis was revised, dated October 1988, to state that the lines may be in service with six lead blankets. What is not clear from the evaluation, is if the accident dynamic conditions were considered.

e. The shielding evaluation was not processed as a Temporary Modification. Administration Procedure 9.13 does not specifically require a Temporary Modification for shielding but does imply one is required. If a Temporary Modification had been processed, then the safety evaluation would have been performed and management attention would have been directed to the age of the shielding due to the age of the temporary modification.

f. The inspector discussed this item with the Radiological Service Superintendent, who stated that a program was underway to convert the active shielding items to Design Changes. The expected completion date is December 1992.

The inspector identified this item at the end of the inspection period and considers this an open item pending additional review by the inspector and the licensee to determine if a Safety Evaluation is required, a dynamic stress package is appropriate, and if this item should be addressed by the Temporary Modification process. (Open Item 255/92018-02(DRP)).

One open item and no violations, deviations or unresolved items were identified.

4. Maintenance (62703, 42700)

Maintenance activities in the plant were routinely inspected, including both corrective maintenance (repairs) and preventive maintenance. Mechanical, electrical, and instrument and control group maintenance activities were included as available.

The focus of the inspection was to assure the maintenance activities reviewed were conducted in accordance with approved procedures, regulatory guides and industry codes or standards and in conformance with Technical Specifications. The following items were considered during this review: the Limiting Conditions for Operation were met while components or systems were removed from service; approvals were obtained prior to initiating the work; activities were accomplished using approved procedures; and post maintenance testing was performed as applicable.

The licensee has revised the Corporate Quality Assurance manual to delete the use of quality control inspectors for verification of the work quality performed by the plant maintenance department. The quality control inspections have been replaced by inspections performed by maintenance personnel who have demonstrated an equivalent skill (or greater) of the individual performing the repair activities. To monitor the implementation of the Quality Verification Program (QVP) the licensee has established a temporary (approximately 7 months) program that will monitor and document the progress of the QVP. The QVP was placed into service on July 1.

The following work order (WO) activities were inspected:

a. WO 24201812, "Rebuild the P-56B Boric Acid Pump."

   The QVP was implemented for this activity. The inspector verified, by interview with the job supervisor and review of the WO, that the established quality verifications were performed by individuals with the appropriate skill level and independence. The job supervisor was able to discuss the QVP process and describe the independence and/or skill level required for the verification.

b. WO 24202281, "Repair Relief Valve RV-3128 For the "B" Safety Injection Tank."

   The activity required the dedication of commercial grade parts to safety related service. The inspector did a cursory review of the dedication package and interviewed the procurement engineer. The interviews indicated that the engineer was knowledgeable of the dedication process.

No violations, deviations, unresolved or open items were identified.

5. <u>Surveillance</u> (61726, 42700)

The inspector reviewed Technical Specifications required surveillance testing as described below and verified that testing was performed in accordance with adequate procedures. Additionally, test instrumentation was calibrated, Limiting Conditions for Operation were met, removal and restoration of the affected components were properly accomplished, and test results conformed with Technical Specifications and procedure requirements. The results were reviewed by personnel other than the individual directing the test and deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel.

The following activities were inspected or reviewed:

a. QO-19, "Low Pressure Safety Injection Pump Test."

b. QO-17, "Service Water Pump Test."

The inspector observed that the inservice inspection pump discharge pressure gauge (PS-1346) was cycling approximately 8 psi which required an estimate of the reading. The inspector noted that there was no attempt to use an instrument isolation valve to dampen the oscillations. This was discussed with the operator who noted the observation as an item on the procedure improvement sheet.

c. SI-7, "Functional Test of the Fire Detection System Outside Containment."

d. The inspector reviewed Administrative Procedure 10.41, "Procedure on Procedures." Section 15.0 discusses the periodic review process for procedures. Section 15.0 specified a technical review every two years. The inspector questioned if this was the appropriate review cycle for refueling frequency surveillance tests. If the fuel cycle is short, then the procedures could be reviewed and revised every other fuel cycle. This could create a condition where lessons learned are not incorporated until the next fuel cycle. This was discussed at the exit interview.

No violations, deviations, unresolved or open items were identified.

6. <u>Inspection of the Ventilated Concrete Cask Fabrication</u> (37700)

a. <u>Background</u>

The licensee contracted with Pacific Sierra Nuclear Corporation (PSN) to design and construct a dry cask spent fuel storage facility for long term temporary storage of spent fuel. The licensee will document a 10 CFR 50.59 evaluation as required by 10 CFR 72.212 (Subpart K), demonstrating that use for dry storage of spent fuel will not create an unreviewed safety question or require a Technical Specification (TS) change.

The PSN cask design consists of a steel multi-assembly basket (MSB) which holds 24 spent fuel assemblies (sealed) and a steel clad ventilated concrete cask (VCC) which provides biological shielding and MSB protection. PSN has NRC approval to build eight concrete casks and three multi-assembly baskets. The certificate of compliance that would permit use of the casks was pending NRC approval at the time of inspection.

b. <u>Inspection</u>

This inspection was conducted using the specifications, drawings, standards, codes, and commitments described in the vendor's request for design certification. The inspector observed the placement of concrete for VCC casks 4, 7 and 8. The observations documented below apply to cask 8. Additionally, the observations marked with an asterisk apply to casks 4 and 7.

(1) Cement Type II in accordance with ASTM C150

"Specification for Portland Cement" was used.

(2) Aggregate size and type was inspected and complied with the PSN Specification requirement.

(3) The Concrete mix design complied with American Concrete Institute (ACI)-318, Chapter 4 and 5, with compressive strength of 4000 PSI and course aggregate size 57, specified.

* (4) Placement of reinforcement was in accordance with drawing and specification requirements.

(5) Preplacement inspection of concrete forms and materials was made as required by specification requirements.

* (6) Placement of the concrete in the forms was observed and complied with ACI 301 requirements.

* (7) Observations of the use of vibrators to consolidate the concrete were in compliance with ACI 301 requirements.

(8) Observations of slump, temperature, and air content inspections were in compliance with applicable ACI requirements.

(9) Test cylinders were prepared in accordance with the American Society for Testing Materials (ASTM) C31.

(10) Testing was performed by a independent testing laboratory with certified testing personnel utilizing calibrated testing equipment.

* (11) All testing and placement of the concrete was inspected in progress by the PSN inspector and the licensee's surveillance engineer.

(12) Documentation of the fabrication and inspection criteria was recorded on the process control sheet as required by the Specification (CVCC-89-001).

c. <u>Conclusion</u>

The licensee's corrective action taken in response to the unresolved item identified in NRC Inspection Report No. 50-255/92012(DRS), addressed the weaknesses identified (Unresolved Item 255/92012-11). The unresolved item remains open, however, until receipt and review by the NRC of the written response that was requested from the licensee. Test results for the tests performed by the independent laboratory have not been reviewed by the NRC inspector, but will be included with the QA Data Package when the licensee accepts the vessels. The licensee plans to perform receipt inspection, and will review the independent laboratory results at that time. NRC review of the inspection and fabrication records will be performed subsequent to the licensee's review.

7. Safety Assessment/Quality Verification (37701, 38702, 40704, 92720)

The effectiveness of management controls, verification and oversight activities, in the conduct of jobs observed during this inspection, was evaluated.

The inspector frequently attended management and supervisory meetings involving plant status and plans and focused on proper coordination among departments.

The results of licensee auditing and corrective action programs were routinely monitored by attendance at Corrective Action Review Boards (CARB) and by review of Condition Reports, Problem Reports, Radiological Deficiency Reports, and security incident reports. As applicable, corrective action program documents were forwarded to NRC Region III technical specialists for information and possible followup evaluation.

No violations, deviations, unresolved or open items were identified.

8. Reportable Events (92700, 92720)

The inspector reviewed the following Licensee Event Reports (LERs) by means of direct observation, discussions with licensee personnel, and review of records. The review addressed compliance to reporting requirements and, as applicable, that immediate corrective action and appropriate action to prevent recurrence had been accomplished.

a. (Closed) LER 91009: Qualified Core Exit Thermocouple Inoperable and Cannot Be Repaired While the Plant is at Power.

This informational LER was submitted as a special report after environmentally qualified core exit thermocouple (CET) No. 16 was declared inoperable, and could not be repaired while the plant was at power. The LER was issued per the reporting requirement of proposed Technical Specification (TS) change, dated September 2, 1988. The proposed TS required the restoration of the inoperable channel(s) within 7 days or the submittal of a special report to the NRC within 30 days, when the number of operable qualified CETs per quadrant is less than four but greater than or equal to two.

The cause of the CET failure was an open lead between the CET and the recorder. The remaining three CETs in the affected quadrant were operable at the time. The CET was replaced during the 1992 refueling outage. The inspector has no further concerns regarding this issue and this LER is closed.

b. (Closed) LER 91011: Seismic Qualification of Qualified Incore Detector Electrical Connectors.

On June 27, 1991, the licensee determined that the environmentally qualified CETs were in an unanalyzed condition because their electrical connectors were not supported or connected as described in the seismic analysis. The contractor performing head restoration work reported, after the plant was returned to service, that two supports were broken. The contractor did not report the problem during the outage because he was not aware of the safety-significant application of the posts. Both NUREG-0737, "Instrumentation for the Detection of Inadequate Core Cooling", and Reg Guide 1.97 require that CETs be environmentally and seismically qualified. The inspectors documented their review of the licensee's interim operability justification for continued operation in Inspection Report 255/91012. The licensee subsequently determined that I&C technicians did not attach the CET cables to their supports as part of their installation sequence; therefore, the majority of the CETs were not supported as required.

The cause of the event was an inadequate procedure. The procedure used by the I&C group did not include instructions for attaching the CET cables to their supports. As corrective action, the licensee revised affected procedures to include the appropriate instructions. The licensee also revised the design of the supports to reduce susceptibility to damage. These revisions were incorporated during the 1992 refueling outage. Certain of these activities appear to be in violation of NRC requirements. However, the licensee identified this violation and it is not being cited because the criteria specified in Section V.G of the "General Statement of Policy and Procedures for NRC Enforcement Actions," (Enforcement Policy, 10 CFR Part 2 Appendix C (1991)), were satisfied. This LER is closed.

c. (Closed) LERs 91-18 and 92-28: Electrical Cable Routing Anomalies.

(Closed) LERs 92-05, 92-07 and 92-16: Lack Of Adequate Electrical Circuit Isolation.

An NRC electrical specialist was onsite on July 15 and August 7, 1991, to evaluate licensee's electrical cable routing anomalies reported in LER 91-14. The inspection results were documented in report 255/91015.

On June 10 and 11, 1992, a followup inspection was performed to evaluate additional Appendix R and other routing anomalies reported and to determine if Appendix R, "Fire Protection" requirements were considered.

Configuration Control Project (CCP) program, task 2.2.B, verified and upgraded the data base for the circuits and raceway schedule (CRS). This program was established in May 1990. Task 2.2.B reviewed the available cable routing design information from schematic diagrams and physical routing drawings of electrical cables/raceway.

Additionally Task 2.2.B determined the appropriate channelization, physical routing, and implemented changes to the CRS data base. Prior to the effort, 12,859 circuits had only 26 channel assignments and 9172 raceways had only 12 assigned channel data. The remaining CRS will be evaluated during this effort to confirm their existence and to obtain the information necessary for channel assignments. Task 2.2.B completion date was scheduled for August 1992.

During this inspection, the inspector attempted to determine whether additional cable routing concerns, specifically those similar to the one reported in LER 92-028, existed. LER 92-028, reported that the power supplies and cable routing for the Emergency Diesel Generator (EDG) rooms ventilation fans did not meet Appendix R requirements. As a result, a single failure due to fire in the cable spreading room could render both EDGs inoperable from elevated room temperature due to a lack of adequate EDG room ventilation. The licensee has instituted compensatory measures which will be in effect until the cables are rerouted in the Fall of 1992.

The inspector reviewed LERs, engineering documents, design drawings, modifications and interviewed engineering and operations personnel. Based on this review, the inspector determined that the CRS anomalies identified were mostly based on inconsistencies found in design documents which were verified by field walkdowns to confirm the potential conditions. For example, LER 91-014 identified documentation inconsistencies for 38 safety-related cables. These inconsistencies indicated that the cables were routed in the opposite (redundant) channel raceway which was contrary to cable separation requirements and FSAR commitments. Subsequently, field routing verifications, using a cable electromagnetic signal inducer, determined that 101 additional circuits were potentially misrouted.

During this process the licensee identified incorrectly channelized circuits, circuits routed in raceways other than those the drawings indicated, and circuits routed in common cable trays even though they performed redundant functions. For example, six cable penetrations containing 602 cables were found in the control room floor; these penetrations and cables had not been identified on existing drawings. Partial field verifications of the 602 cables identified additional Class 1E cables. Additional findings included circuits incorrectly classified as 1E, raceways not correctly channelized, routing not as shown on drawings and modifications not entered in CRS. As part of the licensee's proposed corrective action to address the noted anomalies, some of the circuits noted above were determined to require rerouting while others were dispositioned using engineering safety evaluations and an exemption request.

The licensee informed the inspector that the walkdowns have verified the critical circuits which were misrouted. The cause of these deviations from separation requirements has been attributed to (1) a non-uniform interpretation of design criteria for channelizing electrical cables, and (2) the unavailability of a single, complete and reliable source of documentation for electrical circuit routing and channelization. Most deviations occurred during initial plant construction.

The inspector determined that Appendix R was not considered in the scope of the CCP; however, the licensee was considering a Design Basis Documentation (DBD) review of Appendix R design data. The licensee has initiated a pilot program to review and enhance Appendix R design documents and make the Appendix R program more user-friendly. The licensee stated that completion of the program will provide a much higher assurance and confidence that no significant safety issues exist relative to violations of Appendix R separation requirements.

The inspector determined that whenever cable separation and channelization anomalies were identified, physical verification of installed routing was performed to determine adequacy of routing, cable ampacity, tray fill and if the installations met design requirements. However, the inspector noted that the licensee did not expand the program to include additional field walkdowns of safety-related cables that were not identified as discrepant during

the design document reviews but could also have been potentially misrouted.

No violations, deviations, unresolved or open items were identified.

9. Region III Requests (92705)

a. By memorandum dated June 19, 1992, Mr. J. G. Partlow, Associate Director of Projects, Office of Nuclear Reactor Regulation, requested data concerning the unavailability of the emergency diesel generators due to testing or maintenance (preventative or corrective). The information was obtained by reviewing the shift logs and the diesel generators performance indicator log. The information was provided by separate correspondence dated July 9, 1992, to the Region III Technical Support Staff.

b. On September 12, 1991, a utility discovered that a 450 pound Jet pump, stored in the spent fuel pool (SFP), dropped approximately 4.5 feet. It was resting on fuel racks that contained five spent fuel assemblies; no fuel damage was observed. The pump was stored in the SFP since 1981 and secured to the side of the pool by a single carbon steel cable. Surveys of the pool performed in 1990 and 1991, indicated that the cable was showing signs of decay. The cable was scheduled for replacement.

The NRC developed a questionnaire to evaluate the licensee program for control of components, other than spent fuel, that were stored in the spent fuel pool. The inspector completed the questionnaire by interview with the onsite group responsible for foreign material exclusion control and a visual inspection of the spent fuel pool. The results were provided by separate correspondence dated July 15, to the Region III Technical Support Staff.

No violations, deviations, unresolved or open items were identified.

10. Open Items

Open items are matters which have been discussed with the licensee, and will be reviewed further by the inspector. These involve some action on the part of the NRC or licensee or both. Open items identified during the inspection are discussed in Paragraphs 2.e.(2) and 3.

11. Management Interview

The inspectors met with licensee representatives - denoted in Paragraph 1 - on July 15, 1992, to discuss the scope and findings of the inspection. In addition, the likely informational content of the inspection report with regard to documents or processes reviewed by the inspectors during the inspection was also discussed. The licensee did not identify any such documents or processes as proprietary.

A non-cited violation was identified and discussed in the cover letter and paragraph 8.b, "Reportable Events - LER 91011: Seismic Qualification of

Qualified Incore Detectors" of this report. The non-cited violation pertained to the installation of incore detectors.

Highlights of the exit interview are discussed below:

a. Strengths noted:

(1) Management of the response to the plant trip (paragraph 2.b, "Reactor Trip").

(2) Strong technical discussion of post trip report by the startup PRC (paragraph 2.c, "Plant Review Committee (PRC)").

(3) Use of trainees to perform reactivity changes and the close supervision provided by the reactor operators (paragraph 2.d, "Criticality").

(4) Preplanning activities, operator training and degree of written response procedure for a "un-staged" Primary Coolant Pump Seal (paragraph 2.f, "Primary Coolant Pump Seal Staging").

(5) Improvements made in the process for manufacturing of the concrete spent fuel cask (paragraph 6, "Inspection of the Ventilated Concrete Cask Fabrication").

b. Weaknesses noted:

(1) Incorrect information provided in the 10 CFR 50.72 notification and the delay in resolving the error (paragraph 2.b.(1), "Reactor Trip").

(2) Problem with post trip review of information and the failure to identify/resolve a recurring problem (paragraph 2.b.(4), "Reactor Trip").

(3) Number of administrative errors contained in a shielding evaluation (paragraph 3. "Radiological Controls").

c. Open Items

The open items pertaining to containment penetration cooling (paragraph 2.e.(2), "Tours") and shielding evaluations (paragraph 3, "Radiological Controls") were discussed.

d. The general topic of Quality Verification was discussed. The inspector stated that RIII was aware of the licensee implementation schedule and will look at the program during subsequent inspections (paragraph 4, "Maintenance").

e. The periodic procedure review process and if program enhancement could be made as the process was applied to refueling-frequency surveillance procedures was discussed (paragraph 5.d, "Surveillance").

f. The inspector questioned if shielding that was placed on piping did not classify as a Temporary Modification and require the controls of a Temporary Modification (paragraph 3.e, "Radiological Controls").

g. The two Region III requests were discussed (paragraph 9.a & b, "Region III Requests").