April 19, 2004

Mr. Daniel J. Malone
Site Vice President
Palisades Nuclear Plant
Nuclear Management Company, LLC
27780 Blue Star Memorial Highway
Covert, MI 49043-9530

SUBJECT: PALISADES NUCLEAR PLANT
NRC INSPECTION REPORT 05000255/2004002

Dear Mr. Malone:

On March 31, 2004, the U. S. Nuclear Regulatory Commission (NRC) completed an inspection at your Palisades Nuclear Plant. The enclosed report documents the inspection findings which were discussed on March 30, 2004, with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection no findings of significance were identified.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Eric R. Duncan, Chief
Branch 6
Division of Reactor Projects

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

Enclosure: Inspection Report 05000255/2004002
w/Attachment: Supplemental Information

See Attached Distribution

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-255
License No:	DPR-20
Report No:	050000255/2004002
Licensee:	Nuclear Management Company, LLC
Facility:	Palisades Nuclear Generating Plant
Location:	27780 Blue Star Memorial Highway Covert, MI 49043-9530
Dates:	January 1 through March 31, 2004
Inspectors:	J. Lennartz, Senior Resident Inspector M. Garza, Resident Inspector R. Alexander, Radiation Protection
Approved by:	Eric R. Duncan, Chief Branch 6 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000255/2004002; 01/01/2004 - 03/31/2004; Palisades Nuclear Plant; Routine Integrated Inspection Report.

This report covers a 3-month period of baseline resident inspections and announced baseline inspections in radiation protection and licensed operator requalification. The inspections were conducted by the resident inspectors and a radiation specialist inspector. No findings of significance were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. Inspector-Identified and Self-Revealed Findings

No findings of significance were identified.

B. Licensee-Identified Violations

None.

REPORT DETAILS

A list of documents reviewed within each inspection area is included at the end of the report.

Summary of Plant Status

The plant operated at full power during the inspection period except during February 18-22, 2004, when plant power was reduced for the following reasons:

- February 18th: plant power was reduced to 72 percent power to troubleshoot 1B Main Feedwater Pump governor problems.

- February 19th: following troubleshooting activities, plant power was reduced to 59 percent and the 1B Main Feedwater Pump was removed from service to conduct repairs.

- February 20th: plant power was raised to 68 percent while completing necessary repairs on the 1B Main Feedwater Pump. Following repair activities, plant power was lowered to 58 percent to place the 1B Main Feedwater Pump back in service and a power escalation was commenced.

- February 21st: the power escalation was stopped to conduct main turbine valve testing with plant power at 75 percent. Following valve testing, a power escalation to full power was commenced.

Plant power was returned to full power on February 22nd where it remained for the duration of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, and Emergency Preparedness

1R04 Equipment Alignment

.1 Partial Walkdowns (71111.04Q)

a. Inspection Scope

The inspectors performed three partial equipment alignment walkdowns on the following safety-related equipment:

- Auxiliary Feedwater Pump P-8C was verified to be properly aligned when Auxiliary Feedwater Pump P-8B was removed from service for planned maintenance on January 14, 2004.

- High Pressure Safety Injection Pump P-66B was verified to be properly aligned when High Pressure Safety Injection Pump P-66A was removed from service for planned maintenance on February 24, 2004.

- Emergency Diesel Generator 1-2 was verified to be properly aligned when Emergency Diesel Generator 1-1 was removed from service for planned maintenance on March 2-6, 2004.

During the walkdowns, the inspectors verified that power was available, that accessible equipment and components were appropriately aligned, and that no discrepancies existed which would impact system function.

The inspectors also reviewed selected condition reports related to equipment alignment problems and verified that identified problems were entered into the corrective action program with the appropriate significance characterization and that planned and completed corrective actions were appropriate and implemented as scheduled.

b. Findings

No findings of significance were identified.

.2 Complete Walkdown (71111.04S)

a. Inspection Scope

The inspectors performed one complete walkdown inspection of the Low Pressure Safety Injection System utilizing piping and instrumentation diagrams, system operating procedures, and system checklists to verify that accessible system components were correctly aligned. The inspectors also reviewed open maintenance work orders to verify that the equipment's safety function was not adversely impacted.

The inspectors reviewed select condition reports associated with the Low Pressure Safety Injection System to verify that identified problems were entered into the corrective action program with the appropriate significance characterization. The inspectors also verified that planned and completed corrective actions were appropriate.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

.1 Fire Area Walkdowns (71111.05Q)

a. Inspection Scope

The inspectors toured the following six fire areas in which a fire could affect safety-related equipment:

- Component Cooling Water Room, Fire Area 16;
- Central Mechanical Equipment Room, Fire Area 29;
- Control Room Complex, Fire Area 1;
- Emergency Diesel Generator 1-2 Day Tank Room, Fire Area 8;
- Intake Structure, Fire Area 9; and
- Auxiliary Feedwater Pump Room, Fire Area 24.

The inspectors verified that transient combustibles and ignition sources were appropriately controlled, and that the installed fire protection equipment in the fire areas corresponded with the equipment which was referenced in the Updated Final Safety Analysis Report, Section 9.6, "Fire Protection." The inspectors also assessed the material condition of fire suppression systems, manual fire fighting equipment, smoke detection systems, and fire barriers. In addition, the inspectors reviewed documentation for completed surveillances to verify that fire protection equipment and fire barriers were tested as required to ensure availability.

b. Findings

No findings of significance were identified.

1R06 Flood Protection (71111.06A)

a. Inspection Scope

The inspectors performed one inspection of equipment designated in the Updated Final Safety Analysis Report which required protection from flooding due to failures of nonsafety-related systems. Specifically, the inspectors verified the adequacy of internal flood protection features for the safety-related 2400 Volt Switchgear Bus 1C.

The inspectors conducted walkdowns noting the following attributes associated with the Switchgear Bus 1C Room:

- Holes or unsealed penetrations in floors, ceilings and walls;
- Common drain system and sumps, including floor drain piping; and
- Sources of potential internal flooding that were not analyzed or were not adequately maintained.

The inspectors also reviewed selected condition reports related to flood protection problems and verified that identified problems were entered into the corrective action program with the appropriate significance characterization and that planned and completed corrective actions were appropriate and implemented as scheduled.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance (71111.07)

a. Inspection Scope

The inspectors completed one heat sink performance inspection related to the Emergency Diesel Generator 1-1 heat exchangers which were directly connected to the service water system. The inspectors observed portions of inspection and cleaning activities that were completed on the lube oil and jacket water heat exchangers. The inspectors observed the as-found condition when the heat exchangers were initially opened and the as-left condition of the heat exchangers following cleaning activities. The inspectors verified that no deficiencies existed which would adversely impact the heat exchangers' ability to transfer heat from the lube oil and jacket water systems to the service water system as designed.

The inspectors reviewed documented heat exchanger inspections to verify that engineering personnel completed the inspections and tests prescribed in Chemistry Procedure 1.11, "Biofouling and MIC (Microbiologically Induced Corrosion) Control Program," and Engineering Manual Procedure 09-16, "Heat Exchanger Condition Assessment Program."

The inspectors reviewed condition reports related to heat exchanger problems and verified that identified problems were entered into the corrective action program with the appropriate significance characterization and that planned and completed corrective actions were appropriate and implemented as scheduled.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11Q)

a. Inspection Scope

The inspectors observed one crew of licensed operators during simulator training on January 28, 2004. The inspectors assessed the operators' ability to use Off-Normal and Emergency Operating plant procedures to mitigate the following simulated events:

- Ground on a 2400 Volt electrical bus which caused a safeguards bus fast transfer concurrent with a momentary loss of voltage that resulted in a loss of heater drain pumps and dilution water pumps;
- Failed speed controller on the in-service charging pump resulting in a lowering pressurizer level;
- Loss of one main feedwater pump requiring a manual reactor trip concurrent with a loss of one switchyard bus, failure of two service water pumps, and the third service water pump failed to automatically start which required a manual start to supply cooling water to the emergency diesel generators; and
- Loss of all auxiliary feedwater.

The inspectors also observed the post-scenario critique to assess the licensee evaluators' and the crew's ability to self-identify performance weaknesses.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation (71111.13Q)

a. Inspection Scope

The inspectors reviewed Operator's Risk Reports to verify that plant risk assessments were completed as required by 10 CFR 50.65(a)(4) prior to commencing maintenance activities. The inspectors reviewed the Operations Log and daily maintenance schedules to verify that equipment necessary to minimize plant risk was operable or available as required during planned and emergent maintenance activities. The inspectors also conducted plant walkdowns to verify that equipment necessary to minimize risk was available for use. The following five activities were reviewed:

- Planned maintenance on January 19-23, which included Low Pressure Safety Injection Pump P-67A motor breaker replacement; Emergency Diesel Generator 1-2 monthly surveillance test; and corrective maintenance on Containment Spray Pump P-54A.

- Maintenance activities on February 2-6, which included planned Reactor Protection System surveillance testing; planned Emergency Diesel Generator 1-2 monthly surveillance test; and emergent troubleshooting on governor speed control for Main Feedwater Pump 1B.

- Emergent maintenance on February 18-21, to troubleshoot and repair 1B Main Feedwater Pump speed control governor.

- Planned maintenance on Emergency Diesel Generator 1-1 on March 2-7.

- Emergent maintenance on Emergency Diesel Generator 1-2 on March 17-20.

The inspectors also verified that condition reports related to emergent equipment problems were entered into the corrective action program with the appropriate significance characterization.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed post maintenance testing for the following six activities:

- Corrective maintenance on Service Water Pump P-7A Breaker 152-204;
- Preventive maintenance on Auxiliary Feedwater Pump P-8B;
- Low Pressure Safety Injection Pump P-67A Breaker 152-206 replacement;
- Corrective maintenance on Positioner PO-1711 for Control Room Ventilation Modulating Damper D-20;
- High Pressure Safety Injection Pump P-66A Breaker 152-207 replacement; and
- Preventive maintenance on Emergency Diesel Generator 1-1.

The inspectors observed portions of the post maintenance testing and reviewed documentation to verify that the tests were performed as prescribed by the work orders and test procedures. The inspectors also verified that applicable testing prerequisites were met prior to the start of the tests and that the effect of testing on plant conditions was adequately addressed by the control room operators.

The inspectors also reviewed post maintenance testing criteria to verify that the test criteria and acceptance criteria were appropriate for the scope of work performed; reviewed completed tests and associated procedures to verify that the tests adequately verified system operability; and reviewed documented test data to verify that the data was complete and that the equipment met the prescribed acceptance criteria.

Further, the inspectors reviewed condition reports to verify that post maintenance testing problems were entered into the corrective action program with the appropriate significance characterization. For select condition reports, the inspectors verified that the corrective actions were appropriate and implemented as scheduled.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed five surveillance tests which were conducted on the following risk-significant plant equipment:

- Anticipated Transient Without Scram (ATWS) automatic start of the Turbine Driven Auxiliary Feedwater Pump P-8B;
- High Pressure Safety Injection Pump P-66A and Engineered Safeguards System Check Valve Operability Test;
- Reactor Protection System Matrix Relay Test;
- Low Pressure Safety Injection Pump P-67B Inservice Testing; and
- Auxiliary Feedwater Pump P-8C Inservice Testing.

The inspectors observed portions of the testing to verify that appropriate test procedures were utilized. The inspectors also reviewed the documented test data for the Technical Specification Surveillance Test procedures and the associated basis documents to verify that testing acceptance criteria were satisfied.

In addition, the inspectors reviewed applicable portions of Technical Specifications, the Updated Final Safety Analysis Report, and design basis documents to verify that the surveillance tests adequately demonstrated that system components could perform required safety functions.

Further, the inspectors reviewed selected condition reports regarding surveillance testing activities. The inspectors verified that the identified problems were entered into the licensee's corrective action program with the appropriate significance characterization and that the planned and completed corrective actions were appropriate.

b. Findings

No findings of significance were identified.

1REP Equipment Availability, Reliability and Functional Capability (71111.EP)

.1 Quarterly Maintenance Effectiveness Reviews

a. Inspection Scope

The inspectors conducted two maintenance effectiveness reviews for the following structures, systems, and components (SSCs):

- •. 125 Volt Vital Direct Current (DC) Power System
- • Service Water Pump P-7A

The inspectors reviewed the licensee's implementation of the maintenance rule requirements to verify that component and equipment failures were evaluated and appropriately dispositioned. The inspectors also verified that the selected systems and components were scoped into the maintenance rule and properly categorized as (a)(1) or (a)(2) in accordance with 10 CFR 50.65.

The inspectors reviewed the licensee's maintenance rule performance indicators to verify that the equipment status had been appropriately categorized in accordance with the maintenance rule program; reviewed a sample of related condition reports written over the last two years to verify that the corrective actions for identified problems were appropriate; reviewed completed work orders and work order histories to determine if there was an adverse trend in equipment performance that could be attributed to inappropriate work practices and to determine if there were any common cause issues that had not been addressed. Additionally, the inspectors reviewed the licensee's performance criteria to verify that the criteria adequately monitored equipment performance.

b. Findings

No findings of significance were identified.

.2 Operability Evaluations

a. Inspection Scope

The inspectors reviewed four operability assessments as documented in the associated condition reports for the following risk-significant plant equipment:

- Positioner POS-1712 for Control Room Ventilation Damper D-20;
- Chemical and Volume Control System Charging Pumps;
- Reactor Protection System Trip Unit; and
- Emergency Diesel Generator 1-1.

The inspectors interviewed the cognizant engineers and reviewed the supporting documents to assess the adequacy of the operability assessments for the current plant mode or past operability as applicable. The inspectors also reviewed the applicable sections of the Technical Specifications, Updated Final Safety Analysis Report, and design basis documents to verify that the operability assessments were technically adequate and that the components remained available, such that no unrecognized increase in plant risk had occurred.

In addition, the inspectors verified that the condition reports generated for equipment operability issues were entered into the licensee's corrective action program with the appropriate significance characterization.

b. Findings

No findings of significance were identified.

.3 Temporary Plant Modifications

.a Inspection Scope

The inspectors reviewed documentation for one temporary modification. System Operating Procedure 21, Attachment 2, "Supply Fire Header Pressure With Service Water Booster Pump," was designated as a temporary modification which was positively identified and controlled in an approved procedure. The inspectors verified that Attachment 2 met the requirements for a procedurally controlled temporary modification as specified in Administrative Procedure 9.31, "Temporary Modification Control." The inspectors also reviewed the 10 CFR 50.59 safety evaluation to verify that using the service water booster pumps to supply fire header pressure would not adversely impact other safety-related equipment. The inspectors also conducted documentation reviews and plant walkdowns using the prescribed procedure attachment and plant drawings to verify that the modification could be implemented as designed.

b. Findings

No findings of significance were identified.

1EP6 Emergency Preparedness Drill Evaluation (71114.06)

a. Inspection Scope

The inspectors observed a simulator training session for one crew of licensed operators on January 28, 2003, in which the Shift Manager was required to implement the emergency plan in response to simulated plant conditions. Licensee Emergency Preparedness personnel had pre-designated that the opportunities for the Shift Manager to classify the event and make required notifications would be evaluated and included in performance indicators regarding Drill and Exercise Performance.

The inspectors verified that the Shift Manager classified the emergency condition and completed the required notifications to State and Local Police authorities in an accurate and timely manner as required by the emergency plan implementing procedures. The inspectors also reviewed the Emergency Preparedness Evaluators' summary report to verify that the performance indicator data regarding Drill and Exercise Performance was accurate.

In addition, the inspectors reviewed condition reports to verify that identified problems regarding emergency preparedness were entered in the licensee's corrective action program with the appropriate significance characterization. For select condition reports, the inspectors verified that planned and completed corrective actions were appropriate to address the problem and implemented in a timely manner commensurate with the safety significance.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Public Radiation Safety (PS)

2PS2 Radioactive Material Processing and Transportation (71122.02)

.1 Radioactive Waste System Description and Waste Generation

a. Inspection Scope

The inspectors reviewed the liquid and solid radioactive waste system description in the Updated Final Safety Analysis Report (UFSAR) and the 2002 Radiological Environmental Operating Report for information on the types and amounts of radioactive waste (radwaste) generated and disposed. The inspectors reviewed the scope of the licensee's audit program with regard to radioactive material processing and transportation programs to verify that it met the requirements of 10 CFR 20.1101(c).

These reviews represented one inspection sample.

b. Findings

No findings of significance were identified.

.2 Radioactive Waste System Walk-Downs

a. Inspection Scope

The inspectors performed walkdowns of the liquid and solid radwaste processing systems to verify that the systems agreed with the descriptions in the UFSAR and the Process Control Program, and to assess the material condition and operability of the systems. The inspectors reviewed the status of radioactive waste process equipment that was not operational and/or was abandoned in place. The inspectors reviewed the licensee's administrative and physical controls to ensure that the equipment would not contribute to an unmonitored release path or be a source of unnecessary personnel exposure.

Though there were no changes to the waste processing system since the last inspection in this area, the inspectors discussed with licensee staff plans for changes to the system and the depth of the evaluations (i.e., 10 CFR 50.59 evaluations) anticipated to be completed in conjunction with the modifications. The inspectors reviewed the current processes for transferring waste resin into shipping containers to determine if appropriate waste stream mixing and/or sampling procedures were utilized. The inspectors also reviewed the methodologies for waste concentration averaging to determine if representative samples of the waste product were provided for the purposes of waste classification in 10 CFR 61.55.

This review represented one inspection sample.

b. Findings

No findings of significance were identified.

.3 Waste Characterization and Classification

a. Inspection Scope

The inspectors reviewed the licensee's radiochemical sample analysis results for each of the licensee's waste streams, including Evaporator Bottoms, Resins, Dry Active Waste (DAW), and Filters. The inspectors also reviewed the licensee's use of scaling factors to quantify difficult-to-measure radionuclides (e.g., pure alpha or beta emitting radionuclides). The reviews were conducted to verify that the licensee's program assured compliance with 10 CFR 61.55 and 10 CFR 61.56, as required by Appendix G of 10 CFR Part 20. The inspectors also reviewed the licensee's waste characterization and classification program to ensure that the waste stream composition data accounted for changing operational parameters and thus remained valid between the sample analysis updates.

This review represented one inspection sample.

b. Findings

No findings of significance were identified.

.4 Shipment Preparation and Shipping Records

a. Inspection Scope

The inspectors reviewed the documentation for shipment packaging, surveying, labeling, marking, placarding, vehicle checks, emergency instructions, disposal manifest, shipping papers provided to the driver, and licensee verification of shipment readiness for seven, non-excepted radioactive material and waste shipments during calendar years 2002 and 2003. These shipments included:

- High Integrity Container of Dewatered T-100 Resin to Chem-Nuclear, Barnwell, SC [for burial] - Low Specific Activity (LSA)-II
- High Integrity Container of Dewatered Resin to Studsvik Processing Facility, Erwin, TN [for final processing] - LSA-II
- High Integrity Container of Dewatered Filters to Chem-Nuclear, Barnwell, SC - LSA-II
- Contaminated Laundry to Unitech, Morris, IL - LSA-II
- Control Rod Drive Housings to Westinghouse, Madison, PA - Type A
- Control Rod Drive Mechanism Metal Waste to US Ecology, Oak Ridge, TN -Type A
- Reactor Head Stud Cleaning Equipment to Indian Point Energy Center, Buchanan, NY - Surface Contaminated Object (SCO)-I

The inspectors verified that the requirements of any applicable transport cask Certificate of Compliance were met and verified that the receiving licensee was authorized to receive the shipment packages. The inspectors verified that the licensee's procedures for cask loading and closure procedures were consistent with the vendor's approved procedures.

Additionally, the inspectors reviewed shipment packaging, surveying, labeling, marking, placarding, vehicle checks, emergency instructions, disposal manifest, shipping papers provided to the driver, and licensee verification of shipment readiness for four packages of contaminated laundry shipped to Unitech, Morris, IL (LSA-II) on March 4, 2004. The inspectors observed radiation worker practices to verify that the workers had adequate skills to accomplish each task and to determine if the shippers were knowledgeable of the shipping regulations and whether shipping personnel demonstrated adequate skills to accomplish the package preparation requirements for public transport with respect to NRC Bulletin 79-19 and 49 CFR Part 172 Subpart H. The inspectors also reviewed the training records and lesson plans for training provided to personnel responsible for the conduct of radioactive waste processing and radioactive shipment preparation activities. The review was conducted to verify that the licensee's training program provided training consistent with NRC and Department of Transportation requirements.

These reviews represented two inspection samples.

b. Findings

No findings of significance were identified.

.5 Identification and Resolution of Problems

a. Inspection Scope

The inspectors reviewed Corrective Action Program (CAP) documents, audits and self-assessments that addressed radioactive waste and radioactive materials shipping program deficiencies since the last inspection, to verify that the licensee had effectively implemented the corrective action program and that problems were identified, characterized, prioritized and corrected. The inspectors also verified that the licensee's self-assessment program was capable of identifying repetitive deficiencies or significant individual deficiencies in problem identification and resolution.

The inspectors also reviewed corrective action reports from the radioactive material and shipping programs since the previous inspection, interviewed staff and reviewed documents to determine if the following activities were being conducted in an effective and timely manner commensurate with their importance to safety and risk:

1. Initial problem identification, characterization, and tracking;
2. Disposition of operability/reportability issues;
3. Evaluation of safety significance/risk and priority for resolution;
4. Identification of repetitive problems;
5. Identification of contributing causes;
6. Identification and implementation of effective corrective actions;
7. Resolution of non-cited violations (NCVs) tracked in corrective action system(s); and
8. Implementation/consideration of risk significant operational experience feedback.

Finally, the inspectors reviewed the scope of the licensee's audit program with regard to radioactive material processing and transportation programs to verify that it met the requirements of 10 CFR 20.1101(c).

This review represented one inspection sample.

b Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA1 Performance Indicator Verification (71151)

.1 Reactor Safety Performance Indicators

a. Inspection Scope

The inspectors used definitions and guidance contained in Revision 2 of Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," to verify the accuracy of the data submitted for the following two performance indicators:

- Safety System Functional Failures
- Emergency Diesel Generator Unavailability

The inspectors reviewed the data submitted by licensee personnel for January 2003 through December 2003 to verify that the Performance Indicators were reported accurately. The inspectors reviewed past Licensee Event Reports to verify that a safety system functional failure had not occurred. The inspectors also reviewed logs and completed surveillances that are kept by the cognizant system engineer to verify that data reported to the NRC regarding emergency diesel generator unavailability time was accurate.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

As discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that condition reports were being generated and entered into the corrective action program with the appropriate significance characterization. For select condition reports, the inspectors also verified that identified corrective actions were appropriate and had been implemented or were scheduled to be implemented in a timely manner commensurate with the significance of the identified problem.

b. Findings

No findings of significance were identified.

4OA3 Event Follow-up (71153)

The inspectors reviewed one Licensee Event Report to verify that the event was accurately described, to determine if any violations of NRC requirements occurred, and to assess the appropriateness of identified corrective actions.

.1 (Closed) Licensee Event Report (LER) 50-255/03-003: "Loss of Shutdown Cooling and Emergency Diesel Generator Start."

On March 25, 2003, with the plant shutdown, plant maintenance workers were installing signposts in the parking lot to designate parking spaces. One of the signposts was driven into a conduit and damaged a cable which contained protective relay circuitry for all sources of offsite power. Consequently, offsite power was lost which resulted in a momentary loss of shutdown cooling and the emergency diesel generators started to power the safety equipment.

This issue was previously documented in NRC Special Inspection Report 50-255/03-05, Section 02.2, as a finding of greater than minor significance but was an Unresolved Item (50-255/03-05-01) pending completion of a significance determination review.

The NRC issued a final significance determination letter dated December 31, 2003, which concluded that the March 25, 2003, event was a finding of low to moderate safety significance (White). In addition, the NRC completed a supplemental inspection to assess the corrective actions for the White finding which was documented in Inspection Report 05000255/2004005. The supplemental inspection concluded that the licensee had adequately addressed the root and contributing causes for the event.

The inspectors did not identify any new information of significance in the LER. This LER is closed.

4OA5 Other

.1 (Closed) Temporary Instruction (TI) 2515/154: Spent Fuel Material Control and Accounting at Nuclear Power Plants.

The inspectors completed Phase I and Phase II of the subject TI and provided the appropriate documentation to NRC management as required by the TI.

.2 (Closed) Unresolved Item 05000255/2003006-02: "Failure to Test the ATWS System."

While reviewing surveillance testing for the Auxiliary Feedwater System, the inspectors questioned licensee personnel regarding testing for the ATWS system function to automatically start Steam Driven Auxiliary Feedwater Pump P-8B. Licensee personnel subsequently determined that the function had not been tested since the 1999 refueling outage and generated Condition Report CAP036974, "Failure to Perform ATWS Steam Driven Auxiliary Feedwater Pump Test RPS-I-10," to evaluate this issue.

During the evaluation, licensee personnel determined that in 1991 a commitment was made to the NRC to implement periodic surveillance testing of the ATWS system and to

implement end-to-end functional testing of the system during refueling outages. Appropriate test procedures were subsequently developed and implemented in 1991. The ATWS system function to automatically start Pump P-8B was tested satisfactorily through the 1999 refueling outage in accordance with procedure RPS-I-8, "Anticipated Transient Without Scram (ATWS)/PORV [Power Operated Relief Valve] High Pressurizer Pressure Actuation Functional Test."

Following the 1999 refueling outage, licensee personnel determined that it would be more efficient to test the ATWS function to automatically start Pump P-8B in a separate procedure. Therefore, Test Procedure RPS-I-10, "Auxiliary Feed Pump K8 Auto Start on Loss of AFAS [Auxiliary Feedwater Actuation Signal] DC Control Power," was developed and issued on May 24, 2000.

However, a preventative maintenance activity was not developed to ensure that RPS-I-10 was scheduled during subsequent refueling outages. Consequently, the ATWS system function to automatically start Pump P-8B was not tested during the 2001 and 2003 refueling outages. As a corrective action, licensee personnel generated Work Request 296123 to perform surveillance test RPS-I-10 during the next forced outage of sufficient duration should one occur before the next refueling outage. This issue was considered an unresolved item pending a review of the ATWS system testing results.

Licensee personnel subsequently modified procedure RPS-I-10 to test the ATWS function to automatically start Pump P-8B with the plant at power. On January 14, 2004, the inspectors observed the testing which was completed satisfactorily. Therefore, the inspectors concluded that this issue was of minor significance and Unresolved Item 05000255/2003006-02 is closed.

4OA6 Meetings

.1 Exit Meeting

The inspectors presented the inspection results to Mr. D. J. Malone and other members of licensee management on March 30, 2004. Licensee personnel acknowledged the findings presented. The inspectors asked licensee personnel whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

.2 Interim Exit Meetings

Interim exits were conducted for:

- Public Radiation Safety Radioactive Waste Processing and Transportation Programs Inspection with Mr. D. J. Malone on March 5, 2004.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee
D. Malone, Site Vice President
P. Harden, Site Director
J. Beer, Technical Supervisor, Chemistry and Radiation Protection
T. Blake, Emergency Preparedness Supervisor
M. Carlson, Engineering Director
W. Doolittle, Supervisor/Shipper, Chemistry and Radiation Protection
G. Hettel, Plant Manager
L. Lahti, Licensing Manager
G. Packard, Operations Manager
D. Williams, Chemistry and Radiation Safety Manager

Nuclear Regulatory Commission
D. Hood, Project Manager, NRR
J. Stang, Project Manager, NRR
S. Klementowicz, NRR, Public Radiation Safety Cornerstone Lead Health Physicist

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

05000255/2003006-02	URI	Failure to Test the ATWS system
50-255/03-003	LER	Loss of Shutdown Cooling and Emergency Diesel Generator Start

Discussed

None

LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety but rather that selected sections of portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a documents on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

1R04 Equipment Alignment

Plant Procedures and Miscellaneous Documents

SOP-3, Attachment 18; Checklist 3.9, Engineered Safeguards Administrative Control Verification; Revision 57
SOP-3; Safety Injection and Shutdown Cooling System; Revision 57
SOP-12; Checklist 12.5, Auxiliary Feedwater System Checklist; Revision 43
Piping and Instrument Diagram M-204; Safety Injection and Containment Spray
System Diagram M204, Sheet A; Safety Injection, Containment Spray and Shutdown Cooling System
SOP-22, Attachment 8; Checklist 22.1, Diesel Generators System Checklist; Revision 35

Condition Reports Reviewed to Assess Corrective Actions

CAP037062; Nitrogen Station 3B Regulator Output Higher Than Expected
CAP036441; Discharge Pipe for P-67B Low Pressure Safety Injection Pump Moved Upon Pump Start
CAP037196; Low Pressure Safety Injection Pump P-67B Suction Piping Moved Upon Pump Start

Condition Reports Reviewed to Assess Significance Characterization of Identified Problems

CAP040246; SOP-3 Checklist 3.9 Has Inaccurate Fuse Description
CAP040250; P&ID Missing Electrically Locked Closed (ELC) Designation
CAP040393; MV-DE654 (F-92 D/P Lo Side Isolation) Condition Not Consistent with CL 22.1

1R05 Fire Protection

Plant Procedures

ONP25.2; Off-Normal Procedure - Fire Which Threatens Safety-Related Equipment Fire Areas 12, 10, 30, 31, 16, 29, 8, 1, 9, 24; Revision 12
FPSP-SI-1; Data Sheet for Alarm Bells and Ionization Smoke Detectors for Fire Areas 12, 10, 30, 31, 16, 29, 1, 9, 24, Revision 3
FPSP-RP-11; Fire Barrier Penetration Seal/Conduit Seal Inspection Form for Fire Areas 12, 10, 30, 31, 16, 8, 1, 9, 24; Revision 5

FPSP-RM-5; Palisades Fire Damper Sheet for Fire Areas 12; Revision 2
FPSP-SO-2; Safety-Related Fire Door Data Sheet for Fire Areas 12, 10, 30, 31, 16, 29, 8, 1, 9, 24;Revision 0
FPSP-WP-1; Safety-Related Fire Door Data Sheet Fire Areas 12, 10, 30, 31, 29, 8, 1, 9, 24; Revision 1

1R06 Flood Protection

Final Safety Analysis Report; Table 5.4-1; Safety-Related Equipment That Requires Protection From Flooding Due to Failures of Nonclass 1 Systems; Revision 21
Final Safety Analysis Report; Section 5.4.2; Flooding and Wetting From Plant Sources; Revision 24

Condition Reports Reviewed to Assess Corrective Actions

CAP033818; Deficient Watertight Barrier Inspection - Door 256
CAP033819; Deficient Watertight Barrier Inspection - Boot Seal Damage
CAP033820; Deficient Watertight Barrier Inspection - Boot Seal Missing Fastener Strip
CAP033822; Deficient Watertight Barrier Inspection - Boot Seal Needs Regluing
CAP033823; Deficient Watertight Barrier Inspection - Turbine Building Wall Deterioration
CAP033284; Deficient Watertight Barrier Inspection - Turbine Building Wall Deterioration
CAP037996; Flood Barrier Expansion Joints Are Past Their One-Year Inspection Interval
CPAL0200442; Less Than Adequate HELB Barrier Control

Miscellaneous Documents

Checklist 3.4; Plant Flood Door System Checklist
Letter to Mr. D. Hoffman from D. Crutchfield; Subject; SEP Topic VI-7.D, Long-Term Cooling Passive Failures; April 30, 1981

1R07 Heat Sink Performance

Plant Procedures

EM-09-16, Attachment 1; Heat Exchanger Condition Assessment Program, Heat Exchanger Visual Testing Checklist; Revision 3
CH 1.11, Attachment 1; Biofouling and MIC Control Program, MIC Control Program Inspection Report; Revision 1

Condition Reports Reviewed to Assess Corrective Actions

CAP032048; Configuration of 1-1 EDG E-22A Heat Exchanger End Plate Gasket Differs From Intended Design
CAP032018; Inadequate Documentation of Heat Exchanger Condition
CAP040391; EDG 1-1 Lube Oil Water Cooler Divider Plate Gasket Mispositioned

1R11 Licensed Operator Requalification

Admin 4.16; Off-Normal Procedure Performance Standards
Simulator Performance Exercise - 44; Revision 0

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

Operator's Risk Reports; January 19-23, February 2-6, February 18-21, March 2-7 and March 17-20.
Daily Maintenance Work Schedules; January 19-23, February 2-6, February 18-21, March 2-7 and March 17-20.
Operations Log entries; January 19-23, February 2-6, February 18-21, March 2-7 and March 17-20.

Miscellaneous Documents

Main Feedwater Pump 1B troubleshooting matrix; February 18, 2004

Condition Reports Reviewed to Assess Significance Characterization for Identified Problems

CAP040033; Significant Feed Pump Speed Oscillation
CAP039777; Diverging Main Feed Pump Low Pressure Steam Flows
CAP040100; PCV-1445 Feedwater Turbine K-7B Lube Oil Pump Miniflow Gasket Discrepancy
CAP040098; MV-FW102, P-1B Main Feedwater Pump Discharge Stop Check, Did Not Seat During Trip of B Main Feedwater Pump

1R19 Post Maintenance Testing

Work Orders

24324410; Service Water Pump P-7A Breaker 152-204; January 29, 2004
24420392; Modulating Damper D-20 Positioner; February 7, 2004
24112277; High Pressure Safety Injection Pump P-66A Breaker; February 25, 2004
24321643; Instrument Air to CV-0522B; January 13, 2004
24324165; Auxiliary Feedwater Pump P-8C Turbine Driver; January 13, 2004
24112276; Low Pressure Safety Injection Pump P-67A Breaker; January 21, 2004
24323051; EDG 1-1 Refueling Frequency Maintenance; March 6, 2004

Plant Procedures

QO-14; Inservice Test Procedure - Service Water Pumps; Revision 21
MO-33; Control Room Ventilation Emergency Operation; Revision 9
QO-21; Inservice Testing-Auxiliary Feedwater Pumps for Turbine Driven AFW Pump; Revision 24
SOP-22, Attachment 6; Diesel Generator Log Sheet; Revision 35
SOP-22, Attachment 10; Engine Analysis; Revision 35
MO-7A-1; Technical Specification Test; Emergency Diesel Generator 1-1; Revision 60

Condition Reports Reviewed to Assess Significance Characterization of Identified Problems

CAP039847; PO-1711 Modulating Damper D-20 Positioner Was Modified During Factory Rebuild
CAP040198; Leaking Union in HPSI Seal Cooling Line
CAP040167; PMT Failed on F-4C Spray Nozzle
CAP040418; 1-1 Diesel Generator Crankcase Exhauster Did Not Start When Engine Was Started

Condition Reports Reviewed to Assess Corrective Actions

CAP040842; Work Order Steps May Have Been Performed in Non-Preferred Sequence
CAP040841; Unresolved Questions Identified in Work Order Summary Notes

1R22 Surveillance Testing

Completed Surveillance Test Procedures

RPS-I-10; Auxiliary Feedwater Pump K8 Auto Start on Loss of Auxiliary Feedwater Actuation System DC Control Power; Revision 0
QI-3; Reactor Protection Matrix Logic Tests; Revision 0
QO-21; Inservice Testing of Auxiliary Feedwater Pump P-8C; Revision 24
QO-19; Inservice Testing of High Pressure Safety Injection Pumps and ESS Check Valve Operability Test; Revision 18; February 25, 2004

Miscellaneous Documents

Work Order 24323151; Perform Maintenance Procedure RPS-I-10; January 14, 2004
QO-21 Basis; Inservice Testing of Auxiliary Feedwater Pump P-8C
QO-19 Basis; Testing of High Pressure Safety Injection Pumps and ESS Check Valve Operability Test; Revision 18

Condition Reports Reviewed to Assess Corrective Actions

CAP030596; Mode 5, RO-97 Auxiliary Feedwater System Auto Initiation On-line Technical Specification Test Expired
CAP036974; Failure to Perform ATWS Steam Driven Auxiliary Feedwater Pump Test RPS-I-10
CAP036543; Last Two DWO-13 Surveillence Tests Have Been Performed With Fluke Thermometer

1REP Equipment Availability and Functional Capability

Maintenance Effectiveness

Plant Procedures

EGAD-EP-10; Maintenance Rule Scoping Document for 125 Volt Vital DC Power System; Revision 2

Miscellaneous Documents

Work Order History; Battery Charger 1 Output Breaker 72-15; 1999 through 2003

Work Orders

24320906; Charger No. 1 Output Breaker 72-15 Tripped During FE-5A; March 19, 2003

Condition Reports Reviewed to Assess Maintenance Rule Evaluations and Corrective Actions

CAP036774; Breaker 52-251 Found Out of Tolerance During Testing
CAP034760; Incorrect Link Operated and Resulted in Momentary Loss of DC Loads
CAP034133; Station Battery Charger No. 1 (ED-15, MCC-1) Output Breaker 72-15 Trip
CAP037918; Possible Trend in 125 Volt DC Breaker Testing
CAP038342; Service Water Pump P-7C Exceeded Maintenance Rule Availability Performance Criteria
CAP035540; Service Water Pump P-7C Exceeded its Maintenance Rule Availability Performance Criteria
CAP037831; Inadequate Evaluation of Exceeded Maintenance Rule Performance Criteria for Pressurizer System
CAP032377; Received EK-1373 'SV and/or PORV OPEN' Spuriously

Operability Evaluations

Condition Reports Associated with Operabililty Determinations

CAP039867; Model Number of PO-1712 Installed in the Plant Does Not Match Plant Records
CAP036439; Potential Effect of Excessive Charging Flow on Plant Licensing Basis
CAP039268; Framatone Cycle 17 Setpoints Analysis is Non-Conforming
CAP040400; Discovered 1/1 EDG has Valve Rotators on 7R Head With Yoke Springs

Miscellaneous Documents

EAR-2004-0020; Engineering Assistance Request; PO-1711 Actuator Upgrade; February 6, 2004
WO24910340; Work Order, Modulating Damper D-21 Positioner; April 21, 1999
Final Safety Analysis Report; Chapter 14.3 Boron Dilution; Revision 24

Temporary Plant Modifications

SOP-21, Attachment 2; Supply Fire Header Pressure with Service Water Booster Pump; Revision 17
AP-9.31; Temporary Modification Control; Revision 20
SDR 96-0476; 10 CFR 50.59 Safety Design Review, SOP-21 Revision 9; April 10, 1996

1EP6 Emergency Preparedness Drill Evaluation

Plant Procedures

EI-3, Attachment 1; Palisades Event Notification Form; Revision 19
EI-1; Emergency Classifications and Actions; Revision 42
EI-3; Communications and Notifications; Revision 19

Condition Reports Reviewed to Assess Significance Characterization of Identified Problems

CAP039699; Emergency Classification Notification Inaccuracy

Condition Reports Reviewed to Assess Corrective Actions

CAP038562; Initiate PPAC to Periodically Verify Procedure Accuracy
CAP033302; Results of Emergency Plan and Security Tabletop Drill

2PS2 Radioactive Material Processing and Transportation

2002 Annual Radioactive Effluent Release and Waste Disposal Report; March 24, 2003
CAP 029670/ACE 002645; Spent Resin Tank T-100 Sluice Results in Elevated Dose Rates in Various Radwaste Systems; July 17, 2002
CAP 030856; M-59A Evaporator Operations Do Not Meet Palisades Excellence Standards; August 9, 2002
CAP 030871; Shipment Sent to Vendor Without Prior Notification; August 12, 2002
CAP 033364; M-991, Vectra RVR-200 Blender/Dryer Skid, Plugged; February 11, 2003
CAP 036580; Resins/Spent Resin Found on Floor of T-100 Room 649' Elevation; July 10, 2003
CAP 036703; M-991 (Vectra RVR-200 Blender/Dryer Skid) Wiper Failed to Operator; July 20, 2003
CAP 037791; HAZMAT Security Plan; September 29, 2003
CAP 040376; Poor Conditions of L-59 Storage/Shipping Containers; March 4, 2004
CAP 040383; Incorrect Form Used for Container Survey; March 4, 2003
EA-WWD-02-001; Evaluation of 10CFR61 Scaling Factors for Palisades; June 13, 2002
HP 6.18; Low-Level Waste Packaging; Revision 25
HP 6.20; Radioactive Material Shipments; Revision 21
HP 6.34; Radioactive Material Shipments - Burial Sites Only; Revision 11
HP 6.35; Low Level Radioactive Waste Scaling Factor Methodology; Revision 2
HP 10.12; Advance State and NRC Notification of Radwaste Shipments; Revision 2
HP 10.13; Radioactive Waste Package Activity Calculation; Revision 2
HP 10.14; Classification of Low-Level Radioactive Wastes; Revision 3
HP 10.26; Execution of ISIP - Integrated Shipping and Inventory Program; Revision 4
Lesson No. 166100; DOT Hazmat General Awareness Lesson Plan; May 1, 2003
Lesson No. 166110; DOT Hazmat Function Specific Lesson Plan; January 20, 2003
Lesson No. 166120; DOT Hazmat Safety Training Lesson Plan; January 20, 2003
Lesson No. 166130; DOT Hazmat Driver Training Lesson Plan; May 1, 2003

Lesson No. 166135; DOT Hazmat Security Lesson Plan; August 25, 2003
PAL-HSI-TSP; Hazardous Materials Transportation Security Plan Lesson Plan; November 20, 2003
Palisades Final Safety Analysis Report, Chapter 11, "Radioactive Waste Management and Radiation Protection," Sections 11.1, 11.2, and 11.4; Revisions 23 and 24
Palisades Site: Hazardous Material Transportation Security Plan; Revision 0, September 25, 2003
Palisades Site: Hazardous Material Transportation Security Plan Risk Assessment [Not for Public Disclosure]; Revision 0, September 25, 2003
Process Control Program (PCP); Revision 9
Procedure Change Request 005463; Update HP 6.20 to Include Reference to the Transportation Security Plan; March 4, 2004
Procedure Change Request 005464; Update HP 6.34 to Include Reference to the Transportation Security Plan; March 4, 2004
Procedure Change Request 005465; Update HP 10.12 to Include Requirements of the Transportation Security Plan; March 4, 2004
Qualification 166140; DOT Hazmat Training (Complete Course - HM126F) Qualification Data; March 2, 2004
Shipment No. 02-014; Type A 55 Gallon Drums Containing Control Rod Drive Housings (to Westinghouse, Madison, PA); April 2, 2002
Shipment No. 02-029; Dewatered Bead T-100 Resin [LSA-II] (to Chem-Nuclear, Barnwell, SC); July 19, 2002
Shipment No. 02-044; IP-2/Type A SeaLand Container Containing CRDM Metal Waste (to US Ecology, Oak Ridge, TN); October 28, 2002
Shipment No. 03-025; Contaminated Laundry Shipment [LSA-II] (to Unitech, Morris, IL); March 22, 2003
Shipment No. 03-036; Surface Contaminated Reactor Head Stud Cleaning Equipment [SCO-I] (to Indian Point Energy Center, Buchanan, NY); April 4, 2003
Shipment No. 03-054; Dewatered Filters in a High Integrity Container [LSA-II] (to Chem-Nuclear, Barnwell, SC); April 30, 2003
Shipment No. 03-072; TL-215 THOR Liner of Dewatered Resin for Processing [LSA-II] (to Studsvik Processing Facility, Erwin, TN); September 18, 2003
Shipment No. 04-008; Contaminated Laundry Shipment [LSA-II] (to Unitech, Morris, IL); March 4, 2004
SnapShot Self-Assessment Report; Radioactive Material Processing and Transportation - Pre NRC Inspection Assessment; January 22, 2004

4OA1 Performance Indicator Verification

Performance Indicator Data for Safety System Functional Failures; 1st through 4th Quarter 2003
Performance Indicator Data for Emergency Diesel Generator Unavailability Time; 1st through 4th Quarter 2003

Miscellaneous Documents

Admin 3.09; Attachment 8 NRC Performance Indicator Safety System Functional Failure; Revision 8

4OA3 Event Follow-up

LER03-003; Loss of Shutdown Cooling and EDG Start
EA-03-180; Final Significance Determination for a White Finding

LIST OF ACRONYMS USED

AFAS	Auxiliary Feedwater Actuation Signal
ATWS	Anticipated Transient Without Scram
CAP	Corrective Action Program
CFR	Code of Federal Regulations
DAW	Dry Active Waste
DC	Direct Current
DRP	Division of Reactor Projects
LER	Licensee Event Report
MIC	Microbiologically Induced Corrosion
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
PORV	Power Operated Relief Valve
SCO	Surface Contaminated Object
SSC	Structure, System, and Component
TI	Temporary Instruction
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item