

July 2, 2007

Mr. Christopher J. Schwarz
Site Vice President
Entergy Nuclear Operations, Inc.
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043-9530

SUBJECT: PALISADES NUCLEAR PLANT
NRC TRIENNIAL FIRE PROTECTION BASELINE INSPECTION REPORT
05000255/2007005(DRS)

Dear Mr. Schwarz:

On May 25, 2007, 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 May 25, 2007, with Mr. J. Broschak and other members of your staff.

As a result of your intent to adopt the National Fire Protection Association Standard (NFPA) 805 code, "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants, 2001 Edition," as defined by Title 10, Code of Federal Regulations (CFR), Part 50, Section 48(c), the inspection was conducted in accordance with Inspection Procedure (IP) 71111.05TTP, "Fire Protection - NFPA 805 Transition Period (Triennial)," dated May 9, 2006. The inspection examined activities conducted under your license, as they relate to safety and to compliance with the Commission's rules and regulations, and with the conditions of your license. The inspectors reviewed selected procedures, analyses and records, observed activities, and interviewed personnel.

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 System (PARS) component of NRC's Agencywide

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Sincerely,

/RA/

Julio F. Lara, Chief
Engineering Branch 3
Division of Reactor Safety

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

Enclosure: Inspection Report 05000255/2007005(DRS)
w/Attachment: Supplemental Information

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Julio F. Lara, Chief
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Letter to Mr. Christopher J. Schwarz from Mr. Julio Lara dated

SUBJECT: PALISADES NUCLEAR PLANT
NRC TRIENNIAL FIRE PROTECTION BASELINE INSPECTION REPORT
05000255/2007005(DRS)

cc w/encl: M. Kansler, President and Chief Executive Officer/
Chief Nuclear Officer
J. Herron, Senior Vice President
Senior Vice President, Engineering and
Technical Services
B. Williams, Vice President, Oversight
M. Balduzzi, Senior Vice President, Regional
Operations, NE
O. Limpas, Vice President, Engineering
J. DeRoy, Vice President, Operations Support
J. McCann, Director, Nuclear Safety & Licensing
E. Harkness, Director of Oversight
General Manager, Plant Operations
C. Faison, Manager, Licensing
L. Lahti, Manager, Licensing
W. Dennis, Assistant General Counsel
Supervisor, Covert Township
Office of the Governor
State Liaison Office, State of Michigan
L. Brandon, Michigan Department of Environmental Quality -
Waste and Hazardous Materials Division
T. Lodge, Counsel for Petitioners
Mayor of Bangor
City Manager of Bangor
Mayor of Hartford
City Manager of Hartford
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City Manager of South Haven
Administrator, Allegan County
Allegan County Sheriff
Allegan County Emergency Management Coordinator
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Berrien County Sheriff
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U.S. NUCLEAR REGULATORY COMMISSION
REGION III

Docket No: 50-255
License No: DPR 20

Report No: 05000255/2007005(DRS)

Licensee: Entergy Nuclear Operations Inc

Facility: Palisades Nuclear Plant

Location: Covert, MI

Dates: May 7 - 25, 2007

Inspectors: Z. Falevits, Senior Reactor Inspector, Lead
D. Schrum, Reactor Inspector
M. Munir, Reactor Inspector

Approved by: Julio F. Lara, Chief
Engineering Branch 3
Division of Reactor Safety

Enclosure

SUMMARY OF FINDINGS

IR 05000255/2007005(DRS); 05/07/07 - 05/25/07; Palisades Nuclear Plant; Routine Triennial Fire Protection Baseline Inspection.

This report covers an announced triennial fire protection baseline inspection. The inspection was conducted by Region III inspectors. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be "Green" or be assigned a severity level after NRC management review. 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

Cornerstone: Initiating Events

No findings of significance were identified.

Cornerstone: Mitigating Systems

No findings of significance were identified.

B. Licensee-Identified Violations

No findings of significance were identified.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstones: Initiating Events and Mitigating Systems

1R05 Fire Protection (71111.05TTP)

The licensee, in a letter to the U. S. Nuclear Regulatory Commission (NRC) dated November 30, 2005, committed to adopt the National Fire Protection Association Standard (NFPA) 805 code, "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants, 2001 Edition," as defined by 10 CFR 50.48(c) for the Palisades Nuclear Plant. The NFPA 805 code establishes a comprehensive set of requirements for fire protection programs at nuclear power plants. The code incorporated both deterministic and risk-informed, performance-based concepts. The deterministic aspects of the code are comparable to traditional requirements. However, the transition to a risk-informed, performance-based fire protection program requires an in-depth nuclear safety circuit analysis for equipment identified for nuclear safety functions such as safe shutdown. Because the conversion and licensing process to NFPA 805 was expected to identify and address a variety of issues that were normally the subject of the triennial fire protection baseline inspection, the NRC modified the fire protection inspection program and Enforcement Policy for licensees in transition to NFPA 805. As a result, this inspection was conducted in accordance with IP 71111.05TTP, "Fire Protection - NFPA 805 Transition Period (Triennial)," dated May 9, 2006. Associated with the transition to NFPA 805, when a circuit-related finding not associated with a finding of high safety significance meets the four criteria established by Section A of the NRC's Interim Enforcement Policy Regarding Enforcement Discretion for Certain Fire Protection Issues (10 CFR 50.48), the violation would receive enforcement discretion in accordance with the NRC's Enforcement Policy.

The purpose of this inspection was to review the Palisades Nuclear Plant Fire Protection Program for selected risk-significant fire areas. Emphasis was placed on determining that the post-fire safe shutdown capability and the fire protection features were maintained free of fire damage to ensure that at least one post-fire safe shutdown success path was available. The inspection was performed in accordance with the NRC's regulatory oversight process using a risk-informed approach for selecting the fire areas and attributes to be inspected. The inspectors used the Palisades Nuclear Plant Individual Plant Examination for External Events to choose several risk-significant areas for detailed inspection and review. The fire zones chosen for review during this inspection are listed below and constitute four inspection samples:

<u>Fire Area</u>	<u>Description</u>
5	Emergency Diesel Generator 1-1 Room
9	Intake Structure/Screen House
11	Battery Room No. 2
16	Component Cooling Water Room

For each of these fire areas, the inspection focused on the fire protection features, the systems and equipment necessary to achieve and maintain safe shutdown conditions, determination of license commitments, and changes to the Fire Protection Program.

.1 Shutdown from Outside Main Control Room

Title 10 CFR Part 50, Appendix R, Section III.G.1, required that structures, systems, and components (SSCs) that were necessary to achieve and maintain post-fire safe shutdown from outside the main control room be protected by fire protection features, such that, one train of systems necessary to achieve and maintain hot shutdown conditions was free of fire damage; and systems necessary to achieve and maintain cold shutdown could be repaired within 72 hours.

a. Inspection Scope

The inspectors reviewed the functional requirements identified by the licensee as necessary for achieving and maintaining hot shutdown conditions to ensure that at least one post-fire safe shutdown success path was available in the event of fire in each of the selected fire areas and for alternative shutdown in the case of control room evacuation. The inspectors reviewed the plant systems required to achieve and maintain post-fire safe shutdown to determine if the licensee had properly identified the components and systems necessary to achieve and maintain safe shutdown conditions for each fire area selected for review. Specifically, the review was performed to determine the adequacy of the systems selected for reactivity control, reactor coolant inventory makeup, reactor heat removal, process monitoring, and support system functions. The review also included the fire Safe Shutdown Analysis (SSA) to ensure that all required components in the selected systems were included in the licensee's SSA.

The inspectors reviewed Palisades post fire SSA, Off Normal Operating Procedures (ONP), piping and instrumentation drawings (P&IDs), electrical drawings, the Updated Final Safety Analysis Report (UFSAR) and other supporting documents to verify that hot and cold shutdown could be achieved and maintained from outside the control room for fires that rely on shutdown from outside the control room. This review included verification that shutdown from outside the control room could be performed both with and without the availability of offsite power.

The inspectors also examined the operators' ability to perform the necessary manual actions for achieving safe shutdown by reviewing post fire shutdown procedures, the accessibility of safe shutdown equipment, and the available time for performing the actions. In addition, the inspectors observed operators simulating portions of post fire plant safe shutdown operations from several alternate shutdown locations in the plant.

The inspectors reviewed the UFSAR and the licensee's engineering and/or licensing justifications (e.g., NRC guidance documents, license amendments, Technical Specifications, Safety Evaluation Reports (SERs), exemptions, and deviations) to determine the licensing basis.

b. Findings

Incorrect Instructions to Operators in Appendix R, Post Fire Alternate Safe Shutdown Procedure

Introduction: The inspectors identified an Unresolved Item related to licensee's failure to ensure that fire protection Safe Shutdown Analysis (SSA) reports and their associated Alternate Safe Shutdown (ASD) procedures have been adequately design reviewed and verified to be correct. Specifically, from December 6, 1995 to May 10, 2007, the SSA reports and the associated off normal ASD procedures were inconsistent in that they specified an incorrect electrical power supply distribution cabinet number (specifying the location of a 125 Vdc breaker) which feeds 20 post-fire safe shutdown control valves (CVs).

Description: For Fire Area (FA) 9, "Intake Structure," the inspectors reviewed SSA reports EA-APR-95-007, "10 CFR Part 50, Appendix R, Fire Safe Shutdown Analysis Report," Revision 3, Appendix D, and EA-APR-95-008, "10 CFR Part 50, Appendix R, Safe Shutdown Manual Actions Feasibility Analysis," Revision 2, Appendix A. The inspectors also reviewed component fire protection logic diagrams, P&IDs, ASD procedures and electrical design drawings.

During this review, the inspectors identified several discrepancies in the "Compliance Strategies" provided in SSA report EA-APR-95-007, for safe shutdown valves CV-1318, "Service Water Header Isolation Valve," and CV-1359, "Service Water to Non-Critical Loads." Specifically, for CV-1318, the SSA report stated that a fire in FA 9 is assumed to damage cables to CV-1318 and may cause the valve to fail open or spuriously close. The Compliance Strategy in the analysis for safe-shutdown valve CV-1318 stated, "de-energize CV-1318 at ED-11-2, breaker 72-129 in room 224 (cable spreading room) in order to fail the valve open." Similarly, for CV-1359, "Non-Critical Service Water Isolation," the SSA report stated that a fire in FA 9 is assumed to damage cables to CV-1359 and may cause this valve to fail close or spuriously open. The Compliance Strategy in the analysis for safe-shutdown valve CV-1359 stated, "to isolate the non-essential service water header, de-energize CV-1359 at ED-11-2, breaker 72-129 in room 224 (cable spreading room) in order to fail the valve closed." The inspectors reviewed related electrical single line, schematic and logic diagrams and determined that references to 125 Vdc electrical distribution cabinet ED-11-2 and breaker 72-129 were incorrect for safe shutdown valves CV-1318 and CV-1359 and should have been D-21-2 and breaker 72-229 to confirm to the as-built plant configuration. Similar discrepancies were noted with 11 additional safe shutdown CV circuits fed from the same breaker 72-229, located in cabinet D-21-2.

The inspectors also reviewed Attachments 3 and 5 of procedure ONP - 25.2, "Alternate Safe Shutdown Procedure," dated January 16, 2007, Revision 22, to determine if the procedure provided adequate instructions/steps for the operator to follow in the event of a fire. This procedure is used for ASD and to mitigate spurious operation of electrical components. The function of ONP-25.2 is to procedurally implement the compliance strategies of the Appendix R SSA, to ensure that SSD performance goals of reactor reactivity control, reactor coolant inventory control, reactor coolant pressure control, decay heat removal, process monitoring, and support functions are met when mitigating

the effects of fires in alternate shutdown areas. Achievement of these performance goals ensures that the reactor will be safely shut down, cooled down and maintained in a shutdown condition.

The inspectors identified a number of discrepancies in the instructions/steps of Procedure ONP-25.2. The inspectors determined that from December 6, 1995, to May 10, 2007, procedure ONP-25.2, Attachment 3, "Manual Actions to Mitigate the Spurious Operation of Air-Operated Valves," instructions/steps for 13 of 20 CVs were inconsistent in that they specified an incorrect electrical distribution panel number as the location of a breaker which feeds the 20 safe shutdown CVs. Specifically, Attachment 3, specified 125Vdc distribution panel number D21-1, as the location of breaker 72-229. Consequently, the procedure instructed the operator to open circuit breaker 72-229 at DC distribution panel D21-1 to de-energize the 13 CVs in order to mitigate potential spurious operations of these valves. Breaker 72-229 provided 125Vdc control power to CV solenoids in CW, SW, and ESS systems. However, circuit breaker 72-229 is actually located at DC distribution panel D21-2.

In order to evaluate the significance of the procedure error, the inspectors observed a simulated operation by a former operator familiar with the subject operations procedure. The overall intent was to observe the simulated use of discrepant Procedure ONP-25.2 and determine the feasibility and timeliness of the operator actions at the alternate shutdown location of the DC distribution cabinets. The inspectors concluded, based on this observation, that in the event of a control room or intake structure fire, the operator would be challenged and potentially not be successful in completing the required procedure instructions/steps within the assumed times for completion of the activity. For example, the operator action required to de-energize and close CV-1359, by opening breaker 72-229 had time constraint of 3.43 minutes from time of fire/spurious valve actuation in order to isolate the non-essential service water header and prevent overheating the Diesel Generator. Based on the observations, the inspectors could not conclude that the action would have been successful due to the incorrect procedure.

Upon discovery, the licensee placed this issue into their corrective action program as AR 01087847, AR 01088311 and AR 01088327. The licensee performed an extensive extent of condition review per AR 01087847-1 for this finding and identified a number of additional similar discrepancies in procedures ONP-25.1, ONP-25.2, several fire protection analyses and Appendix R drawings. For example, licensee identified that safety injection refueling water (SIRW) level indicator LI-0332B, located on remote shutdown panel C-150A, was incorrectly identified in ONP-25.2 as LI-0322B located on panel C-150. Also, 480Vac breaker 52-227 was incorrectly identified as 52-225 on Attachment 4 of ONP-25.2 for MO-2160. The licensee generated corrective actions to evaluate the identified discrepancies and make the applicable corrections to the affected documents.

On May 6, 2007, the licensee also initiated CAP 01087686 to document that specific diagnostic instruments to be used to identify or confirm spurious signals (operations) were not completely identified in post fire alternate shutdown procedures ONP-25.1 and ONP-25.2, and in the safe shutdown manual action feasibility analysis. Licensee compensatory actions included hourly fire tours, further evaluation of the manual actions

and risk significance in accordance with enforcement discretion requirements for plants transitioning to NFPA - 805.

Since, this finding was indirectly related to a circuit-analysis issue and the licensee was in transition to NFPA 805, this finding is considered an Unresolved Item (URI 05000255/2007005-01(DRS) pending the licensee's completion of a risk assessment evaluation to determine risk significance in accordance with established the NRC Enforcement Discretion regarding plants in transition to NFPA 805. Subsequent NRC review of the risk evaluation will determine if this finding meets the four criteria established by Section A of the NRC's Interim Enforcement Policy Regarding Enforcement Discretion for Certain Fire Protection Issues (10 CFR 50.48).

.2 Protection of Safe Shutdown Capabilities

Title 10 CFR Part 50, Appendix R, Section III.G.1, required the licensee to provide fire protection features that were capable of limiting fire damage to systems, structures, and components important to safe shutdown. The systems, structures, and components that were necessary to achieve and maintain post-fire safe shutdown were required to be protected by fire protection features that were capable of limiting fire damage to the SSCs so that:

- one train of systems necessary to achieve and maintain hot shutdown conditions from either the control room or emergency control station(s) was free of fire damage; and
- systems necessary to achieve and maintain cold shutdown from either the control room or emergency control station(s) could be repaired within 72 hours.

Specific design features for ensuring this capability were specified by 10 CFR Part 50, Appendix R, Section III.G.2.

a. Inspection Scope

The inspectors reviewed the fire hazards analysis, safe shutdown analysis and supporting drawings and documentation to verify that safe shutdown capabilities were properly protected. Under the NFPA 805 transition period inspection period, the inspectors were to validate 1 to 3 non-conformances identified in the licensee's transitional assessment of their fire areas. At the time of this inspection, no fire areas had been assessed by the licensee. However, the inspectors reviewed a number of circuit analysis issues identified by the licensee during the transition period to ensure appropriate compensatory and corrective actions have been initiated.

The inspectors reviewed the licensee procedures and programs for the control of ignition sources and transient combustibles to assess their effectiveness in preventing fires and in controlling combustible loading within limits established in the fire hazards analysis. The inspectors performed plant walkdowns to verify that protective features were being properly maintained and administrative controls were being implemented.

The inspectors also reviewed the licensee's design control procedures to ensure that the process included appropriate reviews and controls to assess plant changes for any potential adverse impact on the fire protection program and/or post-fire safe shutdown analysis and procedures.

b. Findings

No findings of significance were identified.

.3 Passive Fire Protection

Branch Technical Position APCS 9.5-1, Section IV.B.1, "General Guidelines for Plant Protection Building Design," Section IV.B.3, "Cable Construction, Cable Trays and Penetrations," and Section IV.D.2, "Control Room," identified the requirements for the licensee's fire protection passive features.

a. Inspection Scope

For the selected fire areas, the inspectors evaluated the adequacy of fire area barriers, penetration seals, fire doors, electrical raceway fire barriers, and fire rated electrical cables. The inspectors observed the material condition and configuration of the installed barriers, seals, doors, and cables. The inspectors compared the as-installed configurations to the approved construction details and supporting fire tests. In addition, the inspectors reviewed license documentation, such as NRC SERs, and deviations from NRC regulations and the NFPA codes to verify that fire protection features met license commitments.

The inspectors walked down accessible portions of the selected fire areas to observe material condition and the adequacy of design of fire area boundaries (including walls, fire doors, and fire dampers) to ensure they were appropriate for the fire hazards in the area.

The inspectors reviewed the installation, repair, and qualification records for a sample of penetration seals to ensure the fill material was of the appropriate fire rating and that the installation met the engineering design.

b. Findings

No findings of significance were identified.

.4 Active Fire Protection

Branch Technical Position APCS 9.5-1, Section IV.C.1, "Fire Detection," Section IV.C.3, "Water Sprinkler and Hose Standpipe Systems," Section IV.C.5, "Carbon Dioxide Suppression Systems," and Section IV.D.2, "Control Room," identified the requirements for the licensee's fire protection active features.

a. Inspection Scope

For the selected fire areas, the inspectors evaluated the adequacy of fire suppression and detection systems. The inspectors observed the material condition and configuration of the installed fire detection and suppression systems. The inspectors reviewed design documents and supporting calculations. In addition, the inspectors reviewed license basis documentation, such as NRC SERs, and deviations from NRC regulations and the NFPA codes to verify that fire suppression and detection systems met license commitments.

b. Findings

No findings of significance were identified.

.5 Protection from Damage from Fire Suppression Activities

Title 10 CFR Part 50, Appendix A, Criterion 3, "Fire Protection," required that firefighting systems shall be designed to minimize the adverse effects of fires on SSCs important to safety and to assure that their rupture or inadvertent operation does not significantly impair the safety capability of these SSCs.

a. Inspection Scope

For the selected fire areas, the inspectors verified that redundant trains of systems required for hot shutdown would not be subject to damage from fire suppression activities or from the rupture or inadvertent operation of fire suppression systems including the effects of flooding. The inspectors conducted walkdowns of each of the selected fire areas to assess conditions, such as the adequacy and condition of floor drains, equipment elevations and spray protection.

b. Findings

No findings of significance were identified.

.6 Alternative Shutdown Capability

Title 10 CFR Part 50, Appendix R, Section III.G.1, required that SSCs important to safe shutdown be provided with fire protection features capable of limiting fire damage to ensure that one train of systems necessary to achieve and maintain hot shutdown conditions was free of fire damage. Options for providing this level of fire protection were delineated in 10 CFR Part 50, Appendix R, Section III.G.2. Where the protection of systems whose function was required for hot shutdown did not satisfy 10 CFR Part 50, Appendix R, Section III.G.2, an alternative or dedicated shutdown capability independent of the area under consideration was required to be provided. Additionally, alternative or dedicated shutdown capability must be able to achieve and maintain hot standby conditions and achieve cold shutdown conditions within 72 hours and maintain cold shutdown conditions thereafter. During the post-fire safe shutdown, the reactor coolant process variables must remain within those predicted for a loss of

normal ac power, and the fission product boundary integrity must not be affected (i.e., no fuel clad damage, rupture of any primary coolant boundary, or rupture of the containment boundary).

a. Inspection Scope

The inspectors reviewed the licensee's systems required to achieve alternative safe shutdown to determine if the licensee had properly identified the components and systems necessary to achieve and maintain safe shutdown conditions. The inspectors also focused on the adequacy of the systems to perform reactor pressure control, reactivity control, reactor coolant makeup, decay heat removal, process monitoring, and support system functions.

The team conducted a field walkdown to determine if operators could reasonably be expected to perform the alternate safe shutdown procedure actions and that equipment labeling was consistent with the alternate safe shutdown procedure. The review also looked at operator training as well as consistency between the operations shutdown procedures and any associated administrative controls.

b. Findings

No findings of significance were identified.

.7 Circuit Analyses

a. Inspection Scope

In accordance with IP 71111.05TTP, "Fire Protection - NFPA 805 Transition Period (Triennial)," dated May 9, 2006, this section of the IP was suspended for facilities in NFPA 805 transition.

b. Findings

No findings of significance were identified.

.8 Communications

Branch Technical Position APCS 9.5-1, required that emergency communication equipment be provided. For a fire in an alternative shutdown fire area, control room evacuation may be required and a shutdown is performed from outside the control room. Radio communications are relied upon to coordinate the shutdown of both units and for fire fighting.

a. Inspection Scope

The inspectors reviewed, on a sample bases, the adequacy of the communication system to support plant personnel in the performance of alternative safe shutdown functions and fire brigade duties.

b. Findings

No findings of significance were identified.

.9 Emergency Lighting

Title 10 CFR Part 50, Appendix R, Section III.J, required that emergency lighting units with at least an 8-hour battery power supply be provided in all areas needed for operation of safe shutdown equipment and in access and egress routes thereto.

a. Inspection Scope

The inspectors performed a plant walkdown of areas in which a sample of the actions would be performed as described in procedure ONP-25.2, "Alternate Safe Shutdown Procedure, Revision 22." As part of the walkdowns, the inspectors focused on the existence of sufficient emergency lighting for access and egress to areas and for performing necessary equipment operations.

b. Findings

No findings of significance were identified.

.10 Cold Shutdown Repairs

Title 10 CFR Part 50, Appendix R, Section III.G.1.b, required that equipment and systems comprising the means to achieve and maintain cold shutdown conditions should not be damaged by fire; or the fire damage to such equipment and systems should be limited so that the systems can be made operable and cold shutdown achieved within 72 hours. Materials for such repairs shall be readily available onsite and procedures shall be in effect to implement such repairs.

a. Inspection Scope

The inspectors reviewed the licensee's procedures to determine whether repairs were required to achieve cold shutdown and to verify that dedicated repair procedures, equipment, and material to accomplish those repairs were available on-site. The inspectors also evaluated whether cold shutdown could be achieved within the required time using the licensee's procedures and repair methods.

b. Findings

No findings of significance were identified.

.11 Compensatory Measures

a. Inspection Scope

The inspectors conducted a review to verify that compensatory measures were in place for out-of-service, degraded or inoperable fire protection and post-fire safe shutdown

equipment, systems, or features (e.g., detection and suppression systems and equipment, passive fire barriers, pumps, valves or electrical devices providing safe shutdown functions or capabilities). The inspectors also conducted a review on the adequacy of short term compensatory measures to compensate for a degraded function or feature until appropriate corrective actions were taken.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA2 Identification and Resolution of Problems

a. Inspection Scope

The inspectors reviewed the corrective action program procedures and samples of corrective action documents to verify that the licensee was identifying issues related to the fire protection program at an appropriate threshold and entering them in the corrective action program. The inspectors reviewed selected samples of condition reports, work orders, design packages, and fire protection system non-conformance documents.

b. Findings

No findings of significance were identified.

4OA6 Meetings

.1 Exit Meeting

On May 25, 2007, at the conclusion of the inspection, the inspectors presented the inspection results to Mr. J. Broschak and other members of licensee management. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

A. Blind, Design Engineering Manager
L. Blocker, Operations Manager
J. Broschak, Engineering Director
D. Campbell, Fire Marshall
B. Dotson, Technical Specialist III
J. Ford, Acting Nuclear Safety Assurance Manager
T. Fouty, Engineering Programs/Analysis Supervisor
K. Housh, Fire Protection Engineer
T. Kirwin, Plant General Manager
P. Russell, Program Engineering Manager
G. Sleeper, Assistant Operations Manager
T. Swiecicki, Appendix R Engineer
B. VanWagner, Engineering Programs Supervisor

NRC

J. Ellegood, Senior Resident Inspector
J. Geissner, Resident Inspector
A. Turinin, Trainee

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05000255/2007005-01(DRS)	URI	Incorrect Instructions to Operators in Appendix R Post Fire Alternate Safe Shutdown Procedure (Section 1R05.1.b)
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Closed and 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 team 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 document 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.

Calculations

EA-APR-95-001; 10 CFR 50; Appendix R; Safe Shutdown Equipment List and Logic Diagram; Revision 4

EA-APR-95-004; 10 CFR 50, Appendix R, Safe Shutdown Associated Circuits Analysis for Common Power Supply and Common Enclosure; Revision 4

EA-APR-95-006; 10 CFR 50; Appendix R; Functional Requirements Analysis; Revision 4

EA-APR-95-007; 10 CFR 50; Appendix R, Fire Safe Shutdown Analysis Report; Revision 3

EA-APR-95-008; 10 CFR 50; Appendix R; Safe Shutdown Manual Actions Feasibility Analysis; Revision 2

EA-APR-95-011; Verification for 10 CFR 50; Appendix R; Shutdown Capability with a Single Component Cooling Water Pump in Operation; Revision 2

EA-APR-95-017; Adequacy of the Diesel Fire Pump (P-41) to Supply Service Water Loads for EA-FPP-03-004; Analysis of Screen House Pendant Sprinkler Code Compliance; dated December 1, 2003

EA-APR-95-023; Room Heat-up After Loss of Ventilation under Appendix R; Scenario in the Control Room; Cable Spreading Room; Switchgear Rooms; Battery Room; Containment; and DG Rooms; dated November 23, 1998

EA-APR-95-031; Evaluation of the Fire Detection System in the Component Cooling Water Pump Room; dated November 9, 1995

EA-APR-95-036; Fire Area 9 (Intake Structure) - Loss of Offsite Power Evaluation; Revision 2

EA-C-PAL-95-1526-0; Internal Flooding Evaluation for Plant Areas Outside of Containment; Revision 3

EA-APR-98-004; Analysis of Problems Concerning Fire Doors; dated December 15, 2003

EA-APR-98-011; Technical Justification for the Use of 2-Hour-Rated Fire Barriers Around the Battery Rooms, Auxiliary Building; Stairwell; Turbine Lube Oil Room; and the Boiler Room; September 12, 1998

EA-FPP-05-02; Evaluation of Combustibles between Service Water Pumps and Diesel Fire Pump P-41; dated April 24, 2007

EA-FPP-03-001; Analysis of Combustible Loading at Palisades Nuclear Plant; dated August 21, 2006

EA-FPP-96-011; System Hydraulic Analysis for the Intake Structure; Revision 0

EA-PAL-86-148-01; Heating Ventilation Air Conditioning (HVAC) Appendix R; Damage to Alternate Shutdown Equipment; Revision 2

EA-SBO-1; Station Blackout Coping Evaluation for 10 CFR 50.63; Revision 2

EA-PSSA-00-001; Palisades Plant Post Fire Safe Shutdown Summary Report; dated February 23, 2006

EGAD-EP-08; Appendix R; Fire Safe Shutdown Analysis; Revision 3

NAI-1198-011; Palisades Appendix R; Scenario Containment Heat-Up Analysis; dated February 15, 2007

Condition Reports

AR 01062286; Procedure ONP-25.1 Procedure Guidance Improvements; dated November 16, 2006

AR 01087763; Screen House Laydown Area East Door; dated May 8, 2007

AR 01087591; Control of Combustible Issues Noted in Power Block; dated May 2, 2007

AR 01087686; Appendix R; Operator Manual Actions Considered Noncompliant; dated May 6, 2007

CAP030828; Errors Identified in Appendix R; Calculations; dated April 25, 2001

AR 01067894; Focused Self Assessment Number PL-FSA-07-16; "Fire protection and Appendix R; Self Assessment"; dated January 8, 2007

Condition Reports Initiated as a Result of Inspection

AR 01087753; Drawing Status Incorrect in Myriad 7.0; dated May 8, 2007

AR 01087795; Engineering Analysis Not Updated to Identify Superseded Sections (EA-A-PAL-86-148-01 Have Been Superseded by EA-APR-95-023); dated May 8, 2007

AR 01087822; Appendix R; Analysis References Non-Active Calculation; dated May 10, 2007

AR 01087835; EA-APR-95-036 Has Error Related to Fire Area 9 - Screenhouse; dated May 10, 2007

AR 01087847; Breaker Numbers Inconsistent between Analyses and Procedure; dated May 10, 2007

AR 01087867; ONP-25.2; Step 33.1 Unclear Related to Pressurizer Heater Repair; Revision 22 dated May 11, 2007

AR 01087942; EA-APR-95-006 Doesn't Contain Basis for 8-Hour Time Constraint; May 14, 2007

AR 01088078; Discrepancy in Breaker Model Number in EA-APR-95-004; Revision 4; dated May 18, 2007

AR 01088199; Drawing M66C References Incorrect Fire Area Designations; dated May 22, 2007

AR 01088276; Suppression Effects Assumptions Require Formal Calculation; dated May 23, 2007

AR 01088291; P-7 Spare Motor Plug-In Severed While Stored in Warehouse; dated May 24, 2007

AR 01088326; Potential Violation of FPIP-7; dated May 25, 2007

AR 01088327; ONP-25.2 Contained Errors for a Significant Time; dated May 25, 2007

Drawings

E-1Sh. 1; Single Line Meter and Relay Diagram 480 Volt Motor Control Center Warehouse; Revision 77

E-8 Sh. 1; Single Line Meter and Relay Diagram 125V DC 120V Instrument and Preferred AC System; Revision 57

E-8 Sh. 2; Single Line Meter and Relay Diagram 125V DC 120V Instrument and Preferred AC System; Revision 51

E-78 Sh. 2; WRSGL Schematic Diagram; Revision 17

E-78 Sh. 2A; WRSGL Schematic Diagram; Revision 5

E-79 Sh. 3A; Schematic Diagram, Indication E/P Controller; Revision 8

E-132 Sh. 1; Schematic Diagram Start-Up Transformer 1-1 and 1-2 Incoming Breakers; Revision 25

E-132 Sh. 2; Schematic Diagram Start-Up Transformer 1-1 and 1-2 Incoming Breakers; Revision 17

M208 Sh. 1; Piping and Instrument Diagram Non-Critical Service Water System; Revision 88

M208 Sh. 1A; Piping and Instrument Diagram Service Water System; Revision 58

M213; Piping and Instrument Diagram Service Water; Screen Structure and Chlorination; Revision 86

M216 Sh. 29; Component Cooling Water System (CCS) Logic Diagram; Revision 1

M216 Sh. 44; Service Water System Logic Diagram; Revision 4

Fire Protection Program Documents

Fire Hazards Analysis; Revision

Miscellaneous Documents

Copies of Pre-Fire Plans, 2006

NFPA Code No. 80; Fire Doors and Windows; 1967

NFPA Code No. 13; Sprinkler Systems; 1968

NFPA Code No. 10; Portable Fire Extinguishers; 1967

NFPA Code No. 72E; Automatic Fire Detectors; 1974

Vendor Manual 950X101 M-66E; Installation and Maintenance Instructions for Ultraviolet Detector System; dated December 16, 1986

Fire Protection Safety Evaluation Report; dated September 1, 1978

Branch Technical Position APCSB 9.5-1; Appendix A dated August 24, 1996

List of Condition Reports for Communications From January 15, 2005 to April 20, 2007

List of Fire Protection Impairments for 3 Years; dated April 17, 2007

Fire Watch Logs for 1 Week; dated May 11, 2007

List of Current Fire Impairments in the Plant; dated May 21, 2007

Memorandum; Palisades Plant - Issuance of Exemption from Appendix R of 10 CFR Part 50 Regarding Capacity of Primary Coolant Pump Oil Collection System; dated March 31, 2000

Tracking No. 07-06; Transient Material/Fire Protection Variance Request; dated March 14, 2007

Safe Shutdown and Achieve Cold Shutdown within 72 Hours; Revision 1 Appendix R

DBD 1.10; Fire Protection System; Revision 3

Procedures

EGAD-ELEC-03; Electrical Engineering Separation Criteria; Practices and Exceptions; Revision 2

FPIP-4; Fire Protection Systems and Fire Protection Equipment; Revision 23

FPIP-7; Fire Prevention Activities; Revision 17

PFM-E-1; Emergency Post-Fire Repair for Appendix R Equipment; Revision 8

FPSP-MO-2; Fire Hose Reel/Rack Valve and Station and Fire Hydrant Hose House Inspection; Revision 2

FPSP-SI-1; Functional Test of the Fire Detection Systems Outside Containment; Revision 6

FPSP-RO-9; Fire Sprinkler System Inspection; Revision 2

FPSP-SO-2; Inspection and Testing of Palisades Plant Fire Doors; Revision 4

FPSP-RP-11; Fire Barrier Penetration Surveillance; Revision 7

SOP-16; Component Cooling Water System; Revision 29

ONP-6.1; Loss of Service Water; Revision 13

ONP-6.2; Loss of Component Cooling; Revision 10

ONP-25.1; Fire Which Threatens Safety-Related Equipment; Revision 17

ONP-25.2; Alternate Safe Shutdown Procedure; Revision 22

PFM-E-1; Emergency Post-Fire Repair for Appendix R Equipment; Revision 8

9.36; Appendix R and Fire Protection Program Administrative Control; Revision 1

FP-PE-3; Fire Protection Check Sheet Fire Extinguishers - Auxiliary Building; Revision 6

Work Orders

Work Order No. 00301575; Inventory of Appendix R Emergency Parts; dated April 23, 2007

Work Order No. 00280610; Inventory of Appendix R Emergency Parts; dated December 7, 2006

Work Order No. 00153108; Inventory of Appendix R Emergency Parts; dated July 6, 2006

LIST OF ACRONYMS USED

ADAMS	Agencywide Documents Access and Management System
APCSB	Auxiliary and Power Conversion Systems Branch
ASD	Alternate Safe Shutdown
CAP	Corrective Action Program
CFR	Code of Federal Regulations
CR	Control Room
CV	Control Valve
DRS	Division of Reactor Safety
FA	Fire Area
IMC	Inspection Manual Chapter
IP	Inspection Procedure
NFPA	National Fire Protection Association
NRC	U.S. Nuclear Regulatory Commission
ONP	Off Normal Procedures
PARS	Publicly Available Records
SDP	Significance Determination Process
SER	Safety Evaluation Reports
SSA	Safe Shutdown Analysis
SSD	Safe Shutdown
UFSAR	Updated Final Safety Analysis Report