



March 22, 2005

10 CFR 54

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Palisades Nuclear Plant
Docket 50-255
License No. DPR-20

Application for Renewed Operating License

Pursuant to U. S. Nuclear Regulatory Commission (NRC) regulations 10 CFR Parts 50, 51, and 54, Nuclear Management Company, LLC (NMC) hereby applies for renewal of the Operating License for the Palisades Nuclear Plant.

The current operating license for the Palisades Plant expires at midnight, March 24, 2011. NMC requests that the Palisades Operating License be extended for 20 years beyond the current expiration date to midnight, March 24, 2031.

The enclosed "Application for Renewed Operating License, Palisades Nuclear Plant" is submitted for docketing in accordance with the applicable requirements of 10 CFR Part 54, Sections 54.17, 54.19, 54.22, and 54.23. This application meets the timeliness requirements of 10 CFR 2.109(b) and 10 CFR 54.17(c), and provides the administrative, technical, and environmental information sufficient to support the NRC findings required by 10 CFR 54.29.

In accordance with the requirements of 10 CFR 54.21, measures are described in this application which provide assurance that the effects of aging will be adequately managed, consistent with the current licensing basis, for the requested period of extended operation. In some cases, new aging management programs or enhancements to existing programs are described.

Accompanying this application, in accordance with 10 CFR 54.23 and 10 CFR 51, is an Applicant's Environmental Report. During the performance of the environmental review, no new and significant information was identified that would either invalidate NRC Category 1 findings in NUREG-1437, or require additional evaluation.

This application is being submitted in electronic form following the guidance contained in the NRC Final Rule on Electronic Maintenance and Submission of Information (68 FR 58792). Enclosure 1 is a compact disc (CD) containing the entire License Renewal Application, including the Applicant's Environmental Report, in Adobe® pdf format suitable for entry into the NRC ADAMS system. The CD contains two files:

- 001 - Palisades LRA.pdf (publicly available)
- 002 - Palisades ER.pdf (publicly available)

Please contact Mr. Darrel Turner, License Renewal Project Manager, at 269-764-2412, or Mr. Robert Vincent, License Renewal Licensing Lead, at 269-764-2559, if you require additional information related to this request.

Summary of Commitments

Enclosure 2, "Preliminary Commitments Related to License Renewal for the Palisades Nuclear Plant," summarizes the various actions, new programs, and program enhancements committed to by NMC in this application. These preliminary commitments are subject to change, by mutual agreement of NMC and the NRC, during the review. The final list of commitments will be listed in the NRC Safety Evaluation Report. All other statements provided in the application are considered to be descriptive and supporting information.

I declare under penalty of perjury that the foregoing is true and correct. Executed on March 22, 2005.



Daniel J. Malone
Site Vice President, Palisades Nuclear Plant
Nuclear Management Company, LLC

Enclosures (2)

CC Administrator, Region III, USNRC (w/o Enclosure 1)
Project Manager, Palisades, USNRC (w/o Enclosure 1)
Resident Inspector, Palisades, USNRC (w/o Enclosure 1)
Director, Office of Nuclear Reactor Regulation (w/o Enclosure 1)
License Renewal Project Manager, Palisades, USNRC
Document Control Desk

ENCLOSURE 1

LICENSE RENEWAL APPLICATION COMPACT DISK

PALISADES NUCLEAR PLANT

ENCLOSURE 2

**PRELIMINARY COMMITMENTS RELATED TO LICENSE RENEWAL
FOR
THE PALISADES NUCLEAR PLANT**

Preliminary Commitments Related to License Renewal for the Palisades Nuclear Plant

| | Commitment | Source |
|---|---|--------------------|
| 1 | <p>Each year, following the submittal of the Palisades License Renewal Application and at least three months before the scheduled completion of the NRC review, NMC will submit an amendment to the application pursuant to 10 CFR 54.21(b). This amendment will identify any changes to the Current Licensing Basis of the facility that materially affect the contents of the License Renewal Application, including the FSAR supplement, that have not already been submitted.</p> | LRA Section 1.4 |
| 2 | <p>NMC will submit an equivalent margins analysis, completed in accordance with 10 CFR 50 Appendix G Section IV.A.1, for NRC approval, at least three years before any reactor vessel beltline material upper shelf energy decreases to less than 50 ft-lb.</p> | LRA Section 4.2.1 |
| 3 | <p>At the appropriate time, prior to exceeding the PTS screening criteria, Palisades will select the optimum alternative to manage PTS in accordance with NRC regulations and make relevant submittals to obtain NRC review and approval.</p> | LRA Section 4.2.2 |
| 4 | <p>NMC will evaluate the effect the increase in variable speed charging pump out-of-service events may have on these lines (Charging Lines Inboard of the Regenerative Heat Exchanger), and will take actions necessary to ensure these lines meet licensing basis design criteria for the extended operating period. NMC will complete this evaluation and will advise the NRC of the results, and of any necessary corrective actions, before the end of the current licensed operating period.</p> | LRA Section 4.3.13 |
| 5 | <p>NMC will monitor the cumulative number of pressurizer temperature element nozzle fatigue cycles within the Fatigue Monitoring Program, and maintain a special action level to ensure that appropriate actions are taken if at any time the cycle count for any design basis event since 1993 reaches the number assumed by these analyses.</p> | LRA Section 4.7.2 |

| | Commitment | Source |
|----|---|--------------------|
| 6 | NMC will re-evaluate effects of primary water stress corrosion cracking for all Alloy 600 components for which the current analyses found acceptable crack sizes at 40 years to identify those for which the analysis would predict unacceptable crack sizes at 60 years, and to identify appropriate additional inspections for them. NMC will complete these re-evaluations before the period of extended operation. | LRA Section 4.7.2 |
| 7 | The supporting calculations for the Palisades RI-ISI program will be reviewed, and updated as needed, to reflect a 60-year operating period; and the program inspection scope will be updated accordingly, before the period of extended operation. | LRA Section 4.7.4 |
| 8 | In a periodic FSAR update following NRC issuance of the renewed operating license, in accordance with 10 CFR 50.71(e), the summary descriptions of Aging Management Programs and Time Limited Aging Analyses, provided in Appendix A, will be incorporated into appropriate sections of the FSAR. | LRA Section A1.0 |
| 9 | The Quality Program implementation procedures will be expanded to apply the elements of corrective action, confirmation process, and administrative controls to both safety related and non-safety related systems, structures, and components that are subject to aging management review for license renewal. | LRA Section B1.2 |
| 10 | Review and revise ASME ISI Master Plan, procedures that implement credited License Renewal Programs, and plant maintenance procedures to reflect and reference the applicable guidance provided in NUREG-1339 and EPRI TR-104213 for safety and non-safety related bolting. These revisions should also include instructions for selection of bolting material and use of lubricants and sealants, in accordance with the guidelines of EPRI NP-5769 and the additional recommendations of NUREG-1339 to prevent or mitigate degradation and failure of safety-related bolting. | LRA Section B2.1.3 |

| | Commitment | Source |
|----|---|--------------------|
| 11 | Evaluate the high strength bolting used for component supports for susceptibility to cracking as described in NUREG-1801, Section XI.M.18, "Parameters Monitored/Inspected," and implement appropriate inspection requirements to provide adequate age-management for these bolts. This is to be completed prior to the end of the current operating license. | LRA Section B2.1.3 |
| 12 | Revise applicable plant procedures to include criteria for observing susceptible SSC, within the scope of license renewal, for boric acid leakage and degradation, during system walkdown inspections. | LRA Section B2.1.4 |
| 13 | Revise applicable plant procedure(s) to include explicit acceptance criteria for boric acid inspections. | LRA Section B2.1.4 |
| 14 | Revise applicable plant procedures to include inspection of structural steel and non-ASME component supports for evidence of boric acid residue and boric acid wastage/corrosion on a periodic frequency. | LRA Section B2.1.4 |
| 15 | A Buried Services Corrosion Monitoring Program will be developed and implemented. Features of the program will include development and implementation of procedures for inspection of selected buried SSCs for corrosion, pitting and MIC. The periodicity of these inspections will be based on opportunities for inspection such as scheduled excavation and maintenance work. | LRA Section B2.1.5 |
| 16 | Develop and implement procedures for periodic draining and cleaning of diesel fuel oil storage tanks, Emergency Diesel Generator day tanks, and Diesel Fire Pump Day Tanks. These procedures shall include steps to perform a visual inspection of interior tank surfaces for signs of degradation or corrosion, with acceptance criteria, corrective actions, and documentation of inspection results. | LRA Section B2.1.9 |
| 17 | Develop and implement procedures for periodic draining of water accumulated in the bottom of the fuel oil storage tanks and fuel oil day tanks for the Diesel Generators and Diesel Fire Pumps. | LRA Section B2.1.9 |

| | Commitment | Source |
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| 18 | Develop and implement procedures for periodic ultrasonic measurement of thickness of the bottom of Fuel Oil Storage Tanks, Emergency Diesel Generator Day Tanks, and Diesel Fire Pump Day Tanks. | LRA Section B2.1.9 |
| 19 | The Structures Monitoring Program shall be revised to include specific inspection criteria and documentation requirements for verifying that walls, ceilings and floors that serve as Fire Protection Program fire barriers are verified to be free from aging related degradation that would impact the fire barrier's intended function. | LRA Section B2.1.10 |
| 20 | Plant procedures shall be revised to more specifically address aging related degradation and expectations for documentation of fire door condition. | LRA Section B2.1.10 |
| 21 | Develop and implement procedures to perform visual inspections for fire door clearances. | LRA Section B2.1.10 |
| 22 | Revise diesel-driven fire pump performance test procedures to more specifically address requirement to inspect and monitor fuel oil supply line for aging related degradation, and to document inspection results. | LRA Section B2.1.10 |
| 23 | Develop and implement procedures for inspection of below grade fire protection system piping. Inspections shall occur when below grade piping is excavated for maintenance, and shall include pipe wall thickness (NDE or direct measurement) and documentation of aging related degradation of pipes. Procedures shall include acceptance criteria, and criteria for further corrective actions if acceptance criteria are not met. | LRA Section B2.1.10 |
| 24 | Plant procedures shall be revised to more specifically address identification of aging related degradation and expectations for documentation of fire hydrant condition. Also, these revisions shall include provisions to perform flow testing for fire hydrants within the scope of License Renewal that are credited for fire suppression in the Palisades current licensing basis. | LRA Section B2.1.10 |
| 25 | Develop and implement procedures to replace all sprinkler heads prior to the end of the 50 year service life, or for testing of a representative sample of sprinkler heads prior to the end of the 50 year service life and at 10 year intervals thereafter, per requirements of NFPA 25, Section 5.3. | LRA Section B2.1.10 |

| | Commitment | Source |
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| 26 | A Non-EQ Electrical Commodities Condition Monitoring Program will be developed and implemented. Features of the program will include development and implementation of procedures to conduct periodic inspection of insulated cables and connectors, test sensitive instrumentation circuits, test medium voltage cables, and inspect manhole water levels. | LRA Section B2.1.12 |
| 27 | A One Time Inspection Program will be developed and implemented. Features of the program are as described in the Enhancement section of LRA Section B2.1.13. | LRA Section B2.1.13 |
| 28 | Revise crane and fuel handling machine inspection procedures to specifically inspect for general corrosion on passive components making up the bridge, trolley, girders, etc., and to inspect rails of Bridge Cranes for wear. Revision should also include documentation of results of these inspections, acceptance criteria, and qualification requirements for inspectors and crane supervisors. | LRA Section B2.1.15 |
| 29 | The Reactor Vessel Integrity Surveillance Program will ensure that additional neutron fluence due to the power uprate will be accounted for when calculating fluence and developing pressure-temperature and LTOP curves for the extended operating period. | LRA Section B2.1.16 |
| 30 | Document and establish requirement to save and store all pulled and tested reactor vessel surveillance capsules for future reconstitution use. | LRA Section B2.1.16 |
| 31 | Evaluate and revise as necessary, the surveillance capsule withdrawal and testing schedule of FSAR Table 4-20 such that at least one capsule remains in the reactor vessel and is tested during the period of extended operation to monitor the effects of long-term exposure to neutron irradiation. | LRA Section B2.1.16 |

| | Commitment | Source |
|----|--|---------------------|
| 32 | Develop a program level procedure to implement and control Technical Specification and FSAR activities associated with the Reactor Vessel Integrity Surveillance Program, including activities associated with surveillance capsules, pressure-temperature limit curves, LTOP setpoints, neutron embrittlement calculation methodology, neutron fluence calculations and control, and documentation requirements. Title of procedure should be, "Reactor Vessel Integrity Surveillance Program." | LRA Section B2.1.16 |
| 33 | Palisades will participate in the industry initiatives to evaluate the effect of Changes in Dimensions due to Void Swelling, and will report to the NRC at least two years prior to the end of the current operating license the result | LRA Section B2.1.17 |
| 34 | Palisades will participate in industry initiatives that will generate additional data on aging mechanisms relevant to RVI and develop appropriate inspection techniques to permit detection and characterization of features of interest. Palisades will incorporate any recommended augmented inspections as appropriate. | LRA Section B2.1.17 |
| 35 | Incorporate into the Structural Monitoring Program all structural members listed in Tables 3.5.2-1 through 3.5.2-10 that will use the Structural Monitoring Program as an AMP. | LRA Section B2.1.19 |
| 36 | Enhance system walkdown procedures to more specifically address the types of components to be inspected, and to specifically describe the relevant degradation mechanisms and effects of interest, and for use of the Corrective Action Program to document aging related degradation, identified during the inspections, that may affect the ability of the SSC to perform its intended function. | LRA Section B2.1.20 |
| 37 | A Fatigue Monitoring Program will be developed and implemented. Features of the program will include monitoring and tracking selected cyclic loading transients (cycle counting) and their effects on critical reactor pressure boundary components and other selected components. | LRA Section B3.2 |

From: NRR_INFOREVIEW
To: Juan Ayala; Michael Morgan
Date: 4/1/05 4:36PM
Subject: Palisades License Renewal Application
Place: NRRWebServices

NRR_InfoReview reviewed Vol 1 and Vol 2 of the Palisades license renewal application, as well as the drawings. There is no sensitive information in the application and it may be released without restriction including posting to the web.

CC: NRRWebServices; Samson Lee