

February 27, 2002

U S Nuclear Regulatory Commission
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DOCKET 50-255 - LICENSE DPR-20 - PALISADES PLANT
REQUEST FOR RELIEF FROM ASME CODE REQUIREMENTS FOR INSERVICE
INSPECTION PRESSURE TEST PROGRAM – RELIEF REQUEST PR-07

Nuclear Management Company, LLC (NMC) requests approval for relief from selected pressure testing requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, 1989 Edition. NMC proposes an alternative to the specified examination requirements, in accordance with 10 CFR 50.55a(a)(3)(i), for the remainder of the current ten-year inspection interval.

Subsections IWA, IWB, IWC, and IWD of Section XI require that pressure-retaining components be subject to visual examination during system pressure tests. NMC requests that an alternative examination method be allowed for systems containing borated water. Specifically, NMC proposes to perform the required visual examinations of these systems without having the system pressurized, provided the system has been in service within the previous 92 days. This alternative examination method will provide an acceptable level of quality and safety.

NMC requests approval of the proposed relief request by October 1, 2002, to support planning for the next refueling outage.

SUMMARY OF COMMITMENTS

This letter contains no new commitments and no revisions to existing commitments.



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Director, Engineering

CC Regional Administrator, Region III, USNRC
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Attachment

ATTACHMENT 1

**NUCLEAR MANAGEMENT COMPANY
PALISADES NUCLEAR PLANT
DOCKET 50-255**

**INSERVICE INSPECTION PRESSURE TEST PROGRAM - REQUEST FOR RELIEF
RELIEF REQUEST PR-07**

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Attachment 1
PALISADES NUCLEAR PLANT
RELIEF REQUEST NUMBER PR-07

COMPONENT IDENTIFICATION

Code Class: 1, 2 and 3

References: Table IWB-2500-1, Examination Category B-P, Item No. B15.50, B15.60 and B15.70
Table IWC-2500-1, Examination Category C-H, all items
Table IWD-2500-1, Examination Category D-A, D-B and D-C, Item No. D1.10, D2.20 and D3.10

Description: Alternative Testing for class 1, 2 and 3 systems which are not normally in service during any plant mode of operation or which are normally inaccessible for inspection during plant operations.

Systems: High Pressure Safety Injection (HPSI)(drawings M-203, Sheet 2; M-204, Sheets 1 and 1A)
Low Pressure Safety Injection (LPSI)(drawing M-203, Sheet 2)
Containment Spray (CSS)(drawing M-203, Sheet 2)
Safety Injection Tanks (SIT)(drawing M-203, Sheet 1)
Boric Acid Addition (drawing M-202, Sheet 1A)
Charging System (drawing M-202, Sheets 1A and 1B)
Letdown System (drawing M-202, Sheet 1B)

CODE REQUIREMENT

The following paragraphs refer to the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code, Section XI, 1989 Edition, the code currently applicable to the Palisades Inservice Inspection Program.

IWA-5211, "Test Description," states, "The pressure retaining components within each system boundary shall be subject to system pressure tests under which visual examination VT-2 is performed in accordance with IWA-5240 to detect leakages."

IWB-5210, "Test," states, "(a) The pressure retaining components shall be tested at the frequency stated and visually examined by the method specified in Table IWB-2500-1, Examination Category B-P"

IWC-5210, "Test," states, "(a) The pressure retaining components within each system boundary shall be subjected to the following system pressure tests and visually examined by the method specified in Table IWC-2500-1, Examination Category C-H"

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IWD-5210, "Test," states, "(a) The pressure retaining components within the boundary of each system specified in the Examination Categories of Table IWD-2500-1 shall be pressure tested and examined in accordance with Table IWD-2500-1"

BASIS FOR RELIEF

NMC has identified that VT-2 examinations may be performed more efficiently on multiple systems simultaneously with less impact on the operating staff if the examinations can be performed when the systems are not pressurized. For example, the portions of HPSI, LPSI, CSS, SIT, Charging and Letdown inside of containment could be examined as a group during any suitable period of accessibility. Also, the portions of HPSI, LPSI and CSS in the East and West Safeguards Rooms could be examined together at any suitable time. Current code requirements limit the ability to reduce dose and resources needed to complete these examinations by requiring that examinations be performed only when the specific plant conditions required for pressure testing can be established. NMC is proposing alternate testing methods in accordance with 10 CFR 50.55a(a)(3)(i) so that these benefits can be achieved. The proposed alternate examination will provide an acceptable level of quality and safety.

Industry experience indicates that few relevant degraded conditions are discovered solely as a result of pressure testing. At Palisades it is not unusual for evidence of leakage (boric acid accumulations and active leakage), which is documented during pressure tests, to have been identified independently from testing activities. Containment sump level changes, radiation and humidity monitors, and periodic reactor coolant system leak rate calculations have identified active leakage. Visual inspections during general plant walk downs performed by maintenance, operations and engineering personnel, have also effectively identified evidence of leakage either with the systems shut down or in operation.

Industry experience, such as the Inconel 600 experience at Combustion Engineering plants, also demonstrates that water will travel through very small pressure boundary flaws once they have progressed through wall. It has not been necessary to pressurize systems to discover this leakage. Leaks at Inconel 600 nozzles have been discovered at pressurizer and reactor coolant system loop thermo wells and nozzles under static head with plants in cold shutdown. This demonstrates that it is not necessary to pressurize systems containing boric acid in order to perform an effective examination for leakage. Under the proposed alternative examination method, systems would be flooded during the VT-2 examination but not necessarily at operating or test pressure.

Inservice testing and other operational activities will pressurize test systems in a manner similar to classical pressure testing. System leakage would leave boron accumulations as evidence of leakage. Evidence of leakage discovered during later ISI VT-2 examinations would be treated as leakage in a manner similar to Code Case

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N-533 for the purpose of the proposed alternative examinations. Leakage or evidence of leakage would be considered relevant conditions as described in IWB-3522. These relevant conditions would be dispositioned in accordance with the requirements of IWB-3142 and IWA-5250 or evaluated in accordance with Code Case N-566-1.

The proposed hold time requirements are based on IWA-5213 of the 1995 Edition of ASME B&PV Code, Section XI. This article specifies hold times based on insulation status. Insulated systems will require a 4-hour hold time. Uninsulated systems will require a 10-minute hold. The proposed hold time requirements are more stringent than those specified in IWA-5213 of the 1989 Edition of Section XI. The 1989 Edition specifies that insulated systems that are not in service during plant operations would only be required to have a 10-minute hold time as specified for system functional tests.

PROPOSED ALTERNATE EXAMINATION

As an alternative to the requirements contained in Table IWB-2500-1, Examination Category B-P, Item No. B15.50, B15.60 and B15.70; Table IWC-2500-1 for Examination Category C-H, all items; and Table IWD-2500-1, for Examination Category D-A, D-B and D-C, Item No. D1.10, D2.20 and D3.10; NMC may perform VT-2 Visual Examination without placing the affected system in service provided the following conditions are met:

- (a) The system shall remain flooded during VT-2 Visual Examination, and,
- (b) The system shall be borated to a concentration that will provide evidence of leakage when system fluid has evaporated, and,
- (c) Activities which would remove evidence of leakage have not been performed, and,
- (d) A minimum hold time of 10 minutes with the system at pressure is documented for uninsulated systems. Operating time associated with inservice testing or other normal operations during the previous 92 days may be credited towards the 10-minute hold time requirement, or,
- (e) A minimum hold time of 4 hours with the system at pressure is documented for insulated systems. Operating time associated with inservice testing or other normal operations during the previous 92 days may be credited towards the 4-hour hold time requirement.

All relevant conditions described in IWB-3522 discovered during the VT-2 examination shall require correction to meet the requirements of IWB-3142 and IWA-5250 prior to continued service, or the provisions of Code Case N-566-1 shall be applied.

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APPLICABLE TIME PERIOD

NMC requests the proposed alternative for the remainder of the third ten-year interval of the Inservice Inspection Program for Palisades which concludes in August 2005.