

August 23, 2005

Mr. Paul A. Harden
Site Vice President
Nuclear Management Company, LLC
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043-9530

SUBJECT: PALISADES PLANT — REQUEST FOR ADDITIONAL INFORMATION
RELATED TO REQUEST TO EXTEND THE THIRD 10-YEAR INSERVICE
INSPECTION (ISI) INTERVAL FOR REACTOR VESSEL WELDS,
NOZZLE-TO-VESSEL WELDS, AND NOZZLE-TO-PIPING WELDS
(TAC NO. MC6547)

Dear Mr. Harden:

Nuclear Management Company, LLC's (NMC's) letter of March 31, 2005, submitted a request for relief for the Palisades Nuclear Plant to extend the third 10-year ISI interval for the reactor vessel by one operating cycle. The Nuclear Regulatory Commission staff is reviewing your request and finds that additional information is needed as shown in the enclosed request for additional information (RAI).

I discussed the enclosed RAI with Ms. Amy Hazelhoff of your organization on August 17, 2005, and she agreed to respond within 45 days of receipt of this RAI. Please contact me at (301) 415-1423 if you have questions.

Sincerely,

/RA/

L. Mark Padovan, Project Manager, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-255

Enclosure: RAI

cc w/encl: See next page

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Palisades Plant

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Request for Additional Information

Palisades Nuclear Plant, Docket No. 50-255

Request to Extend the Third 10-year Inservice

Inspection (ISI) Interval for Reactor Vessel Welds,

Nozzle-to-Vessel Welds, and Nozzle-to-Piping Welds

In its March 31, 2005, request for authorization to extend the third 10-year ISI interval for reactor vessel examinations, Nuclear Management Company (NMC) stated that the technical justification for its request is consistent with the guidance provided in a January 27, 2005, letter from the NRC to Westinghouse Electric Company (Summary of Teleconference with the Westinghouse Owners Group Regarding Potential One Cycle Relief of Reactor Pressure Vessel Shell Weld Inspections at Pressurized Water Reactors Related to WCAP-16168-NP, "Risk Informed Extension of Reactor Vessel In-Service Inspection Intervals"). Item number six of this guidance says the following:

The licensee could then provide a discussion of how, based on its plant operational experience, fleet-wide operational experience and plant characteristics, the likelihood of an event (in particular, a significant pressurized thermal shock event) over the next operating cycle which could challenge the integrity of the reactor pressure vessel (RPV), if a flaw was present, is very low.

NMC's submittal includes general statements indicating that the likelihood of pressurized thermal shock (PTS) events is small, and briefly describes a Palisades operating procedure that provides guidance on the preferred water temperature in the safety injection refueling water tank (SIRWT). The guidance recommends that the water in the SIRWT be maintained above 80 degrees to reduce the likelihood of a severe PTS event.

The NRC staff is re-evaluating the risk from PTS events in a study done to develop a technical basis for revising Title 10 of the *Code of Federal Regulations*, (10 CFR) Part 50, Section 61. Although the NRC staff has not yet completed its evaluation, the current results indicate that the three types of accident sequences shown below cause the more severe PTS events and thereby dominate the risk. Please describe the characteristics of your plant (design and operating procedures) that assure that the likelihood of a severe PTS event over the next operating cycle, which could challenge the integrity of the RPV if a flaw was present, is very low for the following accident sequences:

Sequence 1

Any transient with reactor trip followed by one stuck-open pressurizer safety relief valve that re-closes after about 1 hour. Severe PTS events also require the failure to properly control high-head injection.

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Sequence 2

Large loss of secondary steam from steam line break or stuck-open atmospheric dump valves. Severe PTS events also require the failure to properly control auxiliary feedwater flow rate and destination (e.g., away from affected steam generators), and failure to properly control high-pressure injection.

Sequence 3

Four- to nine-inch loss-of-coolant accidents. Severity of PTS event depends on break location (worst location appears to be in the pressurizer line) and primary injection systems flowrate and water temperature.