NMC
Committed to Nuclear Excellence

Palisades Nuclear Plant
Operated by Nuclear Management Company, LLC

June 15, 2005

10 CFR 50.55a

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

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

Response to Request for Additional Information: Authorization to Extend the Third 10-Year IST Interval for Certain Relief Valves

By letter dated March 31, 2005, Nuclear Management Company, LLC requested authorization to extend the third 10-year inservice testing (IST) interval for certain relief valves at the Palisades Nuclear Plant. After discussions with the NRC staff, it was determined that additional information was necessary. Enclosure 1 contains the additional information.

Summary of Commitments

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

for

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

Enclosure (1)

CC Administrator, Region III, USNRC
Project Manager, Palisades, USNRC
Resident Inspector, Palisades, USNRC

A047

27780 Blue Star Memorial Highway • Covert, Michigan 49043-9530
Telephone: 269.764.2000

ENCLOSURE 1
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
IST RELIEF REQUEST
PALISADES NUCLEAR PLANT

NRC Request

1. Please provide the test history (date test performed/results) of the valves.

NMC Response

1.

Valve Number	Work Order	Completion Date	Periodic Testing	Results
RV-0401	24510766	1995 Full Core Offload (FCO)	ESS132	Test results were 2450 psig versus an acceptance range of 2410 to 2559 psig.
RV-0402*	None	N/A	RT116	N/A
RV-0403*	None	N/A	RT116	N/A
RV-0954*	None	N/A	CCS047	N/A
RV-0955*	None	N/A	CCS047	N/A
RV-3162	24413612	1995 (FCO)	RT116	Test results were 500 psig versus an acceptance range of 485 to 515 psig.
RV-3164	24416298 24111226	1995 (FCO) 2001	ESS133	1995 test results were 285 psig versus an acceptable range of 291 to 309 psig. 2001 test results were slightly high at 310 psig.

*These valves are located within the isolation boundaries of the shutdown cooling heat exchangers. They function as thermal relief valves during periods when the heat exchangers are isolated for maintenance and inoperable. When the heat exchangers are operable, they are required to remain closed to avoid diversion of containment spray or shutdown cooling flow. The shutdown cooling heat exchangers have not been removed from service during the 3rd inservice test (IST) interval. Additionally, these types of relief valves were not required to be tested until the 3rd IST interval. Therefore, they have not been tested since the manufacturer's test prior to installation.

Some relief valves tested outside of the as-found acceptance ranges, however, each valve remained capable of performing its overpressure protection function.

NRC Request

2. Please discuss why the valves were not tested during previous outages (with special emphasis on the 215 day extended outage in 2001).

NMC Response

2. Previous outages during the 3rd IST interval did not involve full core offloads; therefore, the same restrictions to testing existed as are described in the requests. This includes the 215-day forced outage for replacement of control rod drive upper housings. Additionally, during this forced outage, FCO capability did not exist in the spent fuel pool.

   Palisades spent fuel pool is of limited capacity. In order to complete a full core offload, the fuel pool must have 204 locations available for fuel bundles, 45 locations for control rod blades and 60 locations for new fuel bundles, for a total of 309 locations. Since the conclusion of the 1995 refueling outage (RO11), the time of the last full core offload, Palisades has not had full core offload capability.

NRC Request

3. *The relief requests do not present a rationale as to why a hardship or unusual difficulty exists. Any request for relief should be oriented towards addressing why the code requirements result in hardship or unusual difficulty. In particular, discuss why a full core off-load presents a hardship or unusual difficulty. (The referenced Point Beach relief request was for a much shorter duration and was granted based on the fact that a full core off-load could not be performed based on spent fuel pool loading.)*

NMC Response

3. By letter dated March 6, 1998, the NRC approved multiple relief requests for the Palisades Nuclear Plant, including valve relief request (VRR) No. 28, VRR No. 30, and VRR No. 31, for various thermal relief valves. These relief requests described a hardship for testing the subject valves at times other than a FCO, and proposed to complete testing at the conclusion of the 3rd interval, which at that time was scheduled for August 2005, and would have included a FCO.

   Due to extended outages occurring during the 3rd 10-Year Inservice Inspection (ISI) interval, Palisades has extended the ISI interval from August 2005, to December 2006, (the IST interval is presently extended to March 2006) in accordance with the provision of ASME Section XI, 1989 Edition. This has resulted in a delay of the next FCO until the Fall of 2007. Therefore, it is a hardship to test the subject relief valves by the surveillance due date of August 2005.

Meeting Code requirements would necessitate a FCO for the sole purpose of testing these relief valves. Through the 3rd IST interval, FCO capacity has not existed in the SFP. Extraordinary efforts, such as loading extra dry fuel storage casks, or modifying the spent fuel pool, would have been required to provide FCO capability and allow relief valve testing. Such efforts would represent a hardship and unusual difficulty, when compared to the relatively small benefit associated with successful valve testing.

See the response to question 2 for a discussion of fuel pool loading.

Palisades will have FCO capability for the next refueling outage scheduled to begin in April 2006; however, performing a FCO for the sole purpose of testing these relief valves continues to represent a hardship without a compensating increase in safety. This conclusion is confirmed when considering the following:

a. Performance of a FCO would add an estimated 170 hours to the critical path outage schedule and result in an estimated 3 Rem of additional personnel dose exposure.

b. Four of the valves, RV-0402, RV-0403, RV-0954 and RV-0955, are within the isolation boundaries of the Shutdown Cooling Heat Exchangers and are required to operate (open) only when the heat exchangers are isolated and inoperable.

c. Test results during the last FCO and during the 3rd IST interval for RV-0401, RV-3162 and RV-3164 have been satisfactory even though they have not been performed at the Code required frequencies.

NRC Request

4. *Please provide the refueling outage dates, duration, and core off-load status for refueling outages conducted during the current IST interval and the scheduled dates/duration/off-load status for the planned refueling outages up to and including the fall 2007 outage.*

NMC Response

4.

Cycle	Full Core Offload Capability?	Beginning Of Cycle	Beginning Of Outage	End Of Outage	Approximate Number of Outage Days
12	No	08/21/1995	11/01/1996	12/27/1996	57
13	No	12/27/1996	04/25/1998	06/07/1998	43
14	No	06/07/1998	10/15/1999	12/14/1999	60
15	No	12/14/1999	03/30/2001	05/10/2001	41
16	No	05/10/2001	03/16/2003	04/20/2003	35
17	No	04/20/2003	09/19/2004	11/17/2004	59
18	Yes	11/17/2004	04/02/2006*	05/14/2006*	42*
19	Yes	05/14/2006*	09/09/2007*	11/08/2007*	29*

*Tentative

NRC Request

5. *Based on a commercial operating date of December 31, 1971 the third 10-year IST interval should have ended on December 31, 2001 assuming no extensions of the interval per IWA. With the Code allowed 215 day extension per IWA-2430(e) this would establish an interval end date in 2002. Please provide information on the previous 10-year interval extensions that resulted in the August 21, 2005 date for the end of the third 10-year interval.*

NMC Response

5. During intervals 1, 2 and 3, Palisades has had a number of forced and refueling outages lasting more than 6 months. The result is interval start and stop dates that do not directly correlate with the date of commercial operation.

   The start of the first 10-year interval coincides with the date of first commercial operation, December 31,1971. The length of the first three and one-third year period was extended to October 30, 1976, to reflect eighteen months cumulative shutdown time between August 1973 and April 1975.

   The second period of the first 10-year interval was scheduled to end on February 28,1980. The beginning of the third period was delayed until June 1,1980, due to the 1979/1980 extended refueling outage. The Palisades Nuclear Plant was out of service from September 1979 through May 1980. The interval was extended to November 9, 1983. The second interval (first period), therefore, began November 10, 1983.

The Palisades Plant was out of service from August 12, 1983, through July 30, 1984, and from May 19, 1986, through April 3, 1987, due to extended maintenance outages. The cumulative number of days to complete these outages was approximately 671. If desired, Palisades could have extended the 2nd IST interval to mid September 1995; however, only a portion of the Code allowance was used to extend the second interval to August 21, 1995.

The following table provides the IST intervals for the Palisades Nuclear Plant:

IST INTERVAL DATES			
First Interval	12/31/1971	To	11/09/1983
Second Interval	11/10/1983	To	08/20/1995
Third Interval	08/21/1995	To	03/24/2006
Fourth Interval	03/25/2006	To	03/23/2016

NRC Request

6. *Valve Relief Request No. 30 section 6.0 states approval is requested to extend the interval ... beyond the ASME Code required 10-year inspection interval. The Code required interval is 5 years.*

NMC Response

6. The relief request did not correctly state the source of the requirement.

The wording should be revised as follows:

"NMC requests approval to extend the third IST interval and test frequency for the subject relief valves to coincide with the Palisades 2007 refueling outage, currently expected to conclude in November 2007. This will result in an extension of the 3rd IST interval of approximately 20 months beyond the Code allowance for extended outages contained in IWA-2430(e). The test frequency for the subject relief valves would be extended beyond the once per 10-year allowance of the safety evaluation dated March 6, 1998, to approximately once per 12 years, 3 months."