NMC
Committed to Nuclear Excellence

Palisades Nuclear Plant
Operated by Nuclear Management Company, LLC

September 19, 2006

10 CFR 50, Appendix H

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

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

Revision to Reactor Vessel Surveillance Coupon Removal Schedule

Pursuant to 10 CFR 50, Appendix H, III.C.3, Nuclear Management Company, LLC (NMC) is requesting Nuclear Regulatory Commission (NRC) review and approval of the enclosed revision to the surveillance capsule removal schedule for the Palisades Nuclear Plant. The reactor vessel surveillance capsule removal schedule presently includes removal of surveillance capsule W-280, during the 19th refueling outage, W-260 during the 26th refueling outage, and W-80 during the 29th refueling outage. NMC is requesting to defer removal of W-280 and W-260 until a more significant level of fluence has accumulated. In addition, NMC is requesting to revise the withdrawal schedule for W-80, as described in Enclosure 1.

Approval of this proposed change is requested no later than September 1, 2007.

Summary of Commitments

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

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Nuclear Management Company, LLC

Enclosures (1)

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ENCLOSURE 1
REVISION TO REACTOR VESSEL SURVEILLANCE PROGRAM
PALISADES NUCLEAR PLANT

The Palisades Nuclear Plant (PNP) reactor vessel surveillance capsule removal schedule presently includes removal of surveillance capsule W-280, during the 19th refueling outage, W-260 during the 26th refueling outage, and W-80 during the 29th refueling outage. NMC is requesting to defer removal of W-280 and W-260 until a more significant level of fluence has accumulated. In addition, NMC is requesting to revise the withdrawal schedule for W-80. Surveillance capsule W-100 was recently removed at a fluence of 2.10 x 10^{19}n/cm^2. The incremental effect of neutron fluence on material properties become less significant as fluence accumulates. It is considered prudent to defer removal of W-280 and W-260 until a more significant level of fluence has accumulated.

The currently approved reactor vessel surveillance capsule removal schedule follows:

Approved Surveillance Capsule Withdrawal Schedule

Capsule	Removal Time	Status	Fluence x 10^{19} (n/cm^2)
A-240	2.26 EFPY at EOC 2	Withdrawn	4.01
W-290	5.21 EFPY at EOC 5	Withdrawn	0.926
T-330	5.21 EFPY at EOC 5	Withdrawn	
W-110	9.95 EFPY at EOC 10	Withdrawn	1.66
W-100	16.5 EFPY at EOC 16	Withdrawn	2.10
W-280	20.6 EFPY at EOC 19	In Reactor	2.39
W-260	28.7 EFPY at EOC 26	In Reactor	2.93
W-80	32.0 EFPY at EOC 29	In Reactor	3.11
T-150	Reserved for future use	In Reactor	

The PNP reactor vessel surveillance program is designed to comply with the requirements of ASTM E 185-66. ASTM E 185-66 recommends 3 or more surveillance capsules, one of which corresponds to end of life. 10 CFR 50 Appendix H requires that capsules be tested, to the extent practicable, to the requirements of ASTM E 185-82. ASTM E 185-82 Table 1 recommends, for a minimum surveillance program, that capsules be withdrawn when capsule neutron fluence is equivalent to end of life neutron fluence at the reactor vessel ¼T location (First), end of life neutron fluence at the reactor vessel inner wall location (Second), and at a neutron fluence level between end of life neutron fluence and twice end of life neutron fluence (Third). The surveillance capsules should be removed at the following neutron fluence levels.

ASTM E 185 Preferred Neutron Fluence x 10^{19} (n/cm^2) for Capsule Withdrawal

Capsule	Axial Welds	Circumferential Weld, Base Metal
First	0.896	1.238
Second	1.492	2.061
Third	1.492 < f < 2.984	2.061 < f < 4.122

The surveillance capsules removed to date demonstrate that the surveillance program meets the minimum requirements.

Withdrawn Capsules (and Fluence) That Meet the Intent of ASTM E 185

Capsule	Axial Welds	Circumferential Weld, Base Metal
First	W-290 (0.926)	W-110 (1.66)
Second	W-110 (1.66)	W-100 (2.10)
Third	W-100 (2.10)	A-240 (4.01)

Assuming the operating license is renewed, the surveillance capsule withdrawal scheduled should be revised to remove the capsules at the following neutron fluence levels.

ASTM E 185 Preferred Neutron Fluence x 10^{19} (n/cm^2) for Capsule Withdrawal for License Renewal

Capsule	Axial Welds	Circumferential Weld, Base Metal
First	1.251	1.800
Second	2.084	2.998
Third	$2.084 < f < 4.168$	$2.998 < f < 5.996$

The following surveillance capsules best meet the intent of ASTM E 185-66 and E 185-82 for the license renewal period.

Capsules (and Fluence) That Meet the Intent of ASTM E 185 for License Renewal

Capsule	Axial Welds	Circumferential Weld, Base Metal
First	W-110 (1.66)	W-100 (2.10)
Second	W-100 (2.10)	W-80 (3.06)
Third	W-80 (3.06)	A-240 (4.01)

Removing surveillance capsule W-80, as scheduled, supports the minimum requirements for the surveillance program for the license renewal period. It is recommended the surveillance program be revised to hold the remaining untested surveillance capsules in reserve to meet future needs. The PNP reactor vessel surveillance capsule removal schedule should be revised as follows:

Proposed Surveillance Capsule Withdrawal Schedule

Capsule	Removal Time	Fluence x 10^{19} (n/cm^2)
A-240	2.26 EFPY at EOC 2	4.01
W-290	5.21 EFPY at EOC 5	0.926
T-330	5.21 EFPY at EOC 5	
W-110	9.95 EFPY at EOC 10	1.66
W-100	16.93 EFPY at EOC 16	2.10
W-80	31.96 EFPY at EOC 27[1]	3.06[1]
W-280	Reserved for future use	
W-260	Reserved for future use	
T-150	Reserved for future use	

[1] "NMC Response to NRC Requests for Additional Information Dated November 30, 2005 Relating to License Renewal for the Palisades Nuclear Plant," January 13, 2006 (RAI B2.1.16-2)