

September 21, 2006

10 CFR 50.91(a)(5)

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

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

Response to Request for Additional Information Regarding License Amendment  
Request: Removal of TSP from Palisades Containment

By letter dated March 20, 2006, pursuant to 10 CFR 50.91(a)(5), Nuclear Management Company, LLC (NMC) requested Nuclear Regulatory Commission (NRC) review and approval of a proposed license amendment for the Palisades Nuclear Plant (PNP). NMC is proposing to remove tri-sodium phosphate (TSP) from the containment building at PNP as an interim measure until the long term resolution of GSI-191 is implemented.

By electronic email dated August 1, 2006, and August 3, 2006, the NRC sent a request for additional information (RAI) regarding the proposed license amendment request. Enclosure 1 provides the response to the RAI for PNP.

A copy of this RAI response has been provided to the designated representative of the State of Michigan.

Summary of Commitments

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

I declare under penalty of perjury that the foregoing is true and correct. Executed on September 21, 2006.



Paul A. Harden  
Site Vice-President, Palisades Nuclear Plant  
Nuclear Management Company, LLC

Enclosures (1)

cc: Administrator, Region III, USNRC  
Project Manager, Palisades, USNRC  
Resident Inspector, Palisades, USNRC

**ENCLOSURE 1  
RESPONSE TO RAI ON TSP AMENDMENT  
PALISADES NUCLEAR PLANT**

***NRC Request***

- #1 *We don't think your RAI response fully addressed one item. Part 2, Question 1 asks for pH of the spray. The last sentence on page 4 of your RAI response says spray flow has a pH of 4.5. However, we need to know the pH of the spray during the time that sodium hydroxide is being injected into the spray system. Spray pH, after adding the sodium hydroxide, should be much higher. Please supplement your RAI response with this info.*

*Clarification: We are interested in the pH after the NaOH is injected. Ultimately we are interested in the containment spray pH during the time sodium hydroxide is being added. For the SE, we will be comparing existing potential chemical effects (i.e., with TSP and cal-sil insulation) to those with NaOH and cal-sil. Therefore, we are trying to determine the containment spray pH during the time the NaOH is sprayed since aluminum corrosion is higher at higher pH.*

**NMC Response**

- #1 Utilizing the minimum sump volume and the minimum sump boron concentration leads to the following maximum sump spray pH at 160°F:
1. At time zero the pH = 4.8
  2. At the beginning of injection at 20 hours, the containment spray pH = 7.25
  3. The highest spray pH which occurs at the very end of injection = 7.60
  4. After injection ends at 22 hours, 32 minutes, the pH in the spray and in the containment sump = 7.16
  5. Should the sump cool to 77°F suddenly after 22 hours and 32 minutes, the pH would become about 8, as the neutral point shifts from 6.4 to 7.0.

The sump temperature was assumed to be 160°F at 20 hours post LOCA in order to be compatible with the pH tables in the NWT 731 report, "Effect of Sodium Hydroxide Additions on pH of Boric Acid Solutions." NWT 731 was provided as Attachment 1 by letter dated July 7, 2006. This assumed sump temperature approximates the expected sump temperature, given the various single failure assumptions that are required in the LOCA analysis.