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Timothy G. Mitchell
Senior Vice President and
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Indian Point, Palisades and Cooper

May 16th, 2013

William Magwood
Nuclear Regulatory Commission
One White Flint
11555 Rockville Pike
Rockville, MD 20852

Dear Commissioner Magwood:

We were grateful for the opportunity to host your visit to Palisades in March, and are pleased to hear the tour and discussions provided useful information.

In your April 25, 2013 letter, you forwarded questions from citizens about capital improvements to Palisades. We have provided answers to these questions in the attached document.

We understand the answers will be provided to attendees of your March 25, 2013 meeting with members of the public as well as posted to the Nuclear Regulatory Commission website.

Please let us know if we can provide any additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "Tim Mitchell", written over a horizontal line.

Tim Mitchell
Entergy Chief Operating Officer and Senior Vice President for
Palisades, Indian Point and Cooper Nuclear Plants

cc: John McCann
Tony Vitale



Response to Questions about Palisades Nuclear Power Plant from NRC Commissioner Magwood's Letter of April 25, 2013

As part of the plant purchase process, there was a "due diligence" period in which Entergy formed an opinion about Palisades' challenges and potential solutions to those challenges. The previous owners of Palisades had an obligation during this process to provide complete and accurate information regarding the results of engineering tests and analysis they had performed on plant equipment.

Entergy saw, and continues to see, alternatives to the equipment replacement plans attributed to the previous owner. It is not possible to respond on behalf of the previous owner regarding the basis for their conclusions on what future costs might be. However, once ownership was transferred, Entergy has the latitude to address plant equipment issues as it sees best, assuming all regulatory and safety requirements are strictly met.

Specifically, the following are the approaches Entergy deems appropriate at this time for each of the items raised:

a. Reactor Vessel Head

There are no near term plans to replace the reactor vessel head at Palisades. Following an issue with corrosion of a vessel head penetration at Davis-Besse, the NRC issued an order in 2003 to require pressurized water reactor licensees to perform certain actions to reduce the potential for vessel head corrosion and to perform inspections during each refueling outage of each vessel head penetration to verify conditions remain acceptable. The past four inspections at Palisades showed no degradation.

b. Steam Generators

There are no near term plans to replace the Palisades steam generators. The original Palisades steam generators were replaced in 1991. The current steam generators are similar to the originals in that they have Alloy 600 mill annealed tubes. Mill annealed Alloy 600 steam generator tubes are susceptible to several degradation mechanisms. Several actions have been identified to reduce or mitigate the effects of tube degradation, including:

1. Maintaining continued excellent primary and secondary water chemistry control
2. Reducing the foreign material on top of the steam generator tube sheets by changing out the old moisture separator re-heater
3. Implementing the foreign material exclusion controls program on the primary and secondary side
4. Incorporating advanced scale conditioning agent

NRC requires that the steam generator tubes be inspected during each refueling outage, and that the licensee submit an operational assessment of the inspection results that predict the performance of the tubes for the next operating cycle to ensure adequate tube integrity margin until the next inspection. The most recent inspection results demonstrate that the steam generators remain sound.

c. Alloy 600 Program

Alloy 600 materials used in the primary coolant system of pressurized water reactors are subject to a phenomenon known as primary water stress corrosion cracking that can affect welds under certain circumstances. The Nuclear Regulatory Commission requires licensees to periodically inspect these potentially susceptible welds, and take corrective action as appropriate. The Palisades program is in full

compliance with 10 CFR 50.55a.

d. Reactor Vessel Integrity

The next significant activity associated with the Palisades reactor pressure vessel will be to conduct a detailed inspection during the next refueling outage in the fall of 2013. The results of this inspection will be used to update the vessel pressurized thermal shock evaluation using the fracture toughness analysis techniques required by the Nuclear Regulatory Commission in 10 CFR 50.61a. This evaluation was last updated by Palisades and submitted to NRC for approval in December, 2010 and approved by NRC in December, 2011 for use through April, 2017. Palisades expects the next evaluation will bound the remaining licensed life of the facility; however, additional inspections and evaluations will continue to be performed to verify that conclusion periodically beyond 2017.

e. Fire Protection

The Nuclear Regulatory Commission has modified its fire protection regulations in 10 CFR 50.48 to allow licensees to adopt, on a voluntary basis, National Fire Protection Association Standard 805, "Performance-Based Standard for Fire Protection for Light-Water Reactor Electric Generating Plants," in lieu of their existing fire protection licensing basis. This approach applies advanced risk analysis techniques to risk inform the licensing basis. Palisades volunteered to participate in this program and has completed the probabilistic analysis needed to support the license application, which was submitted on Dec. 12, 2012. The application was accepted for review on March 20, 2013. Palisades will complete the modifications needed to support the license change in accordance with the schedule submitted in the application and, assuming that NRC approves the application as expected, will bring Palisades into full compliance with all NRC requirements for fire protection.

f. Containment Coatings

g. Sump Strainers

The following response applies to containment coatings and sump strainers. Palisades has already completed significant modifications and improvements to block debris from thermal insulation that is postulated to clog safety related sumps as described in NRC Generic Issue 191. In accordance with the most recent NRC guidance in SECY 12-0093 issued in July 2012, Palisades will pursue the probabilistic analysis risk option to complete work on the Generic Issue.