



February 13, 2004

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U S Nuclear Regulatory Commission
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Palisades Nuclear Plant
Docket 50-255
License No. DPR-20

License Amendment Request: Increase Rated Thermal Power – Response To Request For Additional Information (TAC NO. MB9469)

By letter dated June 3, 2003, Nuclear Management Company, LLC (NMC), requested Nuclear Regulatory Commission (NRC) review and approval of a license amendment for the Palisades Nuclear Plant. NMC proposed to revise Appendix A, Technical Specifications, to increase rated thermal power by 1.4% from 2530 megawatts thermal (MWt) to 2565.4 MWt.

On February 2, 2004, the NRC transmitted via e-mail a draft request for additional information (RAI) regarding the above license amendment request. On February 10, 2004, following a phone conversation with the NRC staff, NMC concurred with the request and is providing the response in the attached enclosure.

Summary of Commitments

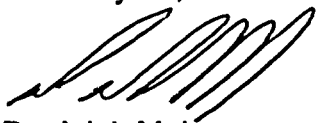
This letter contains four new commitments and no revisions to existing commitments:

- 1) Revise plant procedures to add precaution to appropriately evaluate CROSSFLOW system performance if a modification is performed in the proximity of the CROSSFLOW installation and obtain ultrasonic flow measurement (UFM) vendor technical support as needed to assist in performance evaluations for UFM related modifications or observed atypical system performance within 60 days of implementation of the Appendix K power uprate.

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- 2) Revise plant procedures to add limits for correction factor variation and appropriate actions to be taken as recommended in Nuclear Safety Advisory Letter, NSAL-03-12, "CROSSFLOW Ultrasonic Flow Measurement System Flow Signal Interference Issues," dated December 5, 2003, within 60 days of implementation of the Appendix K power uprate.
- 3) Revise plant procedures to add trending of UFM feedwater flow and the fluctuation in the UFM feedwater flow buffered value as recommended in NSAL-03-12 within 60 days of implementation of the Appendix K power uprate.
- 4) Conduct post-uprate UFM frequency spectrum analysis within 60 days of implementation of the Appendix K power uprate.

I declare under penalty of perjury that the foregoing is true and correct. Executed on February 13, 2004.



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

ENCLOSURE 1
ADDITIONAL INFORMATION FOR INCREASING RATED THERMAL POWER
LICENSE AMENDMENT REQUEST

Nuclear Regulatory Commission (NRC) Request

In a Technical Bulletin, TB-03-6, "CROSSFLOW Ultrasonic Flow Measurement System Signal Issues," dated September 5, 2003, and in a subsequent Nuclear Safety Advisory Letter, NSAL-03-12, "CROSSFLOW Ultrasonic Flow Measurement System Flow Signal Interference Issues," dated December 5, 2003, Westinghouse discusses a flow signal interference (or contamination) issue that has the potential to adversely affect the feedwater flow measurement. Westinghouse includes a number of recommendations to affected Utilities to maintain system uncertainty certification. Please address your compliance with these recommendations, identifying the actions that you have taken or are planning to complete before the proposed 1.4 percent power uprate is implemented at Palisades, and those recommended actions you plan to implement after the uprate. Please identify and justify any exceptions you take to the applicable recommendations.

Nuclear Management Company, LLC Response

A. Technical Bulletin TB-03-6 recommended actions:

1. *At this time, no changes to currently certified CROSSFLOW installations are deemed necessary.*

No response necessary.

2. *CROSSFLOW users should continue to be alert to the built-in system alarms, which can detect anomalous input signals and changes in C_f . Users should determine the cause of the alarm and whether any further action is required.*

Palisades uses the CROSSFLOW system in the manual mode as defined on page 4 of NSAL-03-12 as a periodic calibration tool. The alarm functions referred to in the Technical Bulletin apply to facilities that use CROSSFLOW in the automatic mode. Data quality requirements and system operational checks are performed as part of a plant procedure. Ultrasonic Flow Measurement (UFM) monitoring guidelines are also specified in a plant procedure.

3. *The validity of the CROSSFLOW Ultrasonic Flow Measurement System original installation certification should be reconfirmed if a utility modifies hardware in the proximity of a CROSSFLOW installation or implements a power uprate greater than the typical Appendix K type (typically ~1.5% - 1.7%).*

The power uprate at Palisades will be a typical Appendix K type (~1.4%) power uprate. Therefore, installation certification reconfirmation is not required. Frequency spectrum analysis before and after the uprate will be performed, as noted below.

A procedure change request has been generated to add a precaution to the applicable plant procedure to ensure that if a modification is performed in the proximity of the CROSSFLOW installation, performance of the CROSSFLOW system will be appropriately evaluated.

4. *If atypical CROSSFLOW system performance is identified or suspected in consideration of the criteria discussed above, Westinghouse/[Advanced Measurement Analysis Group, Inc.] AMAG should be contacted for operational/investigatory guidance.*

The precaution to be added per the procedure change request discussed above specifies that UFM vendor technical support should be obtained for evaluations following modifications or for observed atypical system performance.

B. Nuclear Safety Advisory Letter, NSAL-03-12 recommended actions:

1. *Westinghouse/AMAG recommends that CROSSFLOW system operators attend and complete the training course provided with the CROSSFLOW installation. Additional training can be provided upon request. This action ensures that personnel operating the system will be certified by Westinghouse/AMAG as having a comprehensive understanding of CROSSFLOW functionality, including acceptable ranges of operation and what actions should be taken if system performance deviates from acceptable norms.*

The plant organization responsible for the UFM system has a certified, vendor-trained engineer.

2. *Going forward, Westinghouse/AMAG will perform a baseline frequency spectrum analysis at the time of installation. This baseline frequency spectrum analysis will be provided to Utility customers and also retained by Westinghouse as a quality record along with other installation parameters. This action ensures that the system is free of interference and provides a record for comparison to potential future frequency spectrum analyses. Westinghouse/AMAG have completed a review of frequency spectrum records, or have obtained new records, for all Utilities currently using CROSSFLOW to adjust plant power. No other plants were found to be affected by the signal interference issue.*

Vendor performed frequency spectrum analysis was completed on November 14, 2003. No indication of signal contamination was noted. Frequency spectrum analysis will also be performed after the 1.4% power uprate.

3. *Westinghouse/AMAG recommends that the performance of the CROSSFLOW system be re-evaluated whenever a modification is made to the feedwater system that has the potential to affect the flow characteristics and/or a power uprate is implemented. This action ensures that interference is not unknowingly introduced which could adversely affect subsequent CROSSFLOW performance.*

Refer to response for TB-03-06 recommended action 3.

4. *CROSSFLOW system users should continue to ensure their application stays within its plant specific acceptance limits using the guidance provided in the Technical Evaluation above and the information (e.g. Users manual, uncertainty calculations, etc) provided with the CROSSFLOW system. Utilities should also verify that operating procedures have been updated to reflect these recommendations.*

A plant procedure contains necessary system checks and acceptance criteria for data validity and measurement uncertainty requirements. However, this procedure does not explicitly state plant specific limits on correction factor variation nor upper and lower maximum operational limits for correction factors as recommended in NSAL-03-12. A procedure change request was generated to add these limits and to provide actions to be taken if these limits are reached.

A plant procedure contains instructions for monitoring various plant parameters to identify changes in plant conditions that could affect the implemented correction factors. This procedure does not explicitly require trending of CROSSFLOW determined feedwater flow nor the fluctuation in the UFM feedwater flow buffered value as recommended by NSAL-03-12. This trending has been performed by NMC but is not procedurally controlled. A procedure change request was generated to add UFM feedwater flow and the fluctuation in the UFM feedwater flow buffered value as parameters that should be trended.

C. Recommended Actions To Be Performed After Power Uprate

Remaining actions are the post-uprate frequency spectrum analysis and implementation of the three procedure change requests noted above. Implementation of the procedure change requests was intentionally scheduled post-uprate to allow collection of new full-power baseline data. These actions will be completed within 60 days of implementation of the Appendix K power uprate.