



Northern States Power Company

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September 9, 1994

NRC Generic Letter 94-02

US Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

MONTICELLO NUCLEAR GENERATING PLANT
Docket No. 50-263 License No. DPR-22

Response to NRC Generic Letter 94-02, "Long-Term Solutions
and Upgrade of Interim Operating Recommendations for
Thermal-Hydraulic Instabilities in Boiling Water Reactors

The purpose of this letter is to provide our response to NRC Generic Letter 94-02, dated July 11, 1994. The Generic Letter requests licensees to submit information regarding actions being taken to address thermal-hydraulic instabilities in boiling water reactors.

Reporting Requirement No. 1 of the Generic Letter requires that within sixty (60) days of the date of the letter all BWR addressees (except Big Rock Point):

- "(a) Inform the NRC, in writing and under oath or affirmation, of the licensee's plans and status with respect to the actions requested in this letter; and
- (b) If the licensee does not plan to take an action requested in this letter, the reasons for not taking the action, a description of the nature of any substitute action, and a schedule for completing or implementing the substitute action;"

Monticello Response: Attachment 2 of this submittal provides the information requested by Reporting Requirement 1 of NRC Generic Letter 94-02.

Reporting Requirement No. 2 of the Generic Letter states:

"If the licensee plans to take an action requested, or a substitute action, within thirty (30) days of the completion of the action, inform the NRC, in writing and under oath of affirmation, of the action taken and verify its completion or implementation."

Monticello Response: As identified in Attachment 2, Monticello has completed Requested Action 1.b of Generic Letter 94-02. We will notify

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the NRC, in writing, within thirty (30) days of completion of Requested Actions 1.a and 2 of Generic Letter 94-02.

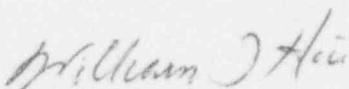
This letter contains the following new NRC commitments:

Operating procedures will be revised and operator training provided prior to the end of 1994 to require initiating a manual reactor scram under all circumstances in which there are no recirculation pumps operating while the reactor is in the RUN mode.

Monticello will submit a licensing topical report demonstrating applicability of stability solution Option I-D within three months following NRC issuance of the Safety Evaluation Report for the Option I-D lead plant. A schedule for implementation of our long-term stability solution will be submitted with our licensing topical report.

We will notify the NRC, in writing, within thirty (30) days of completion of Requested Actions 1.a and 2 of Generic Letter 94-02.

Please contact Marv Engen, Sr Licensing Engineer, at (612) 295-1291 if you require further information.



William J Hill
Manager
Monticello Nuclear Generating Plant

c: Regional Administrator - III, NRC
NRR Project Manager, NRC
Sr Resident Inspector, NRC
State of Minnesota
Attn: Kris Sanda
J Silberg

Attachment 1: Affidavit to the United States Nuclear Regulatory Commission

Attachment 2: Monticello Status and Planned Actions With Respect to
Generic Letter 94-02 Requested Actions

Attachment 1

UNITED STATES NUCLEAR REGULATORY COMMISSION

NORTHERN STATES POWER COMPANY

MONTICELLO NUCLEAR GENERATING PLANT

DOCKET NO. 50-263

Response to NRC Generic Letter 94-02, "Long-Term Solutions
and Upgrade of Interim Operating Recommendations for
Thermal-Hydraulic Instabilities in Boiling Water Reactors

Northern States Power Company, a Minnesota corporation, hereby provides the 60 day response information required by NRC Generic Letter 94-02, as well as the completion information for Requested Action 1.b.

This letter contains no restricted or other defense information.

NORTHERN STATES POWER COMPANY

By

William J Hill

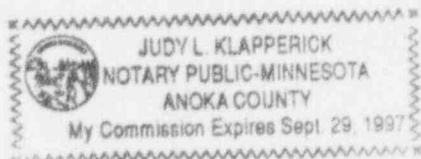
William J Hill

Manager

Monticello Nuclear Generating Plant

On this 9th day of September 1994 before me a notary public in and for said County, personally appeared William J Hill, Manager, Monticello Nuclear Generating Plant, and being first duly sworn acknowledged that he is authorized to execute this document on behalf of Northern States Power Company, that he knows the contents thereof, and that to the best of his knowledge, information, and belief the statements made in it are true and that it is not interposed for delay.

Judy L Klapperick



Attachment 2

Monticello Status and Planned Actions With Respect to Generic Letter 94-02 Requested Actions

Requested Action 1

"All Licensees of BWRs, except for Big Rock Point which does not have the capability for operation under variable flow conditions, are requested to review their current procedures and training programs and modify them as appropriate to strengthen the administrative provisions intended to avoid power oscillations or to detect and suppress them if they occur prior to implementation of the long-term solutions. The experience gained at WNP-2 should be a primary guide in this review. In doing this, each licensee of a BWR (except for Big Rock Point) should:

- a. Ensure that procedural requirements exist for initiation of a manual scram under all operating conditions when all recirculation pumps trip (or there are no pumps operating) with the reactor in the RUN mode, and ensure that operators are aware of the potential for very large power oscillations and the potential for exceeding core thermal safety limits before automatic protection systems function following the trip of all recirculation pumps (the procedural manual scram is not necessary after long-term solutions are approved and implemented for individual plants); and
- b. Ensure that factors important to core stability characteristics (e.g., radial and axial peaking, feedwater temperature, and thermal hydraulic compatibility of mixed fuel types) are controlled within appropriate limits consistent with the core design, power/flow exclusion boundaries, and core monitoring capabilities of the reactor in question, and that these factors are controlled through procedures governing changes in reactor power, including startup and shutdown, particularly at low-flow operating conditions. Each licensee should review its procedures and determine if instability can be avoided by these procedures and if the procedures can be carried out using existing instrument information. If it is concluded that a near-term upgrade of core monitoring capability is called for to ease the burden on operators, determine the need to incorporate on-line stability monitoring or monitors for stability sensitive parameters and inform the NAC of the schedule and technical evaluation for such upgrades found to be necessary. (These procedural operation controls will no longer be necessary for licensees which implement fully automatic long-term solutions, such as Options III or IIIa of Reference 2. Licensees should propose for plant-specific review the administrative controls to be retained in conjunction with other long-term solutions.)"

Monticello Response to Requested Action 1.a

Monticello implemented the Interim Corrective Actions (ICAs) specified in NRC Bulletin 88-07, Supplement 1. In addition Monticello was actively involved

with the BWR Owners' Group effort to develop revised ICAs. As a result, Monticello was aware of the ICA revisions and implemented them in May of this year. The original ICA revisions required initiation of a manual reactor scram if operating without recirculation pumps above the 70% rod line. At the request of the NRC, the ICAs were further revised to require initiating a manual reactor scram under all circumstances in which there are no recirculation pumps operating while the reactor is in the RUN mode. The final ICA revision incorporating this change, (hereafter referred to as the Revised-ICAs) was issued by letter from L A England to M J Virgilio dated June 6, 1994, with subject "BWR Owners' Group Guidelines for Stability Interim Corrective Action". Monticello has fully implemented the Revised-ICAs with the exception of the recommendation to insert a manual scram at natural circulation if in the RUN mode. Operating procedures will be revised and operator training provided prior to the end of 1994 to accommodate this change.

Monticello Response to Requested Action 1.b

Implementation of the Revised-ICAs assures a conservative operating philosophy for avoidance of thermal-hydraulic instability. Since we have implemented the Revised-ICAs, we have determined that our procedures provide the appropriate guidance to reduce the likelihood of an instability and provide for detection in the very unlikely event that some stability threshold is exceeded. These procedures can be carried out using existing plant instrumentation. A near-term up-grade to incorporate on-line stability monitoring is not necessary.

Requested Action 2

"All licensees of BWRs, except for Big Rock Point, are requested to develop and submit to the NRC a plan for long-term stability corrective actions, including design specifications for any hardware modifications or additions to facilitate manual or automatic protective response needed to ensure that the plant is in compliance with General Design Criteria 10 and 12. An acceptable plan could provide for implementing one of the long-term stability solution options proposed by the BWROG and approved by the NRC in Reference 3 or in subsequent documentation. The plan should include a description of the action proposed and a schedule of any submittal requiring plant-specific design review and approval by the NRC and an installation schedule (if applicable). The plan should also address the need for near-term and long-term technical specification modifications. Generic BWROG documents or planned submittal may be referenced in the plan."

Monticello Response to Requested Action 2

Monticello is pursuing long-term stability solution Option I-D identified in NEDO-31960 and NEDO-31960 Supplement 1, "BWR Owners' Group Long-Term Stability

Solutions Licensing Methodology". Changes to the Monticello Technical Specifications will be required for implementation of Option I-D. The proposed License Amendment Request would consist of the changes necessary to establish the required operational restrictions associated with the exclusion regions and would modify the bases of the Technical Specification to describe stability solution Option I-D. As part of our implementation of long-term stability solution Option I-D, Monticello is evaluating the implementation of a stability monitoring system.

Monticello will submit a licensing topical report demonstrating applicability of solution Option I-D within three months following NRC issuance of the Safety Evaluation Report for the Option I-D lead plant. A schedule for implementation of our long-term stability solution will be submitted with our licensing topical report.