



Northern States Power Company

414 Nicollet Mall
Minneapolis, Minnesota 55401-1927
Telephone (612) 330-5500

December 29, 1993

10 CFR Part 50
Section 50.54(f)

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

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

Revision of Initial Response to NRC Bulletin 93-03: Resolution
of Issues Related to Reactor Water Level Instrumentation in BWRs

The purpose of this letter is to inform you of a change in our plans, as previously reported to you in our letter dated July 30, 1993, concerning the actions we are taking to resolve the issues identified in NRC Bulletin 93-03, "Resolution of Issues Related to Reactor Water Level Instrumentation in BWRs". In our July 30, 1993 letter we stated that, assuming that all long term technical concerns were resolved by the end of 1993, we would test the new backfill system and have it fully operable by the completion of the first cold shutdown after December 31, 1993. This would infer that by the end of the cold shutdown all installation and testing of the backfill system would be complete and that we would be using the system to inject into both safeguards reference legs during startup and subsequent operation. In the months following the submittal of our July 30, 1993 letter, new issues were identified, both internally through development of the modification and by NRC IN 93-89 ("Potential Problems With BWR Level Instrumentation Backfill Modifications), that have caused us to reevaluate our original plans and commitments concerning the modification.

Installation of the backfill system is essentially complete except for that portion of the work (final piping tie-ins to the reference legs) that can only be accomplished when the plant is in cold shutdown. We have, to the extent practical, conducted preliminary pre-operational testing using the installed portion of the backfill system in an attempt to verify that backfilling will not adversely affect the accuracy and reliability of the reactor vessel water level instrumentation. The results of this testing are encouraging but are not considered conclusive, since operational considerations precluded the testing from duplicating the full range of conditions and transients that might be encountered during operation. Additional pre-operational testing is planned prior to startup after all cold shutdown tie-in work is complete, but once again any conclusions drawn from the test results must be tempered by the fact that in-service operating conditions (normal reactor operating pressure, temperature, feedwater flow variations, steam demand variations, etc.) will not have been fully duplicated by the shutdown testing.

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In consideration of the above, we have modified our plans concerning implementation of the backfill modification. We still intend to complete all backfill system installation work for both safeguards instrument reference legs and both fuel zone reference legs as previously indicated (i.e., by the end of the first cold shutdown occurring after December 31, 1993). However, we now consider it prudent to commence injection, on a trial basis, into one side of the reactor vessel (i.e., into one safeguards reference leg and one fuel zone reference leg sharing a common vessel nozzle) rather than all four reference legs simultaneously. The injection paths to the other side of the vessel (the second safeguards reference leg and the second fuel zone reference leg) would be connected but would remain isolated until such time as we were confident that the backfill system was performing as intended with no adverse impact on the accuracy or reliability of the reactor water level instrumentation.

We consider it likely that a trial period encompassing one full operating cycle will prove sufficient, since we will have been able to monitor the system during one or more normal start-up and shut-down evolutions, with sufficient time in between for 100% power steady state conditions and maximum dissolved gas concentration to be established. We will, however, institute backfill flow in all four reference legs sooner if we are able to obtain sufficient data to confirm that the water level instrumentation will not be adversely affected. The reasons for adopting this revised plan (backfilling one side only on a trial basis) are as follows:

1. Injecting into one side only on a trial basis will allow us to maintain a higher degree of diversity in the safeguards water level instrumentation. The reactor protection system logic is designed such that, absent a single failure, low water level indication on either safeguards reference leg will initiate the desired automatic plant response. Thus, if the reference leg receiving backfill flow was adversely impacted by this flow in some unanticipated manner, the other safeguards reference leg would remain unaffected and the plant would respond as designed. Conversely, if significant notching (which has not been observed at Monticello) did adversely impact the reference leg isolated from backfill flow, the other safeguards reference leg would remain functional assuming the backfill system performs as intended.
2. As discussed in our July 30, 1993 letter, we do not believe that our existing water level instrumentation is susceptible to significant notching and we continue to have a high degree of confidence in its reliability and accuracy. By backfilling on one side (two reference legs) only, we can use the instrumentation associated with the remaining reference legs for comparison to monitor any variations in indicated water level that may result from backfilling and plant transients (heat-up, cool-down, rod movements, etc.).
3. As noted previously, we cannot fully duplicate anticipated service

conditions during pre-operational testing. By backfilling to one side only, we can continue to perform additional on-line monitoring as deemed necessary to establish a higher degree of confidence in the effectiveness of the backfill modification without degrading plant safety.

4. In the unlikely event that notching is observed on either of the two reference legs isolated from backfill flow during the trial period, we will have the installed capability to manually open the backfill flow isolation valve(s) and perform a backflush of the reference legs to sweep out any voids and any high concentration of dissolved gases. Thus, the affected instrument functions can be quickly restored.

This letter is being provided to appraise you of our change in plans and commitments concerning implementation of the backfill modification. Although we would welcome any feedback you may wish to provide, no specific reply is necessary. This letter contains the following modified NRC commitment, which supersedes commitment (3) of our July 30, 1993 letter:

By the end of the first cold shutdown occurring after December 31, 1993), we will commence injection, on a trial basis, into one safeguards reference leg and one fuel zone reference leg (both sharing a common vessel nozzle). It is anticipated that we will operate in this manner for a period of time encompassing one complete operating cycle. We will, however, institute backfill flow in all four reference legs sooner if we are able to obtain sufficient data to confirm that the water level instrumentation will not be adversely affected.

Please contact Terry Coss, Sr Licensing Engineer, at (612) 295-1449 if you require any additional information concerning this submittal.



Roger O Anderson
Director
Licensing and Management Issues

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

Attachment: Affidavit to the US Nuclear Regulatory Commission

UNITED STATES NUCLEAR REGULATORY COMMISSION

NORTHERN STATES POWER COMPANY

MONTICELLO NUCLEAR GENERATING PLANT

DOCKET NO. 50-263

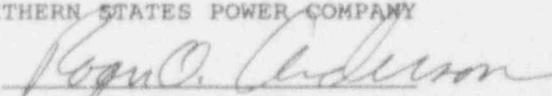
Revision of Initial Response to NRC Bulletin 93-03: Resolution
of Issues Related to Reactor Water Level Instrumentation in BWRs

Northern States Power Company, a Minnesota corporation, hereby provides a
revision to the information requested by NRC Bulletin 93-03: Resolution of
Issues Related to Reactor Water Level Instrumentation in BWRs.

This letter contains no restricted or other defense information.

NORTHERN STATES POWER COMPANY

By



Roger O Anderson

Director

Licensing and Management Issues

On this 28th day of December 1993 before me a notary public in and
for said County, personally appeared Roger O Anderson, Director, Licensing and
Management Issues, 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.

