

Duke Power Company
Nuclear Production Dept.
P.O. Box 1007
Charlotte, N.C. 28201-1007

M.S. TUCKMAN
Vice President
Nuclear Operations
(704) 373-3831



DUKE POWER

April 30, 1991

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Subject: McGuire Nuclear Station
Docket Nos. 50-369 and 50-370
Proposed Technical Specification Amendment Request
Containment Ice Condenser Ice Bed Weight Reduction
Response to Request for Additional Information

Gentlemen:

By a letter dated March 19, 1991, the NRC staff requested our response to questions in order to complete their review. To this end, please find attached our response to the questions.

In addition, I would like to emphasize our need for timely resolution of this amendment request. As discussed in our June 7, 1990 submittal, timely NRC review and approval of this amendment request is needed in order to avoid a possible mid-cycle shutdown to reload ice. Our current projections of the data that we have thus far indicate that the Unit 1 worst case sub-group average ice weight at a 95% level of confidence is such that the Unit 1 ice condenser will be required to be declared inoperable by mid-June, 1991.

Due to the complexity and urgency of this subject, Duke Power is requesting a meeting to be held at McGuire with appropriate NRC Staff personnel, and appropriate Duke technical personnel at the earliest convenient time. The agenda will include discussions on McGuire's ice condenser sublimation rates, containment peak pressure analyses, and current problems with on line weighing of ice baskets.

Should there be any questions regarding this amendment or our responses or if you require further information, please contact David V. Ethington (704) 373-2025.

Very truly yours,

M. S. Tuckman, Vice President
Nuclear Operations

Attachments
icewt.tsc/pfg

9105070080 910430
PDR ADOCK 05000369
P PDR

060085

ADD 11

U. S. Nuclear Regulatory Commission

April 30, 1991

Page 2

xc: w/attachments

Mr. S. D. Ebnetter, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta St., NW., Suite 2900
Atlanta, Georgia 30329

Mr. D. H. Brown, Chief
Radiation Protection Branch
Division of Facility Services
Department of Human Resources
701 Barbour Drive
Raleigh, North Carolina 27603-2008

Mr. T. A. Reed
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Mr. P. K. VanDoorn
NRC Resident Inspector
McGuire Nuclear Station

ATTACHMENT
DUKE POWER COMPANY
MCGUIRE NUCLEAR STATION
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

NRC QUESTION 1

The TS amendment request of June 7, 1990 indicated that the approval was required in order to avoid a possible mid-cycle shutdown to reload ice. Given the current condition for operability on the ice condenser U-Bolts to limit ice basket weighing and maintenance, is this amendment still required on the same schedule

DPC RESPONSE 1

The amendment request is still required. The latest projections indicate that the worst case sub-group average ice weight for unit 1 will be below the current acceptable limits by mid-June, 1991, thus requiring a unit shutdown.

In short, the Condition for Operability on the ice condenser U-Bolts is that if the basket is shaken free, for what ever reason, the U-Bolts integrity needs to be verified by testing. If the unit is shutdown as required by the Technical Specification Action Statement, and if the baskets are shaken free, then the test would be performed to verify the integrity of the U-Bolts.

NRC QUESTION 2

Given the similar designs between Catawba and McGuire, why is ice sublimation an apparently bigger problem on McGuire than Catawba such that McGuire requires an ice weight reduction? Are the sublimation rates different?

DPC RESPONSE 2

The sublimation rates at McGuire are greater than those at Catawba. This is based on measured data from both plants. The reasons for the differences is not known at this time. This issue is being investigated as part of our plan to improve the overall reliability of McGuire's Ice Condenser.

NRC QUESTION 3

Catawba has removed mid-cycle weighing (i.e. increased the surveillance interval from 9 to 18 months) and correspondingly increased the required ice weight to account for additional sublimation, while McGuire is reducing ice weight without a similar request for an extension of the ice weighing surveillance interval. Why are two very similar plants pursuing what appears to be very different approaches? Why hasn't McGuire requested a TS amendment to remove mid-cycle weighing in a similar fashion to Catawba?

DPC RESPONSE 3

Briefly, the reason why Catawba requested an amendment to increase the ice weighing surveillance interval was due to the concerns associated with the U-Bolts. To weigh an ice basket during operation, the basket is shaken free so that it can be weighed. As required by the condition for operability for the U-Bolts, a test to verify the integrity of the bolts needs to be performed. Since the U-Bolts can not be accessed during operation, the unit would need to be shutdown. To avoid this unnecessary shutdown of a unit, Catawba submitted a Technical Specification amendment that would, in effect, only require ice weighing to be done during a refueling outage. Furthermore, the justification in support of the Catawba amendment was principally based on the increased ice weight and the measured sublimation rate.

As noted in our response to question 2, McGuire's sublimation rate is significantly different than Catawba's. Accordingly, our current assessment is that for McGuire, increasing the surveillance interval for weighing the ice can not be justified based on the current measured sublimation rate. In fact, because of the current sublimation rate, the total ice weight specified in the Technical Specification needs to be reduced so that the ice condenser for unit 1 would remain operable throughout cycle 7 (i.e. avoid shutting down the unit during mid-cycle).

In regard to the Specification 4.6.5.1.b.2, unit 1 will enter a refueling outage prior to the next time the ice needs to be weighed. Unit 1 is scheduled to shutdown for refueling September 6, 1991. The next time the ice needs to be weighed as required by the Technical Specifications is October 14, 1991. For unit 2 it is a different situation. The next scheduled refueling outage for Unit 2 is January 16, 1992. The next time the ice is required to be weighed is August 3, 1991. This situation is currently under investigation, and will be handled as a separate issue from this amendment request.

NRC QUESTION 4

Is ice bed ice weight the only parameter changed between the attachment 2A and 2B analysis? If not, please identify those parameters that were changed.

DPC RESPONSE 4

The only input parameter that is different between the two analyses is the ice bed ice weight. As such, the results from the analyses are slightly different, but in both cases the results met all acceptance criteria.