

*Duke Energy Corporation, Docket Nos. 50-369 and 50-370, McGuire Nuclear Station, Units 1 and 2, and Docket Nos. 50-413 and 50-414, Catawba Nuclear Station, Units 1 and 2, located in Mecklenburg County, North Carolina and York County, South Carolina*

*Date of amendment request:* January 31, 2003.

*Description of amendment request:* The proposed amendments would revise the Technical Specifications (TS) to incorporate an asymmetrical ice mass distribution within the ice condenser containment (ICC) by specifying revised safety analysis ice mass quantity requirements for three specific radial zones of the ice bed. Associated changes to the Bases were also proposed.

*Basis for proposed no significant hazards consideration determination:* As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

Duke Energy Corporation (Duke) has concluded that operation of Catawba Nuclear Station (CNS) Units 1 & 2, and McGuire Nuclear Station (MNS) Units 1 & 2, in accordance with the proposed changes to the Technical Specifications (TS) does not involve a significant hazards consideration. Duke's conclusion is based on its evaluation, in accordance with 10 CFR 50.91(a)(1), of the three standards set forth in 10 CFR 50.92(c).

A. The Proposed Change Does Not Involve A Significant Increase In The Probability Or Consequences Of An Accident Previously Evaluated.

The only analyzed accidents of possible consideration in regards to changes potentially affecting the ice condenser are a loss of coolant accident (LOCA) and a high energy line break (HELB) inside containment. However, the ice condenser is not postulated as being the initiator of any LOCA or HELB. That is because it is designed to remain functional following a design basis earthquake, and the ice condenser does not interconnect or interact with any systems that interconnect or interact with the Reactor Coolant or Main Steam Systems. Since these proposed changes do not result in, or require, any physical change to the ice condenser that could introduce an interaction with the Reactor Coolant or Main Steam Systems, then there can be no change in the probability of an accident previously evaluated.

Regarding consequences of analyzed accidents, the ice condenser is an engineered safety feature designed, in part, to limit the containment sub-compartment and containment vessel pressure immediately following the initiation of a LOCA or HELB. Conservative sub-compartment and containment pressure analysis [based on the proposed changes] shows these criteria will be met if the total ice mass within the ice bed is maintained in accordance with the DBA [Design Basis Accident] analysis; therefore, the proposed TS SR [Surveillance

Requirement] changes of these requirements will not increase the consequences of any accident previously evaluated.

Thus, based on the above, the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

B. The Proposed Change Does Not Create The Possibility Of A New Or Different Kind Of Accident From Any Accident Previously Evaluated.

As previously described, the ice condenser is not postulated as being the initiator of any design basis accident. The proposed changes do not impact any plant system, structure or component that is an accident initiator. The proposed TSs and TS Bases changes do not involve any hardware changes to the ice condenser or other change that could create any new accident mechanisms. Therefore, there can be no new or different accidents created from those already identified and evaluated.

C. The Proposed Change Does Not Involve A Significant Reduction In A Margin Of Safety.

Margin of safety is related to the confidence in the ability of the fission product barriers to perform their design functions during and following an accident situation. These barriers include the fuel cladding, the reactor coolant system, and the containment system. The performance of the fuel cladding and the reactor coolant system will not be impacted by the proposed changes. The Application provides a description of additional sub-compartment and containment pressure response analysis that has been performed. This analysis demonstrates that containment will remain fully capable of performing its design function with implementation of the proposed changes. Therefore, no safety margin will be significantly impacted.

Ice Condenser plant historical operating experience has shown that the condition of the ice condenser can be ensured to be fully capable of performing its specified safety functions with performing ice mass verifications and ice mass distribution SRs on an 18 month frequency. The request to increase the MNS [McGuire] surveillance interval from 9 months to 18 months will provide performance of ice mass verification at the end of the fuel cycle, which will verify that the maintenance program is effective in maintaining the ice mass for the entire fuel cycle. Duke's utilization of the data from previous performance of TS required ice mass inspections, and additional inspection beyond these requirements, has enabled the development of a maintenance program that is reliably predictive regarding the specific operating characteristics of each [of] the ice beds at Catawba and McGuire Nuclear Stations. This maintenance program reliably predicts sublimation and determines which ice baskets to replenish prior to beginning a new 18 months operating cycle. An ice mass surveillance performed at the conclusion of the 18 month frequency in an as-found condition verifies that the maintenance program is restoring the ice bed operating cycle to maintain the ice mass quantity and distribution requirements for performance of the intended safety functions.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

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*NRC Section Chief:* John A. Nakoski.

*Duke Energy Corporation, Docket No. 50-370, McGuire Nuclear Station, Unit 2, Mecklenburg County, North Carolina*

*Date of amendment request:* January 31, 2003.

*Description of amendment request:* The proposed amendment would authorize the licensee to change the Updated Final Safety Analysis Report (UFSAR) to describe a process for the intentional puncture of an irradiated fuel rod in order to transfer the fuel rod gap gasses to a collection chamber, and then straighten the fuel rod for storage in a broken rod capsule.

*Basis for proposed no significant hazards consideration determination:* As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

Duke Energy has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

The bent rod, located in the McGuire Unit 2 spent fuel pool, has no interfaces with any primary system, secondary system, or power transmission system. All work will be performed in the spent fuel pool, with the bent rod located under approximately 23 feet of water. None of the systems listed above are modified by the activity. No accident initiator or accident mitigation systems, for any UFSAR [Updated Final Safety Analysis Report] Chapter 15 accidents, other than fuel handling accidents, are affected with this proposed procedure for degassing and straightening of the irradiated Mk-BW fuel rod. For these reasons, the activity does not involve an increase in the probability of an accident previously evaluated.

This evolution is bounded by the UFSAR Chapter 15 dropped fuel assembly fuel handling accident inside the fuel handling building. This accident assumes that the postulated accident occurs 100 hours after reactor shutdown, the fuel assembly had 60 GWD/MTU [Gigawatt Days/Metric Ton Uranium] burnup, all rods in one fuel