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DUKE POWER

January 19, 1990

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

Subject: McGuire Nuclear Station, Units 1 and 2
Docket Nos. 50-369, and 50-370
Proposed Amendment to Technical Specification
3/4.7.6, Control Area Ventilation System

Gentlemen:

Pursuant to 10 CFR 50.90, please find attached proposed license amendments to facility operating licenses NPF-9 and NPF-17 for McGuire Nuclear Station Units 1 and 2, respectively. The changes in this amendment request are intended to make the McGuire Technical Specifications for the Control Area Ventilation system more conservative.

Attachment No. 1 provides a hand marked copy of the proposed changes, and Attachment No. 2 provides: a description of the changes; a justification and safety analysis for the change; and, a no significant hazards discussion.

Pursuant to 10 CFR 50.91(b)(1), the appropriate North Carolina official is also being provided a copy of this amendment request.

Should there be any questions, please contact Steve LeRoy at (704) 373-6233.

Very truly yours,

Hal B. Tucker

Hal B. Tucker

SEL506

Attachments

xc: Mr. S.D. Ebneter, Regional Administrator
U.S. Nuclear Regulatory Commission, Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

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Mr. Dayne Brown, Chief
Radiation Protection Branch
Division of Facility Services
Department of Human Resources
701 Barbour Drive
Raleigh, N.C. 27603-2008

Mr. Darl Hood, NRC Project Manager
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Mr. P.K. Van Doorn
NRC Senior Resident Inspector
McGuire Nuclear Station

HAL B. TUCKER, being duly sworn, states that he is Vice President of Duke Power Company; that he is authorized on the part of said Company to sign and file with the U.S. Nuclear Regulatory Commission this revision to the McGuire Nuclear Station License Nos. NPF-9 and NPF-17; and, that all statements and matters set forth therein are true and correct to the best of his knowledge.

Hal B. Tucker

Hal B. Tucker, Vice President

Subscribed and sworn to before me this day of .

Linda L. Kessler

Notary Public

My Commission Expires:

May 7, 1994

LINDA L. KESSLER NOTARY PUBLIC MECKLENBURG COUNTY, N. C.

U.S. Nuclear Regulatory Commission
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Attachment No. 1

Technical Discussion, No Significant Hazards Analysis, and
Environmental Impact Analysis

Description of Proposed Changes

This submittal proposes amendments to the McGuire Technical Specifications (TS) that would:

- Change TS 3.7.6 to delete the two asterisks and corresponding footnote related to an allowed outage time (AOT) extension of 21 days that was added to the TS per amendment no. 95 for Unit 1 and no. 77 for Unit 2;

- Change the TS Surveillance Requirement 4.7.6.a for 120 degrees-F to 90 degrees-F; and,

- Change the TS Surveillance Requirement 4.7.6.c.2 and 4.7.6.d for methyl iodide penetration from less than 1%, to less than 0.175%.

Justification/Technical Discussion

By letter dated May 12, 1989, the NRC staff issued amendment nos. 95 and 77 to the McGuire facility Operating License NPF-9 and NPF-17 (TACS 65649/65650) to authorize a one time extension of the allowed outage time for the Control Room Area Ventilation Chilled Water (VC/YC) system to provide for system modifications. This amendment added two asterisks and a corresponding footnote that described the requirements associated with the AOT. Subsequently, the modifications were completed, and the footnote and asterisks are no longer applicable.

Currently, TS 4.6.7.a requires that control room temperature be maintained less than or equal to 120 degrees-F. The air conditioning portion of the VC/YC system is designed to maintain the control room temperature at approximately 75 degrees-F. The VC/YC system is designed to maintain a habitable atmosphere in the control room during plant operation, shutdown, and post accident conditions. Control room temperature limits also ensure that safety related electronic equipment and controls can function properly. While the TSs require the control room temperature to be maintained less than or equal to 120 degrees-F, McGuire maintains the control room temperature less than or equal to 90 degrees-F. McGuire has a procedure in place that provides guidance to reduce and/or mitigate the effects of an increasing Control Room temperature. This temperature requirement change is is based on a history of certain safety related solid state electronic equipment located in cabinets in the control room complex, associated with safety systems control and engineered safety features control, behaving erratically when control room temperature increases above 90 degrees-F.

The control room air temperature is verified as required per TS 4.7.6.a, and if the control room temperature rises above this limit, that train of the VC system is declared inoperable.

Therefore, we request the existing temperature limit of 120 degrees-F be reduced to 90 degrees-F. This request to reduce the control room temperature requirement will provide a higher level of reliability in that it will further ensure that electronic equipment in the control room area will not be subject to failures or erratic behavior as a result of high temperatures.

The request to change the methyl iodide penetration requirement of less than 1% to less than 0.175% resulted from Duke's development of the McGuire VC/YC system Design Basis Specification. During this process, it was determined that the Outside Air Pressure Filter Trains (OAPFT) that serve the control room area are rated at a 99% decontamination efficiency. The carbon beds on the VC OAPFTs are tested for less than 1% methyl iodide penetration in accordance with TS 4.7.6.c.2. However, NRC Regulatory Guide 1.52, Rev. 2, Table 2, March 1978, indicates that for a 1% penetration, a decontamination efficiency of 95% is assumed for methyl iodide analysis. The analysis performed for McGuire assumes a decontamination efficiency of 99%. Additionally, the carbon filter beds are four inches for which a 99% decontamination efficiency and methyl iodide penetration of 0.175% are appropriate in accordance with NRC Regulatory Guide 1.52, Table 2.

All McGuire radioiodine penetration and retention test reports performed by Nuclear Containment Systems (a vendor) for OAPFT A and B carbon samples were reviewed. The test reports gave the penetration for a two inch carbon bed rather than a four inch carbon bed. All tests indicated a percent penetration of much less than 0.175% methyl iodide, except for the test of sample no. 85-703 dated January 1, 1985. This test was performed at 30 degrees-C and 95% Relative Humidity, and resulted in a 0.23% methyl iodide penetration and 99.77% decontamination efficiency. [All testing at 30 degrees-C and 95% Relative Humidity was performed for informational purposes to prepare for the possibility of future required testing under these more stringent conditions.] This test of a two inch carbon bed sample would be the equivalent of a 0.05% methyl iodide penetration for a four inch carbon bed sample. McGuire VC/YC system operability is established based on 80 degrees-C and 70% relative humidity tests as required by NRC Regulatory Guide 1.52 and ANSI N509-1976, Table 5-1, Test 5.b. All 80 degrees-C and 70% relative humidity tests resulted in methyl iodide penetration values of less than 0.175%. Therefore, because the McGuire analysis assumes a 99% decontamination efficiency, the methyl iodide penetration requirement should be changed to the more correct value of 0.175%.

Additionally, a dose assessment was performed assuming a 95% decontamination efficiency, as is implied by the existing TS 4.7.6, instead of 99% (license basis). The result was a control room thyroid dose of 52 Rem which is greater than the 30 Rem allowed by Standard Review Plan 6.4. Therefore, a methyl iodide penetration of 0.175% should be used for the 99% decontamination efficiency requirement.

No Significant Hazards Analysis

Duke Power Company has determined that this amendment does not involve a significant hazards consideration. 10 CFR 50.92 states that a proposed amendment involves no significant hazards considerations if operation in accordance with the proposed amendment would not: (1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or, (2) Create the possibility of a new or different kind of accident previously evaluated; or, (3) Involve a significant reduction in the margin of safety.

Operation of the McGuire facility in accordance with the proposed amendment would not involve a significant increase in the probability or consequences of an accident previously evaluated. The deletion of the footnote for the VC/YC AOT is administrative in nature. The footnote is no longer applicable because the associated modifications to the VC/YC system have been completed. The proposal to change the surveillance requirement temperature from 120 degrees-F to 90 degrees-F constitutes a conservative change to further limit control room air temperature as a result of documented failures of safety related electronic equipment in the control room when temperatures approach 90 degrees-F. McGuire is currently using 90 degrees-F as the control room temperature limit; therefore, the change will more accurately reflect an existing operating requirement. Operating under this proposed change, the VC/YC system will continue to perform as designed to maintain proper temperature, cleanliness, and pressurization in this area during plant operation, shutdown, post accident conditions, and all feasible weather conditions. There will be no hardware or system modifications as a result of the proposed change. This change is more restrictive than the existing TS requirement in that a more conservative value is being introduced. The request to change the TS Surveillance Requirement for methyl iodide penetration from less than 1% to less than 0.175% is also more restrictive and will further ensure filtration of control room air as required to maintain the control room habitable during all phases of operation. There will be no hardware or system modifications, or operational changes as a result of the new value.

Operation of the McGuire facility in accordance with the proposed amendment would not create the possibility of a new or different kind of accident previously evaluated. As stated above, the change to delete the footnote is administrative in nature and in no way affects operation or control of the system. The other proposed changes involve the introduction of more restrictive values and do not alter the operation of the system nor involve any hardware changes to the system. Operation with these new values will further ensure the control room area is habitable during all phases of operation.

Operation of the McGuire facility in accordance with the proposed amendment would not involve a significant reduction in the margin if safety. In addition to that stated above, the proposed changes will not increase the types and amounts of radioactive effluents that may be released offsite, nor increase individual or occupational exposures. Under the more restrictive changes proposed, the VC/YC TSs will continue to provide adequate requirements and controls for maintaining the control room environment to ensure control room habitability during all phases of operation.

In conclusion, the proposed changes constitute an administrative change, and changes that introduce values more restrictive than those in the existing TSs, therefore; Duke concludes that the proposed changes contained in this amendment request do not involve a significant hazards consideration as defined by 10 CFR 50.92.

Environmental Impact Analysis

The proposed technical specification amendment has been reviewed against the criteria of 10 CFR 51.22 for environmental considerations. The proposed changes do not involve a significant hazards consideration, nor increase the types and amounts of effluents that may be released offsite, nor increase individual or cumulative occupational radiation exposures. Therefore, the proposed technical specification changes meet the criteria given in 10 CFR 51.22 (c)(9) for a categorical exclusion from the requirement for an Environmental Impact Statement.