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M.S. TUCARAN
Vice President
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DUKE POWER

April 18, 1991

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

Subject: McGuire Nuclear Station
Docket Numbers 50-369 and -370
Technical Specification Change to
Allow Use of Demonstration Assemblies

Attached is a proposed Technical Specification change which will allow McGuire Unit 1 to use two demonstration assemblies which contain some fuel rods whose clad compositions fall outside the specification range of Zircaloy-4. These demonstration assemblies are scheduled to be loaded into Unit 1 during the upcoming refueling outage (September - November 1991) and irradiated through cycles 8, 9, and 10.

The purpose of the demonstration program is to explore new clad compositions which may be more resistant to corrosion and other mechanisms of fuel rod degradation, in order to improve fuel rod performance. This is expected to have safety benefits in terms of reducing incidence of fuel failure, as well as economic benefits in terms of permitting longer fuel cycles and extending fuel burnups.

The change to the Technical Specifications is contained in Attachment I. A Justification and Safety Analysis to support the change is presented in Attachment II; an analysis pursuant to 10 CFR 50.91, to support the finding of No Significant Hazards Consideration, is presented in Attachment III. A copy of this amendment request has been provided to the State of North Carolina.

Attachment IV contains an analysis which addresses the criteria of 10 CFR 50.12 to permit the granting of an exemption to the requirements of the Code of Federal Regulations. As discussed in the attachments, the proposed change may result in some of the fuel cladding materials to be outside the scope of "Zircaloy" as specified in 10 CFR 50.46. Therefore, an exemption to that requirement is hereby requested.

Attachment V is a B & W Fuel Company report which describes the

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advanced cladding demonstration program. Please note that the information contained in the report is proprietary to BWFC, and should be withheld from public disclosure. An affidavit supporting this proprietary designation is included in the attachment.

These amendment and exemption requests are related to the operation of McGuire Unit 1 Cycle 8, which is currently scheduled for startup in November of 1991. Therefore, we request that these approvals be received by October 1, 1991. Please note, however, that fabrication of the demonstration assemblies is scheduled to occur in July; early resolution of this amendment request would be appreciated. In the event the amendment request is not approved, the demonstration assemblies would need to be reconstituted or replaced. In that case, a significant impact on critical-path scheduling could occur.

If there are any questions, please call Scott Gewehr at (704) 373-7581.

Very truly yours,

M. S. Tuckman

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MLCSTA/sag

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

Mr. R. C. Jones
Reactor Systems Branch
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
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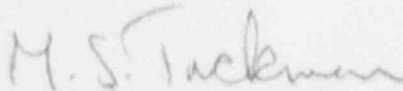
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Mr. S. D. Ebnetter, Regional Administrator
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Mr. Dayne Brown, Chief
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M. S. Tuckman, being duly sworn, states that he is Vice-President of Duke Power Company; and that he is authorized on the part of said Company to sign and file with the Nuclear Regulatory Commission this revision to the McGuire Nuclear Station Technical Specifications, Appendix A to Facility Operating 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.

M. S. Tuckman
M. S. Tuckman, Vice-President

Subscribed and sworn to before me this 18th day of April, 1991.

Mary P. Deems
Notary Public

My Commission expires:

January, 22, 1996