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SUBJECT: Application for amend to license DPR-43,clarifying storage requirements for fuel at plant & incorporating provisions of improved TS.

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WISCONSIN PUBLIC SERVICE CORPORATION

NRC-96-47

600 North Adams • P.O. Box 19002 • Green Bay, WI 54307-9002

May 8, 1996

10 CFR 50.90

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

Ladies/Gentlemen:

Docket 50-305
Operating License DPR-43
Kewaunee Nuclear Power Plant
Proposed Amendment 140 to the Kewaunee Nuclear Power Plant Technical Specifications

- References: 1) Technical Specification Amendment 92, dated March 7, 1991
2) Proposed Amendment 95, dated July 5, 1990

This proposed amendment (PA) to the Kewaunee Nuclear Power Plant (KNPP) Technical Specifications (TS) is being submitted to clarify the storage requirements for fuel at the Kewaunee Nuclear Power Plant and incorporate provisions of the improved technical specifications.

To ensure that fuel loading of the reactor core for the Fall 1996 refueling outage is not delayed, Wisconsin Public Service Corporation respectfully requests that this amendment be approved before September 15, 1996.

Attachment 1 to this letter contains a description, a safety evaluation, a significant hazards determination and environmental considerations for the proposed changes. Attachment 2 contains the following affected TS pages: TS 5.3-1 and TS 5.4-1.

In accordance with the requirements of 10 CFR 50.30(b), this submittal has been signed and notarized. A complete copy of this submittal has been transmitted to the State of Wisconsin as required by 10 CFR 50.91(b)(1).

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Document Control Desk
May 8, 1996
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Sincerely,

Clark R. Steinhardt

Clark R. Steinhardt
Senior Vice President - Nuclear Power

MAR/jmf

Attach.

cc - US NRC - Region III
US NRC Senior Resident Inspector
Mr. Lanny Smith, PSCW

Subscribed and Sworn to
Before Me This 8th Day
of May 1996

Jeanne M. Ferris
Notary Public, State of Wisconsin

My Commission Expires:
June 13, 1999

ATTACHMENT 1

Letter from C. R. Steinhardt (WPSC)

to

Document Control Desk (NRC)

Dated

May 8, 1996

Proposed Amendment 140

Description of Proposed Changes

Safety Evaluation

Significant Hazards Determination

Environmental Considerations

Introduction

This proposed amendment request is being submitted to clarify the storage requirements for fuel at the Kewaunee Nuclear Power Plant. The current specifications do not identify enrichment limits for fuel storage but specify an enrichment limit for reload fuel. The enrichment limit for reload fuel is based on the criticality analysis for the New Fuel Storage Racks. This limit is equal to 49.2 grams of uranium-235 (U^{235}) per axial centimeter.

This proposed amendment removes the enrichment limit for the reload fuel and imposes fuel storage restrictions on the Spent Fuel Storage Racks and the New Fuel Storage Racks. The restrictions are based on the criticality analyses used to support Technical Specification Amendment 92, dated March 7, 1991.

The requested storage requirement for the Spent Fuel Storage Racks would specify a maximum enrichment limit of 52.3 grams U^{235} per axial centimeter. This corresponds to an as-built weight percent of 5.05.

The requested storage requirement for the New Fuel Storage Racks would specify a maximum enrichment limit of 49.2 grams U^{235} per axial centimeter of fuel assembly. This corresponds to an as-built weight percent of 4.75.

This change will allow the Kewaunee Nuclear Power Plant to store fuel that is enriched to greater than 49.2 grams U^{235} per axial centimeter but less than 52.3 grams U^{235} per axial centimeter in the Spent Fuel Storage Racks.

The requested change to the technical specifications is consistent with previously approved analyses.

Description of Proposed Changes to Technical Specification (TS) 5.3, REACTOR

The existing specifications have been revised to be more consistent with the Westinghouse standard technical specification structure. The following describes the changes to each paragraph of section 5.3:

- 5.3.a.1. This paragraph has been incorporated into proposed TS 5.3.a. The paragraph contains information regarding the fuel assemblies.
- 5.3.a.2. This paragraph has been deleted. The content of paragraph was historical information regarding the initial core load.

- 5.3.a.3. This paragraph has been deleted. The paragraph contained information regarding the reload fuel for the core. The core reload information is controlled through the appropriate reload analyses. Any changes in the nuclear properties of the reactor core would be analyzed in the appropriate reload analysis using NRC approved methods.
- 5.3.a.4. This paragraph has been deleted. The paragraph contained information regarding the burnable poison rods for the core. The core peaking control information is controlled through the appropriate reload analyses. Any changes in the nuclear properties of the reactor core would be analyzed in the appropriate reload analyses.
- 5.3.a.5. This paragraph has been incorporated into proposed TS 5.3.b. The paragraph contains information regarding the control rod assemblies.
- 5.3.b. This paragraph has been deleted. The information in this paragraph is contained in the Updated Safety Analyses Report(USAR).

This restructuring of Section 5.3 results in a deletion of page TS 5.3-2.

Description of Proposed Changes to Technical Specification (TS) 5.4, FUEL STORAGE

The existing specifications have been revised to be more consistent with the structure of the Westinghouse standard technical specifications. The following describes the changes to each paragraph of section 5.4:

- 5.4.a. This paragraph has been deleted. The information contained in the paragraph is contained in the USAR.
- 5.4.b. This paragraph has been revised into 5.4.a.1.a, 5.4.a.1.b, 5.4.a.2.a, 5.4.a.2.b and 5.4.a.2.c. consistent with the structure of the Westinghouse standard technical specifications.
- 5.4.c. This paragraph has been renumbered 5.4.a.3.
- 5.4.b. This paragraph has been added to specify the capacity of the Spent Fuel Pool Racks per the analyses used to support Technical Specification Amendment 92, dated March 7, 1991.

Safety Evaluation for Proposed Change to TS 5.3, REACTOR and 5.4, FUEL STORAGE

The proposed changes are administrative in nature and incorporate the results of analyses previously reviewed by the NRC in support of Technical Specification Amendment 92, dated March 7, 1991. These changes are consistent with the structure of the Westinghouse standard technical specifications.

Significant Hazards Determination for Proposed Change to TS 5.3 REACTOR and 5.4, FUEL STORAGE"

The proposed changes were reviewed in accordance with the provisions of 10 CFR 50.92 to determine that no significant hazards exist. The proposed changes will not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated.

The criticality analysis which was performed in support of Technical Specification Amendment 92, dated March 7, 1991, demonstrated that adequate margins to criticality can be maintained with fuel enrichments up to 49.2 grams of U^{235} per axial centimeter stored in the New Fuel Storage Racks and enrichments up to 52.3 grams of U^{235} per axial centimeter stored in the Spent Fuel Storage Racks.

The bounding cases of the analysis demonstrated that k_{eff} remains less than 0.95 in the Spent Fuel Storage Racks and the New Fuel Storage Racks if flooded with unborated water. The bounding cases of the analysis also demonstrated that k_{eff} remains less than 0.98 in the New Fuel Storage Racks if moderated by optimally inisted inoderator. Therefore, the 49.2 grams of U^{235} per axial centimeter enrichment is acceptable for storage in the New Fuel Storage Racks and 52.3 grams of U^{235} per axial centimeter for storage in the Spent Fuel Storage Racks.

The only other accident that needs to be considered is a fuel handling accident. Since the mass of the fuel assembly would not be appreciably altered by the increased fuel enrichment, the probability of this accident occurring is not changed. The consequences of a fuel handling accident also would not be affected by the use of higher fuel enrichment since the fission product inventories in a fuel assembly are not a significant function of initial fuel enrichment. This accident was analyzed in the criticality analysis which was performed in support of Technical Specification Amendment 92, dated March 7, 1991.

It should be noted that any changes in the nuclear properties of the reactor core that may result from higher fuel enrichments would be analyzed in the appropriate reload analysis.

The administrative relocation of information to licensee controlled documents (i.e., USAR) conforms to NRC policy for the content of technical specifications and does not increase the probability or consequences of an accident.

2. Create the possibility of a new or different kind of accident from any accident previously evaluated.

As discussed above, the only safety issue significantly affected by the proposed change is the criticality analysis of the Spent Fuel Storage Racks and New Fuel Storage Racks. Since it has been demonstrated that k_{eff} remains below 0.95 and 0.98 respectively in those areas, no new or different accident would be created through the use of fuel enrichments up to 52.3 grams of U^{235} per axial centimeter at the Kewaunee Nuclear Power Plant. Administrative controls will ensure that only fuel enriched to 49.2 grams of U^{235} per axial centimeter or less will be placed into the New Fuel Storage Racks.

The relocation of information to licensee controlled documents does not create the possibility of a new or different kind of accident.

3. Involve a significant reduction in the margin of safety.

Since the criticality analyses have shown that increasing the allowable weight percent enrichment to 52.3 grams of U^{235} per axial centimeter would not increase k_{eff} above 0.95 in the Spent Fuel Storage Racks and increasing the allowable weight percent enrichment to 49.2 grams of U^{235} per axial centimeter would not increase k_{eff} above 0.98 in the New Fuel Storage Racks, it is concluded that this proposed change would not reduce the margin of safety. Any changes in the nuclear properties of the reactor core that may result from higher fuel enrichments would be analyzed in the appropriate reload analysis to ensure compliance with applicable reload considerations and requirements.

Relocation of information to licensee controlled documents is an administrative action and therefore does not reduce the margin of safety.

Environmental Considerations

This proposed amendment involves a change to a requirement with respect to the installation or use of a facility component located within the restricted area, as defined in 10 CFR 20. WPSC has determined that the proposed amendment involves no significant hazards considerations and no significant change in the types of any effluents that may be released offsite and that there is no significant increase in the individual or cumulative occupational radiation exposure. Accordingly, this proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with this proposed amendment.