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SUBJECT: Clarifies 860226 application for amend to License NPF-21, revising Tech Specs to support operation of plant at full rated power during Cycle 2. Changes discussed to expedite staff review of request.

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Docket No. 50-397

April 7, 1986
G02-86-311

Director of Nuclear Reactor Regulation
Attn: E. G. Adensam, Project Director
BWR Project Directorate No. 3
Division of BWR Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Ms. Adensam:

Subject: NUCLEAR PLANT NO. 2
OPERATING LICENSE NPF-21, REQUEST FOR AMENDMENT
TO TECHNICAL SPECIFICATIONS, CLARIFICATION

Reference: Letter, G02-86-173, G. C. Sorensen (SS) to E. G. Adensam (NRC), "Request for Amendment to Technical Specifications - Reload License Amendment (Cycle 2)", dated February 26, 1986

The reference letter requested certain changes to the WNP-2 Technical Specifications. The following is forwarded in order to expedite Staff review of the referenced request:

Description of Amendment Request (abstract): The proposed amendment would revise the WNP-2 Technical Specifications (TS) to support the operation of WNP-2 at full rated power during the upcoming Cycle 2. The proposed amendment request to support this reload changes the Technical Specifications in the following areas: (1) establishes operating limits for all fuel types for the upcoming Cycle 2 operation (2) reflects the replacement of approximately 132 initial core fuel assemblies with Exxon Nuclear Company (ENC) fuel assemblies for the upcoming Cycle 2 operation and (3) modifies the bases section to account for the use of Exxon fuel assemblies.

To support the license amendment request for operation of WNP-2 during Cycle 2, the Supply System submitted as attachments to the application the following:

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I. WNP-2 Cycle 2 Reload Summary Report
(WPPSS - EANF-101) Includes the Startup Physics Program
II. WNP-2 Cycle 2 Reload Analysis (XN-NF-86-01), Rev. 1
III. WNP-2 Cycle 2 Plant Transient Analysis (XN-NF-85-143), Rev. 1
IV. WNP-2 LOCA-ECCS Analysis MAPLHGR Results (XN-NF-85-139)
V. Technical Specification Changes

During the first refueling outage approximately 132 General Electric (GE) initial fuel assemblies (approximately one fifth of the core) will be replaced with new but substantially similar Exxon, Type XN-1 (8x8 bundles, 2.72 w/o enriched), fuel assemblies.

Basis for Proposed No Significant Hazards Consideration Determination: The proposed amendment to the WNP-2 Technical Specifications to support this reload is very similar to Example (iii) provided by the NRC (51 Federal Register 7744, March 6, 1986) of the types of amendments not likely to involve significant hazards considerations. Example (iii) is an amendment to reflect a core reload where:

(1) No fuel assemblies significantly different from those found previously acceptable to the Commission for a previous core at the facility in question are involved;
(2) No significant changes are made to the acceptance criteria for the Technical Specifications;
(3) The analytical methods used to demonstrate conformance with the Technical Specifications and regulations are not significantly changed; and
(4) The NRC has previously found such methods acceptable.

This reload will consist of 764 assemblies, approximately 632 of which are once burned GE fuel assemblies and approximately 132 of which are new ENC, Type XN-1 fuel assemblies. The Exxon fuel assemblies are very similar to the GE fuel assemblies except for slight differences in the mechanical, thermal - hydraulic and nuclear design.

Although the Exxon fuel is very similar to the GE fuel, the slight differences in mechanical, thermal-hydraulic, and nuclear design of the bundles, and the use of different analysis methodologies, required that a wide range of reanalyses be performed by Exxon. This included re-analyzing for anticipated operational occurrences, performing LOCA and MAPLHGR analyses for the Exxon fuel, and analyzing for the rapid drop of a high worth control rod to assure that excessive energy will not be deposited in the fuel. Analyses for normal operation of the reactor consisted of fuel evaluations in the areas of mechanical, thermal-hydraulic and nuclear design.

The use of the ENC type XN-1, fuel assemblies and the associated analytical methods used for the Cycle 2 reload analyses have been previously approved by the NRC Staff for use in other boiling water reactors (BWR's). Based on these prior reviews, the NRC staff has determined that only small differences result between the use of Exxon or GE analytical methods.

The other difference between the Cycle 1 core and the Cycle 2 core reload is the core loading pattern. Cycle 1 is a standard GE BWR/5 initial core configuration consisting of fuel assemblies of similar enrichments placed in a specific zone within the core. In contrast Cycle 2 core will be based on the conventional scatter load principle where fresh reload assemblies are scatter loaded throughout the core except for the center region and the core periphery. Changing from a zone core loading pattern used during first fuel cycle to a scatter loading pattern for the new reload assemblies during the second cycle is an accepted reload method that has been approved by the NRC staff for other BWR plant reloads.

Thus, this core reload involves the use of fuel assemblies that are not significantly different from those found previously acceptable to the Commission for a previous core at this facility. The request for amendment changes the Technical Specifications to reflect new operating limits associated with the fuel to be inserted into the core based on the new core physics and are within the acceptance criteria.

In the analyses supporting this reload, there have been no significant changes in acceptance criteria for the Technical Specifications, and those analytical methods used have previously been found acceptable by the NRC.

The only difference between this reload and Example (iii) provided by the NRC is related to the use of the Exxon analytical methods which are different than those used for Cycle 1. However, the Exxon analytical methods have been previously approved by the NRC staff for use in other BWR's and the analytical results are not significantly different from those found previously acceptable to the NRC for the initial core at WNP-2.

On the bases of our evaluation performed in accordance with 10 CFR 50.92, the similarity between the proposed amendment and the NRC's Example (iii) and the fact that the analytical methods used have been previously approved by the NRC staff and do not provide results significantly different, the Supply System has concluded that operation of WNP-2 in accordance with the proposed reload amendment would not: (1) Involve a significant increase in the probability or consequences of an accident previously evaluated because the ECCS and Transient analyses have been reanalyzed for the reload fuel. The proposed changes to the Technical Specifications reflect new operating limits associated with the fuel to be inserted in the core, are based on the new core physics, and are within the previous acceptance criteria; (2) create the possibility of a new or different kind of accident from any accident previously evaluated because the ENC fuel technology and the design of the fuel is not significantly different than that used in the initial core and has been previously found

acceptable to the NRC; or (3) involve a significant reduction in the margin of safety because the calculated safety limit for the new core is identical to that for the initial core.

Should you have any further questions, please contact Mr. P. L. Powell, Manager, WNP-2 Licensing.

Very truly yours,

G. C. Sorensen, Manager
Regulatory Programs

PLP/tmh

cc: JO Bradfute - NRC
C Eschels - EFSEC
JB Martin - NRC RV
E Revell - BPA
NS Reynolds - BLCP&R
NRC Site Inspector