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 AUTH. NAME: SORENSEN, G.C. AUTHOR AFFILIATION: Washington Public Power Supply System
 RECIP. NAME: RECIPIENT AFFILIATION: Document Control Branch (Document Control Desk)

SUBJECT: Forwards App B, "8X8 Extended Burnup," of EMF-92-040 for review & approval of mechanical design analysis to extend assembly exposure limits from 35 GWD/MTU to 37 GWD/MTU.

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PDR ADDCK 05000397
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Docket No. 50-397

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

Gentlemen:

Subject: WNP-2, OPERATING LICENSE NPF-21
APPROVAL OF EXTENDED BURNUP FOR 8x8 FUEL

- References: 1) EMF-92-040, WNP-2 Cycle 8 Reload Analysis, dated March 1992
- 2) Letter dated July 23, 1986, GC Lainas (NRC) to GW Ward (Exxon Nuclear), "Acceptance for Referencing of Licensing Topical Report XN-NF-85-67(P), Revision 1, 'General Mechanical Design for Exxon Nuclear Jet Pump BWR Reload Fuel'"
- 3) Letter, GE Rossi (NRC) to GW Ward (Exxon Nuclear), dated July 18, 1986, "Acceptance for Referencing of Licensing Topical Report XN-NF-82-06(P) Rev. 1, 'Qualification of Exxon Nuclear Fuel for Extended Burnup'"
- 4) Letter dated May 3, 1988, AC Thadani (NRC) to DA Adkisson (ANF) "Acceptance for Referencing of Licensing Topical Report XN-NF-82-06(P), Supplement 1, Revision 2, 'Qualification of Exxon Nuclear Fuel for Extended Burnup, Supplement 1, Extended Burnup Qualification of ANF 9X9 BWR Fuel'"

The Supply System is requesting NRC review and approval of the mechanical design analysis, provided in Attachment 1, to extend the assembly exposure limits for the Siemens Nuclear Power Corporation (SNP) 8x8 fuel from 35 GWD/MTU to 37 GWD/MTU. Attachment 1 was provided to the Supply System as Appendix B of Reference 1, in support of the Cycle 8 Reload Design. During Cycle 8, scheduled from June 1992 until April 1993, at least 4 assemblies are predicted to exceed the current limit. This letter and the attachment provide the justification for the request.

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APPROVAL OF EXTENDED BURNUP FOR 8x8 FUEL

In Reference 2, the NRC accepted the reload design limited to previously approved burnup levels for the SNP 8x8 BWR fuel for batch average exposures to 30 GWD/MTU. The SER also stated "staff approval for operation to extended burnup levels is contingent on the generic approval of the method by which burnup is considered in the design and analytical processes as described in XN-NF-82-06 (P) and Supplements 1, 2, 4, and 5." The approval of this methodology was provided in References 2 and 3. This SER also limited the SNP BWR fuel to the 30 GWD/MTU batch average exposure, contingent on the approval of additional justification for acceptable design limits for fuel rod bowing beyond these burnup values. The approval of the extended burnup to 35 GWD/MTU bundle exposure was provided by Reference 3. In summary, the approval of the mechanical design for the SNP fuel was limited to a batch exposure of 30 GWD/MTU until the methodology for extended burnup was approved. The methodology was approved in References 2 and 3. Together these three documents provide approval for using the SNP 8x8 BWR fuel to 35 GWD/MTU bundle exposure and the methodology for justifying extended burnup on a plant specific basis.

Attachment 1, prepared by SNP, is similar to ANF-90-018 (P), Revision 1, "Susquehanna Unit 1 8x8 Extended Burnup Design Report", Advanced Nuclear Fuels Corporation, June 1990. The Staff provided approval of that submittal in an SER to Mr. HW Kaiser, PP&L Co., November 2, 1990 (TAC 77165).

The R7 Refueling Outage is currently in process at WNP-2. This outage will involve a complete core offload. The core reload activities are currently scheduled to begin May 27, with the vessel internals to follow on June 11. Plant restart is scheduled for June 29. Failure of the Supply System to obtain the extended burnup approval will necessitate an early shutdown near the end of Cycle 8 to preclude violation of the 35 GWD/MTU limit. We understand that this request has not been provided to the Staff within a normal time frame to support approval prior to the completion of the fuel assembly loading into the core, the Supply System would appreciate review and approval to support the June 29 plant restart. If review and approval is not possible, please contact AG Hosler at your earliest convenience so that an alternative approach can be developed. Any changes to the reload design will have to be completed prior to June 13 to support the outage schedule.

Sincerely,



G. C. Sorensen, Manager
Regulatory Programs (Mail Drop 280)

MGE/bk
Attachments

cc: JB Martin - NRC RV
NS Reynolds - Winston & Strawn
WM Dean - NRC
DL Williams - BPA/399
NRC Site Inspector - 901A

