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J. G. DEWEASE
SENIOR VICE PRESIDENT
NUCLEAR OPERATIONS

July 18, 1988

W3P88-1343
A4.05
QA

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

SUBJECT: Waterford SES Unit 3
Docket No. 50-382
Proposed Technical Specification Change NPF-38-84

Gentlemen:

Please find attached proposed Technical Specification Change NPF-38-84. The proposed change would revise Section 5.3.1, Fuel Assemblies.

The proposed change would increase the level of enrichment for the fuel storage areas (spent fuel pool, new fuel storage vault, and containment temporary storage racks) from 4.0 weight percent U-235 to 4.10 weight percent U-235.

The enclosed amendment does not involve an unreviewed safety question nor a significant hazards consideration. Should you have any questions or require additional information concerning the proposed change, please contact Roy Prados at (504) 595-2806.

Enclosed with this submittal is the application fee of \$150 pursuant to the requirements of 10CFR170.

Yours very truly,

J.G. Dewease
J.G. Dewease
Senior Vice President
Nuclear Operations

JGD/RWP/tsy

Attachment

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PDR ADOCK 05000382
P PNU

cc: E.L. Blake, W.M. Stevenson, J.A. Calvo, D.L. Wigginton, R.D. Martin,
NRC Resident Inspector's Office (W3)

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w/check \$150
#05-6254

DESCRIPTION AND SAFETY ANALYSIS
OF PROPOSED CHANGE NPF-38-84

The following is a request to increase the level of enrichment for the fuel storage areas (spent fuel pool, new fuel storage vault, and containment temporary storage racks) from 4.0 weight percent U-235 to 4.10 weight percent U-235.

Existing Specification

See Attachment A

Proposed Specification

See Attachment B

Description

Beginning with Cycle 4 (fuel Batch F), Waterford 3 is considering a revised fuel management scheme which will reduce the number of required new fuel assemblies by re-using assemblies from the early A and B Batches. In order to make this approach viable, the peak fuel rod enrichment of some new fuel assemblies must be increased above 4.0 weight percent U-235, leading to a proposed Technical Specification limit of 4.1 weight percent. While some increased burnup is expected, the peak pin burnup will clearly remain below the 60 GWD/MTU, discussed below. By Technical Specification 5.3.1, the Waterford 3 fuel is limited to a maximum enrichment of 4.0 weight percent U-235.

The technical analyses/justification, performed by Middle South Services in 1986, of the 4.1 weight percent U-235 fuel was submitted to the NRC in June 1986 in a technical specification change request (NPF-38-18) to increase fuel enrichment to 4.1 weight percent U-235. The NRC approved the 4.1 weight percent fuel technically, as indicated in the NRC Safety Evaluation attachment to the October 16, 1986 issuance of Amendment No. 7 to the Waterford 3 Operating License. However, the NRC and Waterford 3 mutually agreed to limit the maximum enrichment to 4.0 weight percent U-235 because the assessment of the generic environmental impact of increased enrichments on the fuel cycle and fuel transportation outlined in Tables S-3 of 10CFR51 and S-4 of 10CFR52 was not complete.

The Federal Register notice (53FR6054) published on February 29, 1988, now indicates the NRC environmental assessment of extended burnup fuel is complete and that there is No Significant Impact on the use of such fuel in commercial LWRs. Specifically, the conclusion is that environmental impacts summarized in Tables S-3 of 10CFR51 and S-4 of 10CFR52 bound the corresponding impacts for burnup levels up to 60 Gwd/MtU and enrichments up to 5.0 weight percent U-235, which bounds the proposed change for Waterford 3 fuel.

Approval of the proposed change is requested by October 1, 1988 in order to place the fuel enrichment order to support fuel receipt for Cycle 4.

Safety Analysis

The proposed changes described above shall be deemed to involve a significant hazards consideration if there is a positive finding in any of the following areas:

1. Will operation of the facility in accordance with this proposed change involve a significant increase in the probability or consequences of any accident previously evaluated?

Response: No.

As previously stated in the June, 1986 request, the proposed change will increase the fuel enrichment limit in order to allow receipt of reload fuel for use in extended cycle operation. Because the calculated K-eff values (including uncertainties) indicate that the fuel storage configurations are substantially sub-critical, the probability of a criticality event in these areas is not increased. No physical change is being made to the storage areas. Since a criticality event is demonstrated to be unfeasible, there are no increased adverse consequences for such a postulated event.

2. Will operation of the facility in accordance with the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

As previously stated in the June, 1986 request, the proposed change will not introduce a new or different kind of accident from those previously evaluated because no physical change is being made to the facility, and because there will not be a change in how the facility is operated.

3. Will operation of this facility in accordance with this proposed change involve a significant reduction in margin of safety?

Response: No.

As previously indicated in the June 1986 request, the margin of safety is not reduced by implementing the proposed change because the calculated values for K-eff (including uncertainties) are below the regulatory limits and because they reflect a substantial sub-critical configuration for each of the fuel storage areas under adverse conditions.

Safety and Significant Hazards Determination

Based upon the above Safety Analysis, it is concluded that (1) the proposed change does not constitute a significant hazards consideration as defined by 10CFR50.92; (2) there is a reasonable assurance that the health and safety of the public will not be endangered by the proposed change; and (3) this action will not result in a condition which significantly alters the impact of the station on the environment as described in the NRC Final Environmental Statement.

NPF-38-84

ATTACHMENT A