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SUBJECT: Application for amend to License DPR-58,modifying requirement re peaking factor limit rept submittal.

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AEP:NRC:1080

Donald C. Cook Nuclear Plant Unit 1
Docket No. 50-315
License No. DPR-58
MODIFICATION OF REQUIREMENT TO SUBMIT PEAKING FACTOR LIMIT REPORT

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

Attn: T. E. Murley:

November 8, 1988

Dear Dr. Murley:

The purpose of this letter is to request modification of the requirement to submit a peaking factor limit report 60 days prior to initial criticality of each Unit 1 fuel cycle. This requirement is contained in the NRC's safety evaluation report for Unit 1 Technical Specification (T/S) Amendment 74. We are requesting that the requirement be modified such that the report can be submitted for the upcoming Cycle 11 and future cycles up to 30 days after initial cycle criticality. The change in requirement allows core reload design flexibility by permitting use of assembly burnup data and leakage information not available until the end of the cycle.

Cycle 11 initial criticality is anticipated to occur April 28, 1989, meaning that the peaking factor limit report is presently required by February 27, 1989. We therefore request that you respond to us by January 14, 1989, to avoid impacting core reload design efforts.

Background

The NRC's safety evaluation report for Unit 1 T/S Amendment 74 required us to submit the V(Z) functions for each new cycle in a peaking factor limit report at least 60 days prior to initial cycle criticality. In our submittal AEP:NRC:0916W, dated March 26, 1987, we proposed to place the requirement to submit the report in the T/Ss. Our proposed T/S used wording similar to that found in draft Rev. 5 of the Westinghouse Standard T/Ss, except that our proposal required the report to be submitted 15 days, rather than 60 days, prior to initial criticality. This difference was to allow us the flexibility to optimize core

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reload design using end-of-cycle burnup data and information obtained from fuel leak testing operations. This information is unattainable before the end of the cycle. Because it appeared unlikely that our proposed T/S change would be approved in time to allow us to redesign the Unit 1 Cycle 10 reload, which was necessary due to known leaking assemblies, AEP:NRC:0916W also requested specific permission to submit the Cycle 10 report 15 days prior to initial criticality.

By letter dated May 1, 1987, the NRC granted us permission to submit the Cycle 10 report 30 days after initial cycle criticality. The letter noted that the NRC is in the process of evaluating the requirement with regard to submittal of the peaking factor limit report, including acceptable T/S changes. On May 11, 1988, we were informed that the NRC was not prepared to grant our proposed T/S and we were requested to withdraw the proposal. This was done via our letter AEP:NRC:0916AA, dated June 7, 1988.

Reasons and Justification for Change

Optimization of the reload allows a more efficient design. This is because actual burnup data for the assemblies scheduled for reinsertion are used rather than estimates of the burnup based on end-of-cycle burnup window of $\pm$ 500 MWD/MTU. Because optimization requires end-of-cycle data, it is not possible to submit the peaking factor limit report 60 days prior to criticality when optimization is done unless the refueling outage is exceptionally long. (The upcoming Cycle 10/11 refueling is only expected to last 64 days.) Reload design after shutdown could also be necessary if fuel leak testing, performed after shutdown, finds leaks in assemblies scheduled for reinsertion. This latter point could require an expedited core redesign as in Unit 1 Cycles 9 and 10. This redesign would require resubmittal of the peaking factor limit report if it had already been submitted based on the present 60-day requirement.

Rather than submit a request to delay submittal of the peaking factor limit report specific to Cycle 11, we are instead proposing to modify the requirement permanently. This is because the same factors which make post-shutdown core designs desirable (or potentially necessary) for Cycle 11 will also exist for future cycles. The permanent change eliminates having to seek cycle specific relief on a frequent and expedited basis.

We are proposing to submit the report 30 days after criticality since this is consistent with the time period specified by the NRC in the May 1, 1987, letter as acceptable for Cycle 10.

In the May 1, 1987, letter, the NRC concluded that submittal of the report 30 days after criticality does not change plant operation or the safety analysis and continues to provide timely notice to the NRC. This justification remains true for Cycle 11 and for future cycles. Additionally, it is noted that the methodology used by Westinghouse to calculate the V(Z) function has been approved by the NRC. This methodology is described in WCAP-10217-A, entitled "Relaxation of Constant Axial Offset Control, F_Q Surveillance Technical Specification." Based on previous NRC acceptance of both the proposed revised submittal schedule and the methodology for determining the V(Z) functions, we believe the revised schedule will not adversely impact public health and safety.

Pursuant to the requirements of 10 CFR 170.12, we are enclosing a check in the amount of $150 for the proposed revision to the Unit 1 Amendment 74 requirement.

This document has been prepared following Corporate procedures that incorporate a reasonable set of controls to ensure its accuracy and completeness prior to signature by the undersigned.

Sincerely,

M. P. Alexich
Vice President

ldp

cc: D. H. Williams, Jr.
W. G. Smith, Jr. - Bridgman
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G. Charnoff
A. B. Davis
NRC Resident Inspector - Bridgman
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