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SUBJECT: Application for amend to License DPR-74,revising Tech Specs re Cycle 5 reload.

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March 1, 1984
AEP:NRC:0860

Donald C. Cook Nuclear Plant Unit No. 2
Docket No. 50-316
License No. DPR-74
APPLICATION FOR UNIT 2 TECHNICAL SPECIFICATION
CHANGES FOR CYCLE 5 RELOAD

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Denton:

This letter and its Attachments constitute an application for amendment to the Donald C. Cook Nuclear Plant Unit No. 2 Appendix A Technical Specifications (T/S). The amendments are requested to support the Cycle 5 reload of Unit 2. Cycle 5 is scheduled to begin critical operation at the end of May, 1984 and will include the second reload fuel batch fabricated by Exxon Nuclear Company (ENC).

Attachment 1 to this letter addresses each of the requested T/S changes. With the exception of the seventh proposed change, we have provided our analyses pursuant to 10 CFR 50.92 (Significant Hazards Considerations). The Significant Hazards Considerations analyses are being forwarded pursuant to 10 CFR 50.91(a)(1). The seventh proposed change is to the flowrate for the flow balance test for the Safety Injection pumps. A review is currently being performed to ensure that the proposed flowrate is within safety bounds for pump runout and that the increase in flowrate will not adversely effect any safety analysis. In addition, a new small break analysis will be performed to justify the increase in miniflow.

Attachment 2 to this letter contains revised pages for the requested T/S changes for Cycle 5 operation. All changes from the current Unit 2 T/S are indicated by a vertical line on the right hand margin of the page. The T/S changes contained in Attachment 2 have been reviewed and approved by the Plant Nuclear Safety Review Committee (PNSRC) and will be reviewed by the AEPSC Nuclear Safety and Design Review Committee (NSDRC) at their next scheduled meeting.

As required by 10 CFR 50.91(b)(1), a copy of this entire application for amendment is being transmitted to the appropriate official of the State of Michigan.

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Attachment 1 contains a list of reports prepared by our fuels vendor (ENC) in support of our license application. These reports provide the safety analyses supporting Cycle 5 operation with up to five percent (5%) of the steam generator tubes plugged. These reports include a LOCA/ECCS reanalysis which was necessary due to the steam generator tube plugging and to the inclusion of the NRC approved RODEX2 code in ENC's EXEM/PWR methodology. Due to steam generator tube plugging and modifications to the PTS-PWR 2 code, a number of plant transients were reanalyzed. The isotopic release fractions from the fuel were recalculated using the NRC approved RODEX2 code and are reported in a document titled "D. C. Cook Unit 2 Potential Radiological Consequences of Incidents Involving High Exposure Fuel." The reports, addressed above, are scheduled to be mailed to you from ENC on March 2, 1984.

Attachment 3 is a summary table of the Cycle 5 reload. Cycle 5 will include ninety-two fresh ENC 17 X 17 fuel assemblies in Region 7, seventy-two once burnt ENC 17 X 17 fuel assemblies from Region 6, and twenty-nine Westinghouse 17 X 17 fuel assemblies from Region 5. Seventy-two of the ninety-two fresh ENC fuel assemblies will contain a total of 1040 burnable absorber rods in the form of clusters of $Al_2O_3B_4C$ encapsulated with zircaloy. The nominal Cycle 5 design is 17,900 MWD/MTU.

AEPSC interprets this application for a license amendment to constitute a Class IV Amendment as defined in 10 CFR 170.22. Enclosed, therefore, is a check in the amount of $12,300.00 for NRC processing of the aforementioned requests.

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

Very truly yours,

M. P. Alexich
Vice President

MPA/cam
Attachments

cc: John E. Dolan
W. G. Smith, Jr. - Bridgman
R. C. Callen
G. Charnoff
E. R. Swanson, NRC Resident Inspector - Bridgman

ATTACHMENT 1 TO AEP:NRC:0860

REASONS FOR TECHNICAL SPECIFICATION CHANGES

FOR DONALD C. COOK NUCLEAR PLANT

UNIT NO. 2 CYCLE 5

ATTACHMENT 1 TO AEP:NRC:0860

REASONS FOR TECHNICAL SPECIFICATION CHANGES

FOR DONALD C. COOK NUCLEAR PLANT

UNIT NO. 2 CYCLE 5

The first proposed changes address the Cycle 5 reload activities. The following reports have been prepared by our fuels vendor (ENC) in support of Cycle 5 operation with up to five (5%) percent of the steam generator tubes plugged:

1. XN-NF-83-85, "D. C. Cook Unit 2, Cycle 5 Safety Analysis Report," October 1983.

2. XN-NF-83-85, Supp. 1, "D. C. Cook Unit 2 Cycle 5 Safety Analysis Report," February 1984.

3. XN-NF-82-32(P), Rev. 1, "Plant Transient Analysis for the Donald C. Cook Unit 2 Reactor at 3425 MWt, Operation with 5% Steam Generator Tube Plugging," February 1984.

4. XN-NF-82-32(NP), Rev. 1, "Plant Transient Analysis for the Donald C. Cook Unit 2 Reactor at 3425 MWt, Operation with 5% Steam Generator Tube Plugging," February 1984.

5. XN-NF-84-21(P), "Donald C. Cook Unit 2, Cycle 5 - 5% Steam Generator Plugging, Limiting Break LOCA/ECCS Analysis," February 1984.

6. XN-NF-84-21(NP), "Donald C. Cook Unit 2, Cycle 5 - 5% Steam Generator Plugging, Limiting Break LOCA/ECCS Analysis," February 1984.

7. XN-NF-82-90, Supp. 1, "D. C. Cook Unit 2, Potential Radiological Consequences of Incidents Involving High Exposure Fuel," January 1984.

We have reviewed the above reports to assure the reload, including the steam generator tube plugging analysis, does not involve a significant hazards consideration. The fuel assemblies involved in the reload do not significantly differ from those found previously acceptable to the NRC and the analytical methods used to demonstrate conformance to regulations reflect some changes from previous models but are utilized in a manner which we believe will be acceptable to the NRC. Therefore, we believe the proposed changes do not involve a significant hazards considerations as defined by 10 CFR 50.92.

The second proposed change is to the Surveillance Requirements for the ice condenser inlet doors (T/S 4.6.5.3.1). The proposed change is to demonstrate the operability of the doors at least once per 9 months by torque testing 50% of the doors instead of at least once per 6 months with 25% of the doors being torque tested. This change would allow us to demonstrate the operability of all doors in the shorter period of one refueling cycle (i.e., approximately 18 months). In addition, this change will make the interval for the torque testing of the doors consistent with the present ice basket weighing surveillance requirements (i.e., at least once per 9 months). We believe the proposed change is conservative since the total number of doors are tested over a shorter time period. For the above reasons it is our

belief that the change would not involve a significant increase in the probability or consequences of an accident previously evaluated; or create the possibility of a new or different kind of accident from any accident previously evaluated; or involve a significant reduction in a margin of safety, and thus does not involve a significant hazard consideration as defined by 10 CFR 50.92.

The third proposed change concerns editorial changes to pages 3/4 6-39 and 3/4 6-40. More specifically, these changes delete obsolete statements and clarify another statement. Portions of T/Ss 4.6.5.3.1(b) and 4.6.5.3.2(b) have been deleted. Specifically, the following words have been removed: "at least once per 3 months during the first year after the ice bed is fully loaded" and "thereafter". In addition, the footnote on page 3/4 6-39 has been deleted. T/S 4.6.5.3.2(a) has been clarified to read "that opening of each door is not impaired by ice, frost or debris" instead of "free of frost accumulation". These changes are considered to be administrative in nature, and therefore do not involve a significant hazards considerations as defined by 10 CFR 50.92.

The fourth change is to make certain additions and deletions to T/S Table 3.6-1. Specifically, we request the addition of valve PCR-40 to List A and valve PA-342 to List E. We request the deletion of valve PA-243 and a blind flange (Item 47) from List E. These changes are needed to accommodate design changes which would allow us to use the respective containment penetration for Containment Service Air above MODE 5. PCR-40, which is an automatic isolation valve, and PA-342, which is a check valve, will replace the isolation function of valve PA-243 and the blank flange. The design and T/S changes would provide the capability to automatically isolate the penetration when a Phase A isolation signal is initiated. This capability would enable us to use this containment air service penetration above MODE 5.

This fourth proposed Technical Specification change may either result in some increase to the probability or consequences of a previously analyzed accident or may reduce in some way a safety margin, but it is our belief that the results of the change are clearly within all acceptable criteria with respect to the system or components as it may affect the Safety Analysis of the plant. Thus the proposed change does not involve a significant hazards consideration as defined in 10 CFR 50.92.

The fifth proposed change is to change the Reactor Coolant System T_{avg} value given in T/S Table 3.2-1 for four loop operation from 578°F to 576.7°F (indicated). T_{avg} of 576.7°F (indicated) takes into account instrument uncertainties for those instruments which monitor T_{avg}. The change has been discussed and agreed upon with our fuels vendor (Exxon) and will reflect plant operations which are consistent with the analysis to be transmitted to you by Exxon. Since this change constitutes a more stringent operating limit, it is our belief that it does not involve a significant hazards consideration as defined by 10 CFR 50.92.

The sixth proposed change is to make editorial revisions to T/S 3/4.4.6 on the Reactor Coolant Leakage Detection System (page 3/4 4-14). Our current Limiting Conditions for Operation addressed in T/Ss 3.4.6.1(a) and (c) reference the containment atmosphere particulate radioactivity monitoring channels and the containment atmosphere gaseous radioactivity monitoring channels for Unit 1 instead of for Unit 2. The revised page contained in Attachment 2 corrects this error and also deletes the footnote "This Technical Specification will not be effective until after the 1982 refueling outage," since this time has already past. These requested changes are purely administrative in nature and therefore do not involve significant hazards considerations as described in 10 CFR 50.92.

The seventh proposed change is to the flow balance test requirements for the Safety Injection System, which are addressed in T/S 4.5.2.h (page 3/4 5-6). Specifically, we request that the footnote (**) for the Safety Injection System be revised to read as follows:

> ** Total SIS (single pump) flow, including miniflow, shall not exceed 700 gpm with no more than 640 gpm being delivered to the core.

The justification and significant hazards consideration analysis for this change will be forwarded to you in a subsequent submittal.

Included with this change is one editorial correction to T/S 4.5.2.h under the "Boron Injection System Single Pump" table. Previously we did not clearly identify "Loop 3". This editorial change is considered to be administrative in nature, and therefore does not involve a significant hazards consideration as defined by 10 CFR 50.92.