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 FACIL: 50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana M 05000315
 50-316 Donald C. Cook Nuclear Power Plant, Unit 2, Indiana M 05000316
 AUTH. NAME AUTHOR AFFILIATION
 POWERS, R.P. Indiana Michigan Power Co. *See Proposed Change To Tech Specs.*
 RECIP. NAME RECIPIENT AFFILIATION
 Records Management Branch (Document Control Desk)

SUBJECT: Application for amends to licenses DPR-58 & DPR-74, to allow credit of rod cluster control assemblies for cold leg large break LOCA subcriticality. TS pages & non-proprietary versions of WCAP-15246 encl. Proprietary version withheld.

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September 17, 1999

C0999-11
10 CFR 50.90

Docket Nos.: 50-315
50-316

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
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Washington, DC 20555-0001

Donald C. Cook Nuclear Plant Units 1 and 2
LICENSE AMENDMENT REQUEST FOR CREDIT OF ROD CLUSTER
CONTROL ASSEMBLIES FOR COLD LEG LARGE BREAK LOSS-OF-
COOLANT ACCIDENT SUBCRITICALITY

Pursuant to the requirements of 10 CFR 50.90, Indiana Michigan Power Company (I&M), the licensee for Donald C. Cook Nuclear Plant (CNP), Units 1 and 2, proposes to amend Facility Operating Licenses DPR-58 and DPR-74. I&M proposes to allow credit in the applicable subcriticality analysis for the negative reactivity provided by insertion of the rod cluster control assemblies (RCCAs) during realignment from a cold leg recirculation to a hot leg recirculation configuration. This realignment, which is referred to as hot leg switchover (HLSO), is performed following a loss-of-coolant accident (LOCA). This methodology change requires NRC staff review and approval per the provisions of 10 CFR 50.90. The proposed change affects the Bases for Technical Specification (T/S) 3/4.5.5, "Refueling Water Storage Tank," and several sections of the Updated Final Safety Analysis Report (UFSAR).

I&M requests NRC review and approval of the proposed post-LOCA subcriticality methodology change to allow credit for RCCA insertion, as supported by the attached Westinghouse Electric Company (WEC) analyses (WCAP-15245, a proprietary version and WCAP-15246, a non-proprietary version). Approval is requested by December 10, 1999, to support restart of Unit 2. The same approval will also apply to the restart of Unit 1 at a later date. Once approved, this methodology change will be used for HLSO subcriticality

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analyses for the CNP Units. The use of this methodology would also preclude the need to perform HLSO criticality analyses on a cycle-specific basis because crediting RCCA insertion would provide a bounding analysis, which could be confirmed each reload.

Attachment 1 provides a detailed description, a probabilistic risk assessment review, and an emergency operating procedures (EOPs) impact assessment to support the proposed methodology change. Attachments 2A and 2B provide marked-up T/S Bases pages for Unit 1 and Unit 2, respectively. Attachments 3A and 3B provide the proposed T/S Bases pages with the changes incorporated for Unit 1 and Unit 2, respectively. Attachment 4 describes the evaluation performed in accordance with 10 CFR 50.92(c), which concludes that the proposed change does not involve a significant hazard. Attachment 5 provides the environmental assessment. Attachment 6 contains the WEC report WCAP-15245, "Control Rod Insertion Following a Cold Leg LBLOCA, D. C. Cook, Units 1 and 2." This report provides analyses that show the control rods can be inserted and credited for criticality control at CNP, Units 1 and 2, under cold leg LBLOCA conditions. WCAP-15245 is considered proprietary to WEC. As such, an affidavit for withholding from public disclosure is provided as part of Attachment 6. A non-proprietary version of the WCAP (WCAP-15246) is provided in Attachment 7. Attachment 8 provides I&M responses to NRC questions from a May 6, 1999, public meeting to discuss hot leg nozzle gap issues for restart.

I&M has reviewed the Westinghouse methodology used in WCAP-15245 and concludes that the analysis demonstrates that RCCAs can be inserted following the cold leg LBLOCA, and that the resulting negative reactivity credit can be applied to the HLSO subcriticality analysis. In addition, I&M contracted Sciencetech, Inc. to perform an independent review of WCAP-15245 for its technical approach, assumptions, analysis methods, and results. The Sciencetech review also evaluated conformance with industry safety practices and included a comparison with Babcock & Wilcox (B&W)/Framatome Technologies, Inc. LOCA analysis methodology, which also credits control rod insertion during a LBLOCA. Sciencetech, Inc. concluded that the Westinghouse methodology was representative of the best current industry practices for determining fuel assembly response to LOCA and seismic loads, and conservatively demonstrates that, for a design basis or leak-before-break cold leg break, control rod insertion will not be impaired. I&M concurs with the Sciencetech assessment of WCAP-15245. The Sciencetech review report is provided as Attachment 9.

Copies of this letter and its attachments are being transmitted to the Michigan Public Service Commission and Michigan Department of Public Health, in accordance with the requirements of 10 CFR 50.91.

Should you have any questions, please contact Mr. Robert C. Godley, Director of Regulatory Affairs, at (616) 466-2698.

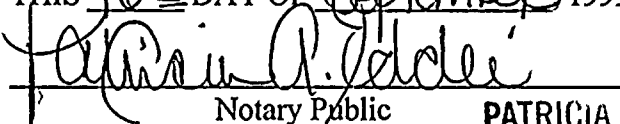
Sincerely,



R. P. Powers
Vice President

SWORN TO AND SUBSCRIBED BEFORE ME

THIS 16th DAY OF September 1999



My Commission Expires _____

PATRICIA M. ...
NOTARY PUBLIC - BERRIEN CO. MICH
MY COMMISSION EXPIRES
NOVEMBER - 5 - 2000

\dms

Attachments

- c: A. C. Bakken, III, w/attachments
 J. E. Dyer, w/attachments
 MDEQ - DW & RPD, w/attachments
 NRC Resident Inspector, w/attachments
 R. Whale, w/attachments

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bc: T. P. Beilman, w/attachments
FOLIO, w/attachments
D. J. Garner/J. B. Kingseed
R. C. Godley/G. P. Arent/W. T. MacRae/R. Gaston
W. G. Harland
D. M. Miller/Winston & Strawn, w/attachments
M. W. Rencheck/S. A. Greenlee
J. F. Stang, Jr., - NRC Washington, DC, w/attachments
V. D. VanderBurg/G. J. Hill

Westinghouse Electric Company LLC

Box 355
Pittsburgh Pennsylvania 15230-0355

NSD-SAE-ESI-99-311

August 4, 1999

Mr. Jeb Kingseed
American Electric Power
500 Circle Drive
Buchanan, Michigan 49107

AMERICAN ELECTRIC POWER
DONALD C. COOK NUCLEAR PLANT UNITS 1 AND 2
Transmittal of WCAP15245 and WCAP15246

Dear Mr. Kingseed:

This letter transmits one copy of proprietary (WCAP15245) and nonproprietary (WCAP15246) versions of "Control Rod Insertion Following a Cold Leg LBLOCA, D. C. Cook, Units 1 and 2," dated May, 1999 for your submittal to the NRC for review and approval.

In addition to the proprietary and nonproprietary WCAPs, there are four other enclosures for your use:

1. Information which should be included in your NRC transmittal letter
2. Proprietary Information Notice to be attached to your NRC transmittal letter
3. Copyright Notice to be attached to your NRC transmittal letter
4. Westinghouse letter "Application for Withholding Proprietary Information from Public Disclosure" (CAW-99-1348) with Affidavit CAW-99-1348.

Please transmit the original of Item 4 to the NRC in your transmittal.

If you have any questions, please do not hesitate to contact us.

Very truly yours,


Michael M. Corletti
Engineering Services Integration

Enclosures

American Electric Power

Letter for Transmittal to the NRC

The following paragraphs should be included in your letter to the NRC.

1. 1 copy of WCAP 15245 "Control Rod Insertion Following a Cold Leg LBLOCA, D. C. Cook, Units 1 and 2," (Proprietary), May, 1999.
2. 1 copy of WCAP 15246 "Control Rod Insertion Following a Cold Leg LBLOCA, D. C. Cook, Units 1 and 2," (Non-Proprietary), May, 1999.

Also enclosed are a Westinghouse authorization letter, CAW-99-1348, accompanying affidavit, Proprietary Information Notice, and Copyright Notice.

As Item 1 contains information proprietary to Westinghouse Electric Company, it is supported by an affidavit signed by Westinghouse, the owner of the information, the affidavit sets forth the basis on which the information maybe withheld from public disclosure by the Commission and addresses with specificity the consideration listed in paragraph (b)(4) of Section 2.790 of the Commission's regulations.

Correspondence with respect to the copyright or proprietary aspects of the items listed above or the supporting Westinghouse Affidavit should reference CAW-99-1348 and should be addressed to H. A. Sepp, Manager of Regulatory and Licensing Engineering, Westinghouse Electric Company, P. O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

Proprietary Information Notice

Transmitted herewith are proprietary and/or non-proprietary versions of documents furnished to the NRC in connection with requests for generic and/or plant-specific review and approval.

In order to conform to the requirements of 10 CFR 2.790 of the Commission's regulations concerning the protection of proprietary information so submitted to the NRC, the information which is proprietary in the proprietary versions is contained within brackets, and where the proprietary information has been deleted in the non-proprietary versions, only the brackets remain (the information that was contained within the brackets in the proprietary versions having been deleted). The justification for claiming the information so designated as proprietary is indicated in both versions by means of lower case letters (a) through (f) contained within parentheses located as a superscript immediately following the brackets enclosing each item of information being identified as proprietary or in the margin opposite such information. These lower case letters refer to the types of information Westinghouse customarily holds in confidence identified in Sections (4)(ii)(a) through (4)(ii)(f) of the affidavit accompanying this transmittal pursuant to 10 CFR 2.790(b)(1).

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