April 3, 1987

Docket No.: 50-316

Mr. John Dolan, Vice President
Indiana and Michigan Electric Company
c/o American Electric Power Service Corporation
1 Riverside Plaza
Columbus, Ohio 43216

Dear Mr. Dolan:

The Commission has issued the enclosed Amendment No. 90 to Facility Operating License No. DPR-74 for the Donald C. Cook Nuclear Plant, Unit No. 2. The amendment consists of changes to the Technical Specifications in response to your application transmitted by letter dated March 30, 1987.

These amendments revise the Technical Specifications to allow on a one-time basis, the substitution of row 8 ice baskets for row 9 ice baskets' weights.

A copy of the related Safety Evaluation is enclosed, which includes the final determination of a no significant hazards consideration. A Notice of Issuance will be included in the Commission's next bi-weekly Federal Register notice.

Sincerely,

D. L. Wigginton, Project Manager
PWR Project Directorate #4
Division of PWR Licensing-A

Enclosures:
1. Amendment No. 90 to DPR-74
2. Safety Evaluation

cc: w/enclosures
See next page

PWR#4/DPWR-A	PWR#4/DPWR-A	PWR#4/DPWR-A
DWigginton/mac	MDuncan	BJYoungblood
04/ /87	04/ 2 /87	04/ /87

cc:
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Regional Administrator, Region III
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Dated: April 3, 1987

AMENDMENT NO. 90 TO FACILITY OPERATING LICENSE NO. DPR-74 - DONALD C. COOK, UNIT 2

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

INDIANA AND MICHIGAN ELECTRIC COMPANY

DOCKET NO. 50-316

DONALD C. COOK NUCLEAR PLANT UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 90
License No. DPR-74

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Indiana and Michigan Electric Company (the licensee) dated March 30, 1987, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-74 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 90, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

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Dave L. Wigginton, Project Manager
PWR Project Directorate #4
Division of PWR Licensing-A

Attachment:
Changes to the Technical Specifications

Date of Issuance: April 3, 1987

PWR#4/DPWR-A	PWR#4/DPWR-A	OGC-Bethesda	PWR#4/DPWR-A
DWigginton/mac	MDuncan		BJYoungblood
03/ /87	04/2 /87	04/02/87	03/ /87

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 90 FACILITY OPERATING LICENSE NO. DPR-74

DOCKET NO. 50-316

Revise Appendix A as follows:

Remove Pages	Insert Pages
3/4 6-36	3/4 6-36

SURVEILLANCE REQUIREMENTS (Continued)

shall be constituted of one basket each from Radial Rows 1, 2, 4, 6, 8 and 9*(or from the same row of an adjacent bay if a basket from a designated row cannot be obtained for weighing) within each bay. If any basket is found to contain less than 1220 pounds of ice, a representative sample of 20 additional baskets from the same bay shall be weighed. The minimum average weight of ice from the 20 additional baskets and the discrepant basket shall not be less than 1220 pounds/basket at a 95% level of confidence.

The ice condenser shall also be subdivided into 3 groups of baskets, as follows: Group 1 - bays 1 through 8, Group 2 - bays 9 through 16, and Group 3 - bays 17 through 24. The minimum average ice weight of the sample baskets from Radial Rows 1, 2, 4, 6, 8 and 9 in each group shall not be less than 1220 pounds/basket at a 95% level of confidence.

The minimum total ice condenser ice weight at a 95% level of confidence shall be calculated using all ice basket weights determined during this weighing program and shall not be less than 2,371,450 pounds.

3. Verifying, by a visual inspection of at least two flow passages per ice condenser bay, that the accumulation of frost or ice on flow passages between ice baskets, past lattice frames, through the intermediate and top deck floor grating, or past the lower inlet plenum support structures and turning vanes is restricted to a nominal thickness of 3/8 inches. If one flow passage per bay is found to have an accumulation of frost or ice greater than this thickness, a representative sample of 20 additional flow passages from the same bay shall be visually inspected. If these additional flow passages are found acceptable, the surveillance program may proceed considering the single deficiency as unique and acceptable. More than one restricted flow passage per bay is evidence of abnormal degradation of the ice condenser.

c. At least once per 40 months by lifting and visually inspecting the accessible portions of at least two ice baskets from each 1/3 of the ice condenser and verifying that the ice baskets are free of detrimental structural wear, cracks, corrosion or other damage. The ice baskets shall be raised at least 12 feet for this inspection.

* On a one-time basis during the March/April 1987 outage, the weights of three Row 8 baskets may be substituted for three adjacent Row 9 baskets.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 90 TO FACILITY OPERATING LICENSE NO. DPR-74

INDIANA AND MICHIGAN ELECTRIC COMPANY

DONALD C. COOK NUCLEAR PLANT, UNIT 2

DOCKET NO. 50-316

INTRODUCTION

By letter dated March 30, 1987, the licensee has requested a one-time change to Technical Specification (TS) 4.6.5.1.b.2 concerning weighing of ice baskets. This technical specification item requires that a representative sample of at least 144 ice baskets be weighed to verify a minimum of 1220 lbs of ice per basket. The technical specification also requires that the representative sample include 6 baskets from each of the 24 ice condenser bays and be constituted of one basket each from radial rows 1, 2, 4, 6, 8 and 9 within each bay. The licensee is therein required to demonstrate a minimum acceptable weight per basket, or minimum average weight based on a larger sample, for each bay. The licensee is also required by this technical specification to evaluate the ice weight for 18 radial row groups of baskets (as opposed to bays).

With regard to this change request the licensee specifically has requested a change to the technical specifications that would allow the weighing of three row 8 baskets in lieu of three adjacent row 9 baskets. The request is necessitated by the inability to weigh the three required baskets in row 9 as they are apparently frozen in place and cannot be lifted for weighing, even after diligent efforts to do so. As an alternative to requesting a change in the technical specification the licensee could satisfy the existing technical specification by emptying 144 row 9 baskets and refilling them. The licensee has evaluated this option and rejected this approach on the basis that it would result in an unnecessary delay in the return to power, due to the time consuming nature of the task (about 25 days), with associated costs of approximately $195,000 for each day's delay in returning to power. Power operation is scheduled to resume on or about April 12, 1987. The licensee, therefore, has opted to request a one-time change in the technical specification and provided justification for the adequacy of this approach. Furthermore the licensee has committed, as an additional compensatory measure, to conduct an additional weighing of rows 2, 4, 6 and 8 in each bay approximately 4 months after return to power.

EVALUATION

The purpose of the technical specifications concerning ice basket weights is to insure that the total ice mass, with allowance for sublimation, is consistent with assumptions in the safety analysis and that the distribution of

ice, both circumferentially and radially, is reasonably uniform, Thus, the technical specifications require the compliance of ice weight criteria on a per bay basis and also on a grouping which can be considered as row groups. Meeting requirements for each bay provides assurance that the ice weight is sufficiently uniform circumferentially and the requirement for row-groups assures uniformity of ice weight in the radial direction. With regard to row 9 baskets there are 3 groups with 8 baskets in each group; Group 1-bays 1 through 8, Group 2-bays 9 through 16, and Group 3-bays 17 through 24.

As noted above the licensee has proposed to substitute weighing three row 8 baskets for adjacent row 9 baskets. This is due to the inability to weigh one row 9 basket in Group 1 and two row 9 baskets in Group 2. All of the required baskets in Group 3 have been weighed. In order to justify that the row 8 basket ice weights are representative of row 9 basket ice weights the licensee has analyzed the results of recent ice basket weighing, conducted in March 1987. Based on recent ice weighing, several notable observations can be made. All of the row 9 baskets that could be weighed contained over the 1220 lb/basket minimum and the average ice weight for all the row 9 baskets was 1382 lbs, well over the minimum required by the technical specifications. Visual observation of the row 9 baskets which cannot be weighed did not reveal any apparent differences in ice loading from the other baskets. The licensee has also performed limited statistical analysis which suggests that row 8 and row 9 baskets are equivalent. As further justification for the technical specification change the licensee has proposed to reweigh, four months after return to power, ice baskets in rows 2, 4, 6, and 8.

The staff has considered the arguments provided by the licensee and concurs that the one-time change to the technical specification is warranted and does not present a significant safety threat. Recent ice basket weighings provide evidence that row 9 baskets contain adequate ice and that substitution of three row 8 baskets for adjacent row 9 baskets is acceptable. Furthermore, the ice weighing surveillance conducted in March 1987, resulting in the weighing of approximately 220 baskets, provides assurance that the ice condenser will perform its intended function.

Basis for Emergency Technical Specification Change

The Unit 2 is currently in a forced outage caused by steam generator tube leakage. The ice condenser surveillances were initiated during this forced outage to prevent having to shut down the unit when the surveillances would have normally come due on April 19, 1987. The licensee did not anticipate any unusual problems during the current ice basket weighings, however, row 9 baskets which were required to be weighed have not been freed for weighing and many of the baskets appear to be frozen in place. The licensee has used various methods to free the frozen baskets and will continue to do so until the unit is ready to start up about April 7, 1987. The one remaining process to free the baskets would require unloading and reloading with ice and would further extend the outage for about 25 days.

The licensee has exhausted the reasonable and available methods for freeing the baskets. On March 24, 1987, the licensee notified the Office of Nuclear Reactor Regulation that it would be necessary to extend the outage or request

an emergency technical specification change. At that time, the startup was scheduled for April 1, 1987 and clearly there was insufficient time to properly pre-notice any such proposed action. On March 27, 1987, the licensee advised the NRR that the steam generator examinations and repairs would extend the outage and that startup would begin with Mode 4 being reached about April 7, 1987. This still leaves insufficient time to properly pre-notice the proposed license amendment and finding of no significant hazards consideration in the Federal Register. The change was needed at the facility to prevent schedule slippage and allow plant restart following the Unit 2 outage. We have determined that the licensee has been responsive in the notification to NRR and in the submittal of the proposed Technical Specification change. Based on our review, we do not believe the licensee delayed their notification or their submittal to create an emergency situation and take advantage of the post notice situation.

Discussions with the State of Michigan

On March 31, 1987, the proposed Technical Specification change, the conditions requiring an emergency amendment of the license, and the staff's final no significant hazards consideration were discussed with the State of Michigan contact for licensing matters. It was agreed that the efforts by the licensee to free the baskets and meet the requirements of the technical specifications were appropriate, that the substitution of row 8 for row 9 weights provides sufficient assurance for ice condenser operability for restart, and that the licensee's commitment to check weights at mid cycle would offer continued protection for public health and safety during this period. The State of Michigan understands the Commission's actions and has no further comments.

Final No Significant Hazards Determination

In our review of the ice condenser operability with the licensee's inability to weigh many of the row 9 baskets, we determined that the required amount of ice is available in the baskets that could be weighed and that substitution of weights in row 8 for row 9 baskets was appropriate for a one-time basis.

Therefore, in the unlikely event of an accident, the frozen baskets in row 9 would perform as required. The frozen baskets have not produced any detrimental effects, outside of not being able to weigh them, and unloading the frozen baskets to free them would require time to replace the ice. We considered removing the ice from at least one frozen basket to determine the extent or cause of freezing between the baskets but because this would not offer any improvement in the ice condenser operability and would be time consuming, we agreed with the licensee that freeing all the baskets could best be accomplished at the next refueling.

The licensee has committed to a mid-cycle test on ice basket weight to assure no abnormal weight loss. With the ice available now in the baskets, this mid-cycle test would be a reasonable check on the longer term effects of ice basket freezing as well as additional assurance against any unforeseen loss of ice from the baskets.

The Commission's standard for determining whether a significant hazard consideration exists is stated in 10 CFR 50.92. A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with a proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (2) create the possibility of a new or different kind of accident from any accident previously evaluated, or (3) involve a significant reduction in a margin of safety. The most significant accident for which the ice condenser must remove heat from the containment is the loss of coolant accident (LOCA). For this accident, the amount of ice flow is of importance. From the above discussion, we agree that the weights, even with the substitution, remain above the minimum requirements. Therefore the proposed amendment does not involve a significant increase in the probability or consequences of the most significant accident previously analyzed; the LOCA. The freezing between the baskets makes them impossible to weigh but the freezing has not produced any other detrimental effect since the baskets are already held in place together by clevice pins for seismic consideration. The baskets are not free for any extensive movement when not frozen together. The row 9 baskets that are frozen together are likewise not available for excessive movement but are operational as required. We agree that the frozen baskets and the change to substitute row 8 for row 9 weights does not involve a new or different kind of accident from any previously analyzed. The substitution of row 8 for row 9 weights is valid from the weight observed in all the other rows and in the row 9 baskets that could be weighed. The adjacent row 8 baskets provide sufficient assurance that the required total ice is available since gross local ice loss is not observed. The proposed amendment to substitute row 8 for row 9 basket weights does not involve a significant reduction in a margin of safety. Therefore, based on these considerations, the Commission has made a final determination that the amendment request involves a no significant hazards consideration.

ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the installation or use of the facilities' components located within the restricted areas as defined in 10 CFR 20. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has determined that the amendment involves no significant hazards consideration. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR Sec 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: D. Wigginton
C. Tinkler

Dated: April 3, 1987