

August 9, 1995

Mr. E. E. Fitzpatrick, Vice President  
Indiana Michigan Power Company  
c/o American Electric Power Service Corporation  
1 Riverside Plaza  
Columbus, OH 43215

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SUBJECT: NOTICE OF CONSIDERATION OF ISSUANCE OF AMENDMENT TO FACILITY  
OPERATING LICENSE, PROPOSED NO SIGNIFICANT HAZARDS CONSIDERATION  
DETERMINATION, AND OPPORTUNITY FOR HEARING - DONALD C. COOK NUCLEAR  
PLANT, UNIT NO. 1 (TAC NO. M93238)

Dear Mr. Fitzpatrick:

The Commission has requested the Office of the Federal Register to publish the enclosed "Notice of Consideration of Issuance of Amendment to Facility Operating License, Proposed No Significant Hazards Consideration Determination, and Opportunity for Hearing." This notice relates to your application for amendment dated August 4, 1995. The proposed amendment would change the technical specifications on steam generators to allow for repair of hybrid expansion joint sleeves under redefined repair boundary limits.

Sincerely,

Original signed by

Tae Kim, Project Manager  
Project Directorate III-1  
Division of Reactor Projects III/IV  
Office of Nuclear Reactor Regulation

Docket No. 50-315

Enclosure: Notice

cc w/encl: See next page

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Mr. E. E. Fitzpatrick  
Indiana Michigan Power Company

Donald C. Cook Nuclear Plant

cc:

Regional Administrator, Region III  
U.S. Nuclear Regulatory Commission  
801 Warrenville Road  
Lisle, Illinois 60532-4351

Mr. S. Brewer  
American Electric Power Service  
Corporation  
1 Riverside Plaza  
Columbus, Ohio 43215

Attorney General  
Department of Attorney General  
525 West Ottawa Street  
Lansing, Michigan 48913

Township Supervisor  
Lake Township Hall  
P.O. Box 818  
Bridgman, Michigan 49106

Al Blind, Plant Manager  
Donald C. Cook Nuclear Plant  
1 Cook Place  
Bridgman, Michigan 49106

U.S. Nuclear Regulatory Commission  
Resident Inspector's Office  
7700 Red Arrow Highway  
Stevensville, Michigan 49127

Gerald Charnoff, Esquire  
Shaw, Pittman, Potts and Trowbridge  
2300 N Street, N. W.  
Washington, DC 20037

Mayor, City of Bridgman  
Post Office Box 366  
Bridgman, Michigan 49106

Special Assistant to the Governor  
Room 1 - State Capitol  
Lansing, Michigan 48909

Nuclear Facilities and Environmental  
Monitoring Section Office  
Division of Radiological Health  
Department of Public Health  
3423 N. Logan Street  
P. O. Box 30195  
Lansing, Michigan 48909

UNITED STATES NUCLEAR REGULATORY COMMISSIONINDIANA MICHIGAN POWER COMPANYDOCKET NO. 50-315NOTICE OF CONSIDERATION OF ISSUANCE OF AMENDMENT TO  
FACILITY OPERATING LICENSE, PROPOSED NO SIGNIFICANT HAZARDS  
CONSIDERATION DETERMINATION, AND OPPORTUNITY FOR A HEARING

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of an amendment to Facility Operating License No. DPR-58, issued to Indiana Michigan Power Company (the licensee), for operation of the Donald C. Cook Nuclear Plant, Unit 1, located in Berrien County, Michigan.

The proposed amendment would modify technical specifications 4.4.5.4 and 4.4.5.5, on steam generators, to allow for repair of hybrid expansion joint sleeves under redefined repair boundary limits.

The licensee requested this change on an exigent basis because: (1) the change is associated with steam generator tube repairs during the Unit 1 refueling outage currently in progress, and (2) the empirical data compiled from the Kewaunee Nuclear Plant steam generator tube pulls in March 1995 is the primary support for this amendment and the final implications and conclusions from assessment of that data are just now being formulated. The Unit 1 tube repairs are currently scheduled to begin on August 29, 1995.

The NRC staff has reviewed and concurred with the licensee's reasons for requesting this amendment on an exigent basis.

Before issuance of the proposed license amendment, the Commission will have made findings required by the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations.

Pursuant to 10 CFR 50.91(a)(6), for amendments to be granted under exigent circumstances the NRC staff must determine that the amendment request involves no significant hazards consideration. Under the Commission's regulations in 10 CFR 50.92, this means that operation of the facility in accordance with the proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (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. As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

- 1) Operation of the CNP [Donald C. Cook Nuclear Plant] unit 1 in accordance with the proposed license amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

Mechanical testing has shown that the inherent structural strength of the HEJ [hybrid expansion joint] provides sufficient integrity such that the tube rupture capability recommendations of RG [Regulatory Guide] 1.121 are met, even for instances of 100% throughwall, 360° circumferentially oriented degradation in the HEJ hardroll lower transition region. Structural integrity recommendations consistent with RG 1.121 are supplied for all tube degradation 1.1 inch or greater below the bottom of the HEJ hardroll upper transition. Based on test data, a bounding SLB [steam line break] leak rate of 0.033 gpm for indications between 1.1 and 1.3 inch below the bottom of the hardroll upper transition is applied. As the leakage data base is expanded and statistical basis established, this SLB leakage allowance may be reduced. For indications existing greater than 1.3 inch below the bottom of the hardroll upper transition, SLB event leakage can be neglected.

Additional prevention from tube rupture is inherently provided by the HEJ geometry. For RCS [reactor coolant system] release rates to exceed the normal makeup capacity of the plant, approximately 120 gpm, the tube must be postulated to experience a complete circumferential separation at the lower transition, and become axially displaced by 3 to 3.25 inches, resulting in complete geometric disassociation between the tube and sleeve resulting in sufficient flow area to support leakage of 120 gpm. During the 1989

plug top release event at North Anna unit 1, primary to secondary release rates were calculated to be less than 80 gpm, for a flow area approximately 4 times larger than the flow area created by a tube which has axially displaced by about 1.25 to 1.5 inch. Analysis of the steam generator indicates that at a 95% cumulative probability, the tube would experience an axial displacement of less than the 1.1 inch boundary. At this level of axial displacement, a ring of metal to metal contact would remain between the tube and sleeve, and leakage would be far less than 120 gpm. Projected leakage at this point is expected to be less than 2.5 gpm. Therefore, implementation of the proposed repair boundary will not result in tube rupture, even for a tube postulated to not behave as predicted by the available test and pulled tube data.

The proposed technical specification change to support the implementation of the HEJ sleeve tube repair boundary for parent tube degradation in the HEJ hardroll lower transition region does not adversely impact any other previously evaluated design basis accident or the results of accident analyses for the current technical specification minimum reactor coolant system flow rate. Plugging limit criteria are established using the guidance of RG 1.121. Furthermore, per RG 1.83 recommendations, the sleeved tube assembly can be monitored through periodic inspections with present eddy current techniques.

- 2) The proposed license amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

Implementation of the repair boundary will not introduce significant or adverse changes to the plant design basis. Mechanical testing of degraded sleeve joints supports the conclusions of the calculations that the sleeve retains structural (tube burst) capability consistent with RG 1.121. As with [the] initial installation of sleeves, implementation of the alternate criteria cannot interact with other portions of the RCS. Any hypothetical accident as a result of potential tube degradation in the HEJ hardroll lower transition region of the tube is bounded by the existing tube rupture accident analysis. Neither the sleeve design nor implementation of the tube repair boundary defined in Attachment 4 [Westinghouse Electric Corporation Proprietary Report, WCAP-14446] affects any other component or location of the tube outside of the immediate area repaired. In addition, as the installation of sleeves and the impact on current plugging level analyses is accounted for, any postulation that the alternate repair criteria for parent tube degradation in the HEJ hardroll lower transition creates a new or different type of accident is not supported.

- 3) The proposed license amendment does not involve a significant reduction in a margin of safety.

The safety factors used in the establishment of the HEJ sleeved tube alternate repair boundary for the disposition of indications in the hardroll lower transition of potentially degraded parent tubes are consistent with the safety factors in the ASME Boiler and Pressure Vessel Code used in steam generator design. Based on the sleeved tube geometry, it is unrealistic to consider that application of the repair boundary could result in single tube leak rates exceeding the normal makeup capacity during normal operating conditions. The repair boundary established in Attachment 4 has been developed using the methodology of RG 1.121. The performance characteristics of postulated degraded parent tubes of HEJ tube/sleeve joints have been verified by testing to retain structural integrity and preclude significant leakage during normal and postulated accident conditions. Testing indicates that postulated circumferentially separated tubes which the repair boundary addresses would not experience axial displacement during either normal operation or SLB conditions. The existing offsite dose evaluation performed for CNP unit 1 in support of the voltage based plugging criteria for axial ODSCC [outside diameter stress corrosion cracking] at TSP [tube support plate] intersections established a faulted loop primary to secondary leak rate of 12.6 gpm using technical specification dose equivalent Iodine-131 activity levels. Following implementation of the criteria, postulated leakage from all sources must not exceed 12.6 gpm in the faulted loop. Maintenance of this limit will ensure that offsite doses would not exceed the currently accepted limit of 10% of the 10 CFR [Part] 100 guidelines. The repair boundary uses a conservatively established "per indication" leak rate for estimation of SLB leakage. This leak rate is applied to all indications left in service as a result of the tube repair boundary, including non-throughwall indications and a limited number of indications of circumferential throughwall extent.

For a postulated indication whose performance is not characteristic of the test and pulled tube data, and which would experience axial displacement at the 95% cumulative probability value following a postulated SLB event with no operator intervention, leakage would not be expected to result in an uncontrolled release of reactor coolant in excess of normal makeup capacity.

For the three pulled tubes and nearly 1,000 crack indications detected in the field, there were no instances of degradation of elevations, (multiple expansion transitions) on either side of the hardroll expansion in the same tube. This includes no instances of non-detected degradation in the upper hydraulic and hardroll upper expansion transitions for the pulled tubes. One tube was identified in the most recent Kewaunee inspection with two separate circumferential crack elevations within the hardroll lower transition. Rapidly occurring degradation would not be expected at

the upper transitions, based partly on the field inspection results. The available inspection results include two inspection programs (1994 and 1995) at Kewaunee and one at Point Beach unit 2 (1994). Through these three inspection programs, approximately 11,000 HEJ sleeved tubes have been inspected using advanced probes.

The portions of the installed sleeve assembly which represent the reactor coolant pressure boundary can be monitored for the initiation and progression of sleeve/tube wall degradation, thus satisfying the requirements of Regulatory Guide 1.83.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

The Commission is seeking public comments on this proposed determination. Any comments received within 15 days after the date of publication of this notice will be considered in making any final determination.

Normally, the Commission will not issue the amendment until the expiration of the 15-day notice period. However, should circumstances change during the notice period, such that failure to act in a timely way would result, for example, in derating or shutdown of the facility, the Commission may issue the license amendment before the expiration of the 15-day notice period, provided that its final determination is that the amendment involves no significant hazards consideration. The final determination will consider all public and State comments received. Should the Commission take this action, it will publish in the FEDERAL REGISTER a notice of issuance. The Commission expects that the need to take this action will occur very infrequently.

Written comments may be submitted by mail to the Rules Review and Directives Branch, Division of Freedom of Information and Publications Services, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and should cite the publication date and page number of this FEDERAL REGISTER notice. Written comments may also be delivered to Room 6D22, Two White Flint North, 11545 Rockville Pike, Rockville, Maryland, from 7:30 a.m. to 4:15 p.m. Federal workdays. Copies of written comments received may be examined at the NRC Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC.

The filing of requests for hearing and petitions for leave to intervene is discussed below.

By August 29, 1995 , the licensee may file a request for a hearing with respect to issuance of the amendment to the subject facility operating license and any person whose interest may be affected by this proceeding and who wishes to participate as a party in the proceeding must file a written request for a hearing and a petition for leave to intervene. Requests for a hearing and a petition for leave to intervene shall be filed in accordance with the Commission's "Rules of Practice for Domestic Licensing Proceedings" in 10 CFR Part 2. Interested persons should consult a current copy of 10 CFR 2.714 which is available at the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC, and at the local public document room located at the Maud Preston Palenske Memorial Library, 500 Market Street, St. Joseph, Michigan 49085. If a request for a hearing or petition for leave to intervene is filed by the above date, the Commission or an Atomic Safety and Licensing Board, designated by the Commission or by the Chairman of the Atomic Safety and Licensing Board Panel,

will rule on the request and/or petition; and the Secretary or the designated Atomic Safety and Licensing Board will issue a notice of hearing or an appropriate order.

As required by 10 CFR 2.714, a petition for leave to intervene shall set forth with particularity the interest of the petitioner in the proceeding, and how that interest may be affected by the results of the proceeding. The petition should specifically explain the reasons why intervention should be permitted with particular reference to the following factors: (1) the nature of the petitioner's right under the Act to be made a party to the proceeding; (2) the nature and extent of the petitioner's property, financial, or other interest in the proceeding; and (3) the possible effect of any order which may be entered in the proceeding on the petitioner's interest. The petition should also identify the specific aspect(s) of the subject matter of the proceeding as to which petitioner wishes to intervene. Any person who has filed a petition for leave to intervene or who has been admitted as a party may amend the petition without requesting leave of the Board up to 15 days prior to the first prehearing conference scheduled in the proceeding, but such an amended petition must satisfy the specificity requirements described above.

Not later than 15 days prior to the first prehearing conference scheduled in the proceeding, a petitioner shall file a supplement to the petition to intervene which must include a list of the contentions which are sought to be litigated in the matter. Each contention must consist of a specific statement of the issue of law or fact to be raised or controverted. In addition, the petitioner shall provide a brief explanation of the bases of the contention and a concise statement of the alleged facts or expert opinion which support the contention and on which the petitioner intends to rely in proving the

contention at the hearing. The petitioner must also provide references to those specific sources and documents of which the petitioner is aware and on which the petitioner intends to rely to establish those facts or expert opinion. Petitioner must provide sufficient information to show that a genuine dispute exists with the applicant on a material issue of law or fact. Contentions shall be limited to matters within the scope of the amendment under consideration. The contention must be one which, if proven, would entitle the petitioner to relief. A petitioner who fails to file such a supplement which satisfies these requirements with respect to at least one contention will not be permitted to participate as a party.

Those permitted to intervene become parties to the proceeding, subject to any limitations in the order granting leave to intervene, and have the opportunity to participate fully in the conduct of the hearing, including the opportunity to present evidence and cross-examine witnesses.

If the amendment is issued before the expiration of the 30-day hearing period, the Commission will make a final determination on the issue of no significant hazards consideration. If a hearing is requested, the final determination will serve to decide when the hearing is held.

If the final determination is that the amendment request involves no significant hazards consideration, the Commission may issue the amendment and make it immediately effective, notwithstanding the request for a hearing. Any hearing held would take place after issuance of the amendment.

If the final determination is that the amendment request involves a significant hazards consideration, any hearing held would take place before the issuance of any amendment.

A request for a hearing or a petition for leave to intervene must be filed with the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Docketing and Services Branch, or may be delivered to the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC, by the above date. Where petitions are filed during the last 10 days of the notice period, it is requested that the petitioner promptly so inform the Commission by a toll-free telephone call to Western Union at 1-(800) 248-5100 (in Missouri 1-(800) 342-6700). The Western Union operator should be given Datagram Identification Number N1023 and the following message addressed to John N. Hannon: petitioner's name and telephone number, date petition was mailed, plant name, and publication date and page number of this FEDERAL REGISTER notice. A copy of the petition should also be sent to the Office of the General Counsel, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and to Gerald Charnoff, Esq., Shaw, Pittman, Potts and Trowbridge, 2300 N Street, NW, Washington, DC 20037, attorney for the licensee.

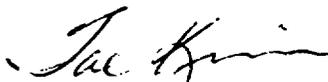
Nontimely filings of petitions for leave to intervene, amended petitions, supplemental petitions and/or requests for hearing will not be entertained absent a determination by the Commission, the presiding officer or the presiding Atomic Safety and Licensing Board that the petition and/or request should be granted based upon a balancing of the factors specified in 10 CFR 2.714(a)(1)(i)-(v) and 2.714(d).

For further details with respect to this action, see the application for amendment dated August 4, 1995, which is available for public inspection at

the Commission's Public Document Room, the Gelman Building, 2120 L Street, N.W., Washington, DC, and at the local public document room, located at the Maud Preston Palenske Memorial Library, 500 Market Street, St. Joseph, Michigan 49085.

Dated at Rockville, Maryland, this 9th day of August 1995.

FOR THE NUCLEAR REGULATORY COMMISSION



Tae Kim, Project Manager  
Project Directorate III-1  
Division of Reactor Projects - III/IV  
Office of Nuclear Reactor Regulation