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RELATED CORRESPONDENCE

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Docket No. 50-289 *DLA*

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MEMORANDUM FOR: The Atomic Safety and Licensing Board for
Three Mile Island, Unit 1
(S. J. Wolfe, O. H. Paris, F. J. Shon)

FROM: John F. Stolz, Director
PWR Project Directorate #6
Division of PWR Licensing-B
Office of Nuclear Reactor Regulation

SUBJECT: BOARD NOTIFICATION (BN 86-06) STEAM GENERATOR REPAIR CRITERIA

By letter dated February 6, 1986, the licensee informed the Board of a new amendment, titled Technical Specification Change Request (TSCR) No. 153 which was submitted to the NRC staff on February 4, 1986, involving a change to the present Steam Generator tube repair criteria that limits depth of defects to 40% of tube thickness. The staff had earlier determined that a previous amendment request on this subject, TSCR 148, required a prior opportunity for a public hearing for which this Board was subsequently established. The licensee wishes to continue with the evaluation of TSCR 148, but has proposed an alternative tube repair criteria in TSCR 153 which the licensee states is independent of TSCR 148.

The Staff agrees with the licensee's statement that the proposed criteria in TSCR 153 is independent of the TSCR 148 submittal. There are some important differences in the two requests. TSCR 148 would allow continued operation with a defect of up to 70% throughwall penetration and 0.4 inches in length. It contains a linear scale allowing a longer length defect of less than 0.8 inches long at a penetration of 40% throughwall. Above a penetration of approximately 60% throughwall, safety margins as described in Regulatory Guide 1.121 cannot be demonstrated using methodologies previously applied by the staff for steam generator tube integrity. Rather the licensee attempts to justify the safety margins using methodologies not previously utilized by the staff for steam generator tube applications.

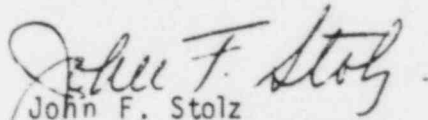
In contrast, TSCR 153 would allow operation with a defect of up to 50% throughwall penetration with a maximum length of 0.55 inches. For defects greater than 0.55 inches in length, the defect must be less than 40% throughwall. Therefore unlike TSCR 148, TSCR 153 is not a sliding scale depending on defect size. The amendment request also has sufficient supporting data to conclude that safety margins, as described in Regulatory Guide 1.121, are satisfied by methodologies previously utilized by the staff for steam generator tube integrity applications. Moreover, this request is for

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an interim period as it is to be effective only until the next refueling outage (scheduled to start in December 1986), while TSCR 148 seeks a permanent change. Based on data to be obtained in the March 1986 steam generator inspection outage and during the next refueling outage, the NRC staff expects the licensee to request a more permanent change if a determination has not been reached on TSCR 148.

The staff proposes to determine that the TSCR 153 request of up to a 50% tube thickness defect limit meets the criteria for a no significant hazards determination (NSHD). Attached is a proposed NSHD which the staff will issue on February 28, 1986.



John F. Stolz
PWR Project Directorate #6
Division of PWR Licensing-B
Office of Nuclear Reactor Regulation

Enclosure: As stated

UNITED STATES NUCLEAR REGULATORY COMMISSIONGPU NUCLEAR CORPORATION, ET AL.DOCKET NO. 50-289NOTICE OF CONSIDERATION OF ISSUANCE OF AMENDMENT TO
FACILITY OPERATING LICENSE AND PROPOSED NO SIGNIFICANT HAZARDS
CONSIDERATION DETERMINATION AND OPPORTUNITY FOR HEARING

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of an amendment to Facility Operating License No. DPR-50, issued to GPU Nuclear Corporation (the licensee), for operation of the Three Mile Island Nuclear Station, Unit No. 1, located in Dauphin County, Pennsylvania.

In accordance with the licensee's application dated February 4, 1986, the proposed amendment would modify the Once Through Steam Generator (OTSG) tube repair criteria for TMI-1. The present TMI-1 Technical Specifications (TSs) require that defects extending greater than 40% of the tube wall thickness shall be repaired. Defects penetrating less than 40% of the tube wall thickness are acceptable regardless of their length. The licensee proposes to change the repair criteria to allow not repairing the tube, under certain circumstances, if it has a defect up to 50% tube wall penetration.

The proposed amendment has certain limitations on the 50% tube wall criteria. First, the 50% tube wall repair criteria do not apply to defects on the outer diameter (secondary side) of the tube or areas on the inner diameter (primary side) of reduced eddy current sensitivity (upper and lower tube sheet, secondary faces and support plate entry and exit locations). In these areas, the present 40% criteria will still apply. Second, in areas

where the 50% tube wall criteria apply, there is a limitation on the maximum allowable length of a defect of 0.55 inches if it is between 40% and 50% penetration of the tube wall. Third, the proposed amendment is only in effect until the next scheduled refueling outage (scheduled for approximately December 1986). Based on the results of steam generator inspections, both the licensee and the NRC staff will evaluate what repair criteria should apply on restart from the refueling outage.

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.

The Commission has made a proposed determination 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.

The general 40% throughwall repair limit for the OTSG has an allowance of 10% throughwall to allow for further corrosion and 10% allowance to account for eddy current accuracies in detecting defects. The NRC staff has concluded, as stated before the Atomic Safety and Licensing Board in the TMI-1 steam generator repair hearings held in July 1984, that it is reasonably certain that corrosion is not an ongoing phenomenon on the primary side of

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the OTSG at TMI-1. By letter dated July 29, 1985, the licensee submitted the final report of its long term corrosion program which again concludes that the corrosion process on the primary side of the OTSG has been arrested. Although the results of this study are still under review by the NRC staff, there is reasonable assurance that in the short term the corrosion mechanism on the primary side has been arrested. In the previous TMI-1 steam generator repair hearings held in 1984, and with this application, the licensee has submitted data which indicates the inaccuracy of eddy current inspections at TMI-1 is 10% or less.

Permitting the corrosion allowance to go to zero would imply that a defect of up to 50% throughwall penetration and unlimited length would satisfy the Standard Review Plan criteria. However, before permitting a permanent change, it would be prudent to verify the corrosion rate predictions and eddy current inspection accuracy. The temporary change proposed by the licensee satisfies these concerns.

The three criteria for making a no significant hazards determination are provided in 10 CFR 50.92. Each criterion is discussed as follows:

(1) Operation of the facility in accordance with the proposed amendment should not involve a significant increase in the probability or consequences of an accident previously evaluated.

The event of concern for this amendment is a steam generator tube rupture. The proposed criteria provide assurance of OTSG tube wall integrity under normal operating and faulted conditions. In particular, the proposed amendment would satisfy the recommendations of Regulatory Guide 1.121 in that

it contains a margin of safety against ductile failure equal to 3.0 times normal loads. Thus, use of the proposed criteria does not involve a significant increase in the probability of occurrence of a steam generator tube rupture event.

In accordance with the recommendations of Regulatory Guide 1.121, the proposed amendment also contains a margin of safety against faulted conditions, specifically under loads associated with the main steam line break accident. Thus, use of the proposed criteria does not involve a significant increase in the consequences of an accident previously evaluated.

(2) Use of the proposed criteria should not create the possibility of a new or different kind of accident from any accident previously evaluated.

Use of the proposed criteria has no bearing on any accident other than the steam generator tube rupture or main steam line break, discussed above. Thus, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

(3) Use of the proposed criteria should not involve a significant reduction in a margin of safety.

The margin of safety for the proposed revised criteria is in accordance with the licensing basis for the existing repair limit. The limiting margin of safety previously approved by NRC is not affected or reduced. The margin separating the proposed revised criteria from the analytical results for normal operating and faulted conditions is in accordance with the guidelines of Regulatory Guide 1.121 and is not significantly reduced by this amendment.

The Commission has provided examples of amendments not likely to involve significant hazards consideration (48 FR 14870). Example (vi) relates to a change which either may result in some increase to the probability or consequences of a previously analyzed accident or may reduce in some way a safety margin, but where the results of the change are clearly within all acceptable criteria with respect to the system or component specified in the Standard Review Plan. The proposed amendment fits this example in that some safety margin may be reduced but the results are clearly within all acceptable criteria specified in the Standard Review Plan. The Commission, therefore, proposes to determine that this amendment does not involve a significant hazards consideration.

The Commission is seeking public comments on this proposed determination. Any comments received within 30 days after the date of publication of this notice will be considered in making any final determination. The Commission will not normally make a final determination unless it receives a request for a hearing.

Written comments may be submitted to the Rules and Procedures Branch, Division of Rules and Records, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Copies of comments received may be examined at the NRC Public Document Room, 1717 H Street, N.W., Washington, D.C.

By _____, 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 petition for

leave to intervene. Request for a hearing and petitions 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. 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 fifteen (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 fifteen (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, and the bases for each contention set forth with reasonable specificity. Contentions shall be limited to matters within the scope of the amendment under consideration. 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 a hearing is requested, the Commission will make a final determination on the issue of no significant hazards consideration. 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 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 involves a significant hazards consideration, any hearing held would take place before the issuance of any amendment.

Normally, the Commission will not issue the amendment until the expiration of the 30-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 30-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 a notice of issuance and provide for opportunity for a hearing after issuance. The Commission expects that the need to take this action will occur very infrequently.

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, D.C. 20555, Attention: Docketing and Service Branch, or may be delivered to the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C., by the above date. Where petitions are filed during the last ten (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 (800) 325-6000 (in Missouri (800) 342-6700). The Western Union operator should be given Datagram Identification Number 3737 and the following message addressed to John F. Stolz: 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 Executive Legal Director, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, and to George F. Trowbridge, Shaw, Pittman, Potts and Trowbridge, 1800 M Street, N.W., Washington, D.C. 20036, attorney for the licensee.

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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 February 4, 1986, which is available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W. Washington, D.C., and at the Government Publications Section, State Library of Pennsylvania, Education Building, Commonwealth and Walnut Streets, Harrisburg, Pennsylvania 17126.

Dated at Bethesda, Maryland, this

FOR THE NUCLEAR REGULATORY COMMISSION

John F. Stolz, Director
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Division of PWR Licensing-B