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SUBJECT: Provides interim rept on Westinghouse Alloy 600 SG mechanical plugs installed at DPC plants,as requested by NRC in response to recent field experience w/Westinghouse Alloy 600 thermally treated mechanical plugs.

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DUKE POWER

January 31, 1995

U.S. Nuclear Regulatory Commission
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Washington, D.C. 20555

Subject: McGuire Nuclear Station Units 1 & 2
Docket Nos. 50-369, 370
Catawba Nuclear Station Units 1 & 2
Docket Nos. 50-413, 414
Oconee Nuclear Station Units 1, 2, & 3
Docket Nos. 50-269, 270, 287
Interim Report on Westinghouse Alloy 600 SG
Mechanical Plugs installed at Duke Power Plants

Gentlemen:

The following status is provided as requested by the NRC staff in response to recent field experience with Westinghouse Alloy 600 Thermally Treated (TT) mechanical plugs. This letter serves to provide the staff with our intended response to this latest field data and our action plan.

Background

In December 1994, Westinghouse notified us of recent field experience with Alloy 600 mechanical plugs that necessitated a revision to the corrosion algorithm presented in WCAP-12244, Rev. 3. This revision in the corrosion algorithm affects our previously developed schedule and action plan for addressing all remaining Alloy 600 TT mechanical plugs in service in our steam generators. Westinghouse has communicated to us that they intend to issue Addendum 3 to WCAP-12244, Rev. 3 in January 1995. In the interim, the original basis for a Justification for Continued Operation provided to us by Westinghouse continues to apply until appropriate actions (as set forth in the action plan) can be taken. We believe that the issue is being effectively managed by the industry and that the issue does not pose an immediate safety concern to the health and welfare of the public.

070075

A001 1/0 Add: Steve Lembek 4tr 1

Response

We intend to comply with the recommendations set forth in the Westinghouse Owner's Group letter OG-94-107, dated December 30, 1994.

We have verified that this issue does not impact McGuire Units 1 and 2, Catawba Units 1 and 2, and Oconee Units 2 and 3 since all installed Westinghouse Alloy 600 TT mechanical plugs have been repaired or replaced in all steam generators. Therefore, this completes our actions with respect to this issue for those units.

At present, Oconee Unit 1 has a total of twenty-four (24) Westinghouse Alloy 600 TT mechanical (ribbed) plugs in our steam generators. All of the plugs are from heat NX-2387. Of the total population which have not been repaired, there are six (6) cold leg plugs in the "A" Once Through Steam Generator and eighteen (18) cold leg plugs in the "B" Once Through Steam Generator. The Westinghouse plugs installed in the hot legs have been repaired.

The algorithm for determining plug life currently predicts the year to repair heat NX-2387 plugs for Oconee as 2091. By reducing the microstructural factor for heat NX-2387 by one-half, the anticipated new year to repair these cold leg plugs will be 2037. The cold leg temperature is 555 degrees fahrenheit. These plugs are installed in Once Through Steam Generators which precludes the possibility of perforation of an adjacent tube. In the event of a plug top release event there is not enough energy to drive the plug top up the tube and eject the plug installed in the hot leg. The Once Through Steam Generator also has partial depth tubesheet expansion which would not allow the plug top to develop enough energy to fully eject; only minor leakage would be expected. We therefore believe that this issue does not pose an immediate safety concern.

We plan to repair these heat NX-2387 plugs currently in service in the cold legs of the Once Through Steam Generators by 1998. The early repair of these plugs will provide an additional margin of safety.

We plan to review Addendum 3 of WCAP-12244, Rev. 3, when issued, to ensure consistency with this response.

I declare under penalty of perjury that these statements are true and correct to the best of my knowledge.

If you have any questions or concerns relative to this response, please contact D.B. Mayes at (704) 382-4211.

Very truly yours,

M. S. Tuckman

M. S. Tuckman
Senior Vice President
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