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DUKE POWER

August 24, 1992

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

Subject: Catawba Nuclear Station, Unit 1
Docket No. 50-413
Technical Specification Amendment
Steam Generator Repair Criteria

Gentlemen:

Pursuant to 10 CFR 50.90 and 50.91, please find attached a proposed amendment to the Catawba Nuclear Station Technical Specifications (TS). This proposed revision changes the repair criteria for the Unit 1 Steam Generators (SG) for Catawba Unit 1 Cycle 7 operation. It is proposed to modify TSs 3/4.4.5, Steam Generators, and 3/4.4.6, Reactor Coolant System Leakage, along with their associated Bases, to allow the use of an interim tube plugging criteria, which will utilize a bobbin probe voltage-based plugging criteria.

Duke Power is requesting that this amendment be processed on an exigent or, if necessary, an emergency basis, according to the provisions of 10 CFR 50.91(a)(5) or (6). The proposed change involves no significant hazards consideration and justification for processing this amendment on an exigent basis is included. Catawba Unit 1 is currently scheduled to enter Mode 4 on or about September 12, 1992, and this amendment will be necessary to declare the Steam Generators operable at that time. Consequently, it will be necessary to issue this amendment without the complete 30 days public comment period in order not to delay startup of the unit.

Attachment 1 is a Discussion of Circumstances and Need for Prompt Action which justifies treatment of the proposed change on an exigent basis. Attachment 2 is the marked-up pages from the Technical Specifications. Attachment 3 contains the analysis which show that the proposed amendment does not involve a significant hazards consideration and an environmental impact analysis.

The NRC's Staff and Duke Power personnel have been in continuous contact over the past few weeks regarding the proposed changes. A formal meeting is scheduled for August 28, 1992, with the NRC. Discussions are ongoing among Duke, Westinghouse, and the NRC concerning the technical justification for the proposed amendment. Further technical

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information will be submitted to the NRC on or before August 31, 1992. In addition, Westinghouse will prepare, and file with the NRC Staff by September 11, 1992, a formal technical justification in the form of a WCAP.

Very truly yours,

M. S. Tuckman

M. S. Tuckman

MHH/tkp

Attachments

M. S. Tuckman, being duly sworn, states that he is Vice President of Duke Power Company, Catawba Nuclear Site; that he is authorized on the part of said Company to sign and file with the Nuclear Regulatory Commission this revision to the Catawba Nuclear Station License No. NPF-35, and that all the statements and matters set forth therein are true and correct to the best of his knowledge.

M. S. Tuckman

M. S. Tuckman, Vice President
Catawba Nuclear Site

Subscribed and sworn to before me the 24th day of Aug, 1992.

Brenda H. Jackson

Notary Public

My Commission expires:

Nov. 21, 2000

bxc: (w/Attachments)

R. L. Gill
D. B. Mayes
W. A. Haller
R. A. Kaye
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NCMPA-1
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SREC
File: CN-801.01
Catawba Document Control: 801.01

ATTACHMENT 1

Discussion of Circumstances and Need for Prompt Action

DISCUSSION OF CIRCUMSTANCES AND NEED FOR PROMPT ACTION

Duke Power Company first found indications of Tube Support Plate (TSP) Outer Diameter Stress Corrosion Cracking (ODSCC) during the End of Cycle (EOC) 4 refueling outage at Catawba Unit 1. During that refueling outage, 17 tubes were plugged due to ODSCC at the support plates. In April of 1991, during the EOC5 refueling outage, 158 tubes were plugged due to tube support plate ODSCC. Based on both Catawba-specific data and industry data, Weibull distributions were developed to predict the occurrence of future defects. The results of that study indicated that, during Unit 1's next scheduled outage (the EOC6 outage), approximately 300 to 400 tubes would require repair because of tube support plate ODSCC.

During this time Duke was aware that other utilities had made application to the NRC for approval of Alternate Plugging Criteria, and that the NRC had granted Tech Spec amendments which allowed use of Interim Tube Plugging Criteria. In addition, Duke, along with Westinghouse and other utilities, was pursuing development of Alternate Tube Plugging Criteria which Duke intended to use at Catawba Unit 1 and McGuire Units 1 and 2. During the Unit 1 EOC6 refueling outage, which is currently underway, Catawba began its inspection of Unit 1 steam generators.

Bobbin coil inspections of the steam generator tubes were completed by August 8, 1992. They found approximately 7000 indications which affected approximately 4500 tubes. When an indication is found using the bobbin coil technique, the Motorized Rotating Pancake Coil (MRPC) is used to confirm the existence of the indication. Use of the MRPC on a sample population of Catawba Unit 1 tubes confirmed the presence of indications in approximately 23% of those tubes sampled. This effort was completed, and the data was available, on August 10, 1992. Using this conformation data and the current criteria required by the Catawba Technical Specifications, Catawba has projected that approximately 1020 tubes would require repair.

When the unanticipated number of indications began to be reported, a meeting was held on August 5, 1992, with Catawba management to discuss the progress of the steam generator inspections and the implications of repairs which would be required under current Tech Specs. If Duke performs MRPC testing on all 4500 tubes, and plugs or sleeves more than 1000 tubes, then the current refueling outage will be extended by approximately 100 days. Performing these inspections and repairs will result in an additional personnel exposure of about 45 person-rem. The additional MRPC inspections alone will cost about $800,000 dollars; to repair by sleeving more than 1000 tubes will cost about 7.2 million dollars. These costs do not include costs of replacement power necessitated by the unplanned extension of the refueling outage. The majority of the repairs must be done by sleeving to maintain the number of tubes plugged at less than the 10% required by Catawba LOCA analysis. In addition, the required sleeving and plugging will reduce Reactor Coolant flow margin.

With this data available, and after balancing these considerations, Catawba management decided on August 11, 1992, to pursue the possibility of amending Unit 1's Tech Specs to

permit the use of interim plugging criteria. On August 11, 1992, Duke requested Westinghouse to begin its analyses to support such a change. That same day, Duke also contacted the NRC Staff to inform them of the results of the steam generator inspection and analyses.

During the August 11, 1992, conversation, Duke and the Staff discussed a preliminary schedule for development and submittal of the proposed Tech Spec change and its justification. A date of August 14, 1992, was tentatively set for submittal of the application, to include the proposed Tech Spec pages and a No Significant Hazards analysis. Because of the complexity of the analyses involved, Duke and Westinghouse were unable to meet this schedule and on August 14, 1992, Duke so informed the Staff. Late the afternoon of August 19, 1992, Duke received draft analyses and submittals for review from Westinghouse. Since that time Duke and Westinghouse have been engaged in an iterative process of reviewing and developing the pertinent documents and analyses to assure, among other things, that the assumptions made by Westinghouse in its analyses are consistent with the accident and dose analyses used by Duke in the licensing of Unit 1. During this entire process, Catawba has been in daily telephone contact with NRC Staff to keep the Staff informed on the progress of this Tech Spec submittal.

In sum, grant of the proposed amendment to the Unit 1 Tech Specs to allow implementation of the Interim Tube Plugging Criteria will, by decreasing the inspection and repair requirements under the existing Tech Specs:

- Save about 100 days in unplanned refueling outage time
- Reduce projected personnel exposures by approximately 45 person-rem
- Save approximately 8 million dollars, and
- Maintain a larger Reactor Coolant flow margin

Therefore, for the reasons set out above, Duke requests that this amendment be processed on an exigent or, if necessary, an emergency basis as provided in 10 CFR 50.91(a)(5) or (6). The steam generator tube inspections and repairs required during the current outage under existing Tech Specs could not have been projected by Duke based on the plant-specific and industry-wide data available prior to the outage. When, during the outage, actual inspections showed that the number of needed inspections and repairs could significantly exceed its projections, Duke took immediate action to develop the Interim Tube Plugging Criteria for Unit 1. The proposed amendment is necessary to meet the schedule for return to operation of Unit 1. This requested Tech Spec amendment has been pursued in a timely manner and in full consultation with the NRC Staff. The need for exigent or, if necessary, emergency processing of this Tech Spec amendment was not because of dilatory behavior on the part of Duke Power Company.