Maine Yankee

RELIABLE ELECTRICITY SINCE 1972

Charles D. Frizzle
President and Chief Executive Officer

February 7, 1997
MN-97-30

CDF-97-24
Proposed Change No. 204

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United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Reference: (a) License No. DPR-36 (Docket No. 50-309)
(b) USNRC Letter to MYAPC dated June 1, 1995, "Summary of May 11, 1995, Meeting on Maine Yankee Steam Generator Inspections and Plans for Repair"
(c) MYAPC Letter to USNRC dated December 19, 1995 (MN-95-139), "Steam Generator Tube Surveillance"
(d) MYAPC Letter to USNRC dated November 29, 1995 (MN-95-132) "Proposed Technical Specification Change No. 169 - Steam Generator Leakage and Tube Surveillance Requirements"

Subject: Proposed Technical Specification Change No. 204
Maine Yankee Steam Generator Tube Surveillance Requirements

Gentlemen:

Maine Yankee hereby submits, pursuant to 10CFR50.90, this application to amend sections of the Maine Yankee Technical Specifications. This proposed change requests a one-time extension of the Steam Generator Tube Surveillance interval as specified in Technical Specification 4.10.C.2.

As a result of an unusually long refueling and maintenance outage in 1995 and two limited-scope outages during the current operating cycle, the next refueling outage has been re-scheduled for no earlier than September 1997 and possibly not until early 1998. During the 1995 refueling and maintenance outage (from February to May), Maine Yankee conducted extensive steam generator tube surveillances. In response to the surveillance results, Maine Yankee conducted a tube sleeving program which was completed by December 10, 1995. Therefore, a conservative calculation of the due date for conducting the next required steam generator surveillance, including a 25 percent allowance in accordance with Technical Specification 4.0.A., indicates that it should occur by June of 1997, prior to the next scheduled refueling outage.

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Maine Yankee has evaluated the proposed change and has determined that it does not: involve a significant increase in the probability or consequences of an accident previously evaluated; create the possibility of a new or different kind of accident from any accident previously evaluated; or involve a significant reduction in a margin of safety. Therefore, the proposed change does not involve a significant hazards consideration as defined in 10 CFR 50.92. The evaluation is included in Attachment A.

Revised Technical Specification Page 4.10-2 is included as Attachment B. Attachment C is provided to allow for efficient processing should proposed change no. 169 be approved and issued prior to the approval and issuance of this proposed change.

This proposed change has been reviewed and approved by the Plant Operating Review Committee. The Nuclear Safety Audit and Review Committee has also reviewed this submittal. A representative of the State of Maine is being informed of this request by a copy of this letter.

We request that the review of this proposed change and the issuance of a Facility License Amendment be completed by June 1997. Accordingly, we request that the amendment become effective immediately upon issuance.

Very truly yours,

Charles D. Frizzle
President and Chief Executive Officer

Attachments

MAW/mwf

c: Mr. Hubert J. Miller
Mr. J. T. Yerokun
Mr. P. J. Dostie
Mr. Clough Toppan
Mr. Uldis Vanags
Mr. D. H. Dorman

STATE OF MAINE

Then personally appeared before me, Charles D. Frizzle, who being duly sworn did state that he is President and Chief Executive Officer of Maine Yankee Atomic Power Company, that he is duly authorized to execute and file the foregoing request in the name and on behalf of Maine Yankee Atomic Power Company, and that the statements therein are true to the best of his knowledge and belief.

Notary Public

Monica W. Fortier, Notary Public
State of Maine
My Commission Expires 5/3/98

ATTACHMENT A

SUMMARY DESCRIPTION OF THE PROPOSED CHANGES

AND

SIGNIFICANT HAZARDS EVALUATION

ATTACHMENT A

SIGNIFICANT HAZARDS EVALUATION

Description of Proposed Change

The proposed change to Technical Specification 4.10 Steam Generator Tube Surveillance provided in Attachment B would allow a one-time extension of the Steam Generator Tube Surveillance interval as specified in Technical Specification 4.10.C.2. This Technical Specification requires that the inspection frequency be increased to at least once per 20 months if the results of the inservice inspection of a steam generator fall in Category C-3 as defined in Technical Specification 4.10.B.

As a result of an unusually long refueling and maintenance outage in 1995 and two limited-scope outages during the current operating cycle, the next refueling outage has been re-scheduled for no earlier than September 1997 and possibly not until early 1998. During the 1995 refueling and maintenance outage (from February to May), Maine Yankee conducted extensive steam generator tube surveillances. The results of this surveillance were presented to the NRC at a public meeting in Rockville, Maryland on May 11, 1995 and were documented as an attachment to Reference (b). The surveillance results placed all three Steam Generators in Category C-3. In response to the surveillance results, Maine Yankee conducted a tube sleeving program which was completed by December 10, 1995. The number of tubes plugged or sleeved in each steam generator was reported to the NRC in Reference (c).

A conservative calculation of the due date for conducting the next required steam generator surveillance can be determined by setting the start of the interval in May 1995. This due date, including a 25 percent allowance in accordance with Technical Specification 4.0.A., is June 1997, which is prior to the next refueling outage as re-scheduled. Therefore, Maine Yankee is requesting an extension of the steam generator tube surveillance interval to the next refueling outage or not later than March 31, 1998, whichever is earlier.

Safety Assessment

This proposed Technical Specification change was prompted by the extended periods of unit downtime during the current fuel cycle and the extent of unit downtime taken to implement the steam generator tube sleeving repairs during the 1995 refueling and maintenance outage following the completion of the eddy current examination conducted in accordance with the tube surveillance program as described in Technical Specification 4.10. This unit downtime has resulted in the liklihood that the 20 (±25 percent) calendar month surveillance interval may elapse prior to the next scheduled refueling outage. This proposed change does not change the bases of the technical specification.

SIGNIFICANT HAZARDS EVALUATION

Safety Assessment (Continued)

Furthermore, the total "inservice" time before the next inspection, defined as the cumulative time during the current cycle when the steam generators actively performed the heat removal function, will not exceed 20 months under this proposed change.

Each of the three steam generators at Maine Yankee is a Combustion Engineering supplied, vertical U-tube heat exchanger, designed in accordance with the ASME Boiler and Pressure Vessel Code, Section III, Class A. Each steam generator is designed with 5703 tubes made of a nickel-chromium-iron alloy.

Steam Generator (SG) tubes are part of the reactor coolant system pressure boundary. SG tube surveillance requirements, including inspection interval limits, were established to ensure that the structural integrity of that portion of the reactor coolant system will be maintained. The program for inservice inspection of steam generator tubes is based on a modification of Regulatory Guide 1.83, Revision 1. The inservice inspection requirements were specified in order to detect and monitor evidence of mechanical damage or progressive degradation due to design, manufacturing errors, or inservice conditions that lead to corrosion. Inservice inspection of steam generator tubing also provides a means of characterizing the nature and cause of any tube or tube sleeve degradation so that corrective measures can be taken.

During the 1995 refueling and maintenance outage extensive eddy current inspections of the steam generators were performed including:

- 100% full length Bobbin (including tubes deplugged for sleeving purposes) in each of the three SG's,
- 100% Motorized Rotating Pancake Coil (MRPC) on the hot leg tube sheet expansion transition zone in each of the three SG's,
- 100% MRPC on the cold leg tube sheet expansion transition zone in each of the three SG's, and
- 100% MRPC on the tightest radius U-bend (tube rows 1 through 12 inclusive) in each of the three SG's.

In addition, the following diagnostic inspection were performed on a portion of the SG tubing for further analysis: Plus Point ECT, fluorescent penetrant, in-situ hydrostatic testing, lamb wave ultrasonic, CECCO ECT and tube pulls.

SIGNIFICANT HAZARDS EVALUATION

Safety Assessment (Continued)

In response to these eddy current inspection results, 100% of the tube sheet hot leg transition area for tubes left in-service in each SG were sleeved. Following the SG tube sleeving repairs, each in service sleeve was eddy current tested using the CECCO-5 probe. The combination of extensive eddy current examinations and full scale sleeving of the tube sheet hot leg transition area for tubes left in service, provides a sufficient degree of confidence that the condition of the steam generator tubes was fully understood to the degree allowed by the state-of-the-art eddy-current technology and that the steam generators were returned to service in a condition free from unrepaired defects.

During the current operating cycle, the primary and secondary coolant systems have been operated within their respective chemistry limits. Defects are unlikely to have occurred and are unlikely to occur during the period of the requested surveillance interval extension.

Maine Yankee has observed minimum primary to secondary leakage in its steam generators during this cycle. Also, Maine Yankee's low administrative and proposed Technical Specification (Reference d) steam generator leakage limits of 50 and 150 GPD respectively, should ensure Maine Yankee shuts down and makes repairs before the stress in any tube exceeds its design criteria.

Significant Hazards Evaluation

The proposed change to the Technical Specifications has been evaluated against the standards of 10 CFR 50.92 and has been determined to not involve a significant hazards consideration. The proposed change does not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated.

   Since the extension time will not increase the total in-service time experienced by the Steam Generators during the current cycle before the next inspection and since the primary and secondary coolant chemistry performance, steam generator primary-to-secondary leakrate performance during the current cycle have been well within their respective limits and since there is no significant pressure or temperature effect during the shutdown mode, the likelihood that a tube or tubes will degrade will not significantly increase. Furthermore the combination of extensive eddy current examinations and full scale sleeving of the tube sheet hot leg transition area for tubes left in service during the 1995 refueling and maintenance outage, provides a sufficient degree of confidence that the condition of the steam generator tubes was fully understood to the degree allowed by the state-of-the-art eddy-current technology and that the steam generators were returned to service in a condition free from unrepaired defects.

SIGNIFICANT HAZARDS EVALUATION

The proposed change, therefore, does not significantly increase the probability or consequences of any previously evaluated accident.

2. Create the possibility of a new or different kind of accident from any accident previously evaluated.

   There are no new failure modes associated with the proposed Technical Specification change. Since the plant will continue to operate as designed during the surveillance extension period, the proposed change will not modify the plant response.

   Therefore, inclusion of the proposed change in the Technical Specifications would not create the possibility of a new or different kind of accident from any previously evaluated.

3. Involve a significant reduction in a margin of safety.

   Since steam generator tube degradation occurs primarily during operation, the surveillance interval extension should have no or little effect on the rate of progression of tube degradation since the total in-service time experienced by the steam generators will not increase.

   Therefore, adoption of the proposed change would not involve a significant reduction in safety margin for the plant.

Maine Yankee has concluded that the proposed change to the Technical Specifications does not involve a significant hazards consideration as defined by 10 CFR 50.92.

Information Concerning an Environmental Assessment

An Environmental Assessment is not required for the Technical Specification changes proposed by this Proposed Change because the requested changes to the Maine Yankee Technical Specifications meet the criteria for "actions eligible for categorical exclusion" as specified in 10CFR51.22(c)(9). The requested changes will have no impact on the environment. The changes do not involve a Significant Hazards Consideration as discussed in the preceding section. The requested changes do not involve a significant change in the types or significant increase in the amounts of any effluent that may be released off-site. Also, the requested changes do not involve a significant increase in individual or cumulative occupational radiation exposure.

Conclusion

Therefore, based upon the reasoning presented above, Maine Yankee has determined that the requested change does not involve a significant hazards consideration.