

June 14, 2001

The Honorable Richard A. Meserve  
Chairman  
U.S. Nuclear Regulatory Commission  
Washington, D. C. 20555-0001

SUBJECT: RESPONSE TO YOUR MAY 7, 2001 MEMORANDUM REGARDING  
DIFFERING PROFESSIONAL OPINION ON STEAM GENERATOR TUBE  
ISSUES

Dear Chairman Meserve:

This report responds to the May 7, 2001 memorandum in which you requested our views on whether immediate actions are needed, other than those already taken by the staff, to deal with steam generator tube issues. In February 2001, we submitted to the Executive Director for Operations (EDO) NUREG-1740 on a differing professional opinion (DPO) concerning alternative repair criteria for steam generator tubes. In that report, we concluded that alternative repair criteria were needed. The alternative repair criteria and the condition monitoring program for steam generator tubes that the staff has endorsed can provide adequate protection of the public health and safety.

We did make recommendations to the EDO directed particularly at improving the technical bases of the alternative repair criteria and the reliability of the condition monitoring program. The more important of these recommendations are:

- Evaluate the potential for progression of damage to steam generator tubes during rapid depressurization caused by a main steamline rupture.
- Monitor performance to search for systematic deviations from the linear bound on the nonlinear processes of crack initiation and growth through steam generator tube walls.
- Improve the database for the correlation of leakage with voltage for 7/8" tubes.
- Improve the analysis and understanding of radioiodine behavior during design basis accidents.

- Develop a better understanding of the behavior of degraded steam generator tubes under severe accident conditions.

We did not identify issues that demanded immediate, pre-emptory resolution for the alternative repair criteria and the condition monitoring program to continue. We felt that the recommended activities could be done within the context of the existing Action Plan on Steam Generators. Research needed to act upon the recommendations could be prioritized and pursued within the context of the current research program. We did encourage the staff to determine promptly whether the effects of forces associated with depressurization during a main steamline break constitute a generic safety issue and, if so, to resolve this issue expeditiously.

We find the approach the EDO has taken so far in response to our recommendations to be appropriate. We look forward to reviewing the details of the staff's responses to our recommendations.

Dr. William J. Shack did not participate in the Committee's deliberations regarding this matter.

Sincerely,

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George E. Apostolakis  
Chairman

References:

1. Memorandum dated May 7, 2001, from Richard A. Meserve, NRC Chairman, to George Apostolakis, ACRS Chairman, Subject: Differing Professional Opinion on Steam Generator Tube Issues.
2. U. S. Nuclear Regulatory Commission, Advisory Committee on Reactor Safeguards, NUREG-1740, "Voltage-Based Alternative Repair Criteria," February 2001.
3. U. S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation, Action Plan on Steam Generators.