

*A. Trammell*

APR 18 1980

MEMORANDUM FOR: Chairman John F. Ahearn  
 Commissioner Victor Gilinsky  
 Commissioner Richard Kennedy  
 Commissioner Peter Bradford  
 Commissioner Joseph Hendrie

FROM: Harold R. Danton, Director  
 Office of Nuclear Reactor Regulation

THRU: W. Dircks, Acting Executive Director for Operations

SUBJECT: PARTICIPATION OF CONSULTANTS IN REVIEW OF POINT  
 BEACH 1 STEAM GENERATOR TUBE DEGRADATION

Consultants from Brookhaven National Laboratory (BNL) and Oak Ridge National Laboratory (ORNL) are assisting the Division of Operating Reactors, NRR in their evaluation of Point Beach Unit 1 steam generator tube degradation. BNL is providing assistance primarily in the areas of metallurgy and corrosion while ORNL is providing assistance in the area of eddy current testing and inspection techniques. Both consultants have been involved in this subject since late last year.

BNL and NRC staff members went to the Westinghouse facilities in Pittsburgh on two separate occasions to review the results of laboratory examinations of the steam generator tubes removed from Point Beach Unit 1 during the October 1979 and March 1980 inspections. These reviews included detailed discussions with the Westinghouse personnel who performed the laboratory examinations and review of the results from non-destructive and destructive tube examinations. BNL personnel have also reviewed and commented on the safety evaluations and operating conditions presented by the NRC staff to authorize and ensure safe operation of Point Beach Unit 1.

Wisconsin Electric and Power Company has committed to providing by April 30, 1980 a section or sections of the tubes removed from Point Beach Unit 1 during the recent outage to BNL for independent laboratory examinations. DOR has asked BNL to perform these examinations in order to confirm results of the Westinghouse examinations and investigate the possible corrosion mechanisms which could be causing the tube degradation.

An ORNL expert in eddy current testing has been assisting DOR in the evaluation of inspection results. In January 1980 he met with NRC staff members and Westinghouse personnel in Pittsburgh to review the results of the October 1979 steam generator inspection, specifically regarding the five eddy current indications discovered at and above the top of the tubesheet. During this meeting the Westinghouse eddy current equipment and actual eddy current tapes from the October inspection were examined.

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In March 1980 the ORNL consultant traveled to Point Beach Unit 1 to observe inspection of the steam generators in progress. During their visit, the Westinghouse field office for ECT was visited and examined and the data evaluation was observed and reviewed. Lengthly discussions were conducted with the Zetec data evaluations and re-evaluations of select tubes were performed. The ORNL consultant provided input to the April 1980 safety evaluation report.

In addition, a section of tube removed from the Point Beach Unit 1 steam generators during the October outage is being shipped from Westinghouse to ORNL for laboratory examinations. These examinations will evaluate the electrical conductivity and permeability of a section of corroded tube from the tubesheet crevice. Hopefully these evaluations will provide a better understanding of the ability of eddy current testing to detect deep crevice corrosion.

In conclusion, the staff has had the assistance of some of the best talent available in conducting their evaluation of the Point Beach Unit 1 steam generator tube degradation. Both BNL and ORNL are being supplied with specimens removed from the steam generators and both confirmatory and investigative examinations will be independently performed.

Harold R. Denton, Director <sup>4-14-80</sup>  
Office of Nuclear Reactor Regulation

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