

April 9, 1982

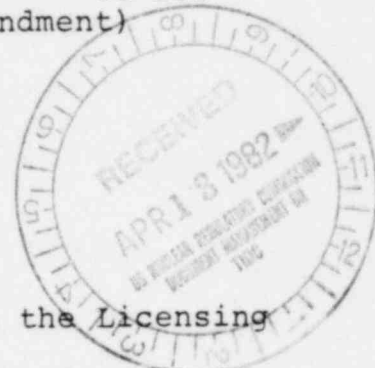
UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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Before the Atomic Safety and Licensing Board

In the Matter of)
)
WISCONSIN ELECTRIC POWER COMPANY) Docket Nos. 50-266
) 50-301
(Point Beach Nuclear Plant,) (OL Amendment)
Units 1 and 2)

LICENSEE'S RESPONSE TO QUESTIONS
IN MEMORANDUM AND ORDER
DATED APRIL 7, 1982



Following are Licensee's responses to the Licensing Board's questions in the Memorandum and Order dated April 7, 1982.

QUESTION 1

Are any of the 12 tubes sleeved as part of the authorized tube-sleeving demonstration project dented? (What basis has been used to answer this question?)

RESPONSE

Of the twelve tubes which were sleeved during the fall 1981 sleeving demonstration program on Unit 1, only one tube, R26C53, had been included in past denting inspection programs. This tube exhibited minor dents of 0.003" and 0.005" at the first and second tube support plates, respectively, on the hot leg side. While the remaining eleven tubes have not been inspected previously for denting, other tubes in the area of these tubes have shown indications of denting. Thus, it is reasonable to assume that the eleven sleeved tubes may also have experienced denting. Unit 2 steam generators have

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also experienced denting, as has been reported in eddy current inspection results transmitted to NRC.

QUESTION 2

If any of the 12 tubes do suffer from denting, is there any substantial safety risk associated with the presence of the degree of denting present? (Please provide reasons for this conclusion.)

RESPONSE

Sleeving at Point Beach is unrelated to denting of steam generator tubes. It neither exacerbates nor ameliorates safety considerations relating to denting. The sleeving of tubes which may have experienced any degree of denting is purely coincidental and does not affect safety.

Denting of steam generator tubes at the intersection of the tube and the carbon steel tube support plates is caused by the formation of magnetite in the annulus between the tube and tube support plate hole. The magnetite results from corrosion of the carbon steel support plate by concentration of contaminants from the steam generator bulk water. If the source of the contaminants (principally chlorides) is not controlled or eliminated, the growth of magnetite continues and the tube-tube support plate annulus becomes filled with magnetite. Further magnetite growth results in deformation of the tube (denting) and, in more severe cases, deformation of the tube support plate itself. While there have been indications of tube denting in both Units 1 and 2, denting has not progressed significantly, if at all, in either unit. Inspections of tube support plates in Unit 1 and Unit 2 steam

generators have shown no significant tube support plate deformation in either unit.

Sleeving, as performed at Point Beach, will not affect denting. Sleeving of steam generator tubes is proposed as a repair technique for tubes which have experienced corrosion in the tubesheet crevice or slightly above the tubesheet. Sleeving is not used as a remedy for denting. The sleeves do not extend to the tube support plates and, thus, would not span portions of the tubes which may have experienced denting. (It should be noted that the concentration of steam generator contaminants in the tube-tube support plate annuli is caused by the high heat flux and restricted flow through the annuli. Insertion of sleeves to span these regions would significantly reduce the heat flux in the sleeved regions and the consequence concentration of contaminants in the annuli. Thus, if a sleeve were to span an area which has experienced denting, it would be expected to reduce, rather than increase, the likelihood of dent progression.)

Respectfully submitted,
SHAW, PITTMAN, POTTS AND TROWBRIDGE

By: 

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Dated: April 9, 1982

Before the Atomic Safety and Licensing Board

AFFIDAVIT OF DAVID K. PORTER

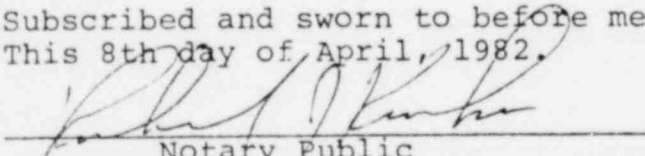
1. I am Manager of the Nuclear Engineering Section of the Nuclear Power Department of Wisconsin Electric Power Company. I graduated from the University of Illinois with a bachelor of science degree in electrical engineering in 1965. I then spent four years in the U. S. Navy's Nuclear Power Program which included one year in training and three years of reactor operator experience as an engineering officer aboard a nuclear-powered cruiser. I joined the Nuclear Projects Office of Wisconsin Electric in 1969 and have been involved in various engineering assignments relating to the Point Beach Nuclear Plant and preconstruction nuclear projects since that time. As Manager of the Nuclear Engineering Section, I am responsible for providing technical, licensing, and engineering support to the Point Beach Nuclear Plant. These responsibilities include the technical review of plant equipment and repair specifications,

and implementation of U. S. Nuclear Regulatory Commission ("NRC") licensing actions involving Wisconsin Electric's operating nuclear facilities. I am personally familiar with Wisconsin Electric's activities concerning inspection and repair of the Point Beach Nuclear Plant steam generators and our application before the NRC with respect to these activities.

2. I have prepared or participated in the preparation of "Licensee's Response To Questions In Memorandum and Order Dated April 7, 1982", dated April 8, 1982; the information contained in those responses is true and correct to the best of my knowledge and belief.


David K. Porter

Subscribed and sworn to before me
This 8th day of April, 1982.


Notary Public
My Commission Expires is permanent


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CERTIFICATE OF SERVICE

I hereby certify that copies of "Licensee's Response to Questions in Memorandum and Order Dated April 7, 1982" was served this 9th day of April, 1982 by deposit in the U.S. mail, first class, postage prepaid to those on the attached Service List.


Bruce W. Churchill, P.C.

Dated: April 9, 1982

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NUCLEAR REGULATORY COMMISSION

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WISCONSIN ELECTRIC POWER COMPANY

(Point Beach Nuclear Plant,
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