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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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 MOTION FOR AUTHORIZATION FOR INTERIM OPERATION OF UNIT 1 WITH STEAM GENERATOR TUBES SLEEVED RATHER THAN PLUGGED

I. Introduction

By letter dated July 2, 1981, Wisconsin Electric Power Company ("Licensee") filed with the Director of the Office of Nuclear Reactor Regulation Technical Specification Change Request No. 69. In that Request, Licensee seeks amendment of Facility Operating Licenses DFR-24 and DPR-27 (for Point Beach Units 1 and 2, respectively) to allow operation with steam generator tubes which leak or have degradation exceeding 40% of the nominal tubewall thickness (defined in the current Technical Specifications as the "plugging limit"), but which have been repaired by "sleeving".¹ The current Technical Specifications

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1 The "sleeving" process involves the insertion and joining of "sleeves" (tubes of slightly smaller diameter) inside steam gen-

require that such tubes be "plugged," which removes the tubes from service.

A petition requesting a hearing was filed by Wisconsin's Environmental Decade ("Decade") on July 20, 1981, in response to Licensee's July 2 letter. The NRC gave notice of the proposed issuance of the amendments, including opportunity for a hearing, at 46 Federal Register 40359 (August 7, 1981).

Licensee proposes to conduct full-scale sleeving programs encompassing a significant number of tubes in the Unit 1 and Unit 2 steam generators. As explained in Licensee's July 2 letter, and further described in Licensee's August 6, 1981 answer to Decade's petition, Licensee will be conducting a sleeving demonstration program at Point Beach Unit 1 during the fall 1981 refueling outage, prior to undertaking the full-scale sleeving programs at Units 1 and 2. This sleeving demonstration program will include sleeving of up to 12 tubes. Up to six of the sleeved tubes will have degradation exceeding the plugging limit, and the others will have indications less than the plugging limit. Anticipating that any hearing on Licensee's July 2 Technical Specification Change Request will not be completed, and a decision issued, prior to the date on which Licensee plans to

(continued)

erator tubes. These sleeves bridge the degraded or defective portion of the original tube. Sleeving techniques have been used in the repair of the San Onofre Unit 1 steam generators and at the R.T. Ginna facility.

complete the demonstration program and close up the steam generators in preparation for return to power, Licensee here moves the Board for authorization for Unit 1 to resume power operation after the outage with up to six tubes which exceed the plugging limit, but which have been repaired by sleeving rather than plugged, pending the outcome of the hearing on Licensee's July 2 amendment request.

The planned demonstration program is described below. The supporting Affidavit of David K. Porter, Manager of the Nuclear Engineering Section of the Nuclear Power Department of Wisconsin Electric Power Company, is attached as Attachment 1.²

II. Discussion

In preparation for the possible full-scale repair of steam generator tubes at Point Beach, Licensee will be conducting a sleeving demonstration program at Unit 1 during the fall 1981 refueling outage scheduled to begin October 9, 1981. The primary objective of the demonstration program is to perform and evaluate

2 The Public Service Commission of Wisconsin ("PSCW") has recently completed extensive hearings addressing, inter alia, sleeving of the Point Beach steam generator tubes. Decade and Licensee participated actively in that hearing. Although many of the topics taken up in that hearing are not at issue here, the PSCW's August 11, 1981 decision contains a particularly succinct description of the steam generator tube history of Point Beach, as well as a good description of steam generator tubes and the sleeving process. A copy of the PSCW decision is attached as Attachment 2, for the information of the Board.

the various processes and procedures involved in sleeving on a small number of tubes (up to 12) prior to an outage for a full-scale sleeving operation. The tubes sleeved in the demonstration program will be tubes with eddy current indications of degradation. Six or fewer of the tubes will have degradation exceeding the plugging limit. Some of the tubes to be sleeved are currently plugged.³

Licensee would prefer -- pending the Board's decision on Licensee's July 2 amendment request -- to leave the repaired (sleeved) tubes unplugged and in service for operation, to avoid unnecessary impediment to reactor coolant system flow. However, as noted above, current Technical Specifications prohibit plant operation with tubes having indications greater than the plugging limit, unless those tubes are plugged. Accordingly, following the demonstration program, Board authorization will be necessary for resumption of power operation at Unit 1 with up to six tubes having indications exceeding the plugging limit, but which have been repaired by sleeving, and are not plugged. If such operation is not authorized by about November 11, 1981, the date on which Licensee plans to complete the demonstration program and close up the steam generators in preparation for return to power

³ The two steam generators of Unit 1 have a total of 6520 tubes, of which approximately 800 are plugged. The full-scale sleeving program contemplated for Unit 1 will involve sleeving almost two-thirds of the tubes, both to repair tubes which have been plugged and to maintain degraded tubes in service.

in early December, Licensee will plug (or re-plug) those sleeved tubes which, prior to being repaired, had exceeded the plugging limit.

The operation of Unit 1 with up to six tubes which are degraded beyond the plugging limit and have been repaired by sleeving but are not plugged will not endanger the health and safety of the public. Sleeving will not increase the probability of occurrence or consequences of an accident or malfunction of equipment important to safety. The purpose of the sleeving process -- i.e., the insertion and joining of a tube inside a tube -- is to reduce the potential for tube leakage or rupture, by providing a second barrier to tube leakage or rupture which is similar to the original unflawed tube. The attached Affidavit of David K. Porter describes the sleeving process, and explains how it enhances steam generator tube integrity, rather than reduces it.

The Board need not now make its ultimate findings on the acceptability of sleeving in general as a repair alternative to plugging, nor is Licensee asking for such a finding in this motion. The limited scope and duration of the sleeving demonstration program, together with the stringent surveillance requirements and operating limitations currently imposed on Licensee, by themselves provide adequate assurance that the health and safety of the public will not be compromised by granting Licensee's motion.

No more than six tubes, which otherwise would require plugging, will be repaired by sleeving. This is a small fraction of the 3260 tubes in one Point Beach Unit 1 steam generators. In each case, the degraded portion of the tube will be bridged by the Inconel 600 sleeve, which will be bonded to the tube above and below the imperfection. The repaired tubes will be pressure tested and examined by non-destructive testing prior to startup to verify the integrity of the bonds between the sleeve and the tube wall.

The repaired tubes are not expected to develop leaks which would approach the acceptable primary-to-secondary leak rates specified by NRC for the Unit 1 steam generators. However, even assuming, arguendo, that all six repairs failed in their expectations, and leaks were to develop, they would develop gradually and be detected by continuous monitoring. Unusually stringent surveillance requirements and operating limitations have been placed on Point Beach operation by the Commission's Confirmatory Order of November 30, 1979, as amended January 3, 1980, and April 4, 1980. The Order was issued after an extensive Staff review and safety evaluation of steam generator tube integrity. If leakage is present in excess of specified limits, the Order mandates additional steam generator inspections and testing, including requirements to shut down and perform primary-to-secondary hydrostatic tests, secondary-to-primary hydrostatic tests, and eddy current examinations to monitor tube

degradation. It imposes more stringent limits on primary coolant activity and permissible steam generator tube leakage rates. In addition to the requirement in the Technical Specifications to plug tubes which show greater than 40% degradation, the Confirmatory Order requires close surveillance of primary-to-secondary leakage, with immediate shutdown for plugging and further examination in the event of closely defined increases in primary-to-secondary leakage, upward trends in such leakage or identified leaking tubes.⁴ The steam generator tubes, including the six (or fewer) repaired tubes with degradation in excess of the plugging limit, would be under close and continuous surveillance. If leakage were to occur in excess of the minimum allowable limit, Unit 1 would immediately be shut down, and all tubes, including the sleeved tubes, would be inspected and tested for leakage or degradation, and corrective action would be taken. Thus, operation with up to six tubes which have been repaired, rather than plugged, would not result in undue risk to the health and safety of the public.

It should also be emphasized that the authorization requested by Licensee is temporary in nature. Such authorization would be superseded by the Board's Initial Decision in this proceeding, and is subject to rescission or modification by the

⁴ Copies of the Confirmatory Order and subsequent amendments, including the Staff's accompanying safety evaluations, are attached as Attachments 3-7.

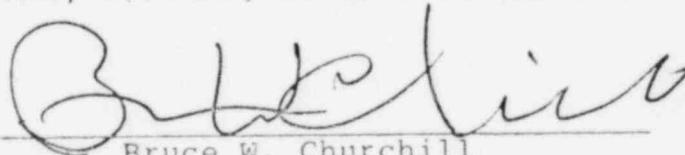
Board at any time during the course of the hearing. The limited duration of operation, together with the ongoing jurisdiction of the Board, provide further assurance that the health and safety of the public will be protected.

III. Conclusion

For all of the reasons stated above -- including the limited nature and duration of the relief requested and the stringent surveillance requirements and operating limitations imposed by the Commission's Confirmatory Order, as amended -- interim operation of Point Beach Unit 1 with up to six tubes which have exceeded the plugging limit, but which have been repaired rather than plugged, will not endanger the public health and safety. Accordingly, Licensee requests the Board to authorize the Staff to amend the Technical Specifications of Facility Operating License DPR-24 to enable such interim operation.

Respectfully submitted,

SHAW, PITTMAN, POTTS & TROWBRIDGE



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