

Docket No. 50-219

DEC 10 1973

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Senator Clifford P. Case  
United States Senate

Dear Senator Case:

This is in response to your communication of November 20, 1973, transmitting Mr. Kurtz's letter of November 15, 1973, regarding the operation of the Oyster Creek Nuclear Generating Station.

The inadequacies in the radiological monitoring program mentioned by Mr. Kurtz are well known to the Commission. These have mainly to do with sampling methods and frequency and will be corrected in the forthcoming program of Environmental Technical Specifications for the Oyster Creek Station which will comprise Appendix B of the Full Term Operating License.

With regard to Mr. Kurtz's questions concerning the effect of dredging spoils containing radioactive materials on the health and safety of residents and marine owners, the Commission is currently reviewing the State of New Jersey comments on the Oyster Creek Draft Environmental Statement cited by Mr. Kurtz, along with other studies pertinent to this matter. Resolution of this question is expected in the near future, and our findings along with a description of any actions which are deemed appropriate will be sent to you at an early date.

Sincerely,

Original signed by:  
Roger S. Boyd

*RSA* A. Giambusso, Deputy Director  
for Reactor Projects  
Directorate of Licensing

Enclosure:  
Ltr dtd 11/15/73 from  
H. Kurtz to A. Giambusso

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*RSA*

OFFICE	L:EP-4	L:EP-4	OGC	L:EP LKD	L:RP	OCR
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DATE	12/3/73	12/4/73	12/1/73	12/6/73	12/6/73	12/17/73

# Jersey Central Power & Light Company



MADISON AVENUE AT PUNCH BOWL ROAD • MORRISTOWN, N. J. 07960 • 201-539-6111

MEMBER OF THE  
General  Public Utilities Corporation

December 7, 1973

Mr. A. Giambusso  
Deputy Director for Reactor Projects  
Directorate of Licensing  
United States Atomic Energy Commission  
Washington, D. C. 20545



Dear Mr. Giambusso:

Subject: Oyster Creek Station  
Docket No. 50-219  
Main Steam Isolation Valve Inspection and Repair

In a letter dated September 21, 1973, we reported that main steam isolation valve NS03B failed to meet the acceptable leakage rate criterion specified in Technical Specifications 4.5.F.1.D, in a test conducted during the September 1973 plant outage. The letter also outlined a course of action that would be followed to visually and dimensionally check valve NS03B to determine the failure mechanism. The purpose of this letter is to submit a summary report on the results of the extensive inspection conducted and on the repairs that were made to renovate the valve.

Before proceeding with the inspection of the valve, representatives of General Electric Company, Atwood & Morrill Company and MPR Associates met with Jersey Central Power & Light Company personnel to discuss possible failure mechanisms and methods of repair. Until the latest development, it was believed that the lack of straightness of the valve stem was responsible for the failure of NS03B to pass the air tests subsequent to power operation. However, the installation of a specially manufactured stem in the valve during the June 1973 plant outage diminished the probability that a bowed stem was the cause of the recurring leakage problem. Procedures and tests for the disassembly and re-assembly of the valve and for obtaining the desired measurements and dimensional data were developed in a joint effort with the vendor, Atwood & Morrill Company. An Atwood & Morrill representative was present for the entire inspection and repair program.

Prior to disassembling the valve, special instruments were installed to indicate and/or record ambient temperature, valve body temperature, stem travel, and operator air and oil pressures. The valve was opened and closed several times to verify the repeatability of measurements. Data was obtained to enable plots of operator air pressure versus open-close stem travel to be made. During the disassembly of NS03B, dimensional data was obtained on all

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critical parts. The data recorded during the inspection along with the procedures followed for the disassembly and reassembly of the valve are on file at the plant. Copies of this information will be made available upon request.

An analysis of the inspection data revealed that there was excess clearance between the main poppet guides and the valve body guides. The diameter of the circle formed by the body guides was measured at three elevations in the casing. The dimensions recorded were as follows: Top, 23.515 inches; Middle, 23.510 inches; and Bottom, 23.504 inches. The diameter of the circle formed by the main poppet guide pads was found to be 23.456 inches. It is believed that the large clearance between poppet and body guides, as much as .048 inches near the valve seat, permitted excessive misalignment of the poppet on the valve seat, a condition that is not favorable for a tight seal. The desired guide clearance is .027 to .030 inches on the diameter.

The repair consisted of building up the main poppet guide pads to give the desired clearance. First, the guide lugs were cleaned by machining and then built up 1/8" with Stellite 21 overlay. The guide pads were then remachined and dye checked. The diameter of the circle formed by the remachined guide pads is 23.4815 inches. The weld overlay was done in accordance with Atwood & Morrill Company Specification No. PTH-3, Revision No. 8, entitled "Procedure Specification for Gas Tungsten Arc Hard Surfacing of Valve Trim". An Atwood & Morrill welder, certified to the procedure, performed the overlay work. The fix was made to the poppet guide pads rather than to the body guides, which indicated wear, because there was no mechanism available for dimensional boring of the body guides.

Additional work performed on valve NS03B to improve sealing performance consisted of machining and lapping the pilot poppet and the main poppet seats to 46° for line contact, and machining 1/4" off of the spring seating surface on the stem spring plate to reduce the possibility of metal-to-metal contact of the spring coils while in compression.

Following the completion of the maintenance and repair work on main steam isolation valve NS03B, tests were initiated to determine the leakage rate of each of the four main steam isolation valves. The two valves, NS04A and NS04B, outside the drywell failed to meet acceptable leakage rate requirements. (Reported to the Directorate of Licensing by letter dated October 12, 1973). The leakage path in both valves was identified as being the stem packing. As a precautionary measure, all four isolation valves were repacked. In subsequent tests, the leakage rate of each of the four valves was found to be nondetectable, i.e., <0.1 SCFH.

Two major problems have not been identified and corrected in main steam isolation valve NS03B. The fixes consisted of (1) replacing the original valve stem with one that was manufactured to new specifications and (2) reducing the poppet guide to body guide clearance. We expect that the performance of this valve will be much improved in the future.

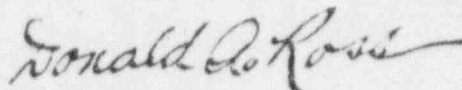
Mr. Giambusso

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December 7, 1973

Enclosed are forty copies of this report.

Very truly yours,



Donald A. Ross  
Manager, Nuclear Generating Stations

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cc: Mr. J. P. O'Reilly, Director  
Directorate of Regulatory Operations, Region I