

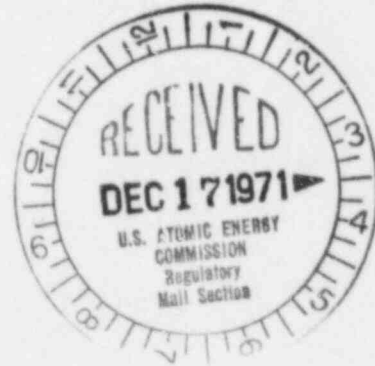
Jersey Central Power & Light Company



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

December 14, 1971

Dr. Peter A. Morris, Director
Division of Reactor Licensing
United States Atomic Energy Commission
Washington D. C. 20545



Dear Dr. Morris:

Subject: Oyster Creek Station
Docket No. 50-219
Failure of Main Steam Isolation Valve NS03B
to Fully Close

The purpose of this letter is to provide you with an interim report regarding the failure of Main Steam Isolation Valve NS03B to fully close during a surveillance test to measure valve closure time.

As a result of the manual reactor scram of November 16, 1971, the main steam line pressure dropped below 850 psig. This event precipitated the automatic closure of the four main steam isolation valves, all of which operated successfully. While performing the required timing test of the main steam isolation valves before reactor startup, it was observed that the closed indication for inside valve NS03B failed to initiate. An immediate investigation was begun to determine the cause.

After concluding that the indicator circuit logic was not the cause of the failure, the drywell was deinerted and a physical inspection was made of the operation of valve NS03B. It was observed that the valve operator lacked approximately 1-1/2 inches of travel to accomplish full valve closure. The coupling between the valve and the operator was then broken and the valve stem dropped the required 1-1/2 inches to achieve full closure, thus locating the problem in the valve operating mechanism.

The dashpot section of the valve operator was dismantled, and it was found that a cast iron cushion spud had been crushed with the pieces becoming wedged between the bottom of the dashpot piston and the base of the cylinder. At this time an investigation was made of the remaining components of the operator for possible damage and none was found.

The cause of the valve failure is attributed to the spud fragments becoming wedged between the dashpot and the cylinder bottom. The forces which led to the spud failure appear to be the result of a

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shock wave applied to the valve plug when it was opened during preparation for reactor startup. This shock wave was produced by not equalizing the pressure across the inside valve before opening it. The shock wave was transmitted to the cast iron cushion spud by the valve stem causing it to fail in compression. It is suspected that this failure was the result of a single impact shock rather than many small shocks.

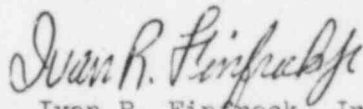
The remaining three isolation valves were inspected for failed cushion spuds. It was found that valve NS03A, also an inside valve, had a cushion spud failure, but it did not hamper the valves closing ability. New cushion spuds were fabricated and installed in valves NS03B and NS03A. The repaired valves were exercised, timed, and proven to operate satisfactorily.

Pieces of the cushion spud are being sent to Hydro-Line Manufacturing Company for more comprehensive analysis as a means to confirm the cause of its failure. Based upon this analysis, the remedial actions described above will be reevaluated if necessary. In addition to this, the cushion spuds on all four valve dashpots will be reexamined at the next refueling outage in April 1972 or at an earlier date if plant conditions become amenable to such an inspection. Further, proper valve operating procedures have been reviewed with all operating personnel.

We will advise you of the final results of our evaluation as soon as they are available.

Twenty-five copies of this letter are enclosed.

Very truly yours,



Ivan R. Finrock, Jr.
Manager, Nuclear Generating Stations

IRF/pk

cc: Mr. J. P. O'Reilly, Director
Division of Compliance, Region I