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Jersey Central Power & Light Company

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

April 21, 1970



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

SUBJECT: OYSTER CREEK UNIT NO. 1 CONTROL ROD DRIVES

Dear Dr. Morris:

In consideration of the continued interest in the performance of the control rod drives at Oyster Creek that originated with the filter plugging problem reported to you on October 14, 1969, and the subsequent conclusions resulting from operating experience during the start-up test program, letter of March 6, 1970, it has been determined that a present status report be submitted regarding this subject.

To date, all of the monitored drives have scrambled within the time limits specified, and none have exceeded the 90 percent insertion time of 3.6 seconds as referred to in your letter of November 6, 1969. However, from a maintenance standpoint, there is evidence of seal leakage as exhibited by drive performance monitoring during the normal withdraw cycle of the drives. This has been determined by increased stall flows and the increase of drive water pressure required to start the drive in its withdraw motion. The most recent experience as observed on a scram which occurred on April 7, 1970, was that upon completion of the scram, three drives, 14-35, 18-35 and 42-27, settled at notch "02" position, six inches short of full insertion, instead of the "00" position. Prior to the scram, two of these drives had been fully withdrawn from the core, and the other was partially withdrawn. Unfortunately, none of these three drives were included in the twenty-six monitored drives (the two fully withdrawn have since been included in the monitored group). Each of the above three drives was inserted to the "00" position with the normal insert signal, then withdrawn to the full out position and scrambled. In each case, the 90 percent insertion time was within limits; however, each drive again settled in the "02" position. By the fact that each drive moved to the "00" position and remained there when inserted by the operator, it was evident that there was no physical restriction which would limit the ability of the drive to move to the full in position. This problem was reviewed with the General Electric Company; and as a result of their experience, we have been advised that this phenomenon is attributed to seal leakage.

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Dr. Peter A. Morris

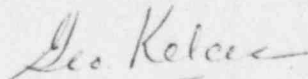
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April 21, 1970

Monitoring of stall flows and drive pressures continued with an increased number of drives exhibiting greater stall flows. On April 14, 1970, another scram occurred, and all monitored scram times were within accepted limits, including drive Nos. 18-35 and 42-27. However, only one drive, No. 18-35, stopped in the "02" position; all others were at "00." Prior to restart, the above three questionable drives were retested with the result that all three again stopped in the "02" notch position. During start-up, drive No. 42-19 exhibited difficulty in the withdraw direction. It was inserted to the "00" position and declared inoperable.

As a result of the above observations and the apparent continued increase in operational problems with the control rod drives, it was decided to shut the unit down on the weekend of April 18, 1970, to investigate the cause of this degradation of drive performance.

Very truly yours,



G. Kelcec

Manager Generating Stations

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CC: R. W. Kirkman, Director
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