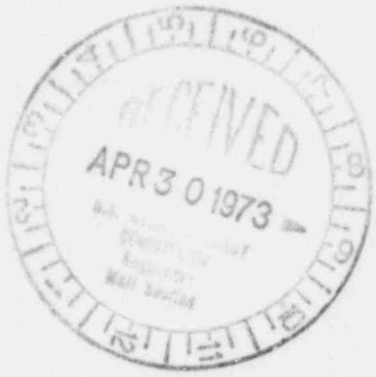
50-261

CP&L

Carolina Power & Light Company

April 24, 1973



Mr. John F. O'Leary
Directorate of Reactor Licensing
United States Atomic Energy Commission
Washington, D. C. 20545

Dear Mr. O'Leary:

H. B. ROBINSON UNIT NO. 2
LICENSE DPR-23
SPILL TO THE PLANT DRAINAGE SYSTEM

4/30/73
HT
OP
JD
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DP

In accordance with paragraph 6.6.2.d, Technical Specifications, it is reported that on April 10, 1973, with the reactor in a refueling shutdown condition, a spill of water from the Refueling Water Storage Tank (RWST) to the plant storm drainage system occurred.

At approximately 1700 hours, while performing Periodic Test No. 2.2 (Safety Injection System Component Test), the levels in the auxiliary building and the refueling building sump tanks were noted to be increasing faster than normal. At the same time, water was observed seeping out of the room which houses the spent fuel pit heat exchanger and filters. Since one safety injection pump was running, this was suspected to be the source of the leakage. The pump was immediately secured and the leakage stopped. It was determined, by visual observation, that a portion of line between the spent fuel cooling system and the safety injection system, had been subjected to above normal pressures, causing leakage to occur through one vent valve and around the body to bonnet flange on another valve. These valves were both diaphragm type valves and, when overpressured, will tend to compress the rubber diaphragm and gasket and leak with no subsequent valve damage. The isolation valve which isolates this system from the safety injection system was closed until a flange could be installed, the area decontaminated, and the SI test completed with no other leakage experienced.

All piping and valves which were subjected to the overpressure have been pressurized to 160 PSIG and no leaks observed. In addition, a tag has been fabricated and attached to the spectacle flange located at Valve SI-896G with the following instructions:

"Before removing this flange, insure that the SI pumps are under administrative control of the Shift Foreman."

The water which was released flowed to the storm drain and subsequently into Black Creek below the lake dam. This release resulted in the discharge of 500 gallons of water which contained 23.5 mCi of gross particulate and 19.5 mCi of tritium activity. Over 95 percent of the

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activity was identified as Cobalt-58 (9.37×10^{-3} microcuries/ml) and Cobalt-60 (3.09×10^{-3} microcuries/ml). Based on the measured flow in the storm drainage ditch (680 GPM) and in Black Creek ($1.18 \times 10^{+5}$ GPM), average annual concentrations due to this release are:

Drainage Ditch:	CO-58	1.31×10^{-8} microcuries/ml
	CO-60	4.33×10^{-9} microcuries/ml
Black Creek:	CO-58	7.53×10^{-11} microcuries/ml
	CO-60	2.49×10^{-11} microcuries/ml

These concentrations are well below the 10 CFR 20 limits of:

CO-58	9×10^{-5} microcuries/ml
CO-60	3×10^{-5} microcuries/ml

The total activity release was 0.26% of the cumulative yearly technical specification limit for radionuclides excluding tritium and 5.1×10^{-4} percent of the yearly limit for tritium.

The Plant Nuclear Safety Committee reviewed this incident in regular session on April 11, 1973, and it was reported to Mr. Herb Whitener of DRO in person and to Mr. Norman C. Moseley of DRO by telegraph on the same date.

Very truly yours,

E. E. Utley
Vice-President
Bulk Power Supply

JBM:NBB/mp

cc: Mr. C. D. Barham
Mr. N. B. Bessac
Mr. B. J. Furr
Mr. D. V. Menscer