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DUKE POWER COMPANY
POWER BUILDING
422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28242

WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

April 15, 1977

TELEPHONE AREA 704
373-4083

Mr. Norman C. Moseley, Director
U. S. Nuclear Regulatory Commission
Suite 818
230 Peachtree Street, Northwest
Atlanta, Georgia 30303

Re: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287

Dear Mr. Moseley:

Prior to March 17, 1977, Oconee Nuclear Station Appendix B Technical Specification 1.2B required that all water discharged from the plant site have a pH between 6.0 and 8.5. (Appendix B Technical Specification 1.2B now requires that the pH as measured at the yard drain be between 6.0 and 9.0). On March 16, 1977, a routine sample of the yard drains indicated a pH reading of 9.2.

This incident was initially considered reportable and pursuant to Appendix B Technical Specification 1.2B, a report should have been submitted by March 23, 1977. However, upon review of this incident, it was not considered to be reportable. The basis for this determination was that when considering the dilution flow available from Keowee tailrace, diluting water from the yard drain, the resulting pH in Lake Hartwell was within acceptable limits. The NRC was appraised of this evaluation on March 23, 1977.

The incident was reviewed further on April 12, 1977. By consulting the Safety Evaluation Report written on July 19, 1974, which supported the Oconee Appendix B Technical Specification 1.2, it was established that the intended pH monitoring point was the yard drain prior to dilution by the Keowee tailrace.

The following is a description of the events leading to this incident.

Since January 20, 1977, flow to the waste water collection basins (WWCB) had been controlled to provide holdup of radioactivity released to the WWCB during a January 17, 1977 incident described in Reportable Occurrence Report RO-269/77-3. To reduce flow to the basins in order to enhance holdup time, the water treatment room sump pumps have been used only during the regeneration of a demineralizer or during acid or caustic additions to the WWCB.

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On March 15, 1977 approximately 36 gallons of caustic soda in the day tank was added to the upper WWCB using the water treatment room sump pump. The sump pump was secured, and the caustic drain valve, CA-68, on the day tank was closed and verified closed by checking the valve stem and caustic drain line to assure that no leakage was occurring.

During the next three hours, however, the remaining 69 gallons of caustic leaked past the caustic drain valve. It is postulated that the caustic drain valve failed to fully close due to caustic which had dried on the valve seat. The caustic dissolved after a period of time and allowed the caustic solution to drain out of the day tank.

The caustic solution filled the water treatment room sump, and since the sump pump was secured, overflowed to the storm drains. The storm drains empty into the oil collection pond which provide dilution before the water reached the yard drains and then entered the Keowee tailrace. The pH of the water leaving the site was approximately 8.3 when the dilution factor resulting from mixing with the Keowee tailrace is considered. This incident occurred over a 13 hour period. Detection of the incident was delayed due to the following facts.

As committed in our letter of November 16, 1977 to the NRC/OIE, a pH probe with remote readout in the water treatment room was placed in service at the yard drain on February 21, 1977. Approximately three weeks before this incident, the probe was struck by lightning and rendered inoperable.

The probe had been repaired on March 13, 1977 but had not been verified operable or calibrated at the time of the incident. Therefore, no credence had been placed in the information on the pH strip chart although the chart had been checked every four hours during the incident. After the incident, the probe was calibrated and determined to have been operable during the incident. The data recorded during the incident was corrected allowing for the calibration discrepancy. The corrected chart indicated that the yard drain pH had exceeded 8.5 on four occasions for a total of approximately eight hours. The maximum pH recorded was 9.2.

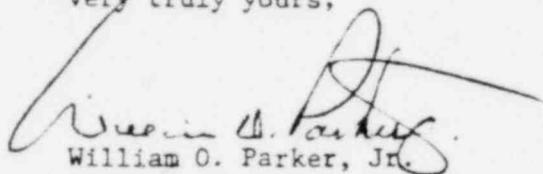
Valve CA-68 has been cleaned and declared operable. A caution tag has been placed on the valve to assure that the valve is closed tightly after use. Storage of caustic in the day tank will be minimized until the WWCB's are put back in normal use and the sump pump is placed back in continuous service. The yard drain pH probe was recalibrated and its operability verified on March 16, 1977.

During review of this incident, it was also discovered that a commitment made to the NRC in our response of November 16, 1977 to IE Inspection Report 50-269, -270, -287/76-10 had inadvertently not been completed. The commitment stated that a modification which would provide audible alarms to indicate excessive pH releases through the yard drains would be installed in the Oconee control rooms by April 1, 1977. This modification is being implemented and will be completed by June 1, 1977.

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In the interim, our present policy of recording pH readings of the settling basins and yard drains every four hours and before and after completion of demineralizer regeneration will continue. Any abnormal change in pH will be reported to the duty chemist who will take appropriate measures. With the yard drain pH monitor now operable, it is considered that present instrumentation is adequate to monitor pH trends and that implementation of the audible alarms on the yard drain pH monitors will prevent future occurrences of this incident.

Very truly yours,



William O. Parker, Jr.

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