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

5
7
67

WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

April 25, 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:

Oconee Nuclear Station Appendix B Technical Specification 1.2B requires that all water discharged from the plant site have a pH between 6.0 and 9.0. On April 18, 1977, a routine sample of the yard drains indicated a pH reading of 9.7. The following is a description of the events leading to this incident.

Since January 20, 1977, flow to the waste water collection basins (WWCB) has 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 two water treatment room (WTR) sump pumps have been used only during the regeneration of a demineralizer or during acid or caustic additions to the WWCB.

On April 18, 1977, a routine demineralizer regeneration was performed. Part of the regeneration involves an acid/caustic injection followed by a demineralized water flush (approximately two hours in duration) to remove all traces of the addition from the system. The WTR sump pumps were placed in operation prior to the acid/caustic injection and were secured after one hour of flush water had been added. This method had been used successfully for several previous regenerations, and experience had indicated that essentially all the caustic was removed during the first hour of the flush. It is postulated that for this case, however, that all the caustic was not removed from the sump during the first hour of the flush. After the sump pumps were secured, the flush water overflowed to the storm drains. The storm drains empty into the oil collection pond which provides dilution before the water reached the yard drains and then entered the Keowee tailrace.

Four and one-half hours after the sump pumps were secured, regeneration was completed. At this time, the pH at the yard drain was 6.4. Approximately one-half hour later the pH at the yard drain exceeded 9.0. The incident lasted approximately two and one-half hours, and the maximum pH recorded was 9.7. The pH of the water leaving the site was approximately 9.0 when the dilution factor resulting from mixing with the Keowee tailrace is considered.

All other sources of highly alkaline materials on site were checked to assure that no other source could have caused this incident. The procedure for regeneration of demineralizer resins has been revised to assure that the WTR sump pumps are operating for the entire regeneration cycle.

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. It is considered that implementation of the audible alarms on the yard drain pH monitors which will be completed by June 1, 1977 will prevent future occurrences of this incident.

Very truly yours,

William O. Parker Jr.

William O. Parker, Jr. by WAH

LJB:ge