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Generation Services Department
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Huntersville, NC 28078-7929



DUKE POWER

July 20, 1992

Mr. Robert Knauss
Water Quality Assessment
and Enforcement Division
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject Catawba Nuclear Station- NPDES Permit #SC0004278
Exceedance of a Maintenance Limit
File: CN-702.00, CN-702.15
Certified: P 623 739 359

Dear Mr. Knauss:

Pursuant to Part II B. 2. a. of the subject permit, this is a follow up written report for the recent exceedance at Catawba Nuclear Station. Verbal notifications were made to you and also Mr. Lanny Robinson of the DHEC Catawba District by Mr. Gerry Parker of Duke Power Company on the morning of the exceedance (July 15, 1993).

On June 8, 1993 Catawba Nuclear Station received permission to use a biocide called Clam-trol with concentrations at the outfall not to exceed a daily maximum of 0.40 mg/l. Several industries have used Clam-trol to control the populations of Corbicula (Asiatic Clams) in systems that use raw water from lakes and rivers. Clam-trol has five ingredients: N-alkyl dimethyl benzyl ammonium chloride, dodecylguanidine hydrochloride, isopropyl alcohol, ethyl alcohol, and ethylene glycol. The EPA registration number for Clam-trol is 3876-145.

The injection of Clam-trol began on the afternoon of July 14, 1993 at 1655. A slurry of bentonite (clay) was being injected just prior to discharge to detoxify the Clam-Trol. Duplicate samples of the discharge were being taken hourly and results averaged to verify the injection / detoxification process was working properly. At 0055 July 15th it was determined there would not be enough bentonite to complete the proposed 12 hour injection.

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The Clam-Trol additions were halted at 0100 and the bentonite injection continued in order to detoxify the remaining Clam-trol that was still in the system. It was believed at that time there was enough bentonite remaining to detoxify for an hour or more to make sure the system was thoroughly flushed free of Clam-Trol.

At 0105 July 15th the concentration of Clam-Trol was averaged at 0.26 mg/l. The 0210 samples were 0.74 and 0.67 mg/l which exceeded the permitted limit of 0.4 mg/l. At this time the bentonite material had run out. At 0250 the samples indicated the concentration had returned to less than 0.2 mg/l.

Therefore, for a certain time period between the hours of 0105 and 0250 the concentration of Clam-Trol exceeded the permitted level of 0.4 mg/l. The discharge area was inspected immediately after the exceedance was determined with no adverse impacts being observed. Due to some surfactants contained in Clam-trol, some slight foaming was observed. Efforts were made to control this by use of a defoamer which was approved for usage.

Results of biomonitoring performed on a 24-hour composite sample collected during the Clam-trol injection failed. A three-brood Ceriodaphnia survival and reproduction test was initiated on Friday July 16, 1993 using a 24-hour composite sample. The composite sample was composed of hourly samples collected from 1800 July 14, 1993 until 1800 July 15, 1993. Following 24-hours of exposure to the composite sample, all of the Ceriodaphnia exposed to the effluent were dead, all 20 control animals were alive.

A second 24 hour composite sample was collected from 1800 July 15th to 1800 July 16th, 1993 from the same outfall. This sample was intended for use as second day exposure solutions for the initial test began on July 16, 1993. However, the initial test was terminated after 24-hours, and is considered a failure based on EPA and SCDHEC criteria. One possible cause for the test failure is the presense of bentonite clay in the sample. This and other factors are being investigated.

The second sample was, however, used as a normal monthly NPDES sample. The initial results from our toxicity laboratory indicate that the second composite sample will pass the three-brood Ceriodaphnia survival and reproduction test.

An investigation has begun to determine why the bentonite slurry ran out prematurely. To prevent recurrence of this event, additional measures will be taken to ensure that the appropriate flow rate for the detox system exists and that a sufficient supply of bentonite material is on site.

If you have any questions concerning this matter or need additional information please contact either Robert Wylie at (704) 875-5970 or John Estridge at (704) 875-5965.

Sincerely,



John S. Carter, Technical System Manager
Environmental Division, Water Protection

xc: Lanny Robinson, DHEC - Catawba District
Timothy Eleazer, DHEC - Columbia Office
U.S. Nuclear Regulatory Commission - Document Control Desk
John Zieler - Catawba Nuclear Station, NRC Resident Inspector