



Tennessee Valley Authority
Post Office Box 2000
Soddy Daisy, Tennessee 37384-2000

Timothy P. Cleary
Site Vice President
Sequoyah Nuclear Plant

November 23, 2009

Patrick Parker
Manager, Enforcement & Compliance
Department of Environment & Conservation
Division of Water Pollution Control
6th Floor, L & C Annex
401 Church Street
Nashville, Tennessee 37243-1534

Dear Mr. Parker:

SEQUOYAH NUCLEAR PLANT (SQN) - BIOCIDES/CORROSION TREATMENT PLAN (B/CTP) –
NPDES PERMIT NO. TN0026450

On October 25, 2009, during treatment with Spectrus CT1300 from the period of 0830 to 1800, Sequoyah did not collect an effluent sample as specified in the SQN Biocide/Corrosion Treatment Plan (B/CTP). Evaluation of the treatment concluded that during the entire treatment period the concentration of the quaternary ammonium compounds in the discharge did not exceed 0.05 mg/L by mass balance calculations. In addition, no harm to fish or other aquatic species was observed. Sequoyah has initiated documentation of the incident, the follow up investigation, and corrective actions in accordance with the site's Corrective Action Program. Enclosed for your review is a summary of the incident. If you have any questions or need additional information, please contact Stephanie Howard at (423) 843-6700 or Ann Hurt at (423) 843-6714 of Sequoyah's Environmental staff.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,

Timothy P. Cleary
Site Vice President
Sequoyah Nuclear Plant

Enclosures

cc (Enclosures):

Chattanooga Environmental Assistance Center
Division of Water Pollution Control
State Office Building, Suite 550
540 McCallie Avenue
Chattanooga, Tennessee 37402-2013

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

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ENCLOSURE

SEQUOYAH NUCLEAR PLANT
SPECTRUS CT1300 EFFLUENT SAMPLE

Background

According to the Biocide/Corrosion Treatment Plan (B/CTP) approval dated April 27, 2005, for the use of Spectrus CT1300, "when treatment is underway, routine sampling of the effluents shall be undertaken once each four hours during daylight hours and once during nighttime hours, (or composite sampler may be used)." SQN uses an ISCO composite sampler to meet the sampling requirement. Samples are analyzed using a low-level detection method; sampling is required in conjunction with a mass balance calculation in order to demonstrate protection of the receiving stream.

Incident Description

Spectrus CT1300 treatment was scheduled for 10/22/2009 through 10/24/2009. The composite sampler was scheduled to collect samples from the morning of 10/22/09 to the morning of 10/25/09. Treatment was initiated as scheduled on 10/22/2009; however the treatment was actually terminated on 10/25/2009. Due to the schedule change for the treatment, no sampling occurred on 10/25/2009 from 0830 to 1800. Table 1 summarizes daily plant conditions and quantity of chemical used. Table 2 summarizes the treatment schedule, mass balance calculation, and composite sampler schedule and analytical results.

Table 1

Date	10/22/2009	10/23/2009	10/24/2009	10/25/2009
Diffuser Discharge Flow	2500 cfs	2500 cfs	2500 cfs	2500 cfs
ERCW A Train Total Flow	22000 gpm	20700 gpm	22300 gpm	22300 gpm
Injection Rate	5.5 gph	5.5 gph	5.5 gph	5.5 gph
Injection Start Time	1300	0000	1800	0000
Injection Stop Time	2400	2150	2400	1800
Total Hours Injected	11.00	21.83	6.00	18.00
Calculated System Quat	1.93 mg/L	2.06 mg/L	1.91 mg/L	1.91 mg/L
Pounds Per Day Quat	234.77 lbs.	465.90 lbs.	128.05 lbs.	384.16 lbs.
Calculated Diffuser Discharge Quat	0.040 mg/L	0.040 mg/L	0.040 mg/L	0.040 mg/L

Table 2

ERCW A Train Start Date / Time End Date / Time	Mass Balance Calculation	Composite Sampler Start Date / Time End Date / Time	Composite Sampler Results
10/22/2009 / 1300 10/22/2009 / 2400	0.040 mg/L	10/22/09 / 1000 10/23/09 / 0900	<0.025 mg/L
10/23/2009 / 0000 10/23/2009 / 2150	0.040 mg/L	10/23/09 / 1000 10/24/09 / 0900	<0.025 mg/L
10/24/2009 / 1800 10/24/2009 / 2400	0.040 mg/L	10/24/09 / 0930 10/25/09 / 0830	<0.025 mg/L
10/25/2009 / 0000 10/25/2009 / 1800	0.040 mg/L	no sample collected from 0830 - 1800	no sample collected from 0830 - 1800

The B/CTP specifies that the concentration of the quaternary ammonium compounds (Quat) at Outfall 101 shall not exceed 0.05 mg/L. All mass balance calculations performed during the treatment were 0.040 mg/L. All composite samples collected during the treatment were <0.025 mg/L using the methylene chloride extraction. Historical composite sample analytical results have been <0.05mg/L or lower at Outfall 101 for similar plant conditions.