



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

January 23, 2018

State of Tennessee
Department of Environment and Conservation
Division of Water Pollution Control
Enforcement & Compliance Section
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243

Dear Ms. Angela Hall:

TENNESSEE VALLEY AUTHORITY (TVA) – SEQUOYAH NUCLEAR PLANT (SQN) - NPDES
PERMIT NO. TN0026450 – 2018 BIOCIDES/CORROSION TREATMENT PLAN (B/CTP) ANNUAL
REPORT

Enclosed is a copy of the 2018 B/CTP Annual report for SQN. Biodetergent 73551 and Flogard MS 6237 were not added during CY 2018. All treatments in 2018 were conducted in accordance with the approved B/CTP.

If you have any questions or need additional information, please contact Millicent Garland at (423) 843-6714 or by e-mail at mrmoore@tva.gov 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,

Anthony L. Williams
Site Vice President
Sequoyah Nuclear Plant

Enclosures
cc (Enclosures):

Mr. Vojin Janjic
State of Tennessee
Dept. of Environment and Conservation
Division of Water Pollution Control
6th Floor, L & C Annex
401 Church Street
Nashville, Tennessee 37243-1534

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

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CDDI
NRR

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

2018 Biocide/Corrosion Treatment Plan Annual Report

Spectrus BD 1500

Month	Quantity in Pounds (lbs/day)			Duration in Hours (hrs/day)	Analytical Results mass balance calculations (mg/L)			# of Samples	Days in Service
	Maximum	Average	Limit		Maximum	Average	Limit		
January	28.44	28.44	50	0.50	0.032	0.032	2.00	6	6
February	28.44	28.44	50	0.50	0.032	0.032	2.00	8	8
March	28.44	28.44	50	0.50	0.035	0.035	2.00	8	8
April	28.44	24.49	50	0.50	0.047	0.045	2.00	12	12
May	28.44	18.96	50	0.50	0.035	0.031	2.00	15	15
June	28.44	27.49	50	0.50	0.037	0.033	2.00	10	10
July	28.44	28.44	50	0.50	0.031	0.031	2.00	9	9
August	28.44	28.44	50	0.50	0.031	0.031	2.00	12	12
September	28.44	24.49	50	0.50	0.031	0.031	2.00	12	12
October	28.44	22.75	50	0.50	0.031	0.031	2.00	10	10
November	-	-	-	-	-	-	-	-	-
December	-	-	-	-	-	-	-	-	-
Jan. - Dec.								102	102

Per the B/CTP approval: "Whole Effluent toxicity testing (biomonitoring) of Outfall 101 and Outfall 110 shall be undertaken once per year when non-oxidizing biocides are being used."

Outfall 101: Toxicity was sampled October 8 - 12, 2018, during the Spectrus BD1500 treatment.

Test Results: *Pimephales promelas*: IC25 >100%

Ceriodaphnia dubia: IC25 > 100%

Outfall 110: There has been no discharge from Outfall 110 January - December 2018.

2018 Biocide/Corrosion Treatment Plan Annual Report

Spectrus CT1300

Month	Quantity in Pounds (lbs/day)			Duration in Hours (hrs/day)	Analytical Results mass balance calculations (mg/L)			# of Samples	Days in Service
	Maximum	Average	Limit		Maximum	Average	Limit		
January	-	-	855	-	-	-	0.05	-	-
February	-	-	855	-	-	-	0.05	-	-
March	-	-	855	-	-	-	0.05	-	-
April	-	-	855	-	-	-	0.05	-	-
May	-	-	855	-	-	-	0.05	-	-
June	-	-	855	-	-	-	0.05	-	-
July	-	-	855	-	-	-	0.05	-	-
August	-	-	855	-	-	-	0.05	-	-
September	-	-	855	-	-	-	0.05	-	-
October	300	240	855	15	0.033	0.033	0.05	8	8
November	297	238	855	15	0.033	0.033	0.05	2	2
December	-	-	855	-	-	-	0.05	-	-
Jan. - Dec.								10	10

Per the B/CTP approval: "Whole Effluent toxicity testing (biomonitoring) of Outfall 101 and Outfall 110 shall be undertaken once per year when non-oxidizing biocides are being used."

Outfall 101: Toxicity was sampled October 8 - 12, 2018, during the Spectrus CT1300 treatment.

Test Results: *Pimephales promelas*: IC25 >100%

Ceriodaphnia dubia: IC25 > 100%

Outfall 110: There has been no discharge from Outfall 110 January - December 2018.

2018 Biocide/Corrosion Treatment Plan Annual Report

Towerbrom 960

Month	Quantity in Pounds (lbs/day)			Duration in Hours (hrs/day)	Analytical Results mass balance calculation (mg/L)			# of samples	Days in Service
	Maximum	Average (based on days in service)	Limit		Maximum	Average	Limit		
January	125	69	1425	4.00	0.033	0.013	0.10	8	8
February	150	88	1425	4.00	0.026	0.014	0.10	13	13
March	150	136	1425	4.00	0.034	0.026	0.10	9	9
April	200	90	1425	8.00	0.028	0.020	0.10	24	24
May	200	128	1425	4.00	0.018	0.011	0.10	16	16
June	200	144	1425	6.00	0.035	0.015	0.10	25	24
July	200	170	1425	4.00	0.038	0.019	0.10	20	20
August	200	161	1425	4.00	0.026	0.016	0.10	28	28
September	200	133	1425	4.00	0.024	0.014	0.10	21	21
October	450	234	1425	23.98	0.028	0.016	0.10	20	20
November	150	97	1425	9.98	0.017	0.010	0.10	18	18
December	150	122	1425	4.00	0.023	0.016	0.10	9	9
Jan. - Dec.								211	210

Per the B/CTP approval: "Whole Effluent toxicity testing (biomonitoring) of Outfall 101 and Outfall 110 shall be undertaken once per year when oxidizing biocides are being used."

Outfall 101: Toxicity was sampled May 14 - 18, 2018.

Test Results: *Pimephales promelas*: IC25 >100%

Ceriodaphnia dubia: IC25 > 100%

Outfall 110: There has been no discharge from Outfall 110 January - December 2018.

2018 Biocide/Corrosion Treatment Plan Annual Report

Flogard MS6236

Month	Quantity in Pounds (lbs/day)			Duration in Hours (hrs/day)	Analytical Results mass balance calculations (mg/L)				# of samples	Days in Service
	Maximum	Average	Limit	Maximum	Maximum	Average	Limit			
January	-	-	2275	-	-	-	0.2	-	-	
February	-	-	2275	-	-	-	0.2	-	-	
March	418	273	2275	24.00	0.033	0.033	0.2	13	13	
April	313.20	261.00	2275	18.00	0.043	0.039	0.2	14	14	
May	313.20	243.60	2275	18.00	0.034	0.029	0.2	15	15	
June	313	254	2275	18.00	0.033	0.030	0.2	14	14	
July	313	271	2275	18.00	0.029	0.029	0.2	16	16	
August	730.80	307.98	2275	24.00	0.029	0.029	0.2	20	20	
September	522.00	346.17	2275	24.00	0.029	0.029	0.2	19	19	
October	696.00	452.40	2275	24.00	0.029	0.029	0.2	15	15	
November	313.20	243.60	2275	18.00	0.055	0.055	0.2	9	9	
December	208.80	208.80	2275	12.00	0.055	0.032	0.2	12	12	
Jan. - Dec.								147	147	

Per the B/CTP approval: "Flogard MS6236 is injected into the RCW system continuously, except during periods of other chemical injection due to common injection lines. Flogard MS6236 is injected into the ERCW Train A & B system intermittently."