



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

February 1, 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:

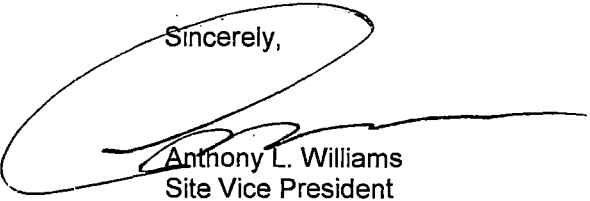
TENNESSEE VALLEY AUTHORITY (TVA) – SEQUOYAH NUCLEAR PLANT (SQN) - NPDES
PERMIT NO. TN0026450 – 2017 BIOCIDES/CORROSION TREATMENT PLAN (B/CTP) ANNUAL
REPORT

Enclosed is a copy of the 2017 B/CTP Annual report for SQN. Biodetergent 73551 was not added during CY 2017. Flogard MS 6237 injections began in June 2017. All treatments in 2017 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 Janjić
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
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540 McCallie Avenue
Chattanooga, Tennessee 37402-2013

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

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2017 Biocide/Corrosion Treatment Plan Annual Report

Biodetergent 73551

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	Limit	Maximum	Average	Limit		
January	-	-	-	-	-	-	-	-	-	-
February	-	-	-	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-	-	-
April	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-	-	-
July	-	-	-	-	-	-	-	-	-	-
August	-	-	-	-	-	-	-	-	-	-
September	-	-	-	-	-	-	-	-	-	-
October	-	-	-	-	-	-	-	-	-	-
November	-	-	-	-	-	-	-	-	-	-
December	-	-	-	-	-	-	-	-	-	-
Jan. - Dec.									0	0

*Treatment durations shall not exceed 30 minutes at 2-3 times per week into ERCW Train A, ERCW Train B, and RCW systems.

Per the B/CTP approval: "Frequency of use would be approximately 208 days per year and duration of use would be about 0.5 hours per day with a maximum daily usage of 50 lbs/day for all three-injection points."

Flogard MS6237

Month	Zinc Results							Phosphate Results							Days in Service
	Quantity of Zinc lbs/day			Analytical Results mass balance calculations (mg/L)				Quantity of Phosphate (lbs/day)			Analytical Results mass balance calculations (mg/L)				
	Maximum	Average	Limit	Maximum	Average	Limit	# of samples	Maximum	Average	Limit	Maximum	Average	Limit	# of samples	
January	-	-	795	-	-	0.2	-	-	-	2730	-	-	0.2	-	-
February	-	-	795	-	-	0.2	-	-	-	2730	-	-	0.2	-	-
March	-	-	795	-	-	0.2	-	-	-	2730	-	-	0.2	-	-
April	-	-	795	-	-	0.2	-	-	-	2730	-	-	0.2	-	-
May	-	-	795	-	-	0.2	-	-	-	2730	-	-	0.2	-	-
June	157	125	795	0.010	0.010	0.2	19	450	359	2730	0.036	0.036	0.2	19	19
July	158	119	795	0.010	0.010	0.2	15	451	340	2730	0.040	0.040	0.2	15	15
August	-	-	795	-	-	0.2	-	-	-	2730	-	-	0.2	-	-
September	158	110	795	0.010	0.010	0.2	7	451	315	2730	0.040	0.040	0.2	7	7
October	199	166	795	0.014	0.014	0.2	3	570	475	2730	0.040	0.040	0.2	3	3
November	-	-	795	-	-	0.2	-	-	-	2730	-	-	0.2	-	-
December	-	-	795	-	-	0.2	-	-	-	2730	-	-	0.2	-	-
Jan. - Dec.							44							44	44

Flogard MS6237 injections began June 2017. Per the B/CTP approval, "Flogard MS6237 is injected into the RCW system continuously, except during periods of other chemical injection due to common injection lines. Flogard MS6237 is injected into the ERCW Train A & B system intermittently."

2017 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	418	276	2275	24.00	0.030	0.030	0.2	18	18	
February	835	415	2275	24.00	0.060	0.044	0.2	15	15	
March	835	602	2275	24.00	0.060	0.060	0.2	10	10	
April	-	-	2275	-	-	-	0.2	-	-	
May	-	-	2275	-	-	-	0.2	-	-	
June	418	336	2275	24.00	0.030	0.030	0.2	18	18	
July	209	209	2275	12.00	0.030	0.030	0.2	2	2	
August	-	-	2275	-	-	-	0.2	-	-	
September	-	-	2275	-	-	-	0.2	-	-	
October	-	-	2275	-	-	-	0.2	-	-	
November	-	-	2275	-	-	-	0.2	-	-	
December	-	-	2275	-	-	-	0.2	-	-	
Jan. - Dec.								63	63	

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."

2017 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	175	147	1425	4.00	0.028	0.020	0.10	9	9
February	200	191	1425	4.00	0.035	0.024	0.10	8	8
March	200	129	1425	4.00	0.037	0.017	0.10	12	12
April	700	525	1425	23.98	0.032	0.017	0.10	24	24
May	175	125	1425	4.50	0.036	0.021	0.10	31	20
June	200	175	1425	4.00	0.027	0.017	0.10	23	23
July	250	164	1425	4.00	0.033	0.017	0.10	22	21
August	250	164	1425	4.00	0.043	0.017	0.10	25	25
September	200	164	1425	4.00	0.038	0.022	0.10	21	21
October	550	516	1425	23.97	0.038	0.021	0.10	25	25
November	200	187	1425	4.00	0.029	0.020	0.10	13	13
December	175	138	1425	4.00	0.029	0.017	0.10	8	8
Jan. - Dec.								221	209

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 April 30 - May 5, 2017.

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

Ceriodaphnia dubia: IC25 > 100%

Outfall 110: There has been no discharge from Outfall 110 January - December 2017.

2017 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	370	239	855	14.00	0.039	0.039	0.05	6	6
June	483	302	855	24.00	0.030	0.030	0.05	3	3
July	483	290	855	24.00	0.030	0.030	0.05	10	10
August	483	263	855	24.00	0.030	0.027	0.05	5	5
September	483	271	855	24.00	0.033	0.030	0.05	10	10
October	-	-	855	-	-	-	0.05	-	-
November	-	-	855	-	-	-	0.05	-	-
December	-	-	855	-	-	-	0.05	-	-
Jan. - Dec.								34	34

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 July 23 - 28, 2017 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 2016.

2017 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	0.035	0.033	2.00	6	6
February	28.44	28.44	50	0.50	0.030	0.030	2.00	7	7
March	28.44	20.54	50	0.50	0.035	0.035	2.00	6	6
April	28.44	28.44	50	0.50	0.030	0.030	2.00	3	3
May	28.44	23.70	50	0.50	0.046	0.036	2.00	8	8
June	28.44	28.44	50	0.50	0.020	0.020	2.00	10	10
July	28.44	26.33	50	0.50	0.030	0.030	2.00	9	9
August	28.44	28.44	50	0.50	0.030	0.030	2.00	9	9
September	28.44	28.44	50	0.50	0.030	0.030	2.00	11	11
October	-	-	50	-	-	-	2.00	-	-
November	28.44	28.44	50	0.50	0.030	0.030	2.00	11	11
December	28.44	26.07	50	0.50	0.030	0.030	2.00	8	8
Jan. - Dec.								88	88

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 July 23 - 28, 2017 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 2017.