



Tennessee Valley Authority, 1101 Market Street, BR 4A, Chattanooga, Tennessee 37402-2801

May 30, 2017

Mr. Vojin Janjić
Division of Water Resources
Tennessee Department of Environment
and Conservation (TDEC)
William R. Snodgrass TN Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243

Dear Mr. Janjić:

TENNESSEE VALLEY AUTHORITY (TVA) – KINGSTON FOSSIL PLANT (KIF) – NPDES PERMIT
NOS. TN0005452 AND TN0080870 – FORM 2C UPDATE

Please find enclosed a Form 2C update for KIF consisting of EPA Form 1, location Map, EPA Form 2C, and wastewater flow schematic. Although TVA has closed the chemical treatment impoundments which were previously located in the ball field area, TVA would like to retain internal monitoring point (IMP) 005 in the permit to discharge chemical metal cleaning wastewaters.

Wastewaters generated during chemical metal cleaning activities would be directed to a mobile treatment unit or mobile storage, such as frac tanks, where any necessary water treatment would be employed prior to discharging to the polishing pond. Flow data included on the enclosed Form 2C is estimated based on typical volumes of a boiler cleaning and analytical data are for NPDES monitoring from batch discharges of the chemical treatment pond effluent from 2006-2008, before they were closed.

If you have questions or need additional information, please contact Brad Love at (423) 751-8518, or by email at bmlove@tva.gov.

Sincerely,

Terry E. Cheek
Senior Manager
Water Permits, Compliance, and Monitoring

Enclosures

cc: Mr. Michael Atchley
Tennessee Department of Environment
and Conservation
Knoxville Environmental Field Office
3711 Middlebrook Pike
Knoxville, Tennessee 37921

TN DEPT. OF ENV. & CONSERVATION

MAY 31 2017

DIVISION OF WATER RESOURCES

FORM 1 GENERAL		U.S. ENVIRONMENTAL PROTECTION AGENCY GENERAL INFORMATION <i>Consolidated Permits Program</i> (Read the "General Instructions" before starting.)		I. EPA I.D. NUMBER	
				S T N 8 6 4 0 0 0 6 6 8 2 T/A C F D	
LABEL ITEMS				1 2 13 14 15	
II. POLLUTANT CHARACTERISTICS					
INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms .					
SPECIFIC QUESTIONS		MARK 'X'		SPECIFIC QUESTIONS	
		YES	NO	FORM ATTACHED	
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S. ? (FORM 2A)			X		
		16	17	18	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)		X		X	
		22	23	24	
E. Does or will this facility treat, store, or dispose of hazardous wastes ? (FORM 3)			X		
		28	29	30	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)			X		
		34	35	36	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area ? (FORM 5)			X		
		40	41	42	
B. Does or will this facility (<i>either existing or proposed</i>) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S. ? (FORM 2B)			X		
		19	20	21	
D. Is this a proposed facility (<i>other than those described in A or B above</i>) which will result in a discharge to waters of the U.S. ? (FORM 2D)		X		X	
		25	26	27	
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)			X		
		31	32	33	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)			X		
		37	38	39	
J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area ? (FORM 5)			X		
		43	44	45	
III. NAME OF FACILITY					
1 SKIP U S T V A K I N G S T O N F O S S I L P L A N T					
15 16-29 30 69					
IV. FACILITY CONTACT					
A. NAME & TITLE (<i>last, first & title</i>)					
2 B. DOUG KEELING Plant Manager					
15 16 45 46 - 48 7 1 7 2 5 0 0 49 - 51 52 - 55					
V. FACILITY MAILING ADDRESS					
A. STREET OR P.O. BOX					
3 7 1 4 S W A N P O N D R D					
15 16 45					
B. CITY OR TOWN					
4 H A R R I M A N					
15 16 40 41 42 47 - 51					
C. STATE					
T N					
D. ZIP CODE					
3 7 7 4 6					
VI. FACILITY LOCATION					
A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER					
5 7 1 4 S W A N P O N D R D					
15 16 45					
B. COUNTY NAME					
R O A N E					
46 70					
C. CITY OR TOWN					
H A R R I M A N					
15 16 40 41 42 47 - 51 52 - 54					
D. STATE					
T N					
E. ZIP CODE					
3 7 7 4 8					
F. COUNTY CODE (<i>if known</i>)					

TN DEPT. OF ENV. & CONSERVATION

MAY 31 2017

DIVISION OF WATER RESOURCES

CONTINUED FROM PAGE 1

VII. SIC CODES (4-digit, in order of priority)

A. FIRST										B. SECOND																	
C	7	4	9	1	1	(specify) Electric Services					C	7	(specify)														
15	16	-	19											15	16	-	19										
C. THIRD										D. FOURTH																	
C	7	(specify)								C	7	(specify)															
15	16	-	19											15	16	-	19										

VIII. OPERATOR INFORMATION

A. NAME																																																		B. Is the name listed as Item VIII-A also the owner?																																		
TENNESSEE VALLEY AUTHORITY																																																		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO																																		
8																																																		55																																		
15	16																																																	66																																		
C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)																																																		D. PHONE (area code & no.)																																		
F = FEDERAL M = PUBLIC (other than federal or state)																									S = STATE O = OTHER (specify)																									F (specify)																									C									
P = PRIVATE																																																		56																									A									
																																																																											15									
																																																																											16 - 18									
																																																																											7, 1, 7									
																																																																											2, 5, 0, 0									
																																																																											19 - 21									
																																																																											22 - 25									
E. STREET OR P.O. BOX																																																																																				
7, 1, 4, S, W, A, N, P, O, N, D, R, D,																																																																																				
26																																																		55																																		
F. CITY OR TOWN																									G. STATE										H. ZIP CODE										IX. INDIAN LAND																																							
B, H, A, R, R, I, M, A, N,																									T, N										3, 7, 7, 4, 8										Is the facility located on Indian lands?																																							
																																													<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO																																							
																																													52																																							
																																													40																																							
																																													41 42																																							
																																													47 - 51																																							

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)																														D. PSD (Air Emissions from Proposed Sources)																														Title V Air Permit																													
C	T	I	9	N	T	N	0	0	0	5	4	5	2																	C	T	I	9	P	5	4	8	4	0	1																																																	
15	16	17	18											30	15	16	17	18											30																																																												
B. UIC (Underground Injection of Fluids)																														E. OTHER (specify)																																																											
C	T	I	9	U																										C	T	I	9		I	D	L	7	3	-	0	0	9	4																																													
15	16	17	18											30	15	16	17	18											30																																																												
C. RCRA (Hazardous Wastes)																														E. OTHER (specify)																																																											
C	T	I	9	R	T	N	8	6	4	0	0	0	6	6	8	2																	C	T	I	9		T	N	R	0	5	1	7	8	7																																											
15	16	17	18											30	15	16	17	18											30																																																												

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

Kingston Stream Plant is a fossil fueled, steam electric generating plant located near Kingston, Tennessee on Watts Bar Reservoir at approximate Clinch River mile 2.5. The plant has nine coal fired units with a combined rated generating capacity of 1,600 megawatts.

TN DEPT. OF ENV. & CONSERVATION

MAY 31 2017

DIVISION OF WATER RESOURCES

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)																														B. SIGNATURE																				C. DATE SIGNED									
B. Doug Keeling, Plant Manager TVA Kingston Fossil Plant																														B Doug Keeling																				5/24/17									

COMMENTS FOR OFFICIAL USE ONLY

C																																																	
15	16																																																

Form 1 - General Section X - Existing Environmental Permits

1. IDL 73-0211, Coal Combustion Byproduct Disposal Facility – Peninsula Site
2. TNR191557, Ball Field Closure and Flow Management Projects Construction Permit
3. TNR191259, Gypsum Disposal Area and Fly Ash Haul Road Construction Permit
4. TNR191509, Bottom Ash Dewatering Facility Construction Permit
5. NRS16.142 (Pending), Individual Permit to repair Eastern Dike Seepage
6. TNR135050, Stilling Pond Closure Construction Permit
7. NRS17.114 (Pending), General Permit for Construction of Outfall/Intake Structures

TN DEPT. OF ENV. & CONSERVATION

MAY 31 2017

DIVISION OF WATER RESOURCES

TN8640006682

Please print or type in the unshaded areas only

U. S. ENVIRONMENTAL PROTECTION AGENCY

FORM

2C

NPDES

EPA

APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER

EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURAL OPERATIONS

Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER (list)	B. LATITUDE			C. LONGITUDE			D. RECEIVING WATER (name)
	1. DEG.	2. MIN.	3. SEC.	1. DEG.	2. MIN.	3. SEC.	
001	35	54	15	84	30	15	Plant Intake (to Watts Bar Reservoir) via Outfall 002
002	35	53	45	84	31	15	Watts Bar Reservoir
004	35	53	45	84	31	15	Watts Bar Reservoir via Outfall 002
006	35	54	0	84	30	0	Plant Intake (to Watts Bar Reservoir) via Outfall 002
01a	35	53	45	84	31	15	Watts Bar Reservoir via Outfall 002
01b	35	53	30	84	30	45	Watts Bar Reservoir (Emergency Only)
IMP 009	35	53	45	84	30	45	Internal Discharge to FGD Storm Water Pond (Outfall 01a)
IMP 005	35	54	15	84	30	45	Internal Discharge to Polishing Pond

II. FLOWS, SOURCES, OF POLLUTION, AND TREATMENT TECHNOLOGIES

- A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.
- B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO (list)	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT	
	a. OPERATION (list)	b. AVERAGE FLOW (include units)	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1
001	Stilling Pond (Polishing Pond)	14.03 MGD	Treatment for 001 includes:	
	The existing stilling pond provides treatment over a 24 acre area; however, this pond will soon be closed and replaced by a new		(1) Coagulation	2 D
	polishing pond which is currently under construction and will have an operating surface area of approximately 6.6 acres.		(2) Flocculation	1 G
			(3) Settling	1 U
			(4) Neutralization	2 K
			(5) Discharge to surface water via Plant Intake Channel via Outfall 002.	4 A
	Outfall 001 receives flow from the following sources:		(6) Reuse of treated effluent for cooling water	4 C
	(1) Coal yard runoff which includes:	0.145 MGD		
	(a) Coal storage area drainage	(0.110 MGD)		
	(b) Utility building area drainage	(0.035 MGD)		
	(c) Fire protection flushes	(0.000064 MGD)		
	(2) Redwater wetlands	0.171 MGD	Treatment occurs in a 4-acre constructed wetlands system;	
	(a) Combustion Residual Leachate	(0.170 MGD)	effluent is pumped to pond.	
	(b) Precipitation	(0.010 MGD)		
	(c) Evaporation	-(0.009 MGD)		
	(3) Nonchemical metal cleaning wastes	Negligible		
	(4) Ammonia storage area runoff	0.002 MGD		
	(5) Bottom ash sluicing	6.814 MGD		

OFFICIAL USE ONLY (effluent guidelines sub-categories)

TN DEPT. OF ENV. & CONSERVATION

C. Except for storm runoff, leaks, or spills, are any of the discharges described in Items II-A or B intermittent or seasonal?								
<input checked="" type="checkbox"/> YES (complete the following table)				<input type="checkbox"/> NO (go to Section III)				
1. OUTFALL NUMBER (list)	2. OPERATION(s) CONTRIBUTING FLOW (list)	3. FREQUENCY		4. FLOW				
		a. DAYS PER WEEK (specify average)	b. MONTHS PER YEAR (specify average)	a. FLOW RATE (in mgd)		b. TOTAL VOLUME (specify with units)		c. DURATION (in days)
				1. LONG TERM AVERAGE	2. MAXIMUM DAILY	1. LONG TERM AVERAGE	2. MAXIMUM DAILY	
IMP 009	FGD Dewatering Facility	5-7	12	0.923	1.846	<p>The KIF FGD Gypsum Dewatering Facility typically operates 5-7 days per week for approximately 10-12 hours per day. The flow rates reported above are based on mechanical process design flows. The long term average flow is based on 12 hour operation and the daily maximum flow is based on 24 hour operation. During off peak load seasons such as spring and fall, KIF may go into "Not in Demand" status and the plant may be offline for longer durations of time. On the other hand, during peak load seasons such as late summer and winter the GDF may operate more</p>		
IMP 005	Chemical Metal Cleaning	1-2	1	~0.200				
<p>Chemical metal cleaning wastewaters are infrequently generated as a result of chemical washes of the boiler or other components. These washes are performed approximately once every 12 years per unit during an outage.</p>								
III. PRODUCTION								
A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility?								
<input checked="" type="checkbox"/> YES (complete Item III-B)				<input type="checkbox"/> NO (go to Section IV)				
B. Are the limitations in the applicable effluent guideline expressed in terms of production (or other measure of operation)?								
<input type="checkbox"/> YES (complete Item III-C)				<input checked="" type="checkbox"/> NO (go to Section IV)				
C. If you answered "yes" to Item III-B, list the quantity which represents an actual measurement of your level of production, expressed in the terms and units used in the applicable effluent guideline, and indicate the affected outfalls.								
1. AVERAGE DAILY PRODUCTION								2. AFFECTED OUTFALLS (list outfall numbers)
a. QUANTITY PER DAY	b. UNITS OF MEASURE	c. OPERATION, PRODUCT, MATERIAL, ETC. (specify)						
IV. IMPROVEMENTS								
A. Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.								
<input type="checkbox"/> YES (complete the following table)				<input checked="" type="checkbox"/> NO (go to Item IV-B)				
1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS		3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE				
	a. NO.	b. SOURCE OF DISCHARGE		a. RE-QUIRED	b. PRO-JECTED			
B. OPTIONAL: You may attach additional sheets describing any additional water pollution control programs (or other environmental projects which may affect your discharges) you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction.								
<input type="checkbox"/> MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED								

TN DEPT. OF ENV. & CONSERVATION

MAY 31 2017

CONTINUED FROM PAGE 2

A, B, & C: See instructions before proceeding - Complete one set of tables for each outfall - Annotate the outfall number in the space provided.

NOTE: Tables V-A, V-B, and V-C are included on separate sheets numbered V-1 through V-9.

D. Use the space below to list any of the pollutants listed in Table 2C-3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
Vanadium pentoxide	Selective catalytic reduction (SCR) for NOx air emissions control uses this material as a catalyst.		

VI. POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

Is any pollutant listed in Item V-C a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

☐ **YES** (list all such pollutants below)

☒ **NO** (go to Item VI-B)

TN DEPT. OF ENV. & CONSERVATION

MAY 31 2017

DIVISION OF WATER RESOURCES

VII. BIOLOGICAL TOXICITY TESTING DATA

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☒ **YES** (identify the test(s) and describe their purposes below)

☐ **NO** (go to Section VIII)

Toxicity testing is conducted on effluent from Outfall 002 on an annual basis in accordance with Part III of TN0005452. Toxicity test reports have been submitted to the State with the associated discharge monitoring reports.

VIII. CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?

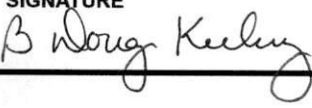
☒ **YES** (list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)

☐ **NO** (go to Section IX)

A. NAME	B. ADDRESS	C. TELEPHONE (area code & no.)	D. POLLUTANTS ANALYZED (list)
TestAmerica Laboratories, Inc.	2960 Foster Creighton Drive Nashville, TN 37204	615-726-0177	All parameters except pH, total residual chlorine, temperature, sulfite and flow.

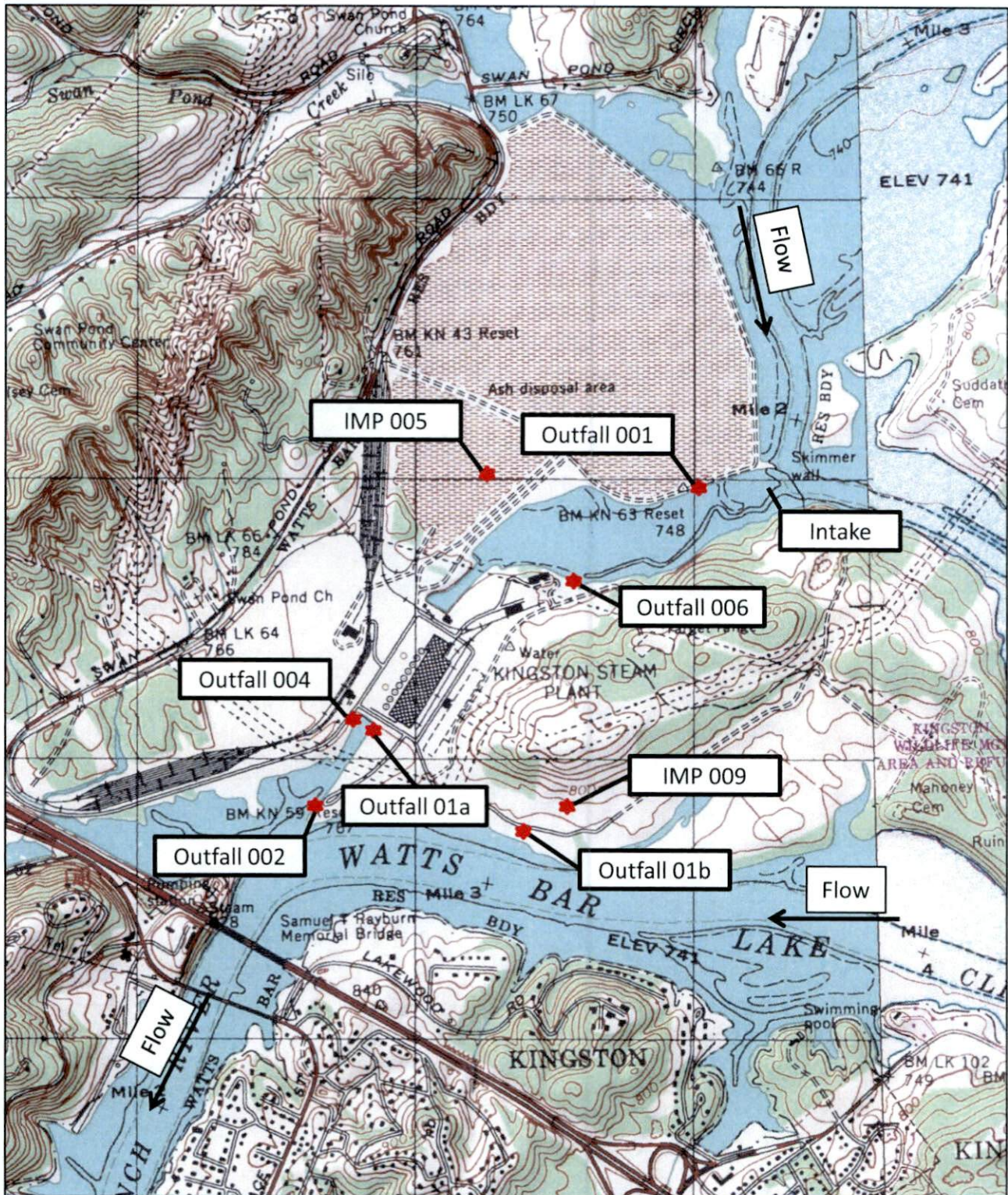
IX. CERTIFICATION

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.

A. NAME & OFFICIAL TITLE (type or print) B. Doug Keeling, Plant Manager	B. PHONE NO. (area code & no.) 865-717-2500
C. SIGNATURE 	D. DATE SIGNED 5/24/17

TN DEPT. OF ENV. & CONSERVATION

MAY 31 2017

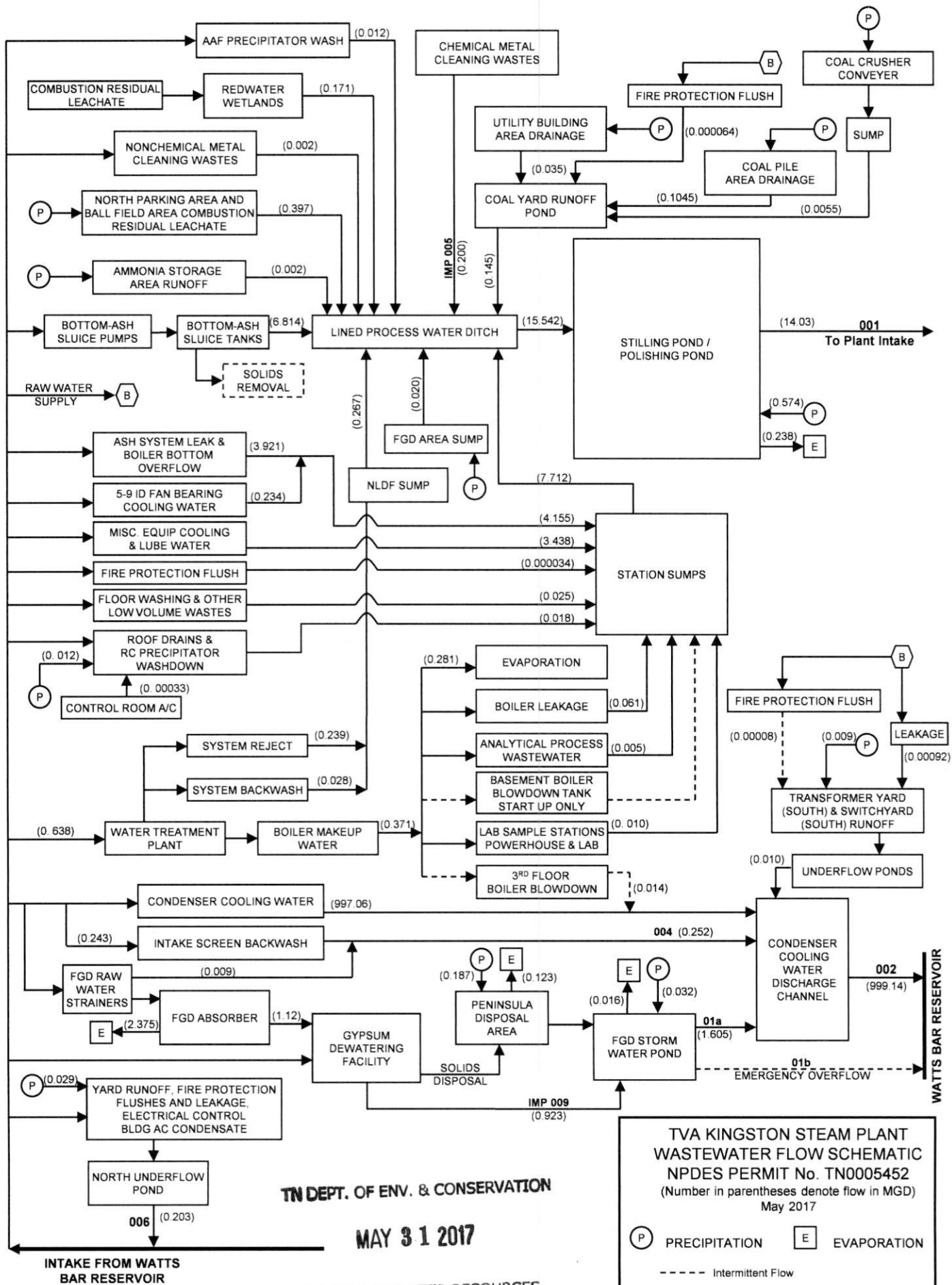


Tennessee Valley Authority
 Kingston Fossil Plant
 NPDES Permit No. TN0005452
 Roane County, Tennessee

TN DEPT. OF ENV. & CONSERVATION

MAY 31 2017

DIVISION OF WATER RESOURCES



TN DEPT. OF ENV. & CONSERVATION

MAY 31 2017

DIVISION OF WATER RESOURCES

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets (use the same format) instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER (copy from Item 1 of Form 1)
TN8640006682

V. INTAKE AND EFFLUENT CHARACTERISTICS (continued from page 3 of Form 2-C)

OUTFALL NO.
IMP 005

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT						d NO. OF ANALYSES	3. UNITS (specify if blank)		4. INTAKE (optional)			
	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)					a. LONG TERM AVERAGE VALUE		b NO. OF ANALYSES	
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS		a. CONCEN- TRATION	b. MASS	(1) CONCENTRATION	(2) MASS		
a. Biochemical Oxygen Demand (BOD)													
b. Chemical Oxygen Demand (COD)													
c. Total Organic Carbon (TOC)													
d. Total Suspended Solids (TSS)													
e. Ammonia (as N)													
f. Flow	0.200*				0.200*			MGD					
g. Temperature (winter)													
h. Temperature (summer)													
i. pH	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM				STANDARD UNITS					

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUT- ANT AND CAS NO. (if available)	2. MARK 'X'		3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	a. BE- LIEVED PRE- SENT	b. BE- LIEVED AB- SENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANAL- YSES	a. CONCEN- TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANAL- YSES
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS						
a. Bromide (24959-67-9)														
b. Chlorine, Total Residual														
c. Color														
d. Fecal Coliform														
e. Fluoride (16984-48-8)														
f. Nitrate- Nitrite (as N)														

DIVISION OF WATER RESOURCES

MAY 31 2017

TN DEPT. OF ENV. & CONSERVATION

*Flows estimated based on typical volume of a chemical boiler wash.

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X'		3. EFFLUENT								4. UNITS		5. INTAKE (optional)		
	a. BELIEVED PRE-SENT	b. BELIEVED AB-SENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANAL-YES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANAL-YES	
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS		
															(1) CONCENTRATION
g. Nitrogen, Total Organic (as N)															
h. Oil and Grease															
i. Phosphorus (as P), Total (7723-14-0)															
j. Radioactivity															
(1) Alpha, Total															
(2) Beta, Total															
(3) Radium, Total															
(4) Radium 226, Total															
k. Sulfate (as SO ₄) (14808-79-8)															
l. Sulfide (as S)															
m. Sulfite (as SO ₃) (14265-45-3)															
n. Surfactants															
o. Aluminum, Total (7429-90-5)															
p. Barium, Total (7440-39-3)															
q. Boron, Total (7440-42-8)															
r. Cobalt, Total (7440-48-4)															
s. Iron, Total (7439-89-6)			2.4					< 0.398	18	mg/L					
t. Magnesium, Total (7439-95-4)															
u. Molybdenum, Total (7439-98-7)															
v. Manganese, Total (7439-96-5)															
w. Tin, Total (7440-31-5)															
x. Titanium, Total (7440-32-6)															

Data provided are from historical discharges from the metal cleaning ponds from 2006-2008. There have not been discharges of chemical metal cleaning waste since pond closure in 2009.

CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (*secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions*), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4,6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	a. TEST- ING RE- QUIRED	b. BE- LIEVED PRE- SENT	c. BE- LIEVED AB- SENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANAL- YSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANAL- YSES
				(1)	(2) MASS CONCENTRATION	(1)	(2) MASS CONCENTRATION	(1)	(2) MASS CONCENTRATION				(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)															
2M. Arsenic, Total (7440-38-2)															
3M. Beryllium, Total, (7440-41-7)															
4M. Cadmium, Total (7440-43-9)															
5M. Chromium, Total (7440-47-3)															
6M. Copper, Total (7440-50-8)				0.24				< 0.0378		18	mg/L				
7M. Lead, Total (7439-92-1)															
8M. Mercury, Total (7439-97-6)															
9M. Nickel, Total (7440-02-0)															
10M. Selenium, Total (7782-49-2)															
11M. Silver, Total (7440-22-4)															
12M. Thallium, Total (7440-28-0)															
13M. Zinc, Total (7440-66-6)															
14M. Cyanide, Total (57-12-5)															
15M. Phenols, Total															
DIOXIN 2,3,7,8-Tetra- chlorodibenzo-P Dioxin (1764-01-6)				DESCRIBE RESULTS											

Data provided are from historical discharges from the metal cleaning ponds from 2006-2008. There have not been discharges of chemical metal cleaning waste since pond closure in 2009.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT						d. NO. OF ANAL- YSES	4. UNITS		5. INTAKE (optional)		
	a. TEST- ING RE- QUIRED	b. BE- LIEVED PRE- SENT	c. BE- LIEVED AB- SENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)			a. CONCEN- TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANAL- YSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCEN- TRATION	(2) MASS	
GC/MS FRACTION - VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)															
2V. Acrylonitrile (107-13-1)															
3V. Benzene (71-43-2)															
4V. Bis (Chloro- methyl) Ether (542-88-1)															
5V. Bromoform (75-25-2)															
6V. Carbon Tetrachloride (56-23-5)															
7V. Chlorobenzene (108-90-7)															
8V. Chlorodi- bromomethane (124-48-1)															
9V. Chloroethane (75-00-3)															
10V. 2-Chloro- ethylvinyl Ether (110-75-8)															
11V. Chloroform (67-66-3)															
12V. Dichloro- bromomethane (75-27-4)															
13V. Dichloro- difluoromethane (75-71-8)															
14V. 1,1-Dichloro- ethane (75-34-3)															
15V. 1,2-Dichloro- ethane (107-06-2)															
16V. 1,1-Dichloro- ethylene (75-35-4)															
17V. 1,2-Dichloro- propane (78-87-5)															
18V. 1,3-Dichloro- propylene (542-75-6)															
19V. Ethylbenzene (100-41-4)															
20V. Methyl Bromide (74-83-9)															
21V. Methyl Chloride (74-87-3)															

DIVISION OF WATER RESOURCES
 MAY 31 2017
 TN DEPT. OF ENV. & CONSERVATION

CONTINUED FROM PAGE V-4

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT				4. UNITS		5. INTAKE (optional)					
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - VOLATILE COMPOUNDS (continued)															
22V. Methylene Chloride (75-09-2)															
23V. 1,1,2,2-Tetrachloroethane (79-34-5)															
24V. Tetrachloroethylene (127-18-4)															
25V. Toluene (108-88-3)															
26V. 1,2-Trans-Dichloroethylene (156-60-5)															
27V. 1,1,1-Trichloroethane (71-55-6)															
28V. 1,1,2-Trichloroethane (79-00-5)															
29V. Trichloroethylene (79-01-6)															
30V. Trichlorofluoromethane (75-69-4)															
31V. Vinyl Chloride (75-01-4)															
GC/MS FRACTION - ACID COMPOUNDS															
1A. 2-Chlorophenol (85-57-8)															
2A. 2,4-Dichlorophenol (120-83-2)															
3A. 2,4-Dimethylphenol (105-67-9)															
4A. 4,6-Dinitro-O-Cresol (534-52-1)															
5A. 2,4-Dinitrophenol (51-28-5)															
6A. 2-Nitrophenol (88-75-5)															
7A. 4-Nitrophenol (100-02-7)															
8A. P-Chloro-M Cresol (59-50-7)															
9A. Pentachlorophenol (87-86-5)															
10A. Phenol (108-95-2)															
11A. 2,4,6-Trichlorophenol (88-06-2)															

DIVISION OF WATER RESOURCES
 MAY 31 2017
 TN DEPT. OF ENV. & CONSERVATION

CONTINUED FROM PAGE V-5

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT						d. NO. OF ANAL-YES	4. UNITS		5. INTAKE (optional)		
	a. TEST-ING RE-QUIRED	b. BE-LIEVED PRE-SENT	c. BE-LIEVED AB-SENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)			a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANAL-YES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCEN-TRATION	(2) MASS	
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)															
2B. Acenaphthylene (208-96-8)															
3B. Anthracene (120-12-7)															
4B. Benzidine (92-87-5)															
5B. Benzo (a) Anthracene (56-55-3)															
6B. Benzo (a) Pyrene (50-32-8)															
7B. 3,4-Benzo-fluoranthene (205-99-2)															
8B. Benzo (ghi) Perylene (191-24-2)															
9B. Benzo (k) Fluoranthene (207-08-9)															
10B. Bis (2-Chloro-ethoxy) Methane (111-91-1)															
11B. Bis (2-Chloro-ethyl) Ether (111-44-4)															
12B. Bis (2-Chloro-isopropyl) Ether (102-60-1)															
13B. Bis (2-Ethyl-hexyl) Phthalate (117-81-7)															
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)															
15B. Butyl Benzyl Phthalate (85-68-7)															
16B. 2-Chloro-naphthalene (91-58-7)															
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)															
18B. Chrysene (218-01-9)															
19B. Dibenzo (a,h) Anthracene (53-70-3)															
20B. 1,2-Dichloro-benzene (95-50-1)															
21B. 1,3-Dichloro-benzene (541-73-1)															

DIVISION OF WATER RESOURCES
 MAY 31 2017
 TN DEPT. OF ENV. & CONSERVATION

CONTINUED FROM PAGE V-6

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT				4. UNITS				5. INTAKE (optional)			
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)															
22B. 1,4-Dichlorobenzene (106-46-7)															
23B. 3,3'-Dichlorobenzidine (91-94-1)															
24B. Diethyl Phthalate (84-66-2)															
25B. Dimethyl Phthalate (131-11-3)															
26B. Di-N-Butyl Phthalate (84-74-2)															
27B. 2,4-Dinitrotoluene (121-14-2)															
28B. 2,6-Dinitrotoluene (606-20-2)															
29B. Di-N-Octyl Phthalate (117-84-0)															
30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)															
31B. Fluoranthene (206-44-0)															
32B. Fluorene (86-73-7)															
33B. Hexachlorobenzene (118-74-1)															
34B. Hexachlorobutadiene (87-68-3)															
35B. Hexachlorocyclopentadiene (77-47-4)															
36B. Hexachloroethane (67-72-1)															
37B. Indeno (1,2,3-cd) Pyrene (193-39-5)															
38B. Isophorone (78-59-1)															
39B. Naphthalene (91-20-3)															
40B. Nitrobenzene (98-95-3)															
41B. N-Nitrosodimethylamine (62-75-9)															
42B. N-Nitrosodipropylamine (621-64-7)															

DIVISION OF WATER RESOURCES

MAY 31 2017

TN DEPT. OF ENV. & CONSERVATION

CONTINUED FROM PAGE V-7

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	a. TEST- ING RE- QUIRED	b. BE- LIEVED PRE- SENT	c. BE- LIEVED AB- SENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANAL- YSES	a. CONCEN- TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANAL- YSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCEN- TRATION	(2) MASS	
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)															
43B. N-Nitro- sodiphenylamine (86-30-6)															
44B. Phenanthrene (85-01-8)															
45B. Pyrene (129-00-0)															
46B. 1,2,4 - Tri- chlorobenzene (120-82-1)															
GC/MS FRACTION - PESTICIDES															
1P. Aldrin (309-00-2)															
2P. α -BHC (319-84-6)															
3P. β -BHC (319-85-7)															
4P. γ -BHC (58-89-9)															
5P. δ -BHC (319-86-8)															
6P. Chlordane (57-74-9)															
7P. 4,4'-DDT (50-29-3)															
8P. 4,4'-DDE (72-55-9)															
9P. 4,4'-DDD (72-54-8)															
10P. Dieldrin (60-57-1)															
11P. α -Endosulfan (115-29-7)															
12P. β -Endosulfan (115-29-7)															
13P. Endosulfan Sulfate (1031-07-8)															
14P. Endrin (72-20-8)															
15P. Endrin Aldehyde (7421-93-4)															
16P. Heptachlor (76-44-8)															

DIVISION OF WATER RESOURCES

MAY 31 2017

TN DEPT. OF ENV. & CONSERVATION

CONTINUED FROM PAGE V-8

CONTINUED FROM PAGE V-3															
1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	a. TEST- ING RE- QUIRED	b. BE- LIEVED PRE- SENT	c. BE- LIEVED AB- SENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANAL- YSES	a. LONG TERM AVERAGE VALUE		a. LONG TERM AVERAGE VALUE		b. NO. OF ANAL- YSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS		a. CONCEN- TRATION	b. MASS	(1) CONCEN- TRATION	(2) MASS	
GC/MS FRACTION - PESTICIDES (continued)															
17B. Heptachlor Epoxide (1024-57-3)															
18P. PCB-1242 (53469-21-9)															
19P. PCB-1254 (11097-69-1)															
20P. PCB-1221 (11104-28-2)															
21P. PCB-1232 (11141-16-5)															
22P. PCB-1248 (12672-29-6)															
23P. PCB-1260 (11096-82-5)															
24P. PCB-1016 (12674-11-2)															
25P. Toxaphene (8001-35-2)															

TN DEPT. OF ENV. & CONSERVATION
 MAY 31 2017
 DIVISION OF WATER RESOURCES