Southern Nuclear

Regulatory Affairs

3535 Colonnade Parkway
Birmingham, AL 35243
205 992 5000 tel
205 992 7795 fax

JUN 1 2 2018

Docket Nos.: 50-348
50-364

NL-18-0823

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555-0001

Joseph M. Farley Nuclear Plant, Units 1 and 2
NPDES Permit Renewal

Ladies and Gentlemen:

In accordance with Section 3.2 of the Joseph M. Farley Nuclear Plant (FNP) Environmental Protection Plan, Units 1 and 2, Appendix B to Facility Operating License Nos. NPF-2 and NPF-8, enclosed is a copy of the renewal application for FNP National Pollutant Discharge Elimination System (NPDES) Permit Number AL0024619 issued by the Alabama Department of Environmental Management.

This letter contains no NRC commitments. If you have any questions, please contact Zach Ryals at (205) 992-6388.

Respectfully submitted,

Justin T. Wheat
Licensing Manager

JTW/ndj/sm

Enclosure: Renewal Application for NPDES Permit Number AL0024619

cc: Regional Administrator, Region II
NRR Project Manager – Farley Nuclear Plant
Senior Resident Inspector – Farley Nuclear Plant
RTYPE: CFA04.054

C001
NRR

Joseph M. Farley Nuclear Plant Unit 1 and 2

Enclosure

Renewal Application for NPDES Permit Number AL0024619

Application for Permit Renewal

NPDES Permit No. AL0024619

Joseph M. Farley Nuclear Power Plant

U.S. EPA Form 3510-1

General Information
Consolidated Permits Program

Joseph M. Farley Nuclear Power Plant
NPDES No. AL0024619

Please print or type in the unshaded areas only.

Form Approved. OMB No. 2040-0086.

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

S		T/A	C
F	GA0026786		D
1	2 13	14	15

LABEL ITEMS	PLEASE PLACE LABEL IN THIS SPACE
I. EPA I.D. NUMBER	
III. FACILITY NAME	
V. FACILITY MAILING ADDRESS	
VI. FACILITY LOCATION	

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

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" YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	Mark "X" 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		B. Does or will this facility *(either existing or proposed)* 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	
	16	17	18		19	20	21
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	D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.**? (FORM 2D)		X	
	22	23	24		25	26	27
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)		X		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	
	28	29	30		31	32	33
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		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	
	34	35	36		37	38	39
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		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	
	40	41	42		43	44	45

III. NAME OF FACILITY

C 1 SKIP JOSEPH M. FARLEY NUCLEAR POWER PLANT

15 16 – 29 30 69

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
C 2 FULTON, DALE, ENVIRONMENTAL AFFAIRS MANAGER	(205) 992-7536
15 16 45	46 48 49 51 52- 55

V. FACILTY MAILING ADDRESS

A. STREET OR P.O. BOX

C 3 P.O. BOX 1295

15 16 45

B. CITY OR TOWN	C. STATE	D. ZIP CODE
C 4 BIRMINGHAM	AL	35201
15 16 40	41 42	47 51

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

C 5 7388 NORTH STATE HIGHWAY 95

15 16 45

B. COUNTY NAME

HOUSTON

46 70

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
C 6 COLUMBIA	AL	36319	N/A
15 16 40	41 42	47 51	52 -54

CONTINUED FROM THE FRONT

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

A. FIRST	B. SECOND
7 4911 (specify) GENERATION OF ELECTRICITY	7 (specify) N/A
C. THIRD	**D. FOURTH**
7 (specify) N/A	7 (specify) N/A

VIII. OPERATOR INFORMATION

A. NAME: 8 SOUTHERN NUCLEAR OPERATING COMPANY

B. Is the name listed in Item VIII-A also the owner? ☐ YES ☑ NO

C. STATUS OF OPERATOR *(Enter the appropriate letter into the answer box: if "Other," specify.)*

F = FEDERAL
S = STATE
P = PRIVATE
M = PUBLIC *(other than federal or state)*
O = OTHER *(specify)*

P (specify) N/A

D. PHONE *(area code & no.)*: A (205) 992-7536

E. STREET OR P.O. BOX: P.O. BOX 1295

F. CITY OR TOWN: B BIRMINGHAM

G. STATE: AL

H. ZIP CODE: 35201

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☑ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES *(Discharges to Surface Water)*	N	AL0024619	
D. PSD *(Air Emissions from Proposed Sources)*	P	NONE	
B. UIC *(Underground Injection of Fluids)*	U	NONE	
E. OTHER *(specify)*	9	SEE ATTACHED	(specify)
C. RCRA *(Hazardous Wastes)*	R	NONE	
E. OTHER *(specify)*	9	N/A	(specify)

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)*

Generation of electricity through the use of nuclear fuel.

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
D. R. Madison, VP Nuclear Plant Site	Dennis R Madison	6-1-18

COMMENTS FOR OFFICIAL USE ONLY

C

Attachment 1
U.S. EPA Form 3510-1

Section X. Existing Environmental Permits

Joseph M. Farley Nuclear Power Plant
NPDES No. AL0024619

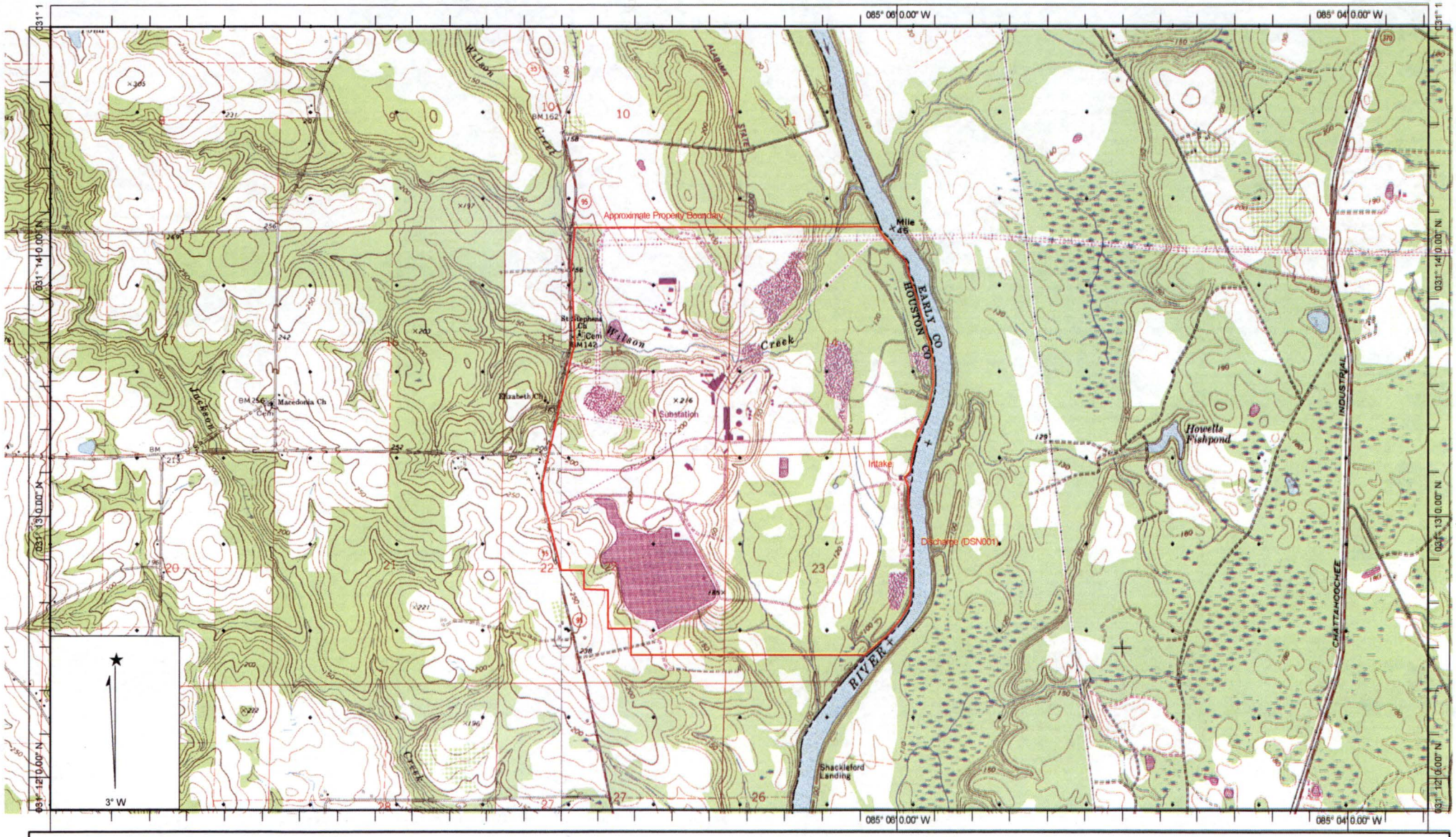
Existing Environmental Permits
Farley Nuclear Plant

Permit Name	Permit Number	Held By
NPDES Permit	AL0024619	Southern Nuclear Operating Co
Water Supply Permit	2007-507	Southern Nuclear Operating Co
Solid Waste Disposal Facility Permit	35-05	Southern Nuclear Operating Co
Certificate of Use (Issued by Office of Water Resources)	0063.3	Southern Nuclear Operating Co
NPDES Construction Stormwater Registration (ADEM Code Ch. 335-6-12)	ALR10BBSM	Southern Nuclear Operating Co

Attachment 2
U.S. EPA Form 3510-1

Section XI. Topographic Map

Joseph M. Farley Nuclear Power Plant
NPDES No. AL0024619



Name: GORDON
Date: 7/29/2005
Scale: 1 inch equals 2000 feet

Location: 031° 13' 22.9" N 085° 06' 42.8" W
Caption: Farley Nuclear Plant
Southern Nuclear Operating Company
NPDES Permit No. AL0024619

Copyright (C) 1997, Maptech, Inc.

U.S. EPA Form 3510-2C

Application for Permit to Discharge Wastewater
Consolidated Permits Program

Joseph M. Farley Nuclear Power Plant
NPDES No. AL0024619

Please print or type in the unshaded areas only.

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)
AL0024619

Form Approved.
OMB No. 2040-0086.
Approval expires 3-31-98.

FORM **2C** NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURE 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.	
001-001E	31.00	12.00	52.00	-85.00	5.00	55.00	CHATTAHOOCHEE RIVER

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	MAIN COMBINED FACILTY DISCHARGE	72.92 MGD	SEE ATTACHED	4A	
001A	COOLING TOWER BLOWDOWN - UNIT 1	**INTERMITTENT FLOW	SEE ATTACHED	4A	2E
		(SEE ATTACHED)			
001B	COOLING TOWER BLOWDOWN - UNIT 2	**	SEE ATTACHED	4A	2E
001C	TREATED CHOMATE BEARING WASTEWATER	**	SEE ATTACHED	4A	2J
001D	TURBINE BUILDING SUMP - UNIT 1	**	SEE ATTACHED	4A	
001E	TURBINE BUILDING SUMP - UNIT 2	**	SEE ATTACHED	4A	

OFFICIAL USE ONLY (*effluent guidelines sub-categories*)

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EPA I.D. NUMBER (*copy from Item 1 of Form 1*)
AL0024619

Form Approved.
OMB No. 2040-0086.
Approval expires 3-31-98.

FORM **2C** NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURE 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.	
001F-001K	31.00	12.00	52.00	-85.00	5.00	55.00	CHATTAHOOCHEE RIVER

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	
001F	STEAM GENERATOR BLOWDOWN - UNIT 1	0.17 MGD	SEE ATTACHED	4A	
001G	STEAM GENERATOR BLOWDOWN - UNIT 2	0.16 MGD	SEE ATTACHED	4A	
001H	LIQUID RADWASTE SYSTEM - UNIT 1	**INTERMITTENT FLOW	SEE ATTACHED	4A	2J
001I	LIQUID RADWASTE SYSTEM - UNIT 2	**	SEE ATTACHED	4A	2J
001J	CONDENSER WATERBOX DRAIN - UNIT 1	**	SEE ATTACHED	4A	
001K	CONDENSER WATERBOX DRAIN - UNIT 2	**	SEE ATTACHED	4A	

OFFICIAL USE ONLY (*effluent guidelines sub-categories*)

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EPA I.D. NUMBER (*copy from Item 1 of Form 1*)
AL0024619

Form Approved.
OMB No. 2040-0086.
Approval expires 3-31-98.

FORM **2C** NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURE 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.	
012	31.00	12.00	52.00	-85.00	5.00	55.00	CHATTAHOOCHEE RIVER
022-023	31.00	12.00	52.00	-85.00	5.00	55.00	CHATTAHOOCHEE RIVER
024-024B	31.00	12.00	52.00	-85.00	5.00	55.00	CHATTAHOOCHEE RIVER

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	
012	CHEMICAL METAL CLEANING WASTES	**INTERMITTENT FLOW	SEE ATTACHED	4A	
022	RIVER WATER BUILDING SUMP - SOUTH	**	SEE ATTACHED	4A	
023	RIVER WATER BUILDING SUMP - NORTH	**	SEE ATTACHED	4A	
024	SOUTHEAST YARD DRAINAGE	**	SEE ATTACHED	4A	2J
024B	TREATED CHROMATE BEARING WASTEWATER	0.5 MGD	SEE ATTACHED	4A	1V

OFFICIAL USE ONLY (*effluent guidelines sub-categories*)

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Approval expires 3-31-98.

FORM **2C** NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURE 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.	
025-025B	31.00	12.00	52.00	-85.00	5.00	55.00	CHATTAHOOCHEE RIVER
026-027A	31.00	13.00	45.00	-85.00	5.00	45.00	WILSON CREEK

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	
025	EAST YARD DRAINAGE	**INTERMITTENT FLOW	SEE ATTACHED	4A	
025A	COOLING TOWER OVERFLOW - UNIT 1	**	SEE ATTACHED	4A	
025B	SEWAGE TREATMENT PLANT	0.07 MGD	SEE ATTACHED	4A	2F
				1V	3A
026	NORTHWEST YARD DRAINAGE	**	SEE ATTACHED	4A	
027	NORTHCENTRAL YARD DRAINAGE	**	SEE ATTACHED	4A	
027A	COOLING TOWER OVERFLOW - UNIT 2	**	SEE ATTACHED	4A	

OFFICIAL USE ONLY (*effluent guidelines sub-categories*)

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AL0024619

Form Approved.
OMB No. 2040-0086.
Approval expires 3-31-98.

FORM 2C NPDES

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURE 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.	
028-030	31.00	12.00	52.00	-85.00	5.00	55.00	CHATTAHOOCHEE RIVER

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	
028	WEST YARD DRAINAGE	**INTERMITTENT FLOWS	SEE ATTACHED	4A	
029	SOUTHEAST YARD DRAINAGE	**	SEE ATTACHED	4A	
030	INTAKE SCREEN BACKWASH WATER TO	**	SEE ATTACHED	4A	
	INTAKE CANAL (UNITS 1&2)				

OFFICIAL USE ONLY (*effluent guidelines sub-categories*)

CONTINUED FROM THE FRONT

C. Except for storm runoff, leaks, or spills, are any of the discharges described in Items II-A or B intermittent or seasonal?

☑ YES (*complete the following table*) ☐ 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	
N/A	SEE ATTACHMENT FOR INTERMITTENT DISCHARGES							

III. PRODUCTION

A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility?

☑ YES (*complete Item III-B*) ☐ NO (*go to Section IV*)

B. Are the limitations in the applicable effluent guideline expressed in terms of production (*or other measure of operation*)?

☐ YES (*complete Item III-C*) ☑ 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*)	
N/A			

IV. IMPROVEMENTS

A. Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operations 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.

☐ YES (*complete the following table*) ☑ 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. REQUIRED	b. PROJECTED
N/A					

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.

☐ MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED

 CONTINUE ON PAGE 3

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)
AL0024619

CONTINUED FROM PAGE 2

V. INTAKE AND EFFLUENT CHARACTERISTICS

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
NONE			

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*)

N/A

CONTINUED FROM THE FRONT

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*)

ANNUAL BIOMONITORING (TOXICITY TESTING)AS REQUIRED BY EXISTING NPDES PERMIT AT THE MAIN COMBINED FACILITY DISCHARGE (DSN001).

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*)
ALABAMA POWER COMPANY GENERAL TEST LAB	BUILDING NO. 8 P.O. BOX 2641 BIRMINGHAM, AL 35291	(205) 664-6194	All except as listed below
TESTAMERICA LABORATORIES, INC.	3355 MCLEMORE DRIVE PENSACOLA, FL 32514	(850) 474-1001	Radiological
TTL, INC.	3516 Greensboro Ave. Tuscaloosa, AL 35401	(205) 345-0816	Cyanide, Phenols, COD, Color, Surfactants, Sulfide, VOCs, Base/Neutral

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. PHONE NO. (*area code & no.*)
D. R. MADISON, VP NUCLEAR PLANT SITE	334-814-4511
C. SIGNATURE	**D. DATE SIGNED**
D. R. Madison	6-1-18

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*): AL0024619

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

OUTFALL NO. 001

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 a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	3. UNITS (*specify if blank*) a. CONCEN-TRATION	b. MASS	4. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand (*BOD*)	0.8						1	mg/L		1.0		1
b. Chemical Oxygen Demand (*COD*)	14.4						1	mg/L		8.5		1
c. Total Organic Carbon (*TOC*)	4.02						1	mg/L		3.64		1
d. Total Suspended Solids (*TSS*)	8.3						1	mg/L		5.9		1
e. Ammonia (*as N*)	<0.3						1	mg/L		<0.3		1
f. Flow	VALUE 97.14		VALUE N/A		VALUE 72.92		1834	MGD		VALUE 56.16		1
g. Temperature (*winter*)	VALUE 20.6		VALUE N/A		VALUE N/A		1	°C		VALUE 11		1
h. Temperature (*summer*)	VALUE 40		VALUE N/A		VALUE N/A		1	°C		VALUE 36.7		1
i. pH	MINIMUM 7.37	MAXIMUM 7.37	MINIMUM	MAXIMUM			1	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. POLLUTANT AND CAS NO. (*if available*)	2. MARK "X" a. BELIEVED PRESENT	b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCEN-TRATION	b. MASS	5. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
a. Bromide (24959-67-9)	X		<0.08						1	mg/L		<0.08		1
b. Chlorine, Total Residual	X		<0.05						1	mg/L		<0.05		1
c. Color	X		23.0						1	PCU		26.0		1
d. Fecal Coliform	X		19.7						1	col/0.1L		143.9		1
e. Fluoride (16984-48-8)	X		<1						1	mg/L		<1		1
f. Nitrate-Nitrite (*as N*)	X		0.51						1	mg/L		0.35		1

 CONTINUE ON REVERSE

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (*if available*)	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. BELIEVED PRESENT	b. 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. CONCEN-TRATION	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	
g. Nitrogen, Total Organic (*as N*)	X		<0.2						1	mg/L		<0.2		1
h. Oil and Grease	X		<5.0						1	mg/L		<5.0		1
i. Phosphorus (as P), Total (7723-14-0)	X		0.07						1	mg/L		0.034		1
j. Radioactivity														
(1) Alpha, Total	X		<1.17						1	pCi/L		<1.26		1
(2) Beta, Total	X		2.09						1	pCi/L		1.07		1
(3) Radium, Total	X		<2.57						1	pCi/L		<2.43		1
(4) Radium 226, Total	X		<0.133						1	pCi/L		<0.109		1
k. Sulfate (*as* SO_4) (14808-79-8)	X		16.8						1	mg/L		12.7		1
l. Sulfide (*as S*)	X		<0.01						1	mg/L		<0.01		1
m. Sulfite (*as* SO_3) (14265-45-3)	X		<4						1	mg/L		<4		1
n. Surfactants	X		0.10						1	mg/L		0.10		1
o. Aluminum, Total (7429-90-5)	X		0.284						1	mg/L		0.342		1
p. Barium, Total (7440-39-3)	X		0.0255						1	mg/L		0.0227		1
q. Boron, Total (7440-42-8)	X		<0.1012						1	mg/L		<0.102		1
r. Cobalt, Total (7440-48-4)		X	<0.0002						1	mg/L		<0.0002		1
s. Iron, Total (7439-89-6)	X		0.32						1	mg/L		0.459		1
t. Magnesium, Total (7439-95-4)	X		2.30						1	mg/L		1.82		1
u. Molybdenum, Total (7439-98-7)		X	0.00119						1	mg/L		0.000848		1
v. Manganese, Total (7439-96-5)	X		0.0369						1	mg/L		0.0830		1
w. Tin, Total (7440-31-5)		X	<0.0002						1	mg/L		<0.0002		1
x. Titanium, Total (7440-32-6)		X	0.0103						1	mg/L		0.0124		1

CONTINUE ON PAGE V-3

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
AL0024619	001

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. 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. CONCEN-TRATION	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	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	X		X	0.000255						1	mg/L		<0.0002		1
2M. Arsenic, Total (7440-38-2)	X		X	0.000407						1	mg/L		0.000449		1
3M. Beryllium, Total (7440-41-7)	X		X	<0.0002						1	mg/L		<0.0002		1
4M. Cadmium, Total (7440-43-9)	X		X	<0.0002						1	mg/L		<0.0002		1
5M. Chromium, Total (7440-47-3)	X		X	0.000436						1	mg/L		0.000471		1
6M. Copper, Total (7440-50-8)	X		X	0.00497						1	mg/L		0.000803		1
7M. Lead, Total (7439-92-1)	X		X	0.000249						1	mg/L		0.000247		1
8M. Mercury, Total (7439-97-6)	X		X	<5						1	ng/L		<5		1
9M. Nickel, Total (7440-02-0)	X		X	<0.001						1	mg/L		<0.001		1
10M. Selenium, Total (7782-49-2)	X		X	0.000293						1	mg/L		<0.000203		1
11M. Silver, Total (7440-22-4)	X		X	<0.0002						1	mg/L		<0.0002		1
12M. Thallium, Total (7440-28-0)	X	X		<0.0002						1	mg/L		<0.0002		1
13M. Zinc, Total (7440-66-6)	X	X		0.00527						1	mg/L		0.00234		1
14M. Cyanide, Total (57-12-5)	X		X	<0.01						1	mg/L		<0.01		1
15M. Phenols, Total	X		X	<0.10						1	mg/L		<0.10		1
DIOXIN															
2,3,7,8-Tetra-chlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

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. CONCEN-TRATION	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															
1V. Accrolein (107-02-8)	X		X	<0.100						1	mg/L		<0.100		1
2V. Acrylonitrile (107-13-1)	X		X	<0.100						1	mg/L		<0.100		1
3V. Benzene (71-43-2)	X		X	<0.005						1	mg/L		<0.005		1
4V. Bis (*Chloro-methyl*) Ether (542-88-1)			X	--	--					1	mg/L		--	--	0
5V. Bromoform (75-25-2)	X		X	<0.005						1	mg/L		<0.005		1
6V. Carbon Tetrachloride (56-23-5)	X		X	<0.005						1	mg/L		<0.005		1
7V. Chlorobenzene (108-90-7)	X		X	<0.005						1	mg/L		<0.005		1
8V. Chlorodi-bromomethane (124-48-1)	X		X	<0.005						1	mg/L		<0.005		1
9V. Chloroethane (75-00-3)	X		X	<0.010						1	mg/L		<0.010		1
10V. 2-Chloro-ethylvinyl Ether (110-75-8)	X		X	<0.010						1	mg/L		<0.010		1
11V. Chloroform (67-66-3)	X		X	<0.005						1	mg/L		<0.005		1
12V. Dichloro-bromomethane (75-27-4)	X		X	<0.005						1	mg/L		<0.005		1
13V. Dichloro-difluoromethane (75-71-8)	X		X	<0.010						1	mg/L		<0.010		1
14V. 1,1-Dichloro-ethane (75-34-3)	X		X	<0.005						1	mg/L		<0.005		1
15V. 1,2-Dichloro-ethane (107-06-2)	X		X	<0.005						1	mg/L		<0.005		1
16V. 1,1-Dichloro-ethylene (75-35-4)	X		X	<0.005						1	mg/L		<0.005		1
17V. 1,2-Dichloro-propane (78-87-5)	X		X	<0.005						1	mg/L		<0.005		1
18V. 1,3-Dichloro-propylene (542-75-6)	X		X	<0.005						1	mg/L		<0.005		1
19V. Ethylbenzene (100-41-4)	X		X	<0.005						1	mg/L		<0.005		1
20V. Methyl Bromide (74-83-9)	X		X	<0.005						1	mg/L		<0.005		1
21V. Methyl Chloride (74-87-3)	X		X	<0.005						1	mg/L		<0.005		1

 CONTINUE ON PAGE V-5

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. CONCEN-TRATION	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)	X		X	<0.005						1	mg/L		<0.005		1
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	X		X	<0.005						1	mg/L		<0.005		1
24V. Tetrachloro-ethylene (127-18-4)	X		X	<0.005						1	mg/L		<0.005		1
25V. Toluene (108-88-3)	X		X	<0.005						1	mg/L		<0.005		1
26V. 1,2-Trans-Dichloroethylene (156-60-5)	X		X	<0.005						1	mg/L		<0.005		1
27V. 1,1,1-Trichloro-ethane (71-55-6)	X		X	<0.005						1	mg/L		<0.005		1
28V. 1,1,2-Trichloro-ethane (79-00-5)	X		X	<0.005						1	mg/L		<0.005		1
29V Trichloro-ethylene (79-01-6)	X		X	<0.005						1	mg/L		<0.005		1
30V. Trichloro-fluoromethane (75-69-4)			X	<0.010						1	mg/L		<0.010		1
31V. Vinyl Chloride (75-01-4)	X		X	<0.002						1	mg/L		<0.002		1
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	X		X	<0.009						1	mg/L		<0.009		1
2A. 2,4-Dichloro-phenol (120-83-2)	X		X	<0.009						1	mg/L		<0.009		1
3A. 2,4-Dimethyl-phenol (105-67-9)	X		X	<0.009						1	mg/L		<0.009		1
4A. 4,6-Dinitro-O-Cresol (534-52-1)	X		X	<0.047						1	mg/L		<0.047		1
5A. 2,4-Dinitro-phenol (51-28-5)	X		X	<0.047						1	mg/L		<0.047		1
6A. 2-Nitrophenol (88-75-5)	X		X	<0.009						1	mg/L		<0.009		1
7A. 4-Nitrophenol (100-02-7)	X		X	<0.047						1	mg/L		<0.047		1
8A. P-Chloro-M-Cresol (59-50-7)	X		X	<0.009						1	mg/L		<0.009		1
9A. Pentachloro-phenol (87-86-5)	X		X	<0.023						1	mg/L		<0.023		1
10A. Phenol (108-95-2)	X		X	<0.009						1	mg/L		<0.009		1
11A. 2,4,6-Trichloro-phenol (88-05-2)	X		X	<0.009						1	mg/L		<0.009		1

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

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. CONCEN-TRATION	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															
1B. Acenaphthene (83-32-9)	X		X	<0.009						1	mg/L		<0.009		1
2B. Acenaphtylene (208-96-8)	X		X	<0.009						1	mg/L		<0.009		1
3B. Anthracene (120-12-7)	X		X	<0.009						1	mg/L		<0.009		1
4B. Benzidine (92-87-5)	X		X	<0.047						1	mg/L		<0.047		1
5B. Benzo (*a*) Anthracene (56-55-3)	X		X	<0.009						1	mg/L		<0.009		1
6B. Benzo (*a*) Pyrene (50-32-8)	X		X	<0.009						1	mg/L		<0.009		1
7B. 3,4-Benzo-fluoranthene (205-99-2)	X		X	<0.009						1	mg/L		<0.009		1
8B. Benzo (*ghi*) Perylene (191-24-2)	X		X	<0.009						1	mg/L		<0.009		1
9B. Benzo (*k*) Fluoranthene (207-08-9)	X		X	<0.009						1	mg/L		<0.009		1
10B. Bis (*2-Chloro-ethoxy*) Methane (111-91-1)	X		X	<0.009						1	mg/L		<0.009		1
11B. Bis (*2-Chloro-ethyl*) Ether (111-44-4)	X		X	<0.009						1	mg/L		<0.009		1
12B. Bis (*2-Chloroisopropyl*) Ether (102-80-1)	X		X	<0.009						1	mg/L		<0.009		1
13B. Bis (*2-Ethyl-hexyl*) Phthalate (117-81-7)	X		X	<0.009						1	mg/L		<0.009		1
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	X		X	<0.009						1	mg/L		<0.009		1
15B. Butyl Benzyl Phthalate (85-68-7)	X		X	<0.009						1	mg/L		<0.009		1
16B. 2-Chloro-naphthalene (91-58-7)	X		X	<0.009						1	mg/L		<0.009		1
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)	X		X	<0.009						1	mg/L		<0.009		1
18B. Chrysene (218-01-9)	X		X	<0.009						1	mg/L		<0.009		1
19B. Dibenzo (*a,h*) Anthracene (53-70-3)	X		X	<0.009						1	mg/L		<0.009		1
20B. 1,2-Dichloro-benzene (95-50-1)	X		X	<0.009						1	mg/L		<0.009		1
21B. 1,3-Di-chloro-benzene (541-73-1)	X		X	<0.009						1	mg/L		<0.009		1

CONTINUE ON PAGE V-7

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. CONCEN-TRATION	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-Dichloro-benzene (106-46-7)	X		X	<0.009						1	mg/L		<0.009		1
23B. 3,3-Dichloro-benzidine (91-94-1)	X		X	<0.019						1	mg/L		<0.019		1
24B. Diethyl Phthalate (84-66-2)	X		X	<0.009						1	mg/L		<0.009		1
25B. Dimethyl Phthalate (131 -11-3)	X		X	<0.009						1	mg/L		<0.009		1
26B. Di-N-Butyl Phthalate (84-74-2)	X		X	<0.009						1	mg/L		<0.009		1
27B. 2,4-Dinitro-toluene (121-14-2)	X		X	<0.009						1	mg/L		<0.009		1
28B. 2,6-Dinitro-toluene (606-20-2)	X		X	<0.009						1	mg/L		<0.009		1
29B. Di-N-Octyl Phthalate (117-84-0)	X		X	<0.009						1	mg/L		<0.009		1
30B. 1,2-Diphenyl-hydrazine (*as Azo-benzene*) (122-66-7)	X		X	<0.047						1	mg/L		<0.047		1
31B. Fluoranthene (206-44-0)	X		X	<0.009						1	mg/L		<0.009		1
32B. Fluorene (86-73-7)	X		X	<0.009						1	mg/L		<0.009		1
33B. Hexachloro-benzene (118-74-1)	X		X	<0.009						1	mg/L		<0.009		1
34B. Hexachloro-butadiene (87-68-3)	X		X	<0.009						1	mg/L		<0.009		1
35B. Hexachloro-cyclopentadiene (77-47-4)	X		X	<0.009						1	mg/L		<0.009		1
36B Hexachloro-ethane (67-72-1)	X		X	<0.009						1	mg/L		<0.009		1
37B. Indeno (*1,2,3-cd*) Pyrene (193-39-5)	X		X	<0.009						1	mg/L		<0.009		1
38B. Isophorone (78-59-1)	X		X	<0.009						1	mg/L		<0.009		1
39B. Naphthalene (91-20-3)	X		X	<0.009						1	mg/L		<0.009		1
40B. Nitrobenzene (98-95-3)	X		X	<0.009						1	mg/L		<0.009		1
41B. N-Nitro-sodimethylamine (62-75-9)	X		X	<0.009						1	mg/L		<0.009		1
42B. N-Nitrosodi-N-Propylamine (621-64-7)	X		X	<0.009						1	mg/L		<0.009		1

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

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. CONCEN-TRATION	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*)															
43B. N-Nitro-sodiphenylamine (86-30-6)	X		X	<0.009						1	mg/L		<0.009		1
44B. Phenanthrene (85-01-8)	X		X	<0.009						1	mg/L		<0.009		1
45B. Pyrene (129-00-0)	X		X	<0.009						1	mg/L		<0.009		1
46B. 1,2,4-Tri-chlorobenzene (120-82-1)	X		X	<0.009						1	mg/L		<0.009		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-Enosulfan (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)															

 CONTINUE ON PAGE V-9

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER
AL0024619	001

~~CONTINUED~~ FROM PAGE V-8

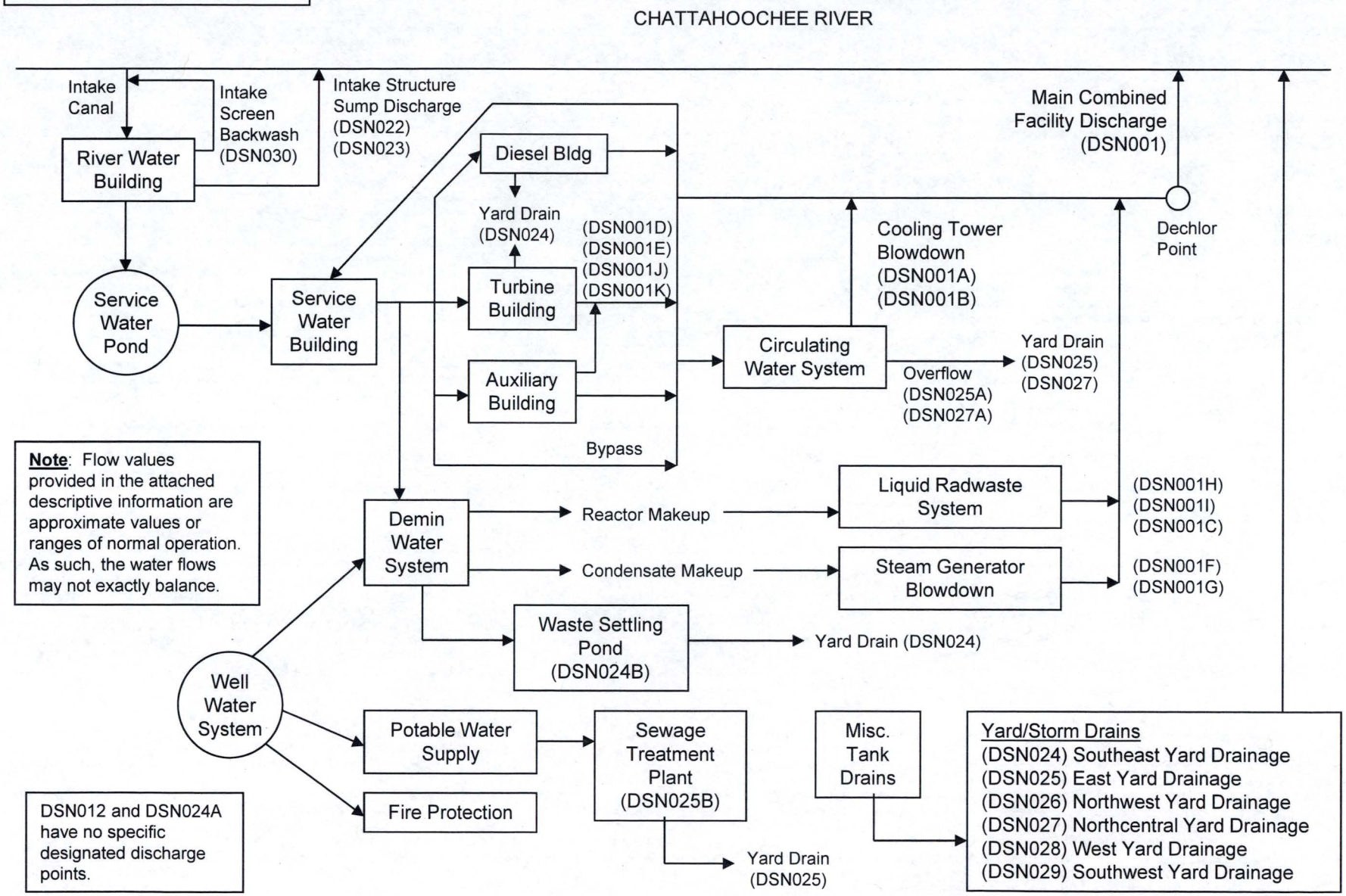
1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCEN-TRATION	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 – PESTICIDES (*continued*)															
17P. 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)															

Attachment 1
U.S. EPA Form 3510-2C

Section IIA. Line Drawing

Joseph M. Farley Nuclear Power Plant
NPDES No. AL0024619

Farley Nuclear Plant
Line Drawing/Water Balance
Permit No. AL0024619



Note: Flow values provided in the attached descriptive information are approximate values or ranges of normal operation. As such, the water flows may not exactly balance.

DSN012 and DSN024A have no specific designated discharge points.

Farley Nuclear Plant
Line Drawing/Water Balance
Permit No. AL0024619

Drawing Notes

1) River Water Intake - This structure is operational, with a maximum withdrawal capacity of 97,500 gpm. Average withdrawal rate is ~62,500 gpm.

2) Average discharge from the River Water Intake Structure sump discharge is ~1,250 gpm. This is an intermittent flow.

3) Blowdown of the cooling tower system is required to maintain proper chemical balance. Cooling tower blowdown flow is intermittent, and is typically performed for a period of 3 to 5 hours each day. Average flows for Unit 1 and Unit 2 are ~710,000 gallons per event and 730,000 gallons per event, respectively.

4) The sewage treatment plant has a maximum capacity of ~4,200 gph (~100,000 gpd).

5) The discharges of once-through cooling service water from each unit are combined and carried to the Main Combined Facility Discharge. Other various flows discharge at this point as well (cooling tower blowdown, steam generator blowdown, liquid radwaste system, etc.). The Main Combined Facility Discharge averages a flow of ~56,360 gpm.

6) During normal operation, Condensate Makeup is primarily used to replenish secondary water that is discharged via steam generator blowdown. Total steam generator blowdown for both units is 200 to 240 gpm during normal operation.

7) Reactor and auxiliary system leakages and other auxiliary building wastes which are not recyclable are processed, as necessary, to ensure that all discharges are well below the limits established by the Nuclear Regulatory Commission. The Liquid Radwaste System discharges in batches, and not continuously. The volume of water that is batch released during normal operation can be normalized to a continuous flow of ~275 gpm for Units 1 and 2 combined.

8) The yard drainage system conveys stormwater runoff from areas associated with industrial activity to the Chattahoochee River. None of the areas discharge directly to the river, but discharge directly or indirectly to small tributaries which ultimately discharge to the Chattahoochee River. Flow is intermittent and varies according to rainfall events.

9) Groundwater is used to supply the fire protection system, the potable water system, and other small miscellaneous systems. Groundwater can be used as an alternate supply to the demin water system. Typical groundwater use is ~166,300 gallons per day.

10) Service Water, which provides cooling and makeup water to both units, is withdrawn from a 95 acre service water pond which is supplied from the Chattahoochee River. During normal operation, the service water pond stores water pumped from the river prior to use.

11) The Service Water system primarily provides once-through cooling water for various plant systems. Typical flow is ~36,000 gpm per unit. The majority of service water flow is used for equipment cooling in the turbine building and auxiliary building.

12) The Demin water system provides high purity water to the reactors and steam generators. Maximum installed capacity is 360 gpm, with a normal operation flow of ~240 gpm.

13) Makeup to the circulating water system and cooling towers is performed as necessary to offset drift/evaporation loss and cooling tower blowdown. Normal circulating water makeup is ~29,000 gpm for both units. An additional ~4,000 gpm is used per unit during periods of cooling tower blowdown.

14) The effluent from the water treatment plant complex sump and area runoff is discharged via the waste settling pond. The pond discharge is ultimately routed to the southeast yard drain. This is normally a continuous flow, but can be intermittent depending on plant operation.

Attachment 2
U.S. EPA Form 3510-2C

Corrosion Inhibitors, Biocides, and Other Chemical Products In Use

Joseph M. Farley Nuclear Power Plant
NPDES No. AL0024619

Corrosion Inhibitors, Biocides, and Chemical Treatments
Farley Nuclear Plant

Service Water System – Units 1 & 2 (Service Water Intake Structure)

Sodium Hypochlorite

Added to maintain concentrations adequate to control Corbicula (Asiatic clams) in the service water system. Rate is controlled to assure that TRC values are in compliance with permit discharge limits at the Main Combined Facility Discharge (DSN001).

3D TRASAR 3DT199

3D TRASAR 3DT199 is added to inhibit copper corrosion of the service water system. Treatment concentration does not exceed 10 ppm in the service water system.

ControlBrom CB70

ControlBrom CB70 is added as needed to control microbiological fouling of the service water and circulating water systems. When added, the treatment target of 6.4 ppm in service water is maintained.

Purate

Purate is used as a biocide within the service water system.

Sulfuric Acid

Sulfuric Acid us used in conjunction with the Purate system to produce Chlorine Dioxide

Circulating Water System – Units 1 & 2

Sodium Hypochlorite

Sodium Hypochlorite is added to maintain concentrations adequate to control biofouling in the circulating water system. Farley is currently continuously adding sodium hypochlorite to maintain a constant residual of approximately 0.50 mg/l Free Available Chlorine (FAC) within the cooling towers. Cooling tower blowdown is continuously dechlorinated using ammonium bisulfite at the Service Water surge tank on each unit.

3D TRASAR 3DT120

3D TRASAR 3DT120 is a dispersant used in the circulating water system and is added as needed for solids control.

PP07 3803

PP07 3803 is an antifoaming agent used within the circulating water system to control foam.

3D TRASAR 3DT177

3D TRASAR 3DT177 is added as needed for corrosion control of the circulating water system. When added, a target concentration of 8.3 ppm of product in the circulating water system is maintained.

Ammonium Bisulfite

Ammonium bisulfite is utilized as a dechlorination agent to dechlorinate residual chlorine present in Service Water due to cooling tower blowdown. Sufficient ammonium bisulfite is added to dechlorinate the amount of residual chlorine present in cooling tower blowdown, plus some excess to ensure dechlorination during any transients that may occur.

Spectrus CT1300

Spectrus CT1300 is an aqueous solution of proprietary quaternary ammonium compound that is added as needed for biofouling control in the cooling towers.

Reactor Coolant System

Lithium Hydroxide

Added at a rate to maintain approximately 0.20 – 4.36 ppm concentration in the reactor coolant system.

Boric Acid

Added to achieve a maximum of approximately 2,500 ppm in the reactor coolant system.

Hydrogen Peroxide

Treatment during unit shutdown uses approximately 40 quarts.

Hydrazine

Treatment during unit startup uses approximately 5 quarts.

Zinc Acetate

Currently added to maintain approximately 5 – 35 ppb zinc in the reactor coolant system.

Secondary System Chemical Control

Hydrazine

Added as needed to maintain approximately 110 – 150 ppb concentration in the secondary system. During wet lay-up process, hydrazine concentration is maintained at 75 – 500 ppm in the steam generators.

Ethanolamine (ETA)

Added as needed to the secondary system to maintain a concentration of approximately 0.5 – 4.0 ppm.

Ammonium Chloride

Added as needed to the secondary system at a rate of approximately 0.05 – 0.30 ml/min of a 10 – 40 ppm chloride solution.

Component Cooling Water System

Potassium Chromate

Added as needed to maintain approximately 175 – 1,000 ppm concentration with 400 ppm as the normal range for corrosion control.

Potassium Dichromate

Added as needed in the system for pH control.

Potassium Hydroxide

Added as needed in the system for pH control.

Service Building / Turbine Building HVAC Systems

Drewguard 4109 Corrosion Treatment (4% Sodium Nitrite Solution)

Added as needed in systems to maintain approximately 300 – 1,400 ppm concentration.

Diesel Generator Jacket Water System

Drewguard 4109

Added as needed to maintain approximately 500 – 1,000 ppm concentration in the system.

BIOSPERSE 254

Previously approved for use by ADEM (July 29, 1992) in the system as an antimicrobial product for control of slime-forming/sulfate-reducing bacteria and algae. This product is not currently in use at FNP but may be utilized in the future.

Drew WPD 11-166 (Tolytriazole Buffered with Sodium Hydroxide)

Added as necessary for yellow metal corrosion control.

Sewage Treatment Plant

Calcium / Sodium Hypochlorite

Added in concentrations necessary to achieve sufficient residual to assure bacteriological control.

Sodium Hydroxide

Added in concentrations necessary for the purpose of alkalinity control.

Drinking Water System

Production & Construction Systems

Sodium hypochlorite added to maintain approximately 0.5 – 2.0 ppm FAC residual in systems.

AVANTEC Ultrapure Water System

The following products are used in the cleaning of the reverse osmosis (RO) membranes in new AVANTEC water treatment system at the Farley's Water Treatment Plant.

Caustic Soda 25-50%

ChemTreat RL 1750

ChemTreat RL 2016

Hydrochloric Acid 35%

Sodium Bisulfite 38%

Sodium Chloride (Food-Industrial Grade)

Sodium Percarbonate

Attachment 3
U.S. EPA Form 3510-2C

Descriptive Information and Data for Water Uses

Joseph M. Farley Nuclear Power Plant
NPDES No. AL0024619

Descriptive Information and Data for Water Uses
Farley Nuclear Plant

Introduction

Farley Nuclear Plant (FNP), located on the west bank of the Chattahoochee River at approximately river mile 44.3, consists of two generating units with a total nameplate rating of 1,776 megawatts. The plant provides approximately 15 to 20 percent of the power available to Alabama Power customers.

Service Water, which provides cooling and make-up water to both units, is withdrawn from a 108-acre Service Water Pond which is supplied from the Chattahoochee River. The FNP river water intake structure is located at the terminus of a 200-foot intake canal and delivers water from the Chattahoochee River to the Service Water Pond. During normal plant operation, the Service Water Pond stores water pumped from the river prior to use in the Service Water system. The Service Water system receives make-up from the Service Water intake structure located at the Service Water Pond. Service Water is pumped from the Service Water intake structure to the Plant to provide once-through cooling water to certain plant systems and make-up water to the water treatment plant and Circulating Water system. The Service Water Pond also provides the required cooling water storage capacity to accomplish and maintain simultaneous safe shutdown and cooldown conditions for both nuclear reactor units.

The discharges of Service Water from each unit are combined and carried to the plant discharge structure (DSN001) by a single 60-inch diameter pipe.

The FNP Circulating Water system consists of counterflow mechanical draft cooling towers which provide cooling for the main condensers. Make-up to the Circulating Water system is provided to replace water lost to cooling tower evaporation, drift, and blowdown. Blowdown is mixed with once-through Service Water and routed for discharge via DSN001.

The water treatment plant provides high purity water to the reactors and steam generators.

A 100,000 GPD sewage treatment plant provides treatment of sanitary wastes at FNP.

NOTE:

The following information provides detail on water use at FNP required for the NPDES Permit renewal application. The information is categorized by plant system. Current NPDES point source designations are indicated in parentheses.

River Water System

River Water Intake – North and South

FNP withdraws water from the Chattahoochee River for cooling and other plant uses via a 200-foot intake canal. The river water intake structure contains two (2) sections, each housing five (5) pumps with a total capacity of approximately 48,750 gpm (total capacity of 97,500 gpm). The river water pumps provide water to a storage pond for plant use. The pumps also provide water for river water screen backwash, pump cooling, and filter backwash.

River Water Intake Screen Backwash – North and South (DSN030)

The screens are backwashed, as necessary, at different intervals during the day. Material removed from the screens during backwashing is disposed, as necessary, in a solid waste landfill. The screen backwash water is returned to the intake canal. The average flow combined for both units is 45,000 GPD and the maximum flow is 140,000 GPD.

River Water Pumps Mini-Flow – South

The mini-flow provides pump protection by allowing a minimum flow from the pump discharge header to the wet pit. The average flow is approximately 1,440,000 GPD and the maximum flow is approximately 2,160,000 GPD.

River Water Pumps Mini-Flow – North

The mini-flow provides pump protection by allowing a minimum flow from the pump discharge header to the wet pit. The average flow is approximately 1,440,000 GPD and the maximum flow is approximately 2,160,000 GPD.

River Water Building Sump Discharge – South (DSN022) and North (DSN023)

All cooling water and leakage flows are routed to the building sump and are subsequently discharged to the Chattahoochee River. The average flow for DSN022 is approximately 22,000 GPD. The average flow for DSN023 is approximately 7,800 GPD. Flows are itemized below:

1. River Water Pumps Cooling Water

   The cooling water is supplied from the river water pumps discharge header and is discharged to the building sump.

2. River Water Pumps Air Compressor Cooling Water

   Air compressor cooling water is supplied from the river water pumps discharge header and is discharged through the building sump.

3. River Pumps Cooling Water-Filter Backwash Water

   The backwash water is supplied from the river water pumps discharge header and flushes debris from the filter. The water is discharged to the building sump.

Service Water System

Service Water Intake Structure – Units 1 & 2

The FNP Service Water system withdraws water from the Service Water Pond for plant cooling and other plant uses. The Service Water system primarily provides cooling water for various plant systems. It also provides water to the water treatment plant for production of high quality water for use in the reactors and steam supply systems. The components of the Service Water system are itemized below:

Service Water Intake Screen Backwash – Units 1 & 2

The intake screens are backwashed, as needed, at different intervals during the day. Material removed from the screens by backwashing is disposed in a solid waste landfill. The backwash water is routed back to the Service Water Pond.

Service Water Pumps Mini-Flow – Units 1 & 2

The mini-flow provides pump protection by allowing a minimum flow from the pump discharge header to the wet-pit.

Service Water Structure Sump Discharge – Units 1 & 2

All cooling waters and leakage flows are routed to the building sump and are subsequently discharged to the Southwest Yard Drainage (DSN029). The components which discharge to the building sump are itemized below:

1. Service Water Pump Cooling Water – Units 1 & 2

   The cooling water is supplied from the Service Water pumps and is discharged to the building sump.

2. Service Water Pumps Air Compressor Cooling Water – Units 1 & 2

   Air compressor cooling water is supplied from the Service Water pumps discharge header and is discharged to the building sump.

Once-Through Cooling Water System

This discharge is composed of the combined flows of service water used for plant equipment cooling. The components contributing to this discharge are itemized below:

1. Auxiliary Building and Containment Building Equipment Cooling Water – Units 1 & 2

   Various equipment cooling waters in the auxiliary building and the containment building exchange heat to service water which is ultimately discharged as once-through cooling water via DSN001.

2. Diesel Generator Building Equipment Cooling Water – Units 1 & 2

   This water provides cooling water for the emergency diesels and is discharged as once-through cooling water. The system is supplied by Service Water.

3. Turbine Building Equipment Cooling Water – Units 1 & 2

   The Service Water system provides cooling water for various equipment heat exchangers in

the turbine building. The water is ultimately discharged as once-through cooling water.

4. Dilution By-Pass – Units 1 & 2

   By-pass lines in the Service Water system are provided to allow flow in excess of demand to be discharged in order to protect plant components from over-pressurization.

Turbine Building System

Turbine Building Sump – Units 1 & 2 (DSN001D, DSN001E)

This discharge consists of all drains, cooling waters, and leakage flows collected in the turbine building. The components contributing to this discharge are itemized below:

1. Turbine Building Chemistry Lab Drains – Units 1 & 2

   Wastes from routine chemical analyses on the steam system are discharged to the Unit 2 turbine building sump.

2. Turbine Building Floor Drains – Units 1 & 2

   The floor drain system collects equipment and valve leakage and routes it to the turbine building sump.

3. Circulating Water Canal Drainage – Units 1 & 2

   During outages maintenance may require drainage of the circulating water system. A portion of this drainage is routed to the turbine building sump.

4. Auxiliary Building Sumps – Units 1 & 2

   The auxiliary building sumps collect water from equipment draining and valve leakoff. The sumps normally discharge to the turbine building sump.

5. Draining of Steam Generators – Units 1 & 2

   During outages the steam generators may be drained through the turbine building sump.

Condenser Water Box Drain – Units 1 & 2 (DSN001J, DSN001K)

This discharge is required periodically for maintenance of the condenser and for investigation of condenser tube leaks. This water is discharged to the turbine building sump.

Diesel Building System

Diesel Building Sump

Drains in the emergency diesel room are routed to a sump/oil-water separator outside the diesel building which is routed to the southeast yard drain (DSN024). Diesel building air compressor cooling water (Service Water) continuously flows through this discharge path. The components of this system currently are:

1. Floor Drain System

The floor drain system collects equipment and valve leakage and routes it to the diesel building sump.

2. Air compressor Cooling Water

   Service Water provided as air compressor cooling water is routed to the diesel building sump.

Liquid Radwaste System

Liquid Radwaste System – Units 1 & 2 (DSN001H, DSN001I)

Reactor and auxiliary system leakages and other auxiliary building wastes which are not recyclable are processed, as necessary, to ensure that all discharges are well below the limits established by the Nuclear Regulatory Commission. This discharge is also processed, as necessary, to remove chromates. Boron, which is used in the reactor and auxiliary systems, may be discharged in very low concentrations via this system. This system ultimately discharges to the Chattahoochee River via DSN001.

1. Refueling Water Storage Tank Retention Area – Units 1 & 2

   For radiological control, a retention area has been constructed around the refueling water storage tank which is designed to contain the volume of the entire tank in the event of a rupture. Water from equipment leakage is also routed to the liquid radwaste system via this area.

2. Reactor Make-Up Water Storage Tank Retention Area – Units 1 & 2

   For radiological control, a retention area has been constructed around the reactor make-up water storage tank which is designed to contain the volume of the entire tank in the event of rupture. Water from equipment leakage is routed to the liquid radwaste system.

3. Solidification and Dewatering Facility (SDF) Sump – Units 1 & 2

   All drains, cooling waters, and equipment leakages in the SDF building are routed to the building sump. This sump is routed to the liquid radwaste system. (Previously referred to as waste solidification building).

4. Low Level Radwaste Storage Building Sump – Units 1 & 2

   This sump is provided as a captive sump to contain any emergency release.

Steam Generator Blowdown – Units 1 & 2 (DSN001F, DSN001G)

The steam generators must be blown down to minimize the concentration of contaminants in the system and to regulate treatment chemical concentrations.

Water Treatment Plant System

Waste Settling Pond (DSN024B)

The effluent from the water treatment plant complex sump and runoff from the water treatment plant bulk chemical storage area is discharged via the waste settling pond. The pond discharge is ultimately routed to the Southeast Yard Drainage (DSN024). Components contributing to this discharge include:

1. Water Treatment Plant Complex Sump

   This sump collects all water treatment wastes, regeneration wastes, backwashes, and cooling water. The discharge from this sump is routed to the waste settling pond. The components are identified as follows:

   A. Clarifier Backwash
   The clarifier uses alum, coagulant, chlorine, and a pH adjuster to convert service water to a purity level acceptable for demineralization. Backwash of the clarifier is required periodically each day to remove accumulated material. This flow is routed to the water treatment plant complex sump.

   B. Water Treatment Plant Carbon Filter Backwash – Units 1 & 2
   The backwash removes suspended solids which are retained on top of the carbon during the backwash operation. This discharge is routed to the water treatment plant complex sump.

   C. Water Treatment Plant Sump – Units 1 & 2
   All demineralizer regeneration wastes are discharged to this sump. The effluent from this sump is discharged to the neutralization tank.

   D. Neutralization Tank – Units 1 & 2
   This tank is used in conjunction with the water treatment plant sump to recirculate and neutralize regeneration wastes prior to discharge. Tank capacity is 20,000 gallons. The tank discharge is routed to the water treatment plant complex sump.

   E. AVANTech Water Treatment System
   All backwash and treatment system rinse water is routed to the water treatment plant complex sump.

2. Acid and Caustic Tank Area Storm Runoff

   This discharge consists of the runoff from the pad on which the acid and caustic bulk tanks are located. This discharge is routed to the waste settling pond.

Cooling Tower System – Units 1 & 2

The cooling tower system is a recirculating system which includes the condensers and cooling towers. Components of this discharge include:

1. Cooling Tower System Evaporation / Drift – Units 1 & 2

   Evaporation / drift is estimated to be approximately 1.5% of the cooling tower system flow rate.

2. Cooling Tower Blowdown – Units 1 & 2 (DSN001A, DSN001B)

   Blowdown of the cooling tower system is required to maintain the proper chemical balance in the cooling tower system. At times, the blowdown may be isolated while chemical additions for control of biofouling and corrosion protection are being made. Average flow for DSN001A and DSN001B is approximately 6.0 MGD during discharge. Currently, the cooling tower blowdown is normally continuously open.

3. Cooling Tower System Overflow – Units 1 & 2 (DSN025A, DSN027A)

Periodically, due to imbalances or equipment malfunction in the cooling tower system, some of the system contents will overflow the basin and flow to the yard drains. When this occurs, action is initiated to correct the problem. Previously, SNC has estimated an average annual flows for DSN025A and DSN027A are approximately 45,000 gallons per unit, based on four (4) hours per event and three (3) events per year. However, since the redesign of the cooling tower system, no overflows have occurred and are not expected to occur. The last event occurred on June 14, 2013.

Condenser Drain (Hot Well Flush) System – Units 1 & 2

This discharge is used periodically to control the level of contaminants in the steam cycle, especially during plant start-ups and in chemical control during system transients.

Sewage Treatment Plant System (DSN025B)

The sewage treatment plant has a capacity of 100,000 GPD with 96% BOD removal. The effluent from the sewage treatment plant can be discharged through three (3) separate paths:

East Yard Drainage System (normal flow path) (DSN025)
Waste Settling Pond (alternate) (DSN024B)
Southeast Yard Drainage System (alternate) (DSN024)

Miscellaneous Systems

1. Treated Chromate Bearing Waste Water System (DSN001C)

   This discharge point involves a portable ion-exchange wastewater treatment unit which is used to remove chromium from component cooling water containing potassium chromate as a corrosion inhibitor. This portable system may be moved to various parts of the plant for use and may be released via the Liquid Radwaste System. Monitoring to confirm compliance with chromium limits is conducted on each batch of wastewater treated. The average flow is approximately 500 gallons per batch.

2. Treated Chromate Bearing Waste Water System (DSN024A)

   This discharge point involves a portable ion-exchange wastewater treatment unit which is used to remove chromium from component cooling water containing potassium chromate as a corrosion inhibitor. This portable system may be used in the Water Treatment Plant and released via the WTP sump which is routed to the Waste Settling Pond discharge point. Monitoring to confirm compliance with chromium limits is conducted on each batch of wastewater treated. The average flow is approximately 500 gallons per batch.

3. Petroleum Storage Area (DSN035)

   Various diked petroleum storage areas are drained as necessary to remove accumulated rainwater. Best management practices are used when draining diked areas, in accordance with the provisions of the existing NPDES permit.

Yard Drainage System

All yard drainage outfall descriptions contain an estimate of flow based on the total drainage area for each respective outfall and six inches of cumulative rainfall over each area.

1. Southeast Yard Drainage (DSN024)

This drainage receives storm runoff from buildings and yards in the southeast areas of the plant as well as equipment cooling water and other non-routine inputs. The average flow is approximately 33,235,000 gallons per event from a drainage area of approximately 204 acres. This drainage consists of the following:

A. Southeast Yard Drain

This drain system provides a discharge path for the roof and yard drains in the southeast parts of the plant. Other inputs to the system are described below:

a. Diesel Building Sump
The discharge from the diesel building sump is routed to the southeast yard drain.

b. Low Voltage Switchyard Transformer Area Runoff
All plant main power transformers are surrounded by a concrete berm which will direct any transformer oil from a spill or rupture to an oil separator. Any rainwater which collects in the area passes through the oil separator prior to discharge to the yard drains. The separator is designed to retain the entire volume of the largest transformer in case of rupture.

c. Circulating Water Pumps Sump Discharge – Unit 1
This discharge is primarily sanitary water. Cooling water supplied by the circulating water pump discharge header is used as a back-up supply.

d. Circulating Water Canal Drainage – Unit 1
During outages maintenance may require drainage of the circulating water system. A portion of this drainage may be routed to the yard drainage system.

e. Service Building HVAC Sump Discharge
This discharge is used to regulate the amount of suspended solids and dissolved solids in the HVAC system below the allowable levels. Supply to this system is demineralized water or potable water.

f. Temporary Oil Storage Pad Storm Runoff
The temporary oil storage pad is designed to provide containment for any stored petroleum products such as drums or portable tanks. Periodically, the rainwater that collects on the pad must be drained. This drainage is routed to the southeast yard drain.

g. Turbine Building Oil Sump – Unit 1
The turbine building oil sump collects small amounts of water in addition to the oil from various equipment. The water is discharged through a portable oil-water separator to the southeast yard drain.

B. Utility Building Area Runoff

General runoff from this area is routed to the southeast yard drainage.

C. Auxiliary Boiler Diesel Fuel Oil Tank Retention Area Storm Runoff

The auxiliary boiler diesel fuel oil tank is surrounded by a containment structure which is designed to retain the entire contents of the tank in case of rupture. Periodically, rainwater which collects inside the containment structure must be drained. This drainage is routed to the southeast yard drainage.

D. Waste Settling Pond

Discharge from the waste settling pond is routed to the southeast yard drainage.

2. East Yard Drainage (DSN025)

This drainage receives storm runoff from buildings and yards in the east plant areas as well as equipment cooling water and other non-routine inputs. The average flow is approximately 651,700 gallons per event from a drainage area of approximately 4 acres.

The east yard drain is the collection point for all the various plant water inputs to the east yard drainage. The inputs are described below:

A. Tendon Access Gallery Sump Discharge – Units 1 & 2
This discharge consists primarily of ground water which seeps into the annulus around the containment buildings.

B. Fire Pump Cooling Water
The supply for this cooling water is the fire pump discharge header. The discharge is routed to the east yard drain.

C. Central Alarm Station HVAC Cooling Water
The sanitary water system provides the cooling water to the Central Alarm Station HVAC system. The discharge is routed to the east yard drain.

D. Cooling Tower System Overflow – Unit 1 (DSN025A)
Periodically, due to imbalances or equipment malfunctions in the cooling tower system, some of the system contents will overflow the basins and will flow to the east yard drain. When this occurs, immediate action is initiated to correct the problem. The contents of the system are periodically pumped out for maintenance. This volume of water is discharged to the east yard drain.

E. Electrical Cable Tunnel Sump Discharge
There is a concrete underground tunnel which connects the diesel generator building with the Unit 1 Auxiliary building. This tunnel provides a path for emergency power to be supplied to the plant. The sump collects and discharges any ground water which may collect in the tunnel to the east yard drain.

F. Turbine Building Air Compressor Cooling Water – Units 1 & 2
The service water system provides cooling water to the Turbine building air compressors. This discharge is routed to the east yard drain.

G. Circulating Water Canal Drainage – Unit 1
During outages maintenance may require drainage of the circulating water system. A portion of this drainage may be routed to the yard drainage system.

3. Northcentral Yard Drainage (DSN027)

The northcentral yard drainage collects storm runoff from buildings and yards in the northcentral area of the plant as well as plant water inputs on a routine basis. The northcentral yard drain consists of three (3) pipes which merge into one common discharge prior to contact with Wilson Creek. The average flow is approximately 814,600 gallons per event from a drainage area of approximately five (5) acres. The components of this system are described below:

A. Circulating Water Pump Sump Discharge – Unit 2
This discharge is primarily cooling water supplied by the circulating water pump discharge header.

Sanitary water is supplied as a backup.

B. Turbine Building Oil Sump – Unit 2
The turbine building oil sump collects small amounts of water in addition to the oil from various equipment. The water is discharged through a portable oil-water separator to the northcentral yard drain.

C. Cooling Tower System Overflow – Unit 2 (DSN027A)
Periodically, due to imbalances or equipment malfunctions in the cooling tower system, some of the system contents will overflow the basins and will flow to the northcentral yard drain. When this occurs, immediate action is initiated to correct the problem. The contents of the system are periodically pumped out for maintenance. This volume of water is discharged to the northcentral yard drain.

D. Circulating Water Canal Drainage – Unit 2
During outages maintenance may require drainage of the circulating water system. A portion of this drainage may be routed to the yard drainage system.

4. Northwest Yard Drainage (DSN026)

The northwest yard drainage collects runoff from a small part of the northwest area of the plant and receives the discharge from the construction air compressor structure. The average flow is approximately 651,700 gallons per event from an approximate drainage area of four (4) acres. The discharges from the air compressor structure are described below:

A. Construction Air Compressor Cooling Water
The potable water system provides secondary cooling for the compressed air system. The discharge is routed through an oil-water separator to the northwest yard drain.

B. Construction Air Compressor Structure Drains
The floor drains from the air compressor structure are routed through an oil-water separator to the northwest yard drain.

C. High Voltage Switchyard Drainage
This discharge consists of stormwater drainage from the west side of the high voltage switchyard to the northwest yard drain.

5. West Yard Drainage (DSN028)

The west yard drain collects runoff from the west portion of the plant and the construction garage and routes it to Wilson Creek. The average flow is approximately 2,444,000 gallons per event from a drainage area of approximately fifteen (15) acres.

A. Construction Garage Wash Area Oil-Water Separator
Discharge from the construction garage wash area is discharged to an oil-water separator. The effluent from the oil-water separator discharges to the west yard drain which ultimately discharges to Wilson Creek.

6. Southwest Yard Drainage (DSN029)

The southwest yard drainage system provides a discharge path for drainage from the southwest area of the plant, the main parking lot, and the Fire Training Center. The average flow is approximately 325,800 gallons per event from an approximate area of two (2) acres.

A. Fire Training Area Fuel Oil Storage Area Oil-Water Separator
The oil-water separator removes any oil which may be combined with rainwater inside the oil

storage area berm prior to discharge. The discharge from this oil-water separator is routed to the southwest yard drainage.

B. Fire Training Area Stormwater Runoff
The majority of the stormwater runoff from this area is routed to a oil-water separator before discharging to the southwest yard drainage.

C. Main Parking Lot Runoff
Stormwater runoff from the main parking lot is routed to the southwest yard drainage.

D. Service Water Structure Sump Discharge – Units 1 & 2
All cooling waters and leakage flows are routed to the building sump and are subsequently discharged to the southwest yard drainage.

7. Water Tank Drainage System

There are several tank systems that store water for various plant uses. On occasion, these tanks require drainage for testing or maintenance operations. The tanks in this system are described below:

A. Clarified / Well Water Storage Tank Drainage
Drainage from this tank would be routed to the southeast yard drain.

B. Demineralizer Water Storage Tank Drainage
Drainage from these tanks would be routed to the southeast yard drain.

C. Condensate Storage Tank Drainage – Units 1 & 2
Drainage from these tanks would be routed to the east yard drain.

D. Sanitary Water Tank Drainage (Production & Construction)
Drainage from these tanks would be routed to the east yard drain (Production) and the northwest yard drain (Construction).

E. Fire Protection Tank Drainage
Drainage from these tanks would be routed to the east yard drain.

8. Well Water System

On-site wells provide groundwater for the sanitary water system, for the fire protection system, and as back-up to the demineralizers. Occasionally, if a well has not been used for a period of time, it must be flushed to produce water of acceptable quality for plant use.

9. Miscellaneous Valve Boxes and Electrical Cable Pullboxes – Units 1 & 2

Miscellaneous valve boxes and electrical cable pullboxes which collect and discharge any rainwater or valve leakoff to the yard drain system are located in various areas of the plant.

Attachment 4
U.S. EPA Form 3510-2C

Proposed Permit Revisions

Joseph M. Farley Nuclear Power Plant
NPDES No. AL0024619

Description of Proposed Permit Revisions
Farley Nuclear Plant

The following permit revisions are requested:

1. DSN012 outfall for Chemical Metal Cleaning Waste is no longer utilized and SNC requests this outfall be removed from the permit.

ADEM Form 187
NPDES Permit Application Supplementary Information

Joseph M. Farley Nuclear Power Plant
NPDES No. AL0024619

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (ADEM)
NPDES INDIVIDUAL PERMIT APPLICATION
SUPPLEMENTARY INFORMATION FOR INDUSTRIAL FACILITIES

Instructions: This form should be used to submit the required supplementary information for an application for an NPDES individual permit for industrial facilities. The completed application should be submitted to ADEM in duplicate. If insufficient space is available to address any item, please continue on an attached sheet of paper. Please mark "N/A" in the appropriate box when an item is not applicable to the applicant. **Please type or print legibly in blue or black ink.** Mail the completed application to:

ADEM-Water Division
Industrial Section
P O Box 301463
Montgomery, AL 36130-1463

PURPOSE OF THIS APPLICATION

- ☐ Initial Permit Application for New Facility*
- ☐ Modification of Existing Permit
- ☐ Revocation & Reissuance of Existing Permit
- ☐ Initial Permit Application for Existing Facility*
- ■ Reissuance of Existing Permit

* *An application for participation in the ADEM's Electronic Environmental (E2) Reporting must be submitted to allow permittee to electronically submit reports as required.*

SECTION A – GENERAL INFORMATION

1. Facility Name: Joseph M. Farley Nuclear Power Plant

   a. Operator Name: Southern Nuclear Operating Company

   b. Is the operator identified in A.1.a, the owner of the facility? ☐ Yes ■ No
   If no, provide name and address of the operator and submit information indicating the operator's scope of responsibility for the facility.
   Alabama Power Company
   600 North 18th Street, Birmingham, AL 35291

2. NPDES Permit Number: AL 0 0 2 4 6 1 9 (not applicable if initial permit application)

3. SID Permit Number (if applicable): IU ___ ___ - ___ ___ - ___ ___ ___ ___ ___

4. NPDES General Permit Number (if applicable): ALG ___ ___ ___ ___ ___ ___

5. Facility Physical Location: (**Attach a map with location marked; street, route no. or other specific identifier**)
   Street: 7388 North State Highway 95
   City: Columbia County: Houston State: Alabama Zip: 36319
   Facility Location (Front Gate): Latitude: 31° 13' 10" N Longitude: 85° 07' 34" W

6. Facility Mailing Address: P. O. Box 1295
   City: Birmingham County: Shelby State: Alabama Zip: 35201-1295

7. Responsible Official (as described on the last page of this application):
   Name and Title: Dennis R. Madison, VP Nuclear Plant Site
   Address: 7388 North State Highway 95
   City: Columbia State: Alabama Zip: 36319
   Phone Number: 334-814-4511 Email Address: drmadiso@southernco.com

8. Designated Facility Contact:
   Name and Title: Dale L. Fulton, Environmental Affairs Manager
   Phone Number: 205-992-7536 Email Address: dlfulton@southernco.com

9. Designated Discharge Monitoring Report (DMR) Contact:

Name and Title: Zach Ryals, Engineer, Sr.

Phone Number: 205-992-6388 Email Address: ztryals@southernco.com

10. Type of Business Entity:

☒ Corporation ☐ General Partnership ☐ Limited Partnership ☐ Limited Liability Company ☐ Sole Proprietorship

☐ Other (Please Specify)

11. Complete this section if the Applicant's business entity is a Corporation

a) Location of Incorporation:

Address: 1209 Orange Street

City: Wilmington County: New Castle State: Delaware Zip: 19801

b) Parent Corporation of Applicant:

Name: Southern Company

Address: 270 Peachtree Street

City: Atlanta State: Georgia Zip: 30303

c) Subsidiary Corporation(s) of Applicant:

Name: N/A

Address:

City: State: Zip:

d) Corporate Officers:

Name: Stephen Kuczynski, President and CEO

Address: P. O. Box 1295

City: Birmingham State: Alabama Zip: 35201-1295

Name: Danny G. Bost, EVP and Chief Nuclear Officer

Address: P. O. Box 1295

City: Birmingham State: Alabama Zip: 35201-1295

e) Agent designated by the corporation for purposes of service:

Name: Cheryl W. Brakefield, Vice President - Comptroller, Treasurer and Secretary

Address: P. O. Box 1295

City: Birmingham State: Alabama Zip: 35201-1295

12. If the Applicant's business entity is a Partnership, please list the general partners.

Name: N/A Name:

Address: Address:

City: State: Zip: City: State: Zip.

13. If the Applicant's business entity is a Proprietorship, please enter the proprietor's information.

Name: N/A

Address _____

City: _____ State: _____ Zip: _____

14. Permit numbers for Applicant's previously issued NPDES Permits and identification of any other State of Alabama Environmental Permits presently held by the Applicant, its parent corporation, or subsidiary corporations within the State of Alabama:

Permit Name	Permit Number	Held By
See Attachment 2		

15. Identify all Administrative Complaints, Notices of Violation, Directives, Administrative Orders, or Litigation concerning water pollution, if any, against the Applicant, its parent corporation or subsidiary corporations within the State of Alabama within the past five years (attach additional sheets if necessary):

Facility Name	Permit Number	Type of Action	Date of Action
None			

SECTION B – BUSINESS ACTIVITY

1. Indicate applicable Standard Industrial Classification (SIC) Codes for all processes. If more than one applies, list in order of importance:

a. 4911

b. _____

c. _____

d. _____

e. _____

f. _____

2. If your facility conducts or will be conducting any of the processes listed below (regardless of whether they generate wastewater, waste sludge, or hazardous waste), place a check beside the category of business activity (check all that apply):

Industrial Categories

- ☐ Aluminum Forming
- ☐ Asbestos Manufacturing
- ☐ Battery Manufacturing
- ☐ Can Making
- ☐ Canned and Preserved Fruit and Vegetables
- ☐ Canned and Preserved Seafood
- ☐ Cement Manufacturing
- ☐ Centralized Waste Treatment
- ☐ Carbon Black
- ☐ Coal Mining
- ☐ Coil Coating
- ☐ Copper Forming
- ☐ Electric and Electronic Components Manufacturing
- ☐ Electroplating
- ☐ Explosives Manufacturing
- ☐ Feedlots
- ☐ Ferroalloy Manufacturing
- ☐ Fertilizer Manufacturing
- ☐ Foundries (Metal Molding and Casting)
- ☐ Glass Manufacturing
- ☐ Grain Mills
- ☐ Gum and Wood Chemicals Manufacturing
- ☐ Inorganic Chemicals
- ☐ Iron and Steel
- ☐ Leather Tanning and Finishing
- ☐ Metal Finishing
- ☐ Meat Products
- ☐ Metal Molding and Casting
- ☐ Metal Products
- ☐ Nonferrous Metals Forming
- ☐ Nonferrous Metals Manufacturing
- ☐ Oil and Gas Extraction
- ☐ Organic Chemicals Manufacturing
- ☐ Paint and Ink Formulating
- ☐ Paving and Roofing Manufacturing
- ☐ Pesticides Manufacturing
- ☐ Petroleum Refining
- ☐ Phosphate Manufacturing
- ☐ Photographic
- ☐ Pharmaceutical
- ☐ Plastic & Synthetic Materials
- ☐ Plastics Processing Manufacturing
- ☐ Porcelain Enamel
- ☐ Pulp, Paper, and Fiberboard Manufacturing
- ☐ Rubber
- ☐ Soap and Detergent Manufacturing
- ☒ Steam and Electric
- ☐ Sugar Processing
- ☐ Textile Mills
- ☐ Timber Products
- ☐ Transportation Equipment Cleaning
- ☐ Waste Combustion
- ☐ Other (specify)_____

A facility with processes inclusive in these business areas may be covered by Environmental Protection (EPA) categorical standards. These facilities are termed "categorical users" and should skip to question 2 of Section C.

3. Give a brief description of all operations at this facility including primary products or services (attach additional sheets if necessary):

Farley Nuclear Plant is a two-unit steam electric generating facility with a combined rating of 1,776 megawatts.

SECTION C – WASTEWATER DISCHARGE INFORMATION

Facilities that checked activities in B.2 and are considered Categorical Industrial Users should skip to C.2 of this section.

1. **For Non-Categorical Users Only**: Provide wastewater flows for each of the processes or proposed processes. Using the process flow schematic (Figure 1), enter the description that corresponds to each process. (**The flow schematic should include all treatment units as well as monitoring and discharge points**). [New facilities should provide estimates for each discharge.]

Process Description	Last 12 Months (gals/day) Highest Month Avg. Flow	Highest Flow Year of Last 5 (gals/day) Monthly Avg. Flow	Discharge Type (batch, continuous, intermittent)
N/A			

If batch discharge occurs or will occur, indicate:]new facilities may estimate.]

a. Number of batch discharges: N/A _____ per day

b. Average discharge per batch: _____ (GPD)

c. Time of batch discharges _____ at _____
(days of week) (hours of day)

d. Flow rate: _____ gallons/minute

e. Percent of total discharge: _____

Non-Process Discharges (e.g. non-contact cooling water)	Last 12 Months (gals/day) Highest Month Avg. Flow	Highest Flow Year of Last 5 (gals/day) Monthly Avg. Flow

2. **Complete this Section only if you are subject to Categorical Standards and plan to directly discharge the associated wastewater to a water of the State.** If Categorical wastewater is discharged exclusively via an indirect discharge to a public or privately-owned treatment works, check "Yes" in the appropriate space below and proceed directly to part 2.c .

☐ Yes

For Categorical Users: Provide the wastewater discharge flows or production (whichever is applicable by the effluent guidelines) for each of your processes or proposed processes. Using the process flow schematic (Figure 1, pg 14), enter the description that corresponds to each process. [New facilities should provide estimates for each discharge.]

2a.

Regulated Process	Applicable Category	Applicable Subpart	Type of Discharge Flow (batch, continuous, intermittent)
See Attachment 3			

2b.

Process Description	Last 12 Months (gals/day), (lbs/day), etc. Highest Month Average*	Highest Flow Year of Last 5 (gals/day), (lbs/day), etc. Monthly Average*	Discharge Type (batch, continuous, intermittent)
See Attachment 3			

*** Reported values should be expressed in units of the applicable Federal production-based standard. For example, flow (MGD), production (pounds per day), etc.**

If batch discharge occurs or will occur, indicate: [new facilities may estimate.]

a. Number of batch discharges: _____ per day

b. Average discharge per batch: _____ (GPD)

c. Time of batch discharges _____ at _____
(days of week) (hours of day)

d. Flow rate: _____ gallons/minute

e. Percent of total discharge: _____

2c.

Non categorical Process Description	Last 12 Months (gals/day) Highest Month Avg. Flow	Highest Flow Year of Last 5 (gals/day) Monthly Avg. Flow	Discharge Type (batch, continuous, intermittent)
See Attachment 3			

If batch discharge occurs or will occur, indicate:]new facilities may estimate.]

a. Number of batch discharges: _____ per day

b. Average discharge per batch: _____ (GPD)

c. Time of batch discharges _____ at _____
(days of week) (hours of day)

d. Flow rate: _____ gallons/minute

e. Percent of total discharge: _____

2d.

Non-Process Discharges (e.g. non-contact cooling water)	Last 12 Months (gals/day) Highest Month Avg. Flow	Highest Flow Year of Last 5 (gals/day) Monthly Avg. Flow
See Attachment 3		

All Applicants must complete C.3 – C.6.

3. Do you share an outfall with another facility? ☐ Yes ☒ No (If no, continue to C.4)
For each shared outfall, provide the following:

Applicant's Outfall No.	Name of Other Permittee/Facility	NPDES Permit No.	Where is sample collected by Applicant?
N/A			

4. Do you have, or plan to have, automatic sampling equipment or continuous wastewater flow metering equipment at this facility?

Current:	Flow Metering	☒ Yes	☐ No	☐ N/A
	Sampling Equipment	☐ Yes	☒ No	☐ N/A
Planned:	Flow Metering	☐ Yes	☐ No	☒ N/A
	Sampling Equipment	☐ Yes	☐ No	☒ N/A

If so, please attach a schematic diagram of the sewer system indicating the present or future location of this equipment and describe the equipment below:

N/A

5. Are any process changes or expansions planned during the next three years that could alter wastewater volumes or characteristics?
☐ Yes ☒ No (If no, continue to C.6)

Briefly describe these changes and their anticipated effects on the wastewater volume and characteristics:

N/A

6. List the trade name and chemical composition of all biocides and corrosion inhibitors used:

Trade Name	Chemical Composition
See Attachment 4	

For each biocide and/or corrosion inhibitor used, please include the following information:

(1) 96-hour median tolerance limit data for organisms representative of the biota of the waterway into which the discharge will ultimately reach,
(2) quantities to be used,
(3) frequencies of use,
(4) proposed discharge concentrations, and
(5) EPA registration number, if applicable

SECTION D – WATER SUPPLY

Water Sources (check as many as are applicable):

- [x] Private Well
- [x] Surface Water
- [ ] Municipal Water Utility (Specify City):
- [ ] Other (Specify): _____

IF MORE THAN ONE WELL OR SURFACE INTAKE, PROVIDE DATA FOR EACH ON AN ATTACHMENT

City 0 MGD* Well: _____ MGD* Well Depth: _____ Ft. Latitude: _____ Longitude: _____

Surface Intake Volume 90.0 MGD* Intake Elevation in Relation to Bottom: 13 Ft.

Intake Elevation: 64 Ft. Latitude 31° 13' 01" N Longitude 85° 05' 58" W

Name of Surface Water Source: Chattahoochee River

*** MGD – Million Gallons per Day**

Cooling Water Intake Structure Information

Complete D.1 and D.2 if your water supply is provided by an outside source and not by an onsite water intake structure? (e.g., another industry, municipality, etc...)

1. Does the provider of your source water operate a surface water intake? Yes [ ] No [ ]
   (If yes, continue, if no, go to Section E.)

   a) Name of Provider: _____ b) Location of Provider: _____

   c) Latitude: _____ Longitude: _____

2. Is the provider a public water system (defined as a system which provides water to the public for human consumption or which provides only treated water, not raw water)? [ ] Yes [ ] No (If yes, go to Section E, if no, continue.)

Only to be completed if you have a cooling water intake structure or the provider of your water supply uses an intake structure and does not treat the raw water.

3. Is any water withdrawn from the source water used for cooling? [x] Yes [ ] No

4. Using the average monthly measurements over any 12-month period, approximately what percentage of water withdrawn is used exclusively for cooling purposes? 100 %

5. Does the cooling water consist of treated effluent that would otherwise be discharged? [ ] Yes [x] No
   (If yes, go to Section E, if no, complete D.6 – D.17)

6. a. Is the cooling water used in a once-through cooling system? [ ] Yes [x] No

   b. Is the cooling water used in a closed cycle cooling system? [x] Yes [ ] No

7. When was the intake installed? Intake became operational in 1977
(Please provide dates for all major construction/installation of intake components including screens)

8. What is the maximum intake volume? 140.4 MGD
(maximum pumping capacity in gallons per day)

9. What is the average intake volume? 90.0 MGD
(average intake pump rate in gallons per day average in any 30-day period)

10. What is the actual intake flow (AIF) as defined in 40 CFR §125.92(a)? 90.0 MGD

11. How is the intake operated? (e.g., continuously, intermittently, batch) Continuously

12. What is the mesh size of the screen on your intake? 3/8"

13. What is the intake screen flow-through area? Canal cross-section is 897 square feet at 77' river elevation

14. What is the through-screen design intake flow velocity? <1 ft/sec

15. What is the through-screen actual velocity (in ft/sec)? <1 ft/sec

16. What is the mechanism for cleaning the screen? (e.g., does it rotate for cleaning) screen rotation and screen backwash

17. Do you have any additional fish detraction technology on your intake? ☐ Yes ☒ No

18. Have there been any studies to determine the impact of the intake on aquatic organisms? ☒ Yes ☐ No (If yes, please provide.)

19. Attach a site map showing the location of the water intake in relation to the facility, shoreline, water depth, etc.

SECTION E – WASTE STORAGE AND DISPOSAL INFORMATION

Provide a description of the location of all sites involved in the storage of solids or liquids that could be accidentally discharged to a water of the state, either directly or indirectly via such avenues as storm water drainage, municipal wastewater systems, etc., which are located at the facility for which the NPDES application is being made. Where possible, the location should be noted on a map and included with this application:

Description of Waste	Description of Storage Location
See attachment 6	

Provide a description of the location of the ultimate disposal sites of solid or liquid waste by-products (such as sludges) from any wastewater treatment system located at the facility.

Description of Waste	Quantity (lbs/day)	Disposal Method*
See attachment 6		

***Indicate which wastes identified above are disposed of at an off-site treatment facility and which are disposed of on-site. If any wastes are sent to an off-site centralized waste treatment facility, identify the waste and the facility.**

SECTION F – COASTAL ZONE INFORMATION

Is the discharge(s) located within the 10-foot elevation contour and within the limits of Mobile or Baldwin County? ☐ Yes ☒ No

If yes, complete items F.1 – F.12:

	Yes	No
1. Does the project require new construction?	☐	☐
2. Will the project be a source of new air emissions?	☐	☐

		Yes	No
3.	Does the project involve dredging and/or filling of a wetland area or water way?	☐	☐
	If Yes, has the Corps of Engineers (COE) permit been received?	☐	☐
	COE Project No. _____		
4.	Does the project involve wetlands and/or submersed grassbeds?	☐	☐
5.	Are oyster reefs located near the project site?	☐	☐
	If Yes, include a map showing project and discharge location with respect to oyster reefs		
6.	Does the project involve the site development, construction and operation of an energy facility as defined in ADEM Admin. Code r. 335-8-1-.02(bb)?	☐	☐
7.	Does the project involve mitigation of shoreline or coastal area erosion?	☐	☐
8.	Does the project involve construction on beaches or dune areas?	☐	☐
9.	Will the project interfere with public access to coastal waters?	☐	☐
10.	Does the project lie within the 100-year floodplain?	☐	☐
11.	Does the project involve the registration, sale, use, or application of pesticides?	☐	☐
12.	Does the project propose or require construction of a new well or to alter an existing groundwater well to pump more than 50 gallons per day (GPD)?	☐	☐
	If yes, has the applicable permit for groundwater recovery or for groundwater well installation been obtained?	☐	☐

SECTION G – ANTI-DEGRADATION EVALUATION

In accordance with 40 CFR §131.12 and the ADEM Admin. Code r. 335-6-10-.04 for anti-degradation, the following information must be provided, if applicable. It is the applicant's responsibility to demonstrate the social and economic importance of the proposed activity. If further information is required to make this demonstration, attach additional sheets to the application.

1. Is this a new or increased discharge that began after April 3, 1991? ☐ Yes ■ No
   If yes, complete G.2 below. If no, go to Section H.

2. Has an Anti-Degradation Analysis been previously conducted and submitted to the Department for the new or increased discharge referenced in G.1? ☐ Yes ☐ No

   If yes, do not complete this section. If no, and the discharge is to a Tier II waterbody as defined in ADEM Admin. Code r. 335-6-10-.12(4), complete G.2.A – G.2.F below and ADEM Forms 311 and 313 (attached). ADEM Form 313 must be provided for each alternative considered technically viable.

   Information required for new or increased discharges to high quality waters:

   A. What environmental or public health problem will the discharger be correcting?

   _____

   B. How much will the discharger be increasing employment (at its existing facility or as the result of locating a new facility)?

   _____

   C. How much reduction in employment will the discharger be avoiding?

   _____

   D. How much additional state or local taxes will the discharger be paying?

   _____

   E. What public service to the community will the discharger be providing?

   _____

   F. What economic or social benefit will the discharger be providing to the community?

   _____

SECTION H – EPA Application Forms

All Applicants must submit EPA permit application forms. More than one application form may be required from a facility depending on the number and types of discharges or outfalls found. The EPA application forms are found on the Department's website at http://www.adem.alabama.gov/programs/water/waterforms.cnt . The EPA application forms must be submitted in duplicate as follows:

1. All applicants must submit Form 1.
2. Applicants for existing industrial facilities (including manufacturing facilities, commercial facilities, mining activities, and silvicultural activities) which discharge process wastewater must submit Form 2C.
3. Applicants for new industrial facilities which propose to discharge process wastewater must submit Form 2D.
4. Applicants for new and existing industrial facilities which discharge only non-process wastewater (i.e., non-contact cooling water and/or sanitary wastewater) must submit Form 2E.
5. Applicants for new and existing facilities whose discharge is composed entirely of storm water associated with industrial activity must submit Form 2F, unless exempted by § 122.26(c)(1)(ii). If the discharge is composed of storm water and non-storm water, the applicant must also submit Forms 2C, 2D, and/or 2E, as appropriate (in addition to Form 2F).

SECTION I – ENGINEERING REPORT/BMP PLAN REQUIREMENTS

See ADEM 335-6-6-.08(i) & (j)

SECTION J– RECEIVING WATERS

Outfall No.	Receiving Water(s)	303(d) Segment?	Included in TMDL?*
01	Chattahoochee River	☐ Yes ■ No	☐ Yes ■ No
		☐ Yes ☐ No	☐ Yes ☐ No
		☐ Yes ☐ No	☐ Yes ☐ No
		☐ Yes ☐ No	☐ Yes ☐ No
		☐ Yes ☐ No	☐ Yes ☐ No

*If a TMDL Compliance Schedule is requested, the following should be attached as supporting documentation:

(1) Justification for the requested Compliance Schedule (e.g. time for design and installation of control equipment, etc.);

(2) Monitoring results for the pollutant(s) of concern which have not previously been submitted to the Department (sample collection dates, analytical results (mass and concentration), methods utilized, MDL/ML, etc. should be submitted as available);

(3) Requested interim limitations, if applicable;

(4) Date of final compliance with the TMDL limitations; and,

(5) Any other additional information available to support requested compliance schedule.

SECTION K – APPLICATION CERTIFICATION

The information contained in this form must be certified by a responsible official as defined in ADEM Administrative Code r. 335-6-6-.09 "signatories to permit applications and reports" (see below).

"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."

Signature of Responsible Official: _____ Date Signed: 6-1-18

Name and Title: Dennis R. Madison, VP Nuclear Plant Site

If the Responsible Official signing this application is not identified in Section A.7, provide the following information:

Mailing Address: 7388 North State Highway 95

City: Columbia State: Alabama Zip: 36319

Phone Number: 334-814-4511 Email Address: drmadiso@southernco.com

335-6-6-.09 SIGNATORIES TO PERMIT APPLICATIONS AND REPORTS.

(1) The application for an NPDES permit shall be signed by a responsible official, as indicated below:

(a) In the case of a corporation, by a principal executive officer of at least the level of vice president, or a manager assigned or delegated in accordance with corporate procedures, with such delegation submitted in writing if required by the Department, who is responsible for manufacturing, production, or operating facilities and is authorized to make management decisions which govern the operation of the regulated facility;

(b) In the case of a partnership, by a general partner;

(c) In the case of a sole proprietorship, by the proprietor; or

(d) In the case of a municipal, state, federal, or other public entity, by either a principal executive officer, or ranking elected official.

Attachment 1
ADEM Form 187

Owner and Operator Information

Joseph M. Farley Nuclear Power Plant
NPDES No. AL0024619

Owner and Operator Information
Farley Nuclear Plant

The operator of Farley Nuclear Plant is Southern Nuclear Operating Company. Alabama Power Company is the owner of this facility. Southern Nuclear Operating Company is responsible for the safe and reliable operation of six (6) nuclear units, including the two units at Farley Nuclear Plant, and is the licensed operator under U.S. Nuclear Regulatory Commission regulations.

Operator Address:

Southern Nuclear Operating Company
P.O. Box 1295
Birmingham, AL 35201-1295

Owner Address:

Alabama Power Company
600 North 18th Street
Birmingham, AL 35291

Attachment 2
ADEM Form 187

Previously Issued State Environmental Permits

Joseph M. Farley Nuclear Power Plant
NPDES No. AL0024619

Previously Issued NPDES Permits and Other State Environmental Permits
Farley Nuclear Plant

Permit Name	Permit Number	Held By
NPDES Permit	AL0024619	Southern Nuclear Operating Co
Water Supply Permit	2007-507	Southern Nuclear Operating Co
Solid Waste Disposal Facility Permit	35-05	Southern Nuclear Operating Co
Certificate of Use (Issued by Office of Water Resources)	0063.3	Southern Nuclear Operating Co
NPDES Construction Stormwater Registration (ADEM Code Ch. 335-6-12)	ALR10BBSM	Southern Nuclear Operating Co

Attachment 3
ADEM Form 187

Categorical Process Information

Joseph M. Farley Nuclear Power Plant
NPDES No. AL0024619

Categorical Standards Information
Farley Nuclear Plant

Regulated Process	Applicable Category	Applicable Subpart	Type of Discharge Flow
Once-Through Cooling	40 CFR 423	423.13(b)(1) 423.13(b)(2)	Continuous
Metal Cleaning	40 CFR 423	423.12(b)(5)	Intermittent
Low Volume Wastes	40 CFR 423	423.12(b)(3)	Continuous & Intermittent
Cooling Tower Blowdown	40 CFR 423	423.13(d)(1) 423.13(d)(2)	Continuous

Categorical Process	Last 12 Months Highest Month Flow	Max Year in Last 5 Years Monthly Average Flow	Type of Discharge Flow
DSN001	80.64 MGD	87.41 MGD	Continuous
DSN001A	4.32 MGD	4.32 MGD	Continuous
DSN025A	0 MGD	0 MGD	Intermittent
DSN001B	2.88 MGD	2.88 MGD	Continuous
DSN027A	0 MGD	0 MGD	Intermittent
DSN012[1]	0 MGD	0 MGD	Intermittent
DSN024A	0 MGD	0 MGD	Batch
DSN001C	0.0099 MGD	0.0099 MGD	Batch
DSN024B	0.51 MGD	0.856 MGD	Continuous
DSN001D	1.152 MGD	1.152 MGD	Intermittent
DSN001E	1.152 MGD	1.152 MGD	Intermittent
DSN001F	0.089 MGD	0.168 MGD	Continuous
DSN001G	0.161 MGD	0.161 MGD	Continuous
DSN001J	1.152 MGD	1.152 MGD	Intermittent
DSN001K	0 MGD	1.152 MGD	Intermittent
DSN022	N/A[2]	N/A[2]	Intermittent
DSN023	N/A[2]	N/A[2]	Intermittent

[1]Removal of DSN012 requested with this application
[2]Flow no longer monitored at this outfall

Non-Categorical Process	Last 12 Months Highest Month Flow	Max Year in Last 5 Years Monthly Average	Type of Discharge Flow
DSN025b	0.070 MGD	0.0919 MGD	Continuous

Batch Release Information

Outfalls DSN001H and DSN001I are batch release operations. These outfalls are liquid radwaste discharges from each unit, and are released in accordance with U.S. Nuclear Regulatory Commission (NRC) regulations and requirements. There is not a specified frequency for these discharges; the frequency and volume of water processed by the liquid radwaste system is highly dependent on activities that occur within the facility. For example, the volume of water processed is typically higher during unit refueling outages which occur on 18-month cycles. Each unit has two 5,000-gallon Waste Monitor Tanks (WMT) from which liquid radwaste discharges occur. The design flow of each WMT discharge pump is 35 gpm.

Attachment 4
ADEM Form 187

Biocides and Corrosion Inhibitors

Joseph M. Farley Nuclear Power Plant
NPDES No. AL0024619

Biocides and Corrosion Inhibitors
Farley Nuclear Plant

A Material Safety Data Sheet (MSDS) is available for each of the products listed, and can be provided upon request.

Sodium Hypochlorite (Bleach)

Trade Name	N/A (Provided by GE Water Technologies)
Composition	Sodium Hypochlorite, Sodium Chloride, Sodium Hydroxide
Aquatic Toxicology	Rainbow Trout 96-hr Static Acute Bioassy LC50 = 1.9 mg/L No Effect Level = 1.38 mg/L Daphnia Magna 48-hr Static Acute Bioassay LC50 = 1.6 mg/L No Effect Level = 0.51 mg/L
Quantities	Bulk
Frequencies of Use	Daily/Continuous
Discharge Concentrations	In accordance with NPDES permit limitations
EPA Registration Number	---

Potassium Chromate

Trade Name	N/A (Provided by Fisher Scientific)
Composition	Chromic Acid Dipotassium Salt
Aquatic Toxicology	Daphnia Magna LC50 = 15.3 μg/L as chromium
Quantities	Commercially available packages
Frequencies of Use	As needed
Discharge Concentrations	Not subject to discharge (utilized in closed system).
EPA Registration Number	---

Potassium Dichromate

Trade Name	N/A (Provided by Fisher Scientific)
Composition	Chromic Acid, Dipotassium Salt
Aquatic Toxicology	Fathead Minnow LC50 = 17,300 μg/L as chromium Water Flea Daphnia EC50 = 1,750 μg/L as chromium
Quantities	Commercially available packages
Frequencies of Use	As needed
Discharge Concentrations	Not subject to discharge (utilized in closed system).
EPA Registration Number	---

Drewgard 4109 Corrosion Inhibitor

Trade Name	Drewgard 4109 Corrosion Inhibitor
Composition	Sodium Metaborate Tetrahydrate, Sodium Nitrate, Sodium Tetraborate Decahydrate, Sodium Nitrite, Sodium Metasilicate Anhydrous, Acrylic Polymer
Aquatic Toxicology	No ecological data provided on Material Safety Data Sheet
Quantities	Commercially available packages
Frequencies of Use	As needed
Discharge Concentrations	Not subject to discharge (utilized in closed system).
EPA Registration Number	---

Biosperse 254 Microbiocide

Trade Name	Biosperse 254 Microbiocide
Composition	Glutaraldehyde, Methanol
Aquatic Toxicology	Seven Day Ceriodaphnia dubia static renewal conditions: 7 Day LC50 = 2.6 mg/L NOEC = 1.56 mg/L LOEC = 3.13 mg/L IC50 = 2.2 mg/L
Quantities	Commercially available packages
Frequencies of Use	As needed
Discharge Concentrations	Not subject to discharge (utilized in closed system).
EPA Registration Number	---

Drew 11-166 WPD

Trade Name	11-166 WPD
Composition	Sodium Tolyltriazole
Aquatic Toxicology	No ecological data provided on Material Safety Data Sheet
Quantities	Commercially available packages
Frequencies of Use	As needed
Discharge Concentrations	Not subject to discharge (utilized in closed system).
EPA Registration Number	---

Spectrus CT1300

Trade Name	Spectrus CT1300
Composition	Alkyl Dimethyl Benzyl Ammonium Chloride, Ethyl Alcohol
Aquatic Toxicology	Channel Catfish 96-hr Acute Toxicity: LC50 = 0.86 mg/L No Effect Level = 0.54 mg/L Fathead Minnow 96-hr Flow-Thru Bioassay: LC50 = 0.72 mg/L No Effect Level = 0.41 mg/L
Quantities	Bulk
Frequencies of Use	As needed for microbiological and algae control in the cooling towers, added when cooling tower blowdown is closed and allowed to naturally decay for at least 6 hours prior to opening blowdown.
Discharge Concentrations	Normally product is decayed prior to opening cooling tower blowdown; concentrations at the Main Combined Facility Discharge are not expected to exceed the LC50 values provided above.
EPA Registration Number	---

3D TRASAR 3DT177

Trade Name	3D TRASAR 3DT177
Composition	Phosphoric Acid
Aquatic Toxicity	Fathead Minnow 96-hr Exposure LC50 = 7,201 mg/l Rainbow Trout 96-hr Exposure LC50 = >10,000 mg/l
Quantities	Bulk
Frequencies of Use	As needed for corrosion control of circulating cooling water
Discharge Concentrations	Treatment target of 8.3 ppm in circ water
EPA Registration Number	---

3D TRASAR 3DT199

Trade Name	3D TRASAR 3DT199
Composition	Sodium Benzotriazole
Aquatic Toxicity	Fathead Minnow 96-hr Exposure LC50 = 164 mg/l Ceriodaphnia dubia 48-hr Exposure LC50 = 677 mg/l
Quantities	Bulk
Frequencies of Use	As needed to inhibit copper corrosion of service water system
Discharge Concentrations	Treatment not to exceed 10 ppm in service water
EPA Registration Number	---

ControlBrom CB70

Trade Name	ControlBrom CB70
Composition	Sodium Bromide
Aquatic Toxicity	Fathead Minnow 96-hr Exposure LC50 = >5,000 mg/l Ceriodaphnia dubia 48-hr Exposure LC50 = >5,000 mg/l
Quantities	Bulk
Frequencies of Use	As needed for microbiological fouling control of service water and circulating cooling water systems
Discharge Concentrations	Treatment target of 6.4 ppm in service water
EPA Registration Number	---

Purate

Trade Name	Purate
Composition	Sodium Chlorate, Hydrogen Peroxide
Aquatic Toxicity	Fish 96-hr Exposure LC50 = >1,000 mg/l Ceriodaphnia dubia 48-hr Exposure EC50 = >1,000 mg/l
Quantities	Bulk
Frequencies of Use	Purate is a biocide precursor for chlorine dioxide which is used as an anti-microbial water treatment in the Service and Circulating Water Systems. Use will be continuous.
Discharge Concentrations	Product being used in conjunction with Sulfuric Acid to manufacture Chlorine Dioxide. Discharge concentration undetermined.
EPA Registration Number	---

Sulfuric Acid

Trade Name	Sulfuric Acid
Composition	Sulfuric Acid
Aquatic Toxicity	Shrimp 48-hr Exposure LC50 = 80-90 mg/l Ceriodaphnia dubia (No data available)
Quantities	Bulk
Frequencies of Use	Sulfuric Acid is a biocide precursor for Chlorine Dioxide which is used as an anti-microbial water treatment in the Service and Circulating Water Systems. Use will be continuous.
Discharge Concentrations	Product being used in conjunction with Purate to manufacture Chlorine Dioxide. Discharge concentration undetermined.
EPA Registration Number	---

Attachment 5
ADEM Form 187

Water Supply Sources – Wells

Joseph M. Farley Nuclear Power Plant
NPDES No. AL0024619

Water Supply Sources – Wells
Farley Nuclear Plant

Well	Capacity (MGD)	Depth (ft)	Latitude	Longitude
Production Well #1	Out of Service	---	---	---
Production Well #2	0.720	775	31° 13' 02" N	85° 06' 49" W
Production Well #3	0.180	392	31° 13' 01" N	85° 06' 50" W
Production Well #4	0.432	857	31° 13' 31" N	85° 06' 30" W
Construction Well #1	0.216	244	31° 13' 35" N	85° 06' 51" W
Construction Well #2	0.216	325	31° 13' 34" N	85° 07' 02" W
Water Supply Well	0.036	220	31° 12' 45" N	85° 06' 39" W
Plant Entrance Well	0.022	240	31° 13' 09" N	85° 07' 22" W
Daniel Well #3	Abandoned	---	---	---
Daniel Well #4	Abandoned	---	---	---

Attachment 6
ADEM Form 187

Waste Storage and Disposal Information

Joseph M. Farley Nuclear Power Plant
NPDES No. AL0024619

Materials Management Practices
Farley Nuclear Plant

There have been no significant quantities of hazardous materials or wastes at FNP over the past five years which have been treated, stored, or disposed in a manner which would result in exposure to stormwater and/or contamination of stormwater runoff. The following FNP procedures address management of hazardous materials and hazardous wastes and provide guidance relative to prevention of contamination resulting from contact with stormwater.

FNP_SPCC	Oil Spill Prevention, Control, and Countermeasure Plan
NMP-EN-602-GL01	Farley Hazardous Waste Contingency Plan
NMP-EN-602-001	Management of Hazardous Waste
NMP-EN-602-003	Used Oil Management
NMP-EN-901-002	Loading and Unloading Hazardous Material and Incident Reporting
NMP-EN-901-003	Preparing Hazardous Materials for Transportation
FNP-0-CCP-905	Chemistry Support to NMP-CH-002
NMP-CH-002	Chemical Product Control
NMP-FLS-012-001	Farley Site-Specific Hazard Communication Program
NMP-EN-601-001	Management and Disposal of Non-hazardous Wastes
NMP-EN-601-002	Onsite Landfill Operations
NMP-EN-601-GL01	Solid Waste Program Training Guideline
NMP-EN-901-GL01	Hazmat Transportation Training Guideline

In addition to the above procedures, proactive materials management practices are employed to minimize contact of hazardous materials with stormwater including indoor storage, structural control measures, secondary containment for tanks and container storage, and materials management training. A formal Hazard Communication Program (NMP-FLS-012-001) has also been implemented.

A Hazardous Waste Holding Area is located at the sewage treatment plant, and a Mixed Waste Holding Area is located inside the Auxiliary Building. Hazardous Waste Satellite Accumulation Areas have been established at the Secondary Chemistry Laboratory, the Water Treatment Plant, the Spent Battery Storage Building, the Paint Shop, and the Security Firing Range. The largest storage container at these locations is a 55-gallon drum. Additionally, an on-site Hazardous Waste Storage Area has been designated to be used in the event that the facility becomes a Large Quantity Generator.

Universal Waste collection areas have been established at the warehouse and at the Maintenance Shop.

Sludge from the sewage treatment plant is removed by a contractor, and the ultimate disposal site is the Omussee Creek Treatment Plant, operated by the City of Dothan.

Attachment 7
ADEM Form 187

River Intake Structure Information

Joseph M. Farley Nuclear Power Plant
NPDES No. AL0024619

River Intake Structure Information
Farley Nuclear Plant

Section F of the 2013 Farley NPDES Permit, "Cooling Water Intake Requirements," contains information and instructions regarding the operation of cooling water intake structures. No. 2 of Section F requires that certain intake structure information be submitted within 180 days prior to the expiration of the permit. The required information is provided below as part of this NPDES permit application.

1. *Design intake flow of the CWIS:* The design intake flow is 140.4 million gallons per day (MGD).

2. *Percentage of intake flow, based on highest monthly average in last 5 years, used for cooling purposes:* 100% of river intake flow is used to make up losses to the service water pond, which provides services water and circulating system makeup water for the plant. Approximately, 41% of the water from the pond is used in the service water system and 59% is used for circulating water make-up.

3. *An estimate of the intake flow reduction at the facility based upon the use of a 100 percent (or some lesser percentage) closed-cycle re-circulating cooling water system compared to a conventional once-through cooling water system:* The service water system provides cooling for various plant systems, after which the effluent does not enter the circulating water system; the service water flow is approximately 25,000 gpm. The make-up water provided to the circulating water system is about 36,000 gpm, while the entire circulating water system processes approximately 635,000 gpm. Given this information, the circulating system demonstrates a reduction of about 90% of the total water (service and circulating systems) that would be required to operate the system if it were once-through cooling.

4. *Through screen design intake flow velocity:* The through screen design intake flow velocity is estimated to be less than one (1) foot per second (fps) at a river elevation of 77 feet above mean sea level. The flow velocity in the river intake canal is designed to be less than 0.5 fps.

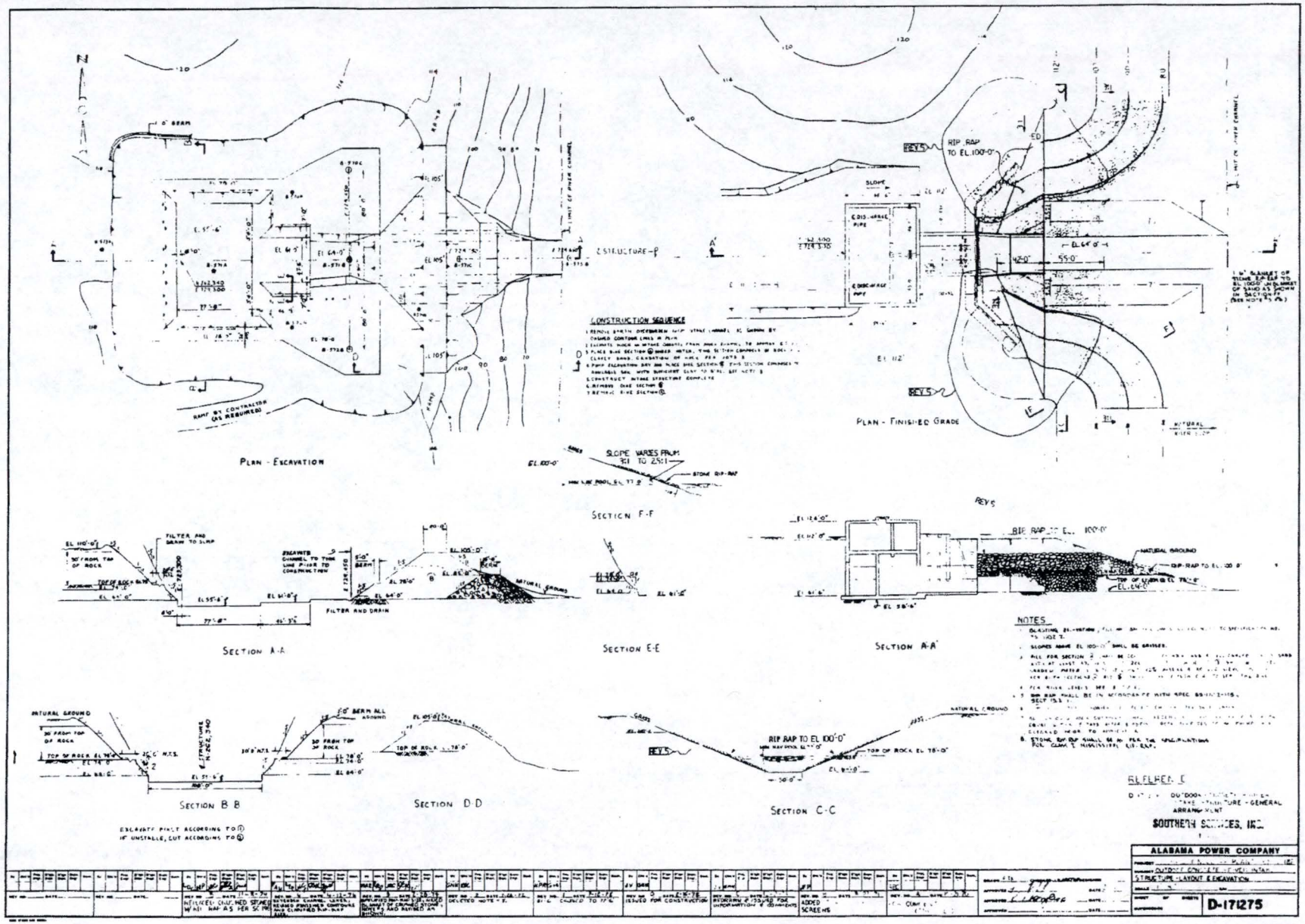
5. *Any impingement and entrainment data that may have been collected based on the operation of the facility's CWIS, collected since the effective date of this NPDES permit:* No impingement or entrainment data was collected since the effective date of the current NPDES permit.

6. *A detailed description of any changes in the operation of the CWIS, or changes in the type of the technologies used at the CWIS such as screens or other technologies affecting the rates of impingement and/or entrainment of fish and shellfish:* No changes to the Farley river intake structure have been made that could affect rates of impingement or entrainment. The current cooling water intake structure has been evaluated by the Department and determined to represent the best technology available (BTA) to minimize adverse environmental impact in accordance with Section 316(b) of the federal Clean Water Act.

Attachment 8
ADEM Form 187

Intake Map

Joseph M. Farley Nuclear Power Plant
NPDES No. AL0024619



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Attachment 9
ADEM Form 187

BMP Plan

Joseph M. Farley Nuclear Power Plant
NPDES No. AL0024619

FARLEY NUCLEAR PLANT

NPDES BEST MANAGEMENT PRACTICES (BMP) PLAN

Revision No. 5

Approved:

Zach Ryals

SNC Environmental Affairs

Eric D. Mullins

Site Environmental Specialist

Date Issued 4/2/2018

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Revision History

DATE	SUMMARY OF CHANGES
12/13/07	Original Issue.
6/16/08	- Revised Table 1 to accommodate new NALCO chemicals. - App. 2, Section VI. – Added statement that Chemistry typically performs the outside bulk chemical storage inspections.
3/1/11	-Changed approval title on cover page from Environmental Affairs to Environmental Services. -Changed General Section D to give Environmental Specialist responsible for oversight to the day to day implementation -Added CH-002 to reference section -Changed SHP-26 to CH-002 in Appendix 1 Section IV. -Added step to section V giving the location of the electronic copy and hardcopy of this plan. -Changed verbage in section VI of Appendix 2 to clarify performance of the monthly inspections by Site Env. Spec as well as Chemistry personnel trained on the BMP. Removed the word 'sample' from inspection sheet discussion in section VI. -Changed Plant Manager in Appendix 3 -Added 2 Fuel Tanks Williams Power has set up to support PA expansion project, updated number of Sodium Hypochlorite tanks at service water from 2 to 1 and changed volume accordingly and to Table 1. -Added. Added 2 Fuel Tanks Williams Power has set up to support PA expansion project, and Sewage Plant Caustic Area and Sanitary Water NaOCl addition areas to Figure 3.
2/7/2017	-Appendix 3 Changed Plant Manager on Plan Certification -Figure 3 Added Support Building Cooling Tower Chemical Addition area to the form, and removed Sewage Plant Caustic area (not longer used for pH control) and removed Williams Diesel Fuel and Gas Tanks NE of Fuel Pumps due to removal from site. -Cover sheet changed approver from Chemistry Manager to Site Environmental Specialist, added Revision (under title) -Updated Table 1 to reflect current chemical inventory at the site. -Page 3 Updated references section to reflect correct procedures and titles. -Section V Change the review frequency from every 3 to every 5 years to match the permit requirements.
3/20/2018	Revised Table of Contents. General editorial changes to body of the plan. Added references to NMP-MA-054, newly issued housekeeping procedure. Updated Table 1.

NPDES BEST MANAGEMENT PRACTICES (BMP) PLAN

I. Purpose

The purpose of this Best Management Practices (BMP) Plan is to outline effective measures by which significant contamination of storm water can be controlled at Farley Nuclear Plant.

This document is prepared in accordance with the requirements of NPDES Permit Number AL0024619 issued to Farley Nuclear Plant (FNP) by the Alabama Department of Environmental Management (ADEM). Significant changes in FNP's processes or additional requirements from ADEM may require periodic updating of this plan.

II. References

A. Joseph M. Farley Nuclear Plant NPDES Permit, No. AL0024619

B. FNP-0-AP-35, General Plant Housekeeping and Cleanliness Control

C. FNP-0-SHP-26, Chemical Product Control and Hazard Communication Program

D. FNP SPCC Plan – Spill Prevention, Control, and Countermeasures Plan

E. FNP-0-CCP-545, Visual Inspection of the Yard Drains and Other Discharges

F. FNP-0-CCP-1109, Used Oil Sampling and Shipping

G. NMP-ES-006, Preventative Maintenance Implementation and Continuing Equipment Reliability Improvement

H. SCM-005, Warehouse Operations

I. NMP-CH-002, Chemical Control Program

J. NMP-EN-704, Procedure for Spill Response

K. NMP-MA-054, General Plant Housekeeping

III. General

A. FNP is located in Houston County, Alabama on Highway 95 North.

B. FNP is a steam electric generating facility consisting of two nuclear units. The facility is manned 24 hours per day, seven days per week.

C. This Plan has been prepared in accordance with good engineering practices.

D. The FNP Environmental Specialist will be responsible for oversight of the day to day implementation of this Best Management Practices Plan. The Plant Manager or designee is responsible for committing necessary resources to properly implement this Best Management Practices Plan.

IV. Plan

A. Refer to Appendix 1 for guidance General BMPs guidance.

B. Refer to Appendix 2 for Specific BMPs guidance.

C. Refer to Appendix 3 for the plan certification.

D. Refer to Table 1 for a listing of outside bulk chemical storage tanks.

E. Refer to Figure 1 for a map of Main Power Block yard drainage.

F. Refer to Figure 2 for a map of site drainage areas.

G. Refer to Figure 3 for the monthly BMP inspection form.

V. Plan Review and Certification

A. Environmental Affairs has prepared and reviewed this plan.

B. Certification by the FNP Plant Manager is located in Appendix 3.

C. This plan must be reviewed and that review documented at least once every five years. The Appendix 3 certification must be completed during each review.

D. This Plan is stored electronically in Documentum as a Sync_Document with the title of "Farley Nuclear Plant NPDES Best Management Practices (BMP) Plan". The Site Environmental Specialist also maintains a hardcopy of this plan at his desk.

APPENDIX 1

GENERAL BMPs

This Appendix describes general practices and BMPs that are utilized, as applicable, for activities that occur at Farley Nuclear Plant that could impact storm water runoff. Specific plant procedures are referenced for practices that require more detailed guidance.

I. Good Housekeeping

Good housekeeping practices are designed to maintain a clean and orderly work environment. Clean and orderly work areas reduce the possibility of accidental spills. Poor housekeeping increases the risk of accidental spills and can result in more waste being generated than necessary resulting in an increased potential for storm water contamination. Well maintained material and chemical storage areas will reduce the possibility of storm water mixing with pollutants.

Good housekeeping is implemented at FNP via procedure FNP-0-AP-35 and NMP-MA-054

II. Facility Operation and Maintenance

The following are examples of practices used to maintain a clean and orderly plant site and to ensure proper operation of processes and equipment, thereby reducing the risk of significant contamination of stormwater:

A. Regular pick-up and disposal of garbage and waste material.

B. Checking of equipment to ensure proper operation - including routine observation for leaks or conditions that could lead to discharges of chemicals or contact of storm water with raw materials, intermediate materials, waste materials or final products.

C. Prompt clean up of any spill.

III. Material Storage

Improper storage can result in the release of materials and chemicals that can cause storm water runoff pollution. Proper storage techniques include, but are not limited to:

A. Avoid storing bulk containers on the ground by placing container or drums on pallets or similar devices to prevent corrosion of the container due to continued contact with moisture.

B. Stack containers according to manufacturers' instructions to avoid damage.

C. As a precaution against contamination, locate bulk of solvents, chemicals or other petroleum products on concrete or in containment when possible.

D. Locate material storage areas away from heavy traffic routes when possible.

E. Assign the responsibility of hazardous material inventory to a limited number of people who are trained to handle hazardous materials.

Material storage in the FNP warehouse is implemented via SCM-005.

APPENDIX 1

IV. Material Inventory Practices

Utilize an inventory system to avoid overstocking and needless waste of excess or out-dated materials. Maintain a Material Safety Data Sheet (MSDS) for materials in accordance with OSHA regulations. Employ a labeling system so that containers clearly show the name of the substance and denote any health hazards or special handling instructions. Control of chemicals/materials is implemented at FNP via procedure NMP-CH-002.

V. Preventive Maintenance

Preventive maintenance involves the regular inspection and testing of plant equipment and systems. These inspections should uncover conditions which could cause breakdowns or failures that result in the discharge of material to storm drains and surface waters. FNP's preventive maintenance program includes the following elements:

A. Identification of equipment and systems that are included in the scope of the maintenance program.

B. Schedule for periodic inspection or tests of these equipment and systems.

C. Appropriate and timely adjustment, repair or replacement of equipment and systems.

E. Maintenance of complete records on inspection, equipment, and systems.

The FNP Preventive Maintenance program is implemented via procedure NMP-ES-006.

VI. Visual Inspections

Routine visual inspections are not meant to be a comprehensive evaluation of the entire storm water pollution prevention program. They are meant to be a routine look-over of the facility to identify conditions, which may give rise to contamination of storm water runoff with pollutants from the facility. Formal visual inspections of yard drain outfalls is implemented by FNP procedure FNP-0-CCP-545.

VII. Spill Prevention and Response

Spills and leaks together are one of the largest industrial sources of storm water pollutants, and in most cases are avoidable. Development of spill prevention and response procedures is important. Reducing spills has economic as well as environmental benefits through reduced material loss and productivity losses during spill clean up. FNP's spill prevention program is implemented by the site SPCC Plan.

APPENDIX 1

VIII. Sediment and Erosion Control

There may be certain areas on the site which, due to construction activities, steep slopes, sandy soils, or other reasons, are prone to soil erosion. Such areas should be controlled through minimizing the amount of time soil is exposed and prompt reestablishment of ground cover, in addition to other controls which may be appropriate such as silt fences, storm water diversions and others. Projects one acre in size or larger will be registered with ADEM in accordance with ADEM Administrative Code R. 335-6-12.

IX. Management of Runoff

The use of traditional storm water management practices shall be employed such as diversion of storm water away from areas of potential contamination and the channeling of potentially contaminated storm water and process water to control devices.

APPENDIX 2

SPECIFIC BMPs

I. Storm Water Handling

The ultimate receiving water body for collected stormwater runoff is the Chattahoochee River. Absorbent oil booms are proactively placed at NPDES stormwater points that receive runoff from areas where petroleum products are stored. Diagrams of stormwater points are included in the Farley SPCC plan to aid personnel in minimizing stormwater impact when responding to spills or accidental releases of chemicals.

The Southeast Yard Drainage receives stormwater runoff from buildings and yards in the southeast areas of the plant. The average flow is approximately 34,900,000 gallons per event from a drainage area of approximately 204 acres.

The East Yard Drainage receives stormwater runoff from buildings and yards in the east plant areas. The average flow is approximately 684,200 gallons per event from a drainage area of approximately 4 acres.

The Northwest Yard Drainage receives runoff from the northwest area of the plant. This drain consists of three (3) pipes which merge into one common discharge prior to contact with Wilson Creek. The average flow is approximately 684,200 gallons per event from an approximate drainage area of 4 acres.

The Northcentral Yard Drainage receives stormwater runoff from buildings and yards in the northcentral area of the plant. The flow is approximately 855,300 gallons per event from a drainage area of approximately 5 acres.

The West Yard Drainage receives stormwater runoff from primarily yard areas in the west portion of the site. The average flow is approximately 2,600,000 gallons per event from a drainage area of approximately 15 acres.

The Southwest Yard Drainage receives stormwater from the southwest portion of the plant including the main parking lot and Fire Training Center. The average flow is approximately 500,000 gallons per event from a drainage area of approximately 2 acres.

II. Bulk Chemical Storage

All bulk chemical storage tanks are contained in containments, and some are also located underneath an overhang or roof. These containments will contain any spill associated with transfer or normal use of the chemicals stored at this site. Should the containment be damaged or destroyed, the chemicals released will proceed in sheet flow to one of the stormwater discharges located on the site perimeter. All precautions should be taken to prevent the fluids from reaching the discharge points, including temporary dikes and/or use of absorbent materials. A complete inventory of the bulk chemicals stored on site is given in Table 1 of this plan. Spill response is implemented at FNP via the FNP SPCC Plan and NMP-EN-704.

III. Sediment Control

A grass or vegetative buffer zone will be located around the perimeter of the site. Protection of stormwater inlets by some means will be used as necessary to assist in prevention of the discharge of pollutants. This might include any measure used to prevent erosion on the site.

IV. Spill Prevention

Each containment for outside bulk chemical storage will hold at least 110% of the contents of the largest single container within the containment, as required by ADEM regulations. Stormwater will be drained from the containments by means of an open/close valve, which will remain in the closed position when chemicals are present in the tanks.

V. Storm Water Contact

Whenever possible, all stored material will be placed under cover to minimize exposure to storm water. Through minimization of contact, storm water pollution is also minimized.

VI. Routine Inspections

Plant operations personnel conduct daily inspections of all areas of the plant. However, these inspections are not considered a part of this plan.

A monthly inspection will be conducted on all outdoors bulk chemical storage tanks, containments, piping and surrounding areas. This inspection shall note any housekeeping or equipment malfunctions. An inspection sheet is included as Figure 3 of this plan. This inspection is typically performed by Chemistry Personnel who have been trained on the BMP per Section VII. However the Site Environmental Specialist can perform these inspections as needed.

All inspection records shall be maintained at the site for a minimum of three years and shall be available for inspection upon request.

VII. Training

Chemistry personnel involved in implementing this plan should be trained in the contents of this Best Management Practices Plan. The training shall be documented and retained for a minimum of three years at the site and shall be available for inspection upon request.

VIII. Use and Disposal of Absorbent Materials

Absorbent materials will be available on site for the containment and clean up of chemical or oil spills. Used absorbent materials will be disposed of in accordance with established plant waste handling practices and procedures.

IX. Disposal of Used Oil and Solvents

All used oil will be sampled and shipped in accordance with FNP procedure FNP-0-CCP-1109. On-site storage of used oil will be performed in accordance the requirements of the Farley SPCC Plan. The use of small quantities of solvents is probable during maintenance activities; however, bulk solvents are not used at FNP as part of normal plant operation.

X. Sludge Disposal

Collection and disposal of any on-site generated sludge will be carried out by a licensed and/or approved contractor with disposal according to state and local regulations.

XI. Outside Equipment/Scrap Storage

Whenever possible, all equipment, parts and material will be stored under cover. When this is not practical, such material will be stored as far away from stormwater collection sites as possible to minimize any possible contamination of stormwater. Grass filters between the material and stormwater discharge will assist in removal of any contaminants which might inadvertently enter stormwater.

XII. Chemical Cleaning Activities

Chemical cleaning of major plant equipment may be required upon occasion to remove corrosion and scale buildup. The chemical cleaning contractor will bring required chemicals onto the plant site in tanker trucks, drums or bags. During these periods, temporary chemical storage areas will be diked and all drains within the area sealed off. All hose connections will be inspected for leaks and checked during pumping operations. Should a leak occur, the process will be stopped until repairs can be made. Chemical absorption pads or neutralizing chemicals will be on hand to handle any spills.
Site specific procedures will be developed for large scale chemical cleaning activities.

APPENDIX 3

PLAN CERTIFICATION

I certify under the 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 or imprisonment for knowing violations.

Scott Briggs, Plant Manager
Official's Name & Title (Type or Print)

Signature

3/21/2018
Date

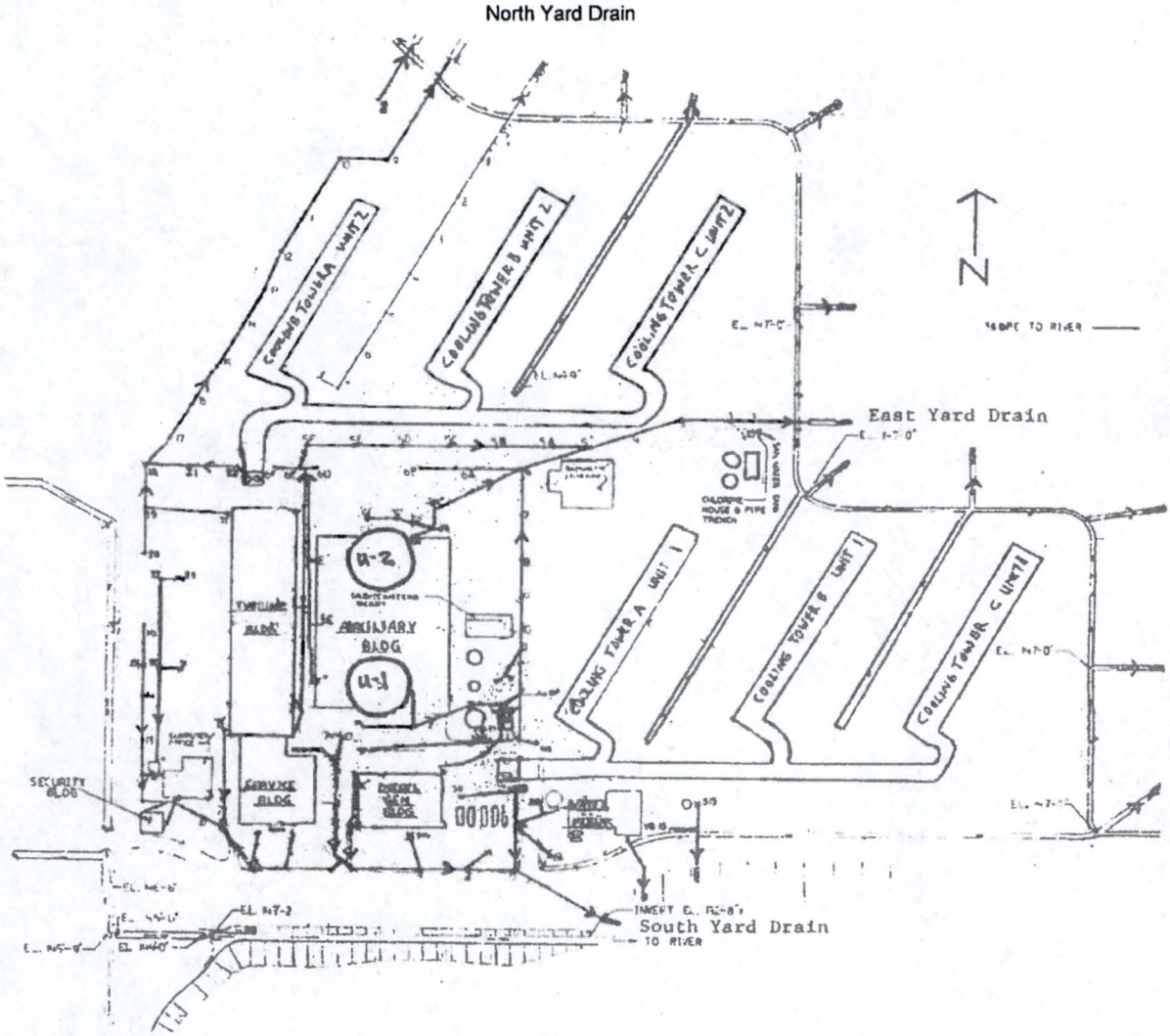
TABLE 1

PERMANENT OUTSIDE ABOVEGROUND BULK CHEMICAL STORAGE TANKS

Chemical/Material	Volume	Location
Ammonium Bisulfite (NALCO 7905)	2500 gallons	Unit 1 CW Chemical Storage Area
Sodium Hypochlorite	6150 gallons	Unit 1 CW Chemical Storage Area
Corrosion Inhibitor (NALCO 3DT177)	3900 gallons	Unit 1 CW Chemical Storage Area
Dispersant (NALCO TRASAR 3DT120)	3400 gallons	Unit 1 CW Chemical Storage Area
Spectrus CT1300	1000 gallons	Unit 1 CW Chemical Storage Area
PP07 3803	1500 gallons	Unit 1 CW Chemical Storage Area
Ammonium Bisulfite (NALCO 7905)	2000 gallons	Unit 2 CW Chemical Storage Area
Sodium Hypochlorite	6150 gallons	Unit 2 CW Chemical Storage Area
Corrosion Inhibitor (NALCO 3DT177)	2650 gallons	Unit 2 CW Chemical Storage Area
PP07 3803	1500 gallons	Unit 1 CW Chemical Storage Area
Dispersant (TRASAR 3DT120)	3400 gallons	Unit 2 CW Chemical Storage Area
Spectrus CT1300	1000 gallons	Unit 2 CW Chemical Storage Area
PP07 3803	1500 gallons	Unit 2 CW Chemical Storage Area
Sodium Hypochlorite	6150 gallons	SW Chemical Storage Area
Sodium Hypochlorite	3900 gallons	SW Chemical Storage Area
MicroBiological Control (NALCO ControlBrom CB70)	6150 gallons	SW Chemical Storage Area
Purate	6500 gallons	SW Chemical Storage Area
Sulfuric Acid	4900 gallons	SW Chemical Storage Area
Corrosion Inhibitor (NALCO 3D TRASAR 3DT199)	1500 Gallons	SW Chemical Storage Area
Hydrazine	350 gallons	North End of Turbine Building

FIGURE 1

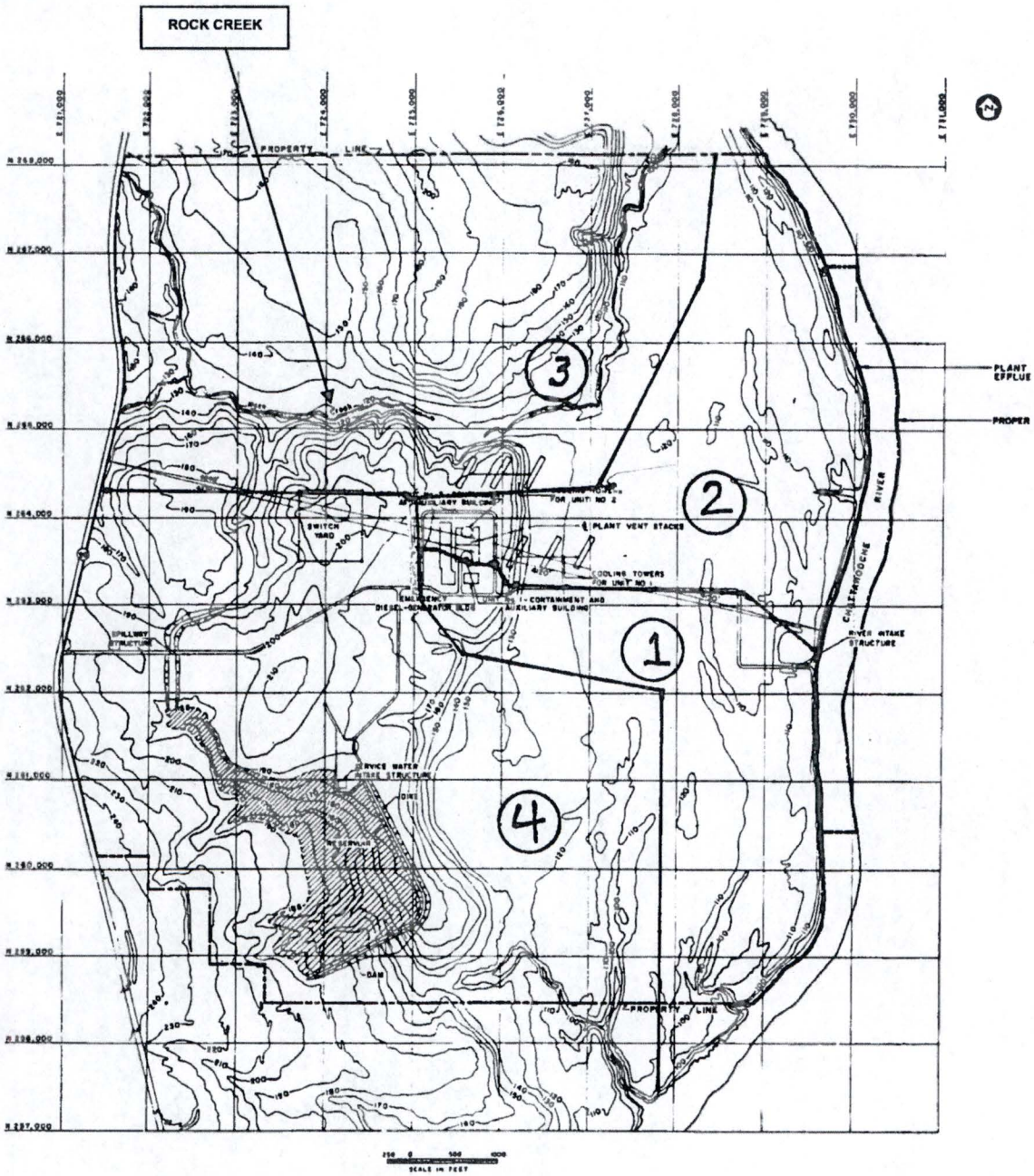
MAIN POWER BLOCK YARD DRAINAGE



For more detail see D-171426

FIGURE 2

SITE DRAINAGE AREAS



YARD DRAINAGE

1. Southeast
2. East
3. North
4. Southwest

FIGURE 3

OUTSIDE BULK CHEMICAL STORAGE TANKS

Monthly inspections shall be conducted of the following equipment, its immediate piping, containment, and immediate surrounding area. Any deficiencies observed must be reported on this form and a Condition Report initiated.

MONTH (month/year): _____

Equipment	**Condition**	**N/A**
Unit 1 Circulating Water Treatment Chemical Storage Area		
Unit 2 Circulating Water Treatment Chemical Storage Area		
Service Water Treatment Chemical Storage Area		
Warehouse Chemical Staging Area		
Fire Pump Diesel Fuel Storage Tanks		
Turbine Building Hydrazine Storage Bin		
Hydrazine/Carbohydrazide Layup Chemical Storage Area		
Auxiliary Boiler Fuel Oil Storage Tank		
Fire Training Center Diesel Fuel Tanks		
Fire Training Center Used Oil Holding Area		
Temporary Fuel/Chemical Bulk Containers		
Production Sanitary Water NaOCl addition area		
Construction Sanitary Water NaOCl addition area		
Support Building Cooling Tower Chemical Addition area		

_____ Date Inspection Initiated

_____ Date Inspection Completed

_____ Name of person performing inspection

U.S. EPA Form 3510-2F

Application for Permit to Discharge Storm Water Discharges Associated with Industrial Activity

Joseph M. Farley Nuclear Power Plant
NPDES No. AL0024619

EPA ID Number (*copy from Item 1 of Form 1*)

Please print or type in the unshaded areas only.

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92

FORM **2F** NPDES

U.S. Environmental Protection Agency
Washington, DC 20460

Application for Permit to Discharge Storm Water Discharges Associated with Industrial Activity

Paperwork Reduction Act Notice

Public reporting burden for this application is estimated to average 28.6 hours per application, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate, any other aspect of this collection of information, or suggestions for improving this form, including suggestions which may increase or reduce this burden to: Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW, Washington, DC 20460, or Director, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

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*)
SEE ATTACHED							

II. 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.

1. Identification of Conditions, Agreements, Etc.	2. Affected Outfalls		3. Brief Description of Project	4. Final Compliance Date	
	number	source of discharge		a. req.	b. proj.
N/A					

B: You may attach additional sheets describing any additional water pollution (or other environmental projects which may affect your discharges) you now have under way or which you plan. Indicate whether each program is now under way or planned, and indicate your actual or planned schedules for construction.

III. Site Drainage Map

Attach a site map showing topography (or indicating the outline of drainage areas served by the outfalls(s) covered in the application if a topographic map is unavailable) depicting the facility including: each of its intake and discharge structures; the drainage area of each storm water outfall; paved areas and buildings within the drainage area of each storm water outfall, each known past or present areas used for outdoor storage of disposal of significant materials, each existing structural control measure to reduce pollutants in storm water runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied; each of its hazardous waste treatment, storage or disposal units (including each area not required to have a RCRA permit which is used for accumulating hazardous waste under 40 CFR 262.34); each well where fluids from the facility are injected underground; springs, and other surface water bodies which received storm water discharges from the facility.

 Continue on Page 2

Continued from the Front

IV. Narrative Description of Pollutant Sources

A. For each outfall, provide an estimate of the area (include units) of imperious surfaces (including paved areas and building roofs) drained to the outfall, and an estimate of the total surface area drained by the outfall.

Outfall Number	Area of Impervious Surface *(provide units)*	Total Area Drained *(provide units)*	Outfall Number	Area of Impervious Surface *(provide units)*	Total Area Drained *(provide units)*
	SEE ATTACHED				

B. Provide a narrative description of significant materials that are currently or in the past three years have been treated, stored or disposed in a manner to allow exposure to storm water; method of treatment, storage, or disposal; past and present materials management practices employed to minimize contact by these materials with storm water runoff; materials loading and access areas, and the location, manner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied.

SEE ATTACHED

C. For each outfall, provide the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of the treatment the storm water receives, including the schedule and type of maintenance for control and treatment measures and the ultimate disposal of any solid or fluid wastes other than by discharge.

Outfall Number	Treatment	List Codes from Table 2F-1
N/A		

V. Nonstormwater Discharges

A. I certify under penalty of law hat the outfall(s) covered by this application have been tested or evaluated for the presence of nonstormwater discharges, and that all nonstormwater discharged from these outfall(s) are identified in either an accompanying Form 2C or From 2E application for the outfall.

Name and Official Title *(type or print)*	Signature	Date Signed
Dennis R. Madison, VP Nuclear Plant		

B. Provide a description of the method used, the date of any testing, and the onsite drainage points that were directly observed during a test.

SEE ATTACHED

VI. Significant Leaks or Spills

Provide existing information regarding the history of significant leaks or spills of toxic or hazardous pollutants at the facility in the last three years, including the approximate date and location of the spill or leak, and the type and amount of material released.

THERE HAVE BEEN NO SIGNIFICANT LEAKS OR SPILLS OF TOXIC OR HAZARDOUS MATERIALS AT FARLEY NUCLEAR PLANT IN THE LAST THREE YEARS.

 Continue on Page 3

Continued from Page 2

EPA ID Number *(copy from Item 1 of Form 1)*

VII. Discharge Information

A, B, C, & D: See instructions before proceeding. Complete one set of tables for each outfall. Annotate the outfall number in the space provided. Table VII-A, VII-B, VII-C are included on separate sheets numbers VII-1 and VII-2.

E. Potential discharges not covered by analysis – is any toxic pollutant listed in table 2F-2, 2F-3, or 2F-4, 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 Section IX*)

N/A

VIII. 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 (*list all such pollutants below*) ☐ No (*go to Section IX*)

ANNUAL BIOMONITORING AS REQUIRED BY EXISTING NPDES PERMIT ON THE MAIN COMBINED FACILITY DISCHARGE (DSN001).

IX. Contract Analysis Information

Were any of the analyses reported in Item VII 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 X*)

A. Name	B. Address	C. Area Code & Phone No.	D. Pollutants Analyzed
Alabama Power Company General Test Lab	Building No. 8 P.O. Box 2641 Birmingham, AL 35291	(205) 664-6194	All except COD, pH and temperature
TTL, Inc.	3516 Greensboro Ave. Tuscaloosa, AL 35401	(205) 345-0816	COD

X. 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. Area Code and Phone No.
Dennis R. Madison, VP Nuclear Plant	(334) 814-4511
C. Signature	D. Date Signed
Dennis Madison	6-1-13

EPA ID Number (*copy from Item 1 of Form 1*)

Form Approved. OMB No. 2040-0086
Approval expires 5-31-92

VII. Discharge information *(Continued from page 3 of Form 2F)*

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.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
Oil and Grease	<5 mg/l	N/A	---	---	1.00	
Biological Oxygen Demand (BOD5)	6.7 mg/l	4.5 mg/l	---	---	1.00	
Chemical Oxygen Demand (COD)	96.1 mg/l	43.9 mg/l	---	---	1.00	
Total Suspended Solids (TSS)	133 mg/l	48.7 mg/l	---	---	1.00	
Total Nitrogen	<1.233 mg/l	<0.83 mg/l	---	---	1.00	
Total Phosphorus	0.307 mg/l	0.171 mg/l	---	---	1.00	
pH	Minimum 8.12	Maximum 8.12	Minimum	Maximum	1.00	

Part B – List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
N/A						

Continue on Reverse

Continued from the Front

Part C - List each pollutant shown in Table 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-Weighted Composite		
TRC	<0.01	---	---	---	1.00	

Part D – Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm Event *(in minutes)*	3. Total rainfall during storm event *(in inches)*	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event *(gallons/minute or specify units)*	6. Total flow from rain event *(gallons or specify units)*
5/16/18	135	0.3 INCHES	>72 HOURS	~60 GPM	~8146 GALLONS

7. Provide a description of the method of flow measurement or estimate.

SEE ATTACHED

Attachment 1
U.S. EPA Form 3510-2F

Section I. Outfall Locations

Joseph M. Farley Nuclear Power Plant
NPDES No. AL0024619

Form 2F, Section I – Outfall Locations
Farley Nuclear Plant

The following outfalls located on the FNP site convey stormwater runoff from areas associated with industrial activity to the Chattahoochee River. None of the areas discharge directly to the river but discharge directly or indirectly to small tributaries, including Wilson Creek, which ultimately discharge to the Chattahoochee River. The stormwater drainages and their corresponding Discharge Serial Number (DSN) are provided below. DSN024, DSN025, and DSN029 discharge indirectly to the Chattahoochee River (31° 12' 52" Latitude, 85° 05' 55" Longitude) via unnamed tributaries on the site. DSN026, DSN027, and DSN028 discharge to Wilson Creek (31° 13' 45" Latitude, 85° 06' 45" Longitude).

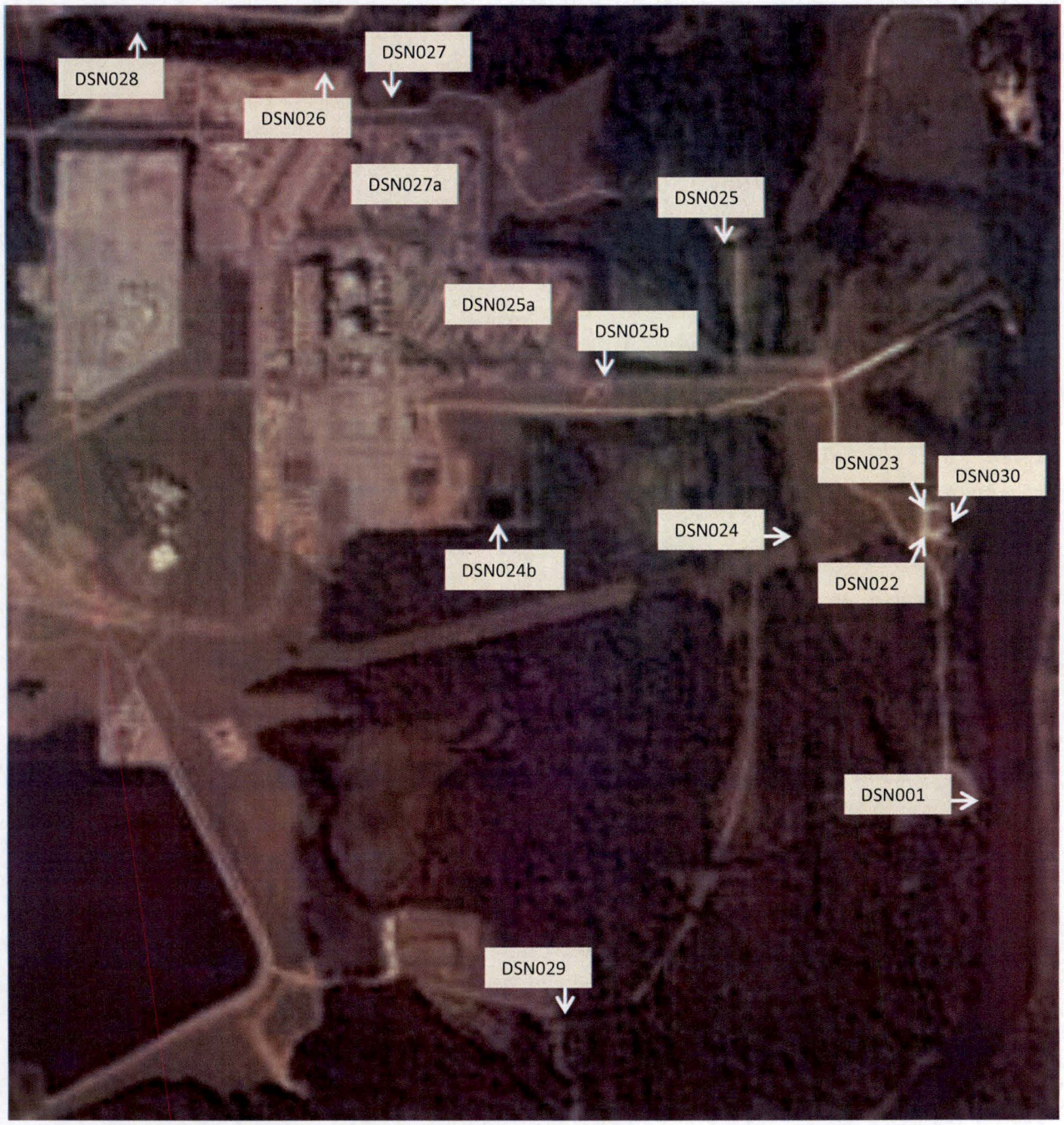
Description	**Discharge Serial Number (DSN)**
Southeast Yard Drainage	DSN024
East Yard Drainage	DSN025
Northwest Yard Drainage	DSN026
Northcentral Yard Drainage	DSN027
West Yard Drainage	DSN028
Southwest Yard Drainage	DSN029

Attachment 2
U.S. EPA Form 3510-2F

Section III. Site Drainage Map

Joseph M. Farley Nuclear Power Plant
NPDES No. AL0024619

Farley Nuclear Plant – NPDES Permit AL0024619



NOTE – DSN012 and DSN024a are permitted as treatment processes and do not have specific outfall locations.
DSN034 and DSN035 are not tied to a specific outfall location.
DSN001a, b, c, d, e, f, g, h, i, j, k all discharge through DSN001.

Attachment 3
U.S. EPA Form 3510-2F

Section IVA. Description of Stormwater Outfalls

Joseph M. Farley Nuclear Power Plant
NPDES No. AL0024619

Form 2F, Section IV(A) – Stormwater Outfall Description
Farley Nuclear Plant

The following outfalls are utilized to convey stormwater associated with industrial activity at FNP from the referenced drainage areas to the Chattahoochee River. The drainage areas are briefly described in the following table. All yard drainage outfall descriptions contain an estimate of flow based on the total drainage area for each respective outfall and six inches of cumulative rainfall over each area.

Outfall	Description
DSN024 Southeast Yard Drainage	The Southeast Yard Drainage receives stormwater runoff from buildings and yards in the southeast areas of the plant. The average flow is approximately 33,235,000 gallons per event from a drainage area of approximately 204 acres.
DSN025 East Yard Drainage	This drainage receives stormwater runoff from buildings and yards in the east plant areas. The average flow is approximately 651,700 gallons per event from a drainage area of approximately 4 acres.
DSN026 Northwest Yard Drainage	This drainage receives runoff from the northwest area of the plant. The average flow is approximately 651,700 gallons per event from an approximate drainage area of 4 acres.
DSN027 Northcentral Yard Drainage	This drainage receives stormwater runoff from buildings and yards in the northcentral area of the plant. The flow is approximately 814,600 gallons per event from a drainage area of approximately 5 acres.
DSN028 West Yard Drainage	This drainage receives stormwater runoff from primarily yard areas in the west portion of the site. The average flow is approximately 2,444,000 gallons per event from a drainage area of approximately 15 acres.
DSN029 Southwest Yard Drainage	This drainage receives stormwater from the southwest portion of the plant including the main parking lot and Fire Training Center. The average flow is approximately 325,800 gallons per event from a drainage area of approximately 2 acres.

Attachment 4
U.S. EPA Form 3510-2F

Section IVB. Materials Management Practices

Joseph M. Farley Nuclear Power Plant
NPDES No. AL0024619

Form 2F, Section IV(B) – Materials Management Practices
Farley Nuclear Plant

There have been no significant quantities of hazardous materials or wastes at FNP over the past five years which have been treated, stored, or disposed in a manner which would result in exposure to stormwater and/or contamination of stormwater runoff. The following FNP procedures address management of hazardous materials and hazardous wastes and provide guidance relative to prevention of contamination resulting from contact with stormwater.

FNP_SPCC	Oil Spill Prevention, Control, and Countermeasure Plan
NMP-EN-602-GL01	Farley Hazardous Waste Contingency Plan
NMP-EN-602-001	Management of Hazardous Waste
NMP-EN-602-003	Used Oil Management
NMP-EN-901-002	Loading and Unloading Hazardous Material and Incident Reporting
NMP-EN-901-003	Preparing Hazardous Materials for Transportation
FNP-0-CCP-905	Chemistry Support to NMP-CH-002
NMP-CH-002	Chemical Product Control
NMP-FLS-012-001	Farley Site-Specific Hazard Communication Program
NMP-EN-601-001	Management and Disposal of Non-hazardous Wastes
NMP-EN-601-002	Onsite Landfill Operations
NMP-EN-601-GL01	Solid Waste Program Training Guideline
NMP-EN-901-GL01	Hazmat Transportation Training Guideline

In addition to the above procedures, proactive materials management practices are employed to minimize contact of hazardous materials with stormwater including indoor storage, structural control measures, secondary containment for tanks and container storage, and materials management training. A formal Hazard Communication Program (NMP-FLS-012-001) has also been implemented.

A Hazardous Waste Holding Area is located at the sewage treatment plant, and a Mixed Waste Holding Area is located inside the Auxiliary Building. Hazardous Waste Satellite Accumulation Areas have been established at the Secondary Chemistry Laboratory, the Water Treatment Plant, the Spent Battery Storage Building, the Paint Shop, and the Security Firing Range. The largest storage container at these locations is a 55-gallon drum. Additionally, an on-site Hazardous Waste Storage Area has been designated to be used in the event that the facility becomes a Large Quantity Generator.

Universal Waste collection areas have been established at the warehouse and at the Maintenance Shop.

Sludge from the sewage treatment plant is removed by a contractor, and the ultimate disposal site is the Omussee Creek Treatment Plant, operated by the City of Dothan.

Attachment 5
U.S. EPA Form 3510-2F

Section IVC. Structural Control Measures

Joseph M. Farley Nuclear Power Plant
NPDES No. AL0024619

Form 2F, Section IV(C) – Description of Structural Controls
Farley Nuclear Plant

Structural control methods utilized at FNP to control contact of stormwater with pollutants include:

Containments

Spill prevention containments are utilized around tanks and drum storage areas containing hazardous materials. Drainage from containment areas is strictly controlled by procedure to ensure accumulated rainwater is not contaminated with the stored material prior to release.

Site Drainage System

A system of pipes, concrete culverts, and spillways is utilized to collect and channel stormwater flow in areas where high flows pose significant potential for erosion.

Use of Grass Swales, Vegetation / Revegetation of Eroded Areas

Natural grass swales are utilized when appropriate for drainage of sheet flow runoff from large areas of the site. This promotes infiltration and minimizes erosion by slowing runoff velocity. Eroded or newly disturbed areas are promptly vegetated to prevent soil contamination of runoff; alternatively, rip-rap may be used to slow runoff velocity and minimize erosion.

On-site Construction Projects

Construction projects are managed in compliance with construction stormwater guidance and permits, which typically includes the use of varying structural stormwater controls during and after project completion.

Attachment 6
U.S. EPA Form 3510-2F

Section VB. Description of Sampling Event

Joseph M. Farley Nuclear Power Plant
NPDES No. AL0024619

Form 2F, Section V(B) – Description of Sampling Event
Farley Nuclear Plant

The stormwater sample for this permit renewal cycle was collected during a rain event on May 16, 2018. The storm event began around 9:30 AM and last approximately 135 minutes, with a total rainfall amount of 0.3 inches. The location chosen for this sampling event was downstream of the Unit 1 treatment chemical storage area.

Stormwater can be sampled from any one of the numerous storm drains around the plant site. Each storm drain is representative of the quality of stormwater runoff associated with industrial activity at Farley Nuclear Plant. Both manual grab and composite samples were collected in accordance with EPA methodology during a qualifying rainfall event.

The stormwater drainage system at Farley Nuclear Plant is evaluated for non-stormwater discharges by:

1. Review of drainage drawings,

2. Plant walkdowns, and

3. Interviews of maintenance, engineering, and operations personnel.