



Kim E. Maza
Vice President
Harris Nuclear Plant
5413 Shearon Harris Road
New Hill, NC 27562-9300

February 24, 2021
Serial: RA-21-0073

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

Shearon Harris Nuclear Power Plant, Unit 1
Docket No. 50-400/Renewed License No. NPF-63

Subject: Notification of Permit Application for Industrial Stormwater Activities

Ladies and Gentlemen:

In accordance with Section 3.2 of the Environmental Protection Plan (Nonradiological), issued as Appendix B to the Renewed Facility Operating License No. NPF-63 for the Shearon Harris Nuclear Power Plant, Unit 1, Duke Energy Progress, LLC (Duke Energy), is providing notification of a new National Pollutant Discharge Elimination System (NPDES) permit application for industrial stormwater activities. A copy of the application is provided in the enclosure to this letter. The NPDES permit application has been submitted to the State of North Carolina permitting agency.

Please refer any questions regarding this submittal to Bob Wilson at (984) 229-2444.

Sincerely,

A handwritten signature in black ink that reads 'Kim E. Maza'.

Kim E. Maza

Enclosure: Industrial Stormwater Permit Application Package

cc: J. Zeiler, NRC Senior Resident Inspector, HNP
M. Mahoney, NRC Project Manager, HNP
NRC Regional Administrator, Region II

Document Control Desk
Serial: RA-21-0073
Enclosure

ENCLOSURE

INDUSTRIAL STORMWATER PERMIT APPLICATION PACKAGE



Kim E. Maza
Vice President
Harris Nuclear Plant
5413 Shearon Harris Road
New Hill, NC 27562-9300

FEB 24 2021

Serial RA-21-0069

Certified Mail Number: 7018 3090 0001 5536 4967
Return Receipt Requested

Mr. Brian Wrenn, Director
NC DEQ Division of Energy, Minerals and Land Resources
217 West Jones Street
Raleigh, NC 27603

Subject: Duke Energy Progress, LLC
Shearon Harris Nuclear Plant
Industrial Stormwater Permit Application Package
Wake County

Dear Mr. Wrenn:

Duke Energy Progress, LLC, Harris Nuclear Plant (HNP) submits the following NPDES permit application package for industrial stormwater activities previously covered by NPDES Permit Number NC0039586, which expires August 31, 2021. The attached permit application package consists of the following documentation:

- Enclosure 1 – Check for \$860 made payable to NC DEQ DEMLR for the Individual Stormwater NPDES Permit Application processing fee
- Enclosure 2 – NC DEQ DEMLR Individual Stormwater NPDES Permit Renewal Form
- Enclosure 3 – NC DEQ DEMLR Individual Stormwater NPDES Permit Renewal Supplemental Information Form
- Enclosure 4 – NC DEQ DEMLR Individual Stormwater NPDES Permit SPPP Certification Form
- Enclosure 5 – US EPA Form 1 – General Information
- Enclosure 6 – US EPA Form 2F – Stormwater Discharges Associated with Industrial Activity

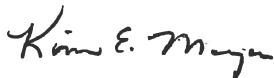
Please note that HNP has not been able to complete the stormwater sampling as required by EPA Form 2F. Equipment has recently been purchased and staff has been trained, however the sampling and analyses have not been conducted. We expect the sampling and analyses will be completed in the near future. An amended Form 2F will be submitted to NC DEQ DEMLR once the analytical results from the stormwater sampling has been completed.

The permit application package is also being transmitted to Ms. Suzanne McCoy in accordance with instructions contained on the NC DEQ DEMLR website. The permit application package is being submitted at least 180 days prior to the permit expiration date as required by NC GS 143-215.1 (C) and Part II, Section B Condition No. 10 of NPDES Permit No. NC0039586.

Should you have questions concerning this permit application please contact Mr. Bob Wilson, HNP Site Environmental Field Support, by phone at 919-362-2444, or via e-mail at Bob.Wilson@duke-energy.com.

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 fines and imprisonment for knowing violations.

Sincerely,



Kim E. Maza
Vice President
Duke Energy Progress, LLC
Harris Nuclear Plant

Enclosures

cc:

Electronic Delivery
Return Receipt Requested

US Nuclear Regulatory Commission

Certified Mail Number: 7018 3090 0001 5536 4936
Return Receipt Requested

Ms. Annette Lucas, Stormwater Permitting Program Manager

Certified Mail Number: 7018 3090 0001 5536 4943
Return Receipt Requested

Ms. Suzanne McCoy, 1612 MSC, Raleigh, NC 27699-1612

Certified Mail Number: 7018 3090 0001 5536 4950
Return Receipt Requested

Mr. Bill Denton, DEMLR Regional Engineer, Raleigh Regional Office

**Industrial Stormwater Permit Application Package
RA-21-0069**

**Enclosures
Duke Energy Progress, LLC
Shearon Harris Nuclear Plant
Industrial Stormwater Permit Application Package
Wake County
(66 pages including cover)**

Duke Energy Progress, LLC
Harris Nuclear Plant
National Pollutant Discharge Elimination System
Individual Industrial Stormwater Permit Application

Enclosure 1

SW NPDES-Individual-Permit Application Fee

Check for \$860 made payable to NC DEQ DEMLR for the Individual Stormwater NPDES Permit
Application processing fee

Duke Energy Progress, LLC
Harris Nuclear Plant
National Pollutant Discharge Elimination System
Individual Industrial Stormwater Permit Application

Enclosure 2

NC DEQ DEMLR SW NPDES-Individual-Permit-Renewal-Form-20171026



Permit Coverage
Renewal Application Form
National Pollutant Discharge Elimination System
Stormwater Individual Permit

NPDES Permit Number
NCS

Please provide your permit number in box in the upper right hand corner, complete the information in the space provided below and return the completed renewal form along with the required supplemental information to the address indicated.

Owner Information

** Address to which permit correspondence will be mailed*

Owner / Organization Name: Duke Energy Progress, LLC
Owner Contact: JKim E. Maza, Vice President
Mailing Address: 5413 Shearon Harris Road, New Hill, NC 27562
5413 Shearon Harris Road, New Hill, NC 27562
Phone Number: (984) 229-2512
Fax Number:
E-mail address: Kim.Maza@duke-energy.com

Facility Information

Facility Name: Harris Nuclear Plant
Facility Physical Address: 5413 Shearon Harris Road
New Hills, NC 27562
Facility Contact: Bob Wilson, Site Environmental Field Support Professional
Mailing Address: 5413 Shearon Harris Road
Phone Number: (984) 229-2444
Fax Number:
E-mail address: Bob.Wilson@duke-energy.com

Permit Information

Permit Contact: Bob Wilson, Site Environmental Field Support Professional
Mailing Address: 5413 Shearon Harris Road
New Hills, NC 27562
Phone Number: (984) 229-2444
Fax Number:
E-mail address: Bob.Wilson@duke-energy.com

Discharge Information

Receiving Stream: Harris Reservoir
Stream Class: WS-V
Basin: Cape Fear River Basin
Sub-Basin: 18-7-(3)
Number of Outfalls: Eleven (11)

Facility/Activity Changes Please describe below any changes to your facility or activities since issuance of your permit. Attached a separate sheet if necessary.

Industrial Stormwater aspects previously covered under NPDES Permit NC0039586 issued August 29, 2016. No significant site modifications or stormwater drainage modifications since the August 29, 2016 NPDES permit issuance.

CERTIFICATION

I certify that I am familiar with the information contained in the application and that to the best of my knowledge and belief such information is true, complete and accurate.

Signature Kim E. Maza Date 2/24/21
Kim E. Maza Vice President
Print or type name of person signing above Title

Please return this completed application form
and requested supplemental information to:

DEMLR - Stormwater Program
Dept. of Environmental Quality
1612 Mail Service Center
Raleigh, North Carolina 27699-1612

Duke Energy Progress, LLC
Harris Nuclear Plant
National Pollutant Discharge Elimination System
Individual Industrial Stormwater Permit Application

Enclosure 3

**NC DEQ DEMLR SW NPDES-Individual-Permit-Renewal-Supplement-Info-Form-
20171011**

STORMWATER POLLUTION PREVENTION PLAN DEVELOPMENT AND IMPLEMENTATION CERTIFICATION

North Carolina Division of Energy, Mineral, and Land Resources – Stormwater Program

Facility Name: Duke Energy Progress, LLC - Harris Nuclear Plant
Permit Number: _____
Location Address: 5413 Shearon Harris Road
New Hill, NC 27562
County: Wake

"I certify, under penalty of law, that the Stormwater Pollution Prevention Plan (SPPP) document and all attachments were developed and implemented under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information required by the SPPP. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information gathered is, to the best of my knowledge and belief, true, accurate and complete."

And

"I certify that the SPPP has been developed, signed and retained at the named facility location, and the SPPP has been fully implemented at this facility location in accordance with the terms and conditions of the stormwater discharge permit."

And

"I am aware that there are significant penalties for falsifying information, including the possibility of fines and imprisonment for knowing violations."

**Sign (according to permit signatory requirements) and return this Certification. DO NOT
SEND STORMWATER POLLUTION PREVENTION PLAN WITH THIS CERTIFICATION.**

Signature Kim E. Maza
Kim E. Maza
Print or type name of person signing above

Date 2/24/21
Vice President
Title

Duke Energy Progress, LLC
Harris Nuclear Plant
National Pollutant Discharge Elimination System
Individual Industrial Stormwater Permit Application

Enclosure 4

**NC DEQ DEMLR SW NPDES-Individual-Permit-Renewal-SPPP-Certification-Form-
20171011**

**SUPPLEMENTAL INFORMATION REQUIRED FOR RENEWAL OF INDIVIDUAL
NPDES STORMWATER PERMIT**

Two copies of each of the following shall accompany this submittal in order for the application to be considered complete:

(Do not submit the site Stormwater Pollution Prevention Plan)

Initials

RTW

1. A current Site Map from the Stormwater Pollution Prevention Plan. The location of industrial activities (including storage of materials, disposal areas, process areas and loading and unloading areas), drainage structures, drainage areas for each outfall, building locations and impervious surfaces should be clearly noted.

RTW

2. A summary of Analytical Monitoring results during the term of the existing permit (if your permit required analytical sampling). Do not submit individual lab reports. The summary can consist of a table including such items as outfall number, parameters sampled, lab results, date sampled, and storm event data.

RTW

3. A summary of the Visual Monitoring results. Do not submit individual monitoring reports. The summary can consist of a table including such items as outfall number, parameters surveyed, observations, and date monitoring conducted.

RTW

4. A summary of the Best Management Practices utilized at the permitted facility. Summary should consist of a short narrative description of each BMP's in place at the facility. If the implementation of any BMP's is planned, please include information on these BMP's.

RTW

5. A short narrative describing any significant changes in industrial activities at the permitted facility. Significant changes could include the addition or deletion of work processes, changes in material handling practices, changes in material storage practices, and/or changes in the raw materials used by the facility.

RTW


6. Certification of the development and implementation of a Stormwater Pollution Prevention Plan for the permitted facility (Sign and return attached form).

If the final year analytical monitoring of the existing permit term has not been completed prior to filing the renewal submittal, then the last years monitoring results should be submitted within 30 days of receipt of the laboratory reports. (i.e. do not withhold renewal submittal waiting on lab results)

Duke Energy Progress, LLC
Harris Nuclear Plant
National Pollutant Discharge Elimination System
Individual Industrial Stormwater Permit Application

Enclosure 5

Form 1 - General Information

EPA Identification Number NCD991278284		NPDES Permit Number NC0039586		Facility Name Harris Nuclear Plant		Form Approved 03/05/19 OMB No. 2040-0004	
Form 1 NPDES				U.S. Environmental Protection Agency Application for NPDES Permit to Discharge Wastewater GENERAL INFORMATION			
SECTION 1. ACTIVITIES REQUIRING AN NPDES PERMIT (40 CFR 122.21(f) and (f)(1))							
Activities Requiring an NPDES Permit	1.1 Applicants Not Required to Submit Form 1						
	1.1.1 Is the facility a new or existing publicly owned treatment works ? If yes, STOP. Do NOT complete Form 1. Complete Form 2A. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			1.1.2 Is the facility a new or existing treatment works treating domestic sewage ? If yes, STOP. Do NOT complete Form 1. Complete Form 2S. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
	1.2 Applicants Required to Submit Form 1						
	1.2.1 Is the facility a concentrated animal feeding operation or a concentrated aquatic animal production facility ? <input type="checkbox"/> Yes → Complete Form 1 and Form 2B. <input checked="" type="checkbox"/> No			1.2.2 Is the facility an existing manufacturing, commercial, mining, or silvicultural facility that is currently discharging process wastewater ? <input checked="" type="checkbox"/> Yes → Complete Form 1 and Form 2C. <input type="checkbox"/> No			
	1.2.3 Is the facility a new manufacturing, commercial, mining, or silvicultural facility that has not yet commenced to discharge ? <input type="checkbox"/> Yes → Complete Form 1 and Form 2D. <input checked="" type="checkbox"/> No			1.2.4 Is the facility a new or existing manufacturing, commercial, mining, or silvicultural facility that discharges only nonprocess wastewater ? <input type="checkbox"/> Yes → Complete Form 1 and Form 2E. <input checked="" type="checkbox"/> No			
	1.2.5 Is the facility a new or existing facility whose discharge is composed entirely of stormwater associated with industrial activity or whose discharge is composed of both stormwater and non-stormwater ? <input checked="" type="checkbox"/> Yes → Complete Form 1 and Form 2F unless exempted by 40 CFR 122.26(b)(14)(x) or (b)(15). <input type="checkbox"/> No						
SECTION 2. NAME, MAILING ADDRESS, AND LOCATION (40 CFR 122.21(f)(2))							
Name, Mailing Address, and Location	2.1 Facility Name Harris Nuclear Plant and Harris Energy and Environmental Center						
	2.2 EPA Identification Number NCD991278284						
	2.3 Facility Contact						
	Name (first and last) John Dills		Title Plant Manager		Phone number (984) 229-2000		
	Email address John.Dills@duke-energy.com						
	2.4 Facility Mailing Address						
Street or P.O. box 5413 Shearon Harris Road							
City or town New Hill		State North Carolina			ZIP code 27562		

EPA Identification Number NCD991278284		NPDES Permit Number NC0039586		Facility Name Harris Nuclear Plant		Form Approved 03/05/19 OMB No. 2040-0004	
Name, Mailing Address, and Location Continued	2.5	Facility Location					
	Street, route number, or other specific identifier 5413 Shearon Harris Road						
	County name Wake		County code (if known)				
	City or town New Hill		State North Carolina		ZIP code 27562		
SECTION 3. SIC AND NAICS CODES (40 CFR 122.21(f)(3))							
SIC and NAICS Codes	3.1	SIC Code(s)		Description (optional)			
		4911		Electric Power Service			
	3.2	NAICS Code(s)		Description (optional)			
		22113		Electric Power Generation, Nuclear			
SECTION 4. OPERATOR INFORMATION (40 CFR 122.21(f)(4))							
Operator Information	4.1	Name of Operator					
	Duke Energy Progress, LLC						
	4.2	Is the name you listed in Item 4.1 also the owner? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
	4.3	Operator Status <input type="checkbox"/> Public—federal <input type="checkbox"/> Public—state <input type="checkbox"/> Other public (specify) _____ <input type="checkbox"/> Private <input checked="" type="checkbox"/> Other (specify) <u>Public Utility</u>					
Operator Information Continued	4.4	Phone Number of Operator					
	(919) 362-2000						
	4.5	Operator Address					
	Street or P.O. Box 5413 Shearon Harris Road						
	City or town New Hill		State North Carolina		ZIP code 27562		
	Email address of operator John.Dills@duke-energy.com						
SECTION 5. INDIAN LAND (40 CFR 122.21(f)(5))							
Indian Land	5.1	Is the facility located on Indian Land? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					

EPA Identification Number NCD991278284	NPDES Permit Number NC0039586	Facility Name Harris Nuclear Plant	Form Approved 03/05/19 OMB No. 2040-0004
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SECTION 6. EXISTING ENVIRONMENTAL PERMITS (40 CFR 122.21(f)(6))

Existing Environmental Permits	6.1	Existing Environmental Permits (check all that apply and print or type the corresponding permit number for each)		
		<input type="checkbox"/> NPDES (discharges to surface water) See Attachment 1	<input type="checkbox"/> RCRA (hazardous wastes)	<input type="checkbox"/> UIC (underground injection of fluids)
		<input type="checkbox"/> PSD (air emissions)	<input type="checkbox"/> Nonattainment program (CAA)	<input type="checkbox"/> NESHAPs (CAA)
		<input type="checkbox"/> Ocean dumping (MPRSA)	<input type="checkbox"/> Dredge or fill (CWA Section 404)	<input type="checkbox"/> Other (specify)

SECTION 7. MAP (40 CFR 122.21(f)(7))

Map	7.1	Have you attached a topographic map containing all required information to this application? (See instructions for specific requirements.) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> CAFO—Not Applicable (See requirements in Form 2B.)
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SECTION 8. NATURE OF BUSINESS (40 CFR 122.21(f)(8))




Nature of Business	8.1	Describe the nature of your business. The Harris Nuclear Plant (HNP) consists of a 964 megawatt generating unit and associated facilities. The Harris Energy and Environmental Center (HEEC) includes facilities that provide support services (laboratories and training) for the HNP and other Duke Energy Progress, LLC facilities.
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SECTION 9. COOLING WATER INTAKE STRUCTURES (40 CFR 122.21(f)(9))

Cooling Water Intake Structures	9.1	Does your facility use cooling water? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No → SKIP to Item 10.1.
	9.2	Identify the source of cooling water. (Note that facilities that use a cooling water intake structure as described at 40 CFR 125, Subparts I and J may have additional application requirements at 40 CFR 122.21(r). Consult with your NPDES permitting authority to determine what specific information needs to be submitted and when.) Harris Reservoir

SECTION 10. VARIANCE REQUESTS (40 CFR 122.21(f)(10))


Variance Requests	10.1	Do you intend to request or renew one or more of the variances authorized at 40 CFR 122.21(m)? (Check all that apply. Consult with your NPDES permitting authority to determine what information needs to be submitted and when.) <div style="display: flex; flex-wrap: wrap; padding-top: 10px;"> <div style="width: 50%;"> <input type="checkbox"/> Fundamentally different factors (CWA Section 301(n)) </div> <div style="width: 50%;"> <input type="checkbox"/> Water quality related effluent limitations (CWA Section 302(b)(2)) </div> <div style="width: 50%;"> <input type="checkbox"/> Non-conventional pollutants (CWA Section 301(c) and (g)) </div> <div style="width: 50%;"> <input type="checkbox"/> Thermal discharges (CWA Section 316(a)) </div> <div style="width: 50%;"> <input checked="" type="checkbox"/> Not applicable </div> </div>
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EPA Identification Number NCD991278284	NPDES Permit Number NC0039586	Facility Name Harris Nuclear Plant	Form Approved 03/05/19 OMB No. 2040-0004																								
SECTION 11: CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))																											
Checklist and Certification Statement	11.1	<p>In Column 1 below, mark the sections of Form 1 that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to provide attachments.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Column 1</th> <th style="width: 50%;">Column 2</th> </tr> </thead> <tbody> <tr> <td><input checked="" type="checkbox"/> Section 1: Activities Requiring an NPDES Permit</td> <td><input type="checkbox"/> w/ attachments</td> </tr> <tr> <td><input checked="" type="checkbox"/> Section 2: Name, Mailing Address, and Location</td> <td><input type="checkbox"/> w/ attachments</td> </tr> <tr> <td><input checked="" type="checkbox"/> Section 3: SIC Codes</td> <td><input type="checkbox"/> w/ attachments</td> </tr> <tr> <td><input checked="" type="checkbox"/> Section 4: Operator Information</td> <td><input type="checkbox"/> w/ attachments</td> </tr> <tr> <td><input checked="" type="checkbox"/> Section 5: Indian Land</td> <td><input type="checkbox"/> w/ attachments</td> </tr> <tr> <td><input checked="" type="checkbox"/> Section 6: Existing Environmental Permits</td> <td><input checked="" type="checkbox"/> w/ attachments</td> </tr> <tr> <td><input checked="" type="checkbox"/> Section 7: Map</td> <td><input checked="" type="checkbox"/> w/ topographic map <input checked="" type="checkbox"/> w/ additional attachments</td> </tr> <tr> <td><input checked="" type="checkbox"/> Section 8: Nature of Business</td> <td><input type="checkbox"/> w/ attachments</td> </tr> <tr> <td><input checked="" type="checkbox"/> Section 9: Cooling Water Intake Structures</td> <td><input type="checkbox"/> w/ attachments</td> </tr> <tr> <td><input checked="" type="checkbox"/> Section 10: Variance Requests</td> <td><input type="checkbox"/> w/ attachments</td> </tr> <tr> <td><input checked="" type="checkbox"/> Section 11: Checklist and Certification Statement</td> <td><input type="checkbox"/> w/ attachments</td> </tr> </tbody> </table>		Column 1	Column 2	<input checked="" type="checkbox"/> Section 1: Activities Requiring an NPDES Permit	<input type="checkbox"/> w/ attachments	<input checked="" type="checkbox"/> Section 2: Name, Mailing Address, and Location	<input type="checkbox"/> w/ attachments	<input checked="" type="checkbox"/> Section 3: SIC Codes	<input type="checkbox"/> w/ attachments	<input checked="" type="checkbox"/> Section 4: Operator Information	<input type="checkbox"/> w/ attachments	<input checked="" type="checkbox"/> Section 5: Indian Land	<input type="checkbox"/> w/ attachments	<input checked="" type="checkbox"/> Section 6: Existing Environmental Permits	<input checked="" type="checkbox"/> w/ attachments	<input checked="" type="checkbox"/> Section 7: Map	<input checked="" type="checkbox"/> w/ topographic map <input checked="" type="checkbox"/> w/ additional attachments	<input checked="" type="checkbox"/> Section 8: Nature of Business	<input type="checkbox"/> w/ attachments	<input checked="" type="checkbox"/> Section 9: Cooling Water Intake Structures	<input type="checkbox"/> w/ attachments	<input checked="" type="checkbox"/> Section 10: Variance Requests	<input type="checkbox"/> w/ attachments	<input checked="" type="checkbox"/> Section 11: Checklist and Certification Statement	<input type="checkbox"/> w/ attachments
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	11.2	<p>Certification Statement</p> <p><i>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.</i></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Name (print or type first and last name) John R Dills</td> <td style="width: 50%;">Official title Plant Manager</td> </tr> <tr> <td>Signature </td> <td>Date signed 2-25-21</td> </tr> </table>		Name (print or type first and last name) John R Dills	Official title Plant Manager	Signature 	Date signed 2-25-21																				
	Name (print or type first and last name) John R Dills	Official title Plant Manager																									
Signature 	Date signed 2-25-21																										

Duke Energy Progress, LLC
Harris Nuclear Plant
National Pollutant Discharge Elimination System
Individual Industrial Stormwater Permit Application

Enclosure 6

Form 2F – Stormwater Discharges Associated with Industrial Activity

EPA Identification Number		NPDES Permit Number		Facility Name Harris Nuclear Plant		Form Approved 03/05/19 OMB No. 2040-0004	
Form 2F NPDES		U.S Environmental Protection Agency Application for NPDES Permit to Discharge Wastewater STORMWATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY					
SECTION 1. OUTFALL LOCATION (40 CFR 122.21(g)(1))							
Outfall Location	1.1	Provide information on each of the facility's outfalls in the table below					
	Outfall Number	Receiving Water Name	Latitude		Longitude		
		See Attachment 1	° ' "		° ' "		
			° ' "		° ' "		
			° ' "		° ' "		
			° ' "		° ' "		
			° ' "		° ' "		
			° ' "		° ' "		
SECTION 2. IMPROVEMENTS (40 CFR 122.21(g)(6))							
Improvements	2.1	Are you presently required by any federal, state, or local authority to meet an implementation schedule for constructing, upgrading, or operating wastewater treatment equipment or practices or any other environmental programs that could affect the discharges described in this application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Section 3.					
	2.2	Briefly identify each applicable project in the table below.					
		Brief Identification and Description of Project	Affected Outfalls (list outfall numbers)	Source(s) of Discharge		Final Compliance Dates	
					Required	Projected	
		NA					
2.3	Have you attached sheets describing any additional water pollution control programs (or other environmental projects that may affect your discharges) that you now have underway or planned? (Optional Item) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						

EPA Identification Number	NPDES Permit Number	Facility Name Harris Nuclear Plant	Form Approved 03/05/19 OMB No. 2040-0004
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SECTION 3. SITE DRAINAGE MAP (40 CFR 122.26(c)(1)(i)(A))

Site Drainage Map	3.1	Have you attached a site drainage map containing all required information to this application? (See instructions for specific guidance.)
	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

SECTION 4. POLLUTANT SOURCES (40 CFR 122.26(c)(1)(i)(B))

Pollutant Sources	4.1	Provide information on the facility's pollutant sources in the table below.			
		Outfall Number	Impervious Surface Area (within a mile radius of the facility)	Total Surface Area Drained (within a mile radius of the facility)	
			<i>specify units</i>		<i>specify units</i>
		See Attachment 3			
			<i>specify units</i>		<i>specify units</i>
			<i>specify units</i>		<i>specify units</i>
			<i>specify units</i>		<i>specify units</i>
			<i>specify units</i>		<i>specify units</i>
			<i>specify units</i>		<i>specify units</i>
			<i>specify units</i>		<i>specify units</i>
4.2	Provide a narrative description of the facility's significant material in the space below. (See instructions for content requirements.)				
	See Attachment 4				
4.3	Provide the location and a description of existing structural and non-structural control measures to reduce pollutants in stormwater runoff. (See instructions for specific guidance.)				
	Stormwater Treatment				
	Outfall Number	Control Measures and Treatment	Codes from Exhibit 2F-1 (list)		
		See Attachment 5			

EPA Identification Number

NPDES Permit Number

Facility Name
Harris Nuclear PlantForm Approved 03/05/19
OMB No. 2040-0004**SECTION 5: NON STORMWATER DISCHARGES (40 CFR 122.26(c)(1)(i)(C))****Non-Stormwater Discharges**

5.1

I certify under penalty of law that the outfall(s) covered by this application have been tested or evaluated for the presence of non-stormwater discharges. Moreover, I certify that the outfalls identified as having non-stormwater discharges are described in either an accompanying NPDES Form 2C, 2D, or 2E application.

Name (print or type first and last name)

John Dills

Official title

Plant Manager

Signature

Date signed

2-25-21

5.2

Provide the testing information requested in the table below.

Outfall
Number

Description of Testing Method Used

Date(s) of Testing

Onsite Drainage Points
Directly Observed
During Test**SECTION 6: SIGNIFICANT LEAKS OR SPILLS (40 CFR 122.26(c)(1)(i)(D))****Significant Leaks or Spills**

6.1

Describe any significant leaks or spills of toxic or hazardous pollutants in the last three years.
Not Applicable

SECTION 7: DISCHARGE INFORMATION (40 CFR 122.26(c)(1)(i)(E))**Discharge Information**

See the instructions to determine the pollutants and parameters you are required to monitor and, in turn, the tables you must complete. Not all applicants need to complete each table.

7.1

Is this a new source or new discharge?

☐Yes → See instructions regarding submission of
estimated data.☒No → See instructions regarding submission of
actual data.

Tables A, B, C, and D

7.2

Have you completed Table A for each outfall?

☐

Yes

☒

No

EPA Identification Number		NPDES Permit Number	Facility Name Harris Nuclear Plant	Form Approved 03/05/19 OMB No. 2040-0004
Discharge Information Continued	7.3	Is the facility subject to an effluent limitation guideline (ELG) or effluent limitations in an NPDES permit for its process wastewater? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No → SKIP to Item 7.5.		
	7.4	Have you completed Table B by providing quantitative data for those pollutants that are (1) limited either directly or indirectly in an ELG and/or (2) subject to effluent limitations in an NPDES permit for the facility's process wastewater? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
	7.5	Do you know or have reason to believe any pollutants in Exhibit 2F-2 are present in the discharge? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No → SKIP to Item 7.7.		
	7.6	Have you listed all pollutants in Exhibit 2F-2 that you know or have reason to believe are present in the discharge and provided quantitative data or an explanation for those pollutants in Table C? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
	7.7	Do you qualify for a small business exemption under the criteria specified in the Instructions? <input type="checkbox"/> Yes → SKIP to Item 7.18. <input checked="" type="checkbox"/> No		
	7.8	Do you know or have reason to believe any pollutants in Exhibit 2F-3 are present in the discharge? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No → SKIP to Item 7.10.		
	7.9	Have you listed all pollutants in Exhibit 2F-3 that you know or have reason to believe are present in the discharge in Table C? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
	7.10	Do you expect any of the pollutants in Exhibit 2F-3 to be discharged in concentrations of 10 ppb or greater? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Item 7.12.		
	7.11	Have you provided quantitative data in Table C for those pollutants in Exhibit 2F-3 that you expect to be discharged in concentrations of 10 ppb or greater? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	7.12	Do you expect acrolein, acrylonitrile, 2,4-dinitrophenol, or 2-methyl-4,6-dinitrophenol to be discharged in concentrations of 100 ppb or greater? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Item 7.14.		
	7.13	Have you provided quantitative data in Table C for the pollutants identified in Item 7.12 that you expect to be discharged in concentrations of 100 ppb or greater? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
	7.14	Have you provided quantitative data or an explanation in Table C for pollutants you expect to be present in the discharge at concentrations less than 10 ppb (or less than 100 ppb for the pollutants identified in Item 7.12)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
	7.15	Do you know or have reason to believe any pollutants in Exhibit 2F-4 are present in the discharge? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Item 7.17.		
	7.16	Have you listed pollutants in Exhibit 2F-4 that you know or believe to be present in the discharge and provided an explanation in Table C? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
7.17	Have you provided information for the storm event(s) sampled in Table D? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			

EPA Identification Number	NPDES Permit Number	Facility Name Harris Nuclear Plant	Form Approved 03/05/19 OMB No. 2040-0004
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Discharge Information Continued	Used or Manufactured Toxics		
	7.18	Is any pollutant listed on Exhibits 2F-2 through 2F-4 a substance or a component of a substance used or manufactured as an intermediate or final product or byproduct? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Section 8.	
	7.19	List the pollutants below, including TCDD if applicable.	
	1.	4.	7.
	2.	5.	8.
3.	6.	9.	

SECTION 8. BIOLOGICAL TOXICITY TESTING DATA (40 CFR 122.21(g)(11))					
Biological Toxicity Testing Data	8.1	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 three years? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No → SKIP to Section 9.			
	8.2	Identify the tests and their purposes below.			
		Test(s)	Purpose of Test(s)	Submitted to NPDES Permitting Authority?	Date Submitted
				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No	
				<input type="checkbox"/> Yes <input type="checkbox"/> No	

SECTION 9. CONTRACT ANALYSIS INFORMATION (40 CFR 122.21(g)(12))				
Contract Analysis Information	9.1	Were any of the analyses reported in Section 7 (on Tables A through C) performed by a contract laboratory or consulting firm? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No → SKIP to Section 10.		
	9.2	Provide information for each contract laboratory or consulting firm below.		
		Laboratory Number 1	Laboratory Number 2	Laboratory Number 3
	Name of laboratory/firm	Duke Energy Carolinas, LLC Duke Energy Central Laboratory	Pace Analytical Services, LLC	
	Laboratory address	13339 Hagers Ferry Road, Mail Code MG03A2 Huntersville, NC 28078	9800 Kinsey Avenue, Suite 100 Huntersville, NC 28078	
	Phone number	(980) 875-3111	(704) 875-9092	
	Pollutant(s) analyzed			

EPA Identification Number	NPDES Permit Number	Facility Name Harris Nuclear Plant	Form Approved 03/05/19 OMB No. 2040-0004
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SECTION 10. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))


Checklist and Certification Statement

10.1 In Column 1 below, mark the sections of Form 2F that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to complete all sections or provide attachments.

Column 1	Column 2
<input checked="" type="checkbox"/> Section 1	<input checked="" type="checkbox"/> w/ attachments (e.g., responses for additional outfalls)
<input checked="" type="checkbox"/> Section 2	<input type="checkbox"/> w/ attachments
<input checked="" type="checkbox"/> Section 3	<input checked="" type="checkbox"/> w/ site drainage map
<input checked="" type="checkbox"/> Section 4	<input checked="" type="checkbox"/> w/ attachments
<input checked="" type="checkbox"/> Section 5	<input type="checkbox"/> w/ attachments
<input checked="" type="checkbox"/> Section 6	<input type="checkbox"/> w/ attachments
<input checked="" type="checkbox"/> Section 7	<input type="checkbox"/> Table A <input type="checkbox"/> w/ small business exemption request <input type="checkbox"/> Table B <input type="checkbox"/> w/ analytical results as an attachment <input type="checkbox"/> Table C <input type="checkbox"/> Table D
<input checked="" type="checkbox"/> Section 8	<input type="checkbox"/> w/attachments
<input checked="" type="checkbox"/> Section 9	<input type="checkbox"/> w/attachments (e.g., responses for additional contact laboratories or firms)
<input checked="" type="checkbox"/> Section 10	<input type="checkbox"/>

10.2 **Certification Statement**

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.

Name (print or type first and last name) John Dills	Official title Plant Manager
Signature 	Date signed 2-24-21

EPA Identification Number	NPDES Permit Number	Facility Name Harris Nuclear Plant	Outfall Number SW-003
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Form Approved 03/05/19
OMB No. 2040-0004

TABLE A. CONVENTIONAL AND NON CONVENTIONAL PARAMETERS (40 CFR 122.26(c)(1)(i)(E)(3))¹

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 and requirements.

Pollutant or Parameter	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Number of Storm Events Sampled	Source of Information (new source/new dischargers only; use codes in instructions)
	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite		
1. Oil and grease						
2. Biochemical oxygen demand (BOD ₅)						
3. Chemical oxygen demand (COD)						
4. Total suspended solids (TSS)						
5. Total phosphorus						
6. Total Kjeldahl nitrogen (TKN)						
7. Total nitrogen (as N)						
8. pH (minimum)						
pH (maximum)						

¹ Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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EPA Identification Number	NPDES Permit Number	Facility name Harris Nuclear Plant	Outfall Number SW-003
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Form Approved 03/05/19
OMB No. 2040-0004

TABLE D. STORM EVENT INFORMATION (40 CFR 122.26(c)(1)(i)(E)(6))

Provide data for the storm event(s) that resulted in the maximum daily discharges for the flow-weighted composite sample.

Date of Storm Event	Duration of Storm Event (in hours)	Total Rainfall During Storm Event (in inches)	Number of Hours Between Beginning of Storm Measured and End of Previous Measurable Rain Event	Maximum Flow Rate During Rain Event (in gpm or specify units)	Total Flow from Rain Event (in gallons or specify units)

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

Duke Energy Progress, LLC
Harris Nuclear Plant
National Pollutant Discharge Elimination System
Individual Industrial Stormwater Permit Application

Attachment 1

NC DEQ DEMLR SW NPDES Individual Permit Supplement Information
Item 3 - Summary of the Visual Monitoring Results

Harris Nuclear Plant
Industrial Stormwater Outfall Observations

Date	Inspector	SW-001	SW-002	SW-003	SW-004	SW-005	SW-006	SW-007	SW-008	SW-009	SW-010
2015-06-17	Wilson	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No observation
2015-06-25	Baxter	No concerns	See Note 1	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No observation
2015-11-18	Wilson / Murray	No concerns	See Note 2	No concerns	See Note 3	No concerns	See Note 3	See Note 3	No concerns	No concerns	No observation
2016-05-18	Baxter	No concerns	See Note 4	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No observation
2016-06-23	Wilson	No observation	See Note 5	No observation	No observation	No observation	No observation	No observation	No observation	No observation	No observation
2016-11-16	Wilson / Murray	No concerns	See Note 6	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No observation
2017-05-25	Baxter	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No observation
2017-09-21	Wilson / Murray	No concerns	See Note 7	No concerns	See Note 6	No concerns	See Note 8	No concerns	No concerns	No concerns	No observation
2018-05-22	Grenier	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No observation
2018-11-08	Wilson / Dickerson	No concerns	No concerns	No concerns	See Note 9	See Note 9	No concerns	No concerns	No concerns	No concerns	See Note 10
2019-04-11	Baxter	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No observation
2019-11-21	Wilson / Moore	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No observation
2020-06-23	Wilson / Moore	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns
2020-11-18	Wilson / Moore	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns

Notes:

-
- 1 - Washout of catchbasin area prevented observations; Work Order issued for repairs
 - 2 - Water quality characteristics good; sink hole Work Order issued for repairs
 - 3 - Ditchline needs work
 - 4 - Washout of catchbasin area prevented observations; Work Order issued for repairs
 - 5 - Water quality characteristics good; end of pipe under water due to lake level
 - 6 - Additional fill soil needed due to settling associated with sink hole repair; Work Order issued for repairs
 - 7 - Two areas need regrading and erosion control improvements; Work Order issued for repairs
 - 8 - Spill booms need replacement; vegetation management needed
 - 9 - Ditchline needs work
 - 10 - Drainage area recently added to SWPPP; sheet flow runoff, no piping

Harris Nuclear Plant

Industrial Stormwater Facility Area Observations

Date	Inspector	Warehouse	Garage Areas	Warehouse	Landfill Laydown	Shop Laydown	Sandblast / Paint	Transformer Yard
2015-06-17	Wilson	No Problems	No Problems	No Problems	NA*	No Problems	needed	No Problems
2015-11-18	Wilson / Murray	No Problems	No Problems	No Problems	NA*	No Problems	No Problems	No Problems
2016-11-16	Wilson / Murray	No Problems	No Problems	No Problems	NA*	No Problems	No Problems	No Problems
2017-09-21	Wilson / Murray	needed	No Problems	No Problems	NA*	No Problems	needed	No Problems
2018-11-28	Wilson / Dickerson	Work list provided	No Problems	No Problems	NA*	Work list provided	No Problems	No Problems
2019-11-21	Wilson / Moore	No Problems	No Problems	No Problems	NA*	No Problems	NA**	No Problems
2020-06-30	Wilson / Moore	No Problems	No Problems	No Problems	NA*	No Problems	NA**	No Problems
2020-11-18	Wilson / Moore	No Problems	No Problems	No Problems	NA*	No Problems	NA**	No Problems

* Landfill laydown area no longer used

** Sandblast / Paint area no longer used

Duke Energy Progress, LLC
Harris Nuclear Plant
National Pollutant Discharge Elimination System
Individual Industrial Stormwater Permit Application

Attachment 2

Form 1 – Section 6 – Existing Environmental Permits

Duke Energy Progress, LLC
Harris Nuclear Plant
National Pollutant Discharge Elimination System
Individual Industrial Stormwater Permit Application

Attachment 2

Form 1 - Section 6 - Existing Environmental Permits

Issuing Agency	Type of Permit	ID Number
Division of Health Services	Main Reservoir	633
Division of Health Services	Auxiliary Reservoir	633
Division of Air Quality	Synthetic Minor	08455
Division of Environmental Management (DEM) *	Well Construction	2497
DEM*	Well Construction	1290
DEM*	Well Construction	1145
DEM*	Well Construction	922
DEM*	410 Certification	WQC-1198
DEM*	401 Certification	WQC-214
Division of Solid Waste Management	Industrial Landfill	92-10
Division of Waste Management	Underground Storage Tank	0-006715
DWR	Laboratory Certification	398
DWR	Oil Terminal Facility	924020063
DWR	NPDES (HNP/HEEC)	NC0039586
DEM*	NPDES (HNP Landfill)	COC NGG 120032
DEM*	Nondischarge	WQ0009475
DEM*	Nondischarge	WQ0000584**
DEM*	Nondischarge	WQ0000506**
DWQ	Nondischarge	WQ0000838**
Wake County Planning	Land Use	3830
Wake County Planning	Land Use	13383
Nuclear Regulatory Commission	Facility Operating License	NPF63
Division of Radiation Protection	Radioactive Materials License	092-0218-4
USEPA	Hazardous Waste	NCD991278284

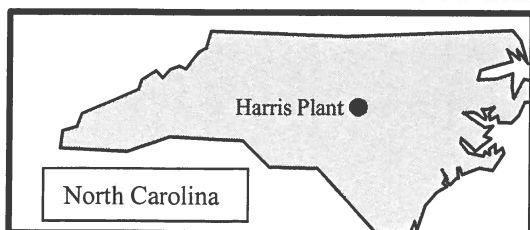
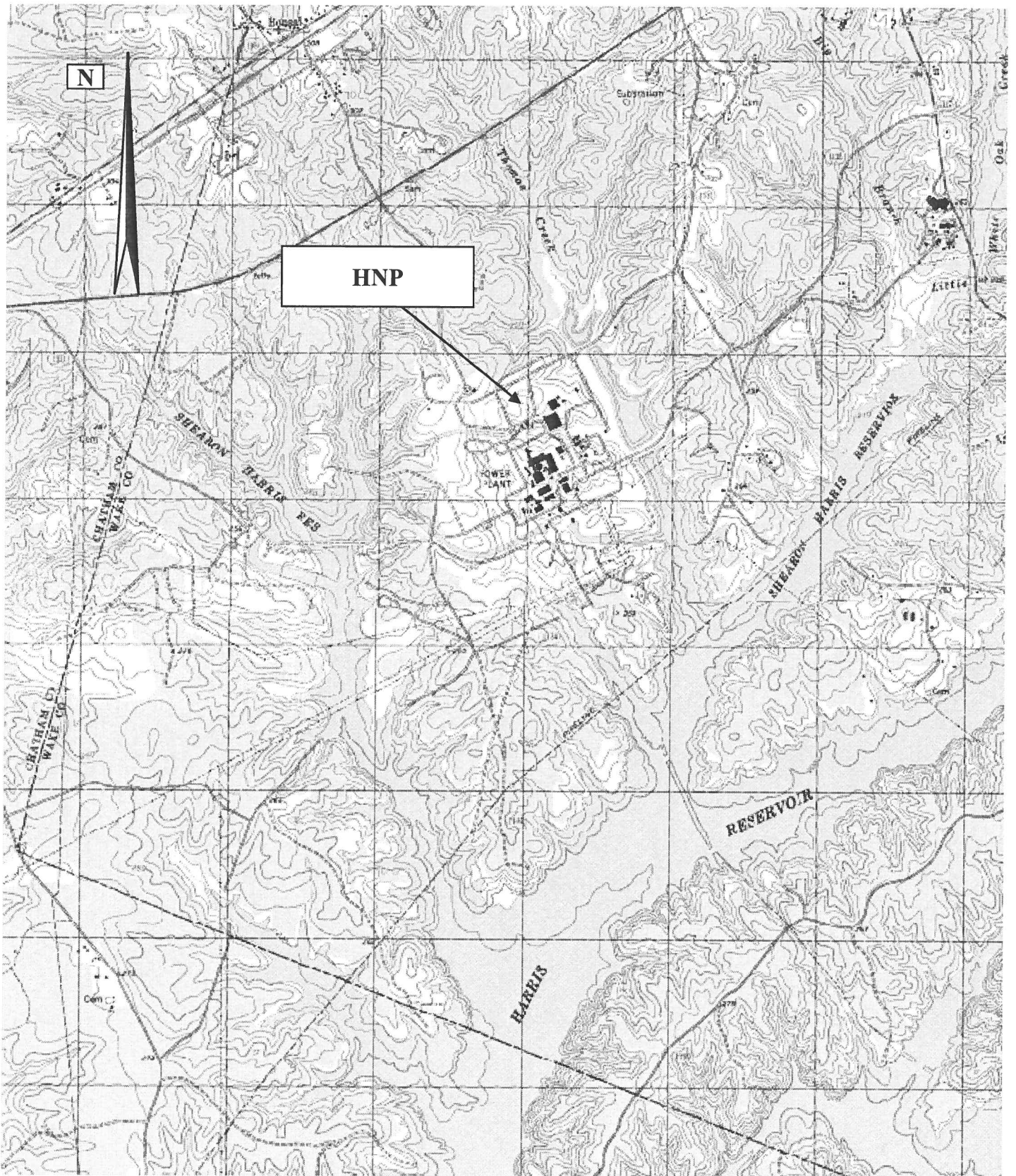
* Since issuance of permit agency name has changed to Division of Water Resources.

** Permits held by contract disposal firm

Duke Energy Progress, LLC
Harris Nuclear Plant
National Pollutant Discharge Elimination System
Individual Industrial Stormwater Permit Application

Attachment 3

Form 1 – Section 7 – Maps



Attachment 3 - Form 1 - Section 7 - Map

Duke Energy Progress, LLC
Harris Nuclear Plant
Wake County
Page 1 of 1

Duke Energy Progress, LLC
Harris Nuclear Plant
National Pollutant Discharge Elimination System
Individual Industrial Stormwater Permit Application

Attachment 4

Form 2F – Section 1.1 – Outfall Locations

**Duke Energy Progress, LLC
Harris Nuclear Plant
National Pollutant Discharge Elimination System
Individual Industrial Stormwater Permit Application**

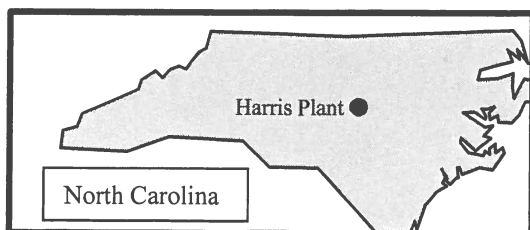
**Attachment 4
Form 2F – Section 1.1 - Outfall Locations**

A. Outfall Number	B. Latitude			C. Longitude			D. Receiving Water
SW-A	35°	38'	25"	78°	57'	14"	Harris Reservoir
SW-B	35°	38'	07"	78°	57'	07"	Harris Reservoir
SW-001	35°	38'	17"	78°	57'	03"	Harris Reservoir
SW-002	35°	38'	09"	78°	57'	00"	Harris Reservoir
SW-003	35°	38'	05"	78°	56'	57"	Harris Reservoir
SW-004	35°	37'	48"	78°	56'	50"	Harris Reservoir
SW-005	35°	37'	47"	78°	57'	11"	Harris Reservoir
SW-006	35°	37'	37"	78°	57'	13"	Harris Reservoir
SW-007	35°	37'	45"	78°	57'	31"	Harris Reservoir
SW-008	35°	38'	08"	78°	57'	36"	Harris Reservoir
SW-009	35°	38'	08"	78°	57'	32"	Harris Reservoir

Duke Energy Progress, LLC
Harris Nuclear Plant
National Pollutant Discharge Elimination System
Individual Industrial Stormwater Permit Application

Attachment 5

Form 2F – Section 3.1 – Site Drainage Map



Attachment 2 - Form 2F - Section 3.1 - Map

Duke Energy Progress, LLC
Harris Nuclear Plant
Wake County
Page 1 of 1

Duke Energy Progress, LLC
Harris Nuclear Plant
National Pollutant Discharge Elimination System
Individual Industrial Stormwater Permit Application

Attachment 6

Form 2F – Section 4.1 – Pollutant Source Impervious / Surface Area Information

**Duke Energy Progress, LLC
Harris Nuclear Plant
National Pollutant Discharge Elimination System
Individual Industrial Stormwater Permit Application**

**Attachment 6
Form 2F – Section 4.1- Pollutant Source Imperviousness / Surface Area Information**

Outfall Number	Area of Impervious Surface (Acres)	Percent (%) Impervious	Total Area Drained (Acres)
SW-A	0.0	0	5.1
SW-B	1.1	4	27.9
SW-001	26.4	40	66.1
SW-002	2.1	15	14.1
SW-003	11.0	75	14.7
SW-004	1.7	5	33.3
SW-005	10.9	95	11.5
SW-006	16.8	65	25.8
SW-007	9.0	20	45.2
SW-008	4.8	50	9.6
SW-009	6.1	70	8.7
DA-10*	1.4	20	7.0
Totals	91.3	36	254.3

Note: * - Drainage Area 10 does not contain an outlet structure; stormwater from Drainage Area 10 “sheet flows” into the facility’s emergency service water intake canal.

Duke Energy Progress, LLC
Harris Nuclear Plant
National Pollutant Discharge Elimination System
Individual Industrial Stormwater Permit Application

Attachment 7

Form 2F – Section 4.2 – Narrative Description of Pollutant Sources

Taken from Harris Nuclear Plant's
Storm Water Pollution Prevention Plan

STORM WATER POLLUTION PREVENTION PLAN

Revision 5 May 2020

2.1.5 Non-Storm Water Discharge Certification

NPDES Permit Reference: Part I, Section A 21.2a(5)

An evaluation for non-storm water discharges shall be performed annually by the Site Environmental Coordinator(s). The evaluation shall determine if a non-storm water discharge is present or otherwise how that discharge is permitted or otherwise authorized. Supporting evaluation information and a copy of the certification shall be included in Appendix E.

Allowable non-storm water discharges include:

- Foundation drains and natural springs;
- Flows from riparian habitats and wetlands;
- Air conditioner condensate that includes no added chemicals;
- Waterline and fire hydrant flushing;
- Discharging from fire-fighting, fire-fighting training, and fire system testing;
- All other discharges authorized by an NPDES permit.

2.2 Storm Water Management Strategy

2.2.1 Feasibility Study

NPDES Permit Reference: Part I, Section A 21.2b(1)

This section provides a review of the technical feasibility of changing the methods of operations and/or storage practices to eliminate or reduce exposure of materials and processes to rainfall and storm water runoff. Below are descriptions of the existing operations at the plant that present the potential for negative impacts to storm water runoff. These descriptions demonstrate the current practices in use to prevent exposure of storage areas, material handling operations and fueling operations.

STORM WATER POLLUTION PREVENTION PLAN

Revision 5 May 2020

DIESEL FUEL AND GASOLINE STORAGE

Diesel fuel and gasoline is stored at the plant in several different tanks and containers at the plant. The diesel fuel is primarily used as fuel for emergency diesel generators at the plant. The diesel fuel and gasoline is used to fuel plant vehicles and miscellaneous equipment. The largest containers at the plant are two 175,000 gallon underground diesel fuel storage tanks located north of the plant, and two 110,000 gallon field-erected aboveground diesel fuel storage tanks located in the southwestern area of the plant yard. The aboveground tanks are located within a single common concrete secondary containment structure equipped with a closed drain valve. Drainage from the containment discharges into the plant 10,000 gallon capacity Oil/Water Separator. The plant contains eight additional aboveground diesel fuel tanks, one aboveground gasoline tank, and numerous 55 gallon petroleum storage drums. The remaining tanks are small, shop-fabricated steel tanks maintained at various locations around the plant. The plant contains one 1,000 gallon underground diesel fuel storage tank at the Security Building, and one 10,000 gallon underground diesel fuel storage tank and one 10,000 gallon underground gasoline storage tank in the Mobile Equipment Area. The plant also maintains one small diesel fuel tank and one small gasoline tank on a mobile fuel truck.

A complete listing of these containers, including inspection and testing requirements, secondary containment descriptions and inspection requirements, and tanker unloading operation requirements are described in detail in the Harris Nuclear Plant SPCC Plan. All diesel fuel and gasoline storage tanks are provided with some means of passive secondary containment or are integral double-walled containers as described in detail in the Harris Nuclear Plant SPCC Plan. All external containments are inspected prior to being manually drained in accordance with the SPCC Plan. Secondary containments either drain into the plant 10,000 gallon capacity Oil/Water Separator, or onto the plant yard. Mobile tanks are stored in areas that drain to the Oil/Water Separator while in standby mode.

Refueling operations for all diesel fuel and gasoline containers are conducted in constant attendance in accordance with plant procedures and the Harris Nuclear Plant SPCC Plan. Tanker trucks are brought on-site to refill the two 175,000 gallon underground diesel fuel storage tanks and the two aboveground 110,000 gallon diesel fuel storage tanks. Tanker unloading into the two 175,000 gallon underground storage tanks, and into the two 110,000 gallon aboveground storage tanks, is conducted on a concrete containment pad adjacent to the tanks. The containment is equipped with open drains to the Oil/Water Separator. Tanker trucks are also brought on-site to refill the other aboveground and underground diesel fuel and gasoline tanks. These tankers unloading operations are conducted adjacent to the containers and in constant attendance in accordance with plant procedures. Prior to filling any container, tank levels are verified by electronic high-level and low-level annunciators, visual sight glasses, or are otherwise verified as described in the plant SPCC Plan.

STORM WATER POLLUTION PREVENTION PLAN

Revision 5 May 2020

The plant contains diesel fuel piping primarily associated with the delivery of diesel fuel from the two 110,000 gallon aboveground diesel fuel storage tanks to the emergency diesel generator system, and to other locations and systems. The piping is located aboveground or within concrete trenches. None of this piping is in contact with the soil. Portions of this piping are located within the secondary containment structure surrounding the tanks or at the fuel forwarding skid within the containment pad for the tanker unloading station. All aboveground piping outside of these concrete containments, and all piping within the concrete trenches, is provided secondary containment by open drains to the Oil/Water Separator. Diesel fuel transfer operations from the tanks to the emergency diesel generator system is an automated process. Facility operations personnel conduct daily routine facility walk-downs to observe all aboveground piping, valves, expansion joints, flange joints, and structural supports.

There are no changes warranted to reduce the potential for impacts to storm water runoff associated with diesel fuel and gasoline storage practices or tanker unloading operations at the facility. All diesel fuel and gasoline containers are in compliance with the plant SPCC Plan.

USED OIL STORAGE AND HANDLING

Used oil is collected and stored in eleven small tanks and containers at the plant. The largest used oil tanks are one 4,000 gallon steel tank and one 2,000 steel gallon tank in the Mobile Equipment Area. These two tanks are within a common concrete containment structure. There is a 1,000 gallon steel used oil tank adjacent to the Oil/Water Separator that collects used oil removed by the separator. This tank is within the same concrete containment pad as the separator. There is a 1,000 gallon steel used oil tank adjacent to the Emergency Diesel Generator Building and within a concrete containment structure. There are three 220 gallon poly used oil containers at the plant. Two of these containers are within a common metal containment bin on a covered concrete pad at the Paint Shop. The remaining container is within a concrete containment structure in the Mobile Equipment Area. The plant has a 1,000 gallon steel used oil tank mounted on a mobile trailer. While in standby mode the trailer is maintained in an area of the plant with yard drains that discharge into the Oil/Water Separator. There is a 100 gallon hydrogen seal oil drain tank within a concrete containment structure adjacent to the Turbine Building, and a 200 gallon oil filter drain tank inside the Mobile Equipment Building. The plant also maintains two 55 gallon used cooking oil drums maintained within a poly containment shelter at the east end of the Service Building.

A complete listing of all used oil tanks, including inspection and testing requirements, secondary containment descriptions and inspection requirements, and tanker loading operation requirements are described in detail in the Harris Nuclear Plant SPCC Plan. All external containments are inspected and manually drained in accordance with the SPCC Plan. Secondary containments either drain into the plant 10,000 gallon capacity Oil/Water Separator, or onto the plant yard. Mobile tanks are stored in areas that drain to the Oil/Water Separator while in standby mode. Tanker trucks are brought on-site to load used oil as needed from the

STORM WATER POLLUTION PREVENTION PLAN

Revision 5 May 2020

various used oil tanks. The tanker loading operations are conducted adjacent to the containers and in constant attendance in accordance with plant procedures.

There are no changes warranted to reduce the potential for impacts to storm water runoff associated with used oil storage practices or tanker loading operations at the facility. All used oil containers are in compliance with the plant SPCC Plan.

LUBE OIL STORAGE

The plant has three lube oil storage tanks consisting of one 14,000 gallon Turbine Generator Batch Oil Tank and two 1,500 gallon Turbine Lube Oil Sump Tanks. All three tanks are located within concrete containment basins inside the Turbine Building. The inspection and testing requirements for these lube oil tanks is described in detail in the Harris Nuclear Plant SPCC Plan. There are no changes warranted to reduce the potential for impacts to storm water runoff associated with these lube oil tanks.

OIL-FILLED EQUIPMENT AND SYSTEMS

Oil-filled equipment and systems at the plant includes lubrication oils, mineral oils and hydraulic oils maintained within closed conduit systems. These oils are used in hydraulic systems, lubricating systems, gear boxes, machining coolant systems, heat transfer systems, transformers and circuit breakers. Oil-filled equipment and systems, including container inspection requirements and secondary containment descriptions and inspection requirements, are described in detail in the Harris Nuclear Plant SPCC Plan.

The plant contains four lube oil and hydraulic oil reservoir systems located inside the Turbine Building. These reservoir systems are not exposed to storm water. Any oil release occurring from these systems will enter open floor drains that discharge into the plant Oil/Water Separator.

The largest oil-filled equipment containers exposed to storm water are large transformers containing mineral oil and located in the Transformer Yard on the east side of the Turbine Building. This equipment consists of three 9,180 gallon Start-Up Transformers, four 7,780 gallon Main Step-Up Transformers, and two 5,500 gallon Auxiliary Transformers. All of these transformers are within a concrete containment sump equipped with a manually operated dewatering pump. Containment contents are inspected in accordance with the plant SPCC Plan prior to dewatering, and sump contents are pumped to the plant Oil/Water Separator. There are no changes warranted to reduce the potential for impacts to storm water runoff associated with the large transformers.

Smaller oil-filled equipment containers exposed to storm water include numerous pad-mounted service transformers containing mineral oil located at various locations around the plant. These

STORM WATER POLLUTION PREVENTION PLAN

Revision 5 May 2020

transformers are used to provide power to the various buildings and facilities at the plant, and are generally not provided with any means of passive secondary containment. Any mineral oil release occurring from these service transformers would result in failure of the unit and subsequent loss of power. The plant relies on system monitoring, frequent inspections, preventative maintenance, and active containment measures as described in the plant SPCC Plan to contain any potential release occurring from these transformers. A mineral oil release from these units will typically discharge vertically into the underlying conduit penetrations which will provide some degree of containment. The potential for storm water impacts associated with mineral oil releases from any of these uncontained pad-mounted transformers is minimal, and could be reduced by the installation of dedicated secondary containments with manually operated drain valves or open drains to the Oil/Water Separator.

CHEMICAL STORAGE AND HANDLING

Various chemicals are used at the plant for water treatment and other purposes. Bulk chemicals are delivered by tanker trucks and unloaded into respective storage tanks at designated locations. Smaller chemical containers and drums are delivered to the receiving area of Warehouse 9 for storage or subsequent transport via company vehicles to the Water Treatment Building, Paint Shop, Bulk Warehouse, Chemical Warehouse, the Sewage Treatment Plant, and other locations. Plant personnel are trained in safe forklift usage, safe handling of chemicals, and proper use of spill containment and cleanup materials. Spill kits are located at receiving areas.

Two 5,500 gallon sodium hypochlorite tanks, one 5,600 gallon phosphoric acid tank, three 4,500 gallon water treatment chemical storage tanks and other smaller chemical containers are used for water treatment and analysis purposes at the Cooling Tower. The sodium hypochlorite tank and other small tanks and containers are within a concrete containment. The containment can be drained to the yard drainage system or can be pumped into the Cooling Tower basin. Small containers of chemicals used for analysis are stored inside the chemical storage building.

Four bulk chemical storage tanks, consisting of a 10,800 gallon caustic tank, a 7,500 gallon sulfuric acid tank, a 1,500 gallon empty ammonia tank, and a liquid nitrogen to gaseous nitrogen tank are located at the south end of the Turbine Building. These tanks are within containments that can be drained to the yard drainage system or to a sump that discharges to the Oil/Water Separator. An 8,315 gallon sulfuric acid storage tank is located at the east end of the Water Treatment Building. This tank is within a concrete containment with an open drain to a sump that pumps to the Neutralization Basin. Sodium carbonate, sodium hypochlorite, sodium hydroxide, and water treatment polymers are stored in tanks and containers at the Sewage Treatment Plant. Some of these tanks and containers are stored in totes inside metal buildings with built-in sumps.

All chemical storage tanks and containers are provided with some means of containment consisting of secondary containment structures with manually operated drain valves, secondary

STORM WATER POLLUTION PREVENTION PLAN

Revision 5 May 2020

containment structures with open drains to other containment or treatment systems, or are stored inside buildings. All external containments with drain valves are inspected prior to being manually draining. All chemical deliveries are conducted adjacent to the containers or at receiving areas in constant attendance and in accordance with plant procedures. Chemical container levels are verified prior to initiating any tanker unloading operation. There are no changes warranted to reduce the potential for impacts to storm water runoff associated with the storage and handling of chemicals.

WASTE HANDLING AND STORAGE

Waste chemicals and oils produced inside the protected area of the plant is typically transported to and processed in the chemical processing area of the Paint Shop. These materials are stored within a covered concrete containment area with open drains to the Oil/Water Separator. Waste chemicals produced outside the protected area of the plant are typically transported to, processed and stored in Warehouse 6. Waste oils produced outside the protected area of the plant are typically transported to the used oil tanks in the Mobile Equipment Area.

Hazardous materials are accumulated in designated satellite waste storage areas at the plant. All satellite accumulation areas are either under shelters or are inside buildings. All hazardous waste generated at the plant is eventually transported to and stored in the Central Hazardous Waste Storage Area located under a shelter attached to the Chemical Warehouse.

Dumpsters and roll-off containers are used at certain locations to collect inert materials and solid waste for disposal. No liquids or other materials that could potentially impact storm water are disposed of in external dumpsters. Two closed trash compactors are located west of the Chemical Warehouse. Recyclable waste materials are collected in covered storage containers at several locations inside buildings.

There are no changes warranted to reduce the potential for impacts to storm water runoff associated with waste handling and storage.

EXTERNAL STORAGE, LAYDOWN AND PARKING AREAS

Inert materials such as miscellaneous wood, structural steel, cable, empty drums and other metal components are stored at various external laydown yard areas at the plant. These laydown areas are typically paved or gravel-surfaced. No liquids or materials that could potentially impact storm water are stored on external laydown areas. Cranes and other mobile equipment are parked on the crane laydown yard and in other external parking and storage areas. This equipment can contain oils, fuels, hydraulic fluids and other materials that represent potential storm water impacts. Plant employees are trained to promptly report and respond to spills.

STORM WATER POLLUTION PREVENTION PLAN

Revision 5 May 2020

Other materials such as soil, sand, gravel, compost, concrete and asphalt may be stockpiled at certain locations on a temporary basis until the material can be recycled, reused or properly disposed of off-site. Stockpiled materials such as soil that could potentially result in the mobilization of sediments when exposed to rainfall are covered, stabilized by temporary or permanent seeding or are otherwise provided with necessary sediment control measures.

Drainage areas containing external storage, laydown and parking areas are described in Appendix B. The potential for storm water impacts associated with these external areas could be reduced by covering materials such as soil, gravel, treated lumber, flaking painted surfaces and other materials that represent the greatest potential for such impacts, by regular inspections and maintenance of mobile equipment, and by maintaining mobile equipment inside temporary containments while parked. Constructing permanent shelters over these external areas to prevent contact with storm water is cost prohibitive.

SECURITY TRAINING AND FIRING RANGE

The plant maintains a designated facility for security training purposes that includes an external firing range. The range is located west of the plant on the north side of the Emergency Service Water Intake Canal. Lead-based ammunition is routinely fired into bullet traps at the range. Storm water runoff from this area flows south and southwest overland into the adjoining Emergency Service Water Intake Canal. The embankment soil pH is routinely monitored and maintained within a range to prevent the lead from becoming soluble. Security personnel maintain an inventory of expended rounds fired and routinely harvesting lead from bullet traps or the soil.

There are no changes warranted to reduce the potential for impacts to storm water runoff associated with the security training and firing range. Constructing permanent shelters over the firing range to eliminate exposure to rainfall is cost prohibitive.

Duke Energy continuously pursues strategies to holistically manage the exposure of storm water to power generation, waste disposal, and facility management operations. These efforts consider the technical and economic feasibility of changing the methods of operations and/or storage practices. The details from the planning, design, and construction of such improvements shall be incorporated into the SWPPP upon completion.

STORM WATER POLLUTION PREVENTION PLAN

Revision 5 May 2020

2.2.2 Secondary Containment Requirements and Records

NPDES Permit Reference: Part I, Section A 21.2b(2)

The plant manages numerous oil-based liquids and non-oil based liquids and chemicals which are critical to power generation and transmission, water treatment, waste handling and treatment, and operation of vehicles and equipment.

The Harris Nuclear Plant is subject to the requirements of U.S. Environmental Protection Agency (EPA) Oil Pollution Prevention Regulation 40 CFR Part 112 because the oil storage capacity at the facility exceeds 1,320 gallons and the proximity to waters of the United States. As a result, the facility maintains a Spill Prevention, Control, and Countermeasures (SPCC) Plan pursuant to, 40 CFR Part 112. This plan addresses secondary containment, inspections and record keeping requirements for all oil containers of 55 gallon capacity and greater. A copy of the SPCC is not included in the SWPPP as the document is actively managed at all times for evolving site conditions; however, a current version is maintained in the Nuclear Fusion document data base and a version with mark-ups is maintained in the office of the Site Environmental Coordinator(s) and referenced herein.

Pursuant to this section of the permit, secondary containment is required for the bulk storage of liquid materials, storage in any amount of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) water priority chemicals, and storage in any amount of hazardous substances, in order to prevent spills and leaks from contaminating storm water runoff. Secondary containments shall be sized to contain the full capacity of the single largest container within the containment structure. Secondary containments exposed to precipitation shall also have additional capacity to contain the 25-year, 24-hour storm event. This additional capacity requirement shall take into consideration any storm water runoff entering the containment structure from upland areas if applicable. Secondary containments draining into storm water conveyance systems or onto the ground surface shall be equipped with manually-operated, lockable or otherwise secured drain valves or dewatering pumps. Flapper-type valves shall not be used.

Accumulated storm water within secondary containments shall be visually inspected for color, foam, outfall staining, presence of sheen, oils or chemicals prior to release in accordance with the frequencies specified in the plant SPCC Plan. Inspections will include observation for leaks, condition of containment, valve drain closure and locking, and presence of excessive debris and sediment. Inspection records shall be maintained at the facility. Exterior containments exposed to precipitation shall be inspected promptly after any significant rainfall event, and collected water within containments shall be drained to maintain adequate spill storage capacity within the containment.

A list of all liquids and chemicals and their associated secondary containment provisions are provided in Appendix F. Documentation for periodic inspections for leaks and recordation of accumulated storm water releases shall be placed in Appendix I.

STORM WATER POLLUTION PREVENTION PLAN

Revision 5 May 2020

2.2.3 Best Management Practices (BMPs) Summary

NPDES Permit Reference: Part I, Section A 21.2b(3)

A number of best management practices are currently in place at the station. These BMPs were instituted over a number of years as a result of various regulatory drivers and good housekeeping objectives. While a chosen practice provides some level of pollution prevention as it relates to the management of storm water discharges under this permit, the historic rationale behind implementing such a practice is comprehensive of a number of contributing factors. To document the ongoing implementation of these practices as part of the SWPPP, Table 2 from the Industrial Storm Water Fact Sheet for Steam Electric Power Generating Facilities (EPA-833-F-06-030) was reviewed and evaluated, and is provided in Appendix O. A high-level review of the BMPs is provided below along with a rationale for implementation. The detailed listing of these BMPs for each drainage area is provided in the outfall descriptions in Appendix B where information regarding the industrial activities and significant sources of pollutants are also compiled. The compiled information in the appendix captures an ongoing assessment process for BMP selection and implementation.

The Site Environmental Coordinator(s) shall rely on Table 2 from EPA-833-F-06-030 for the improvement, installation and implementation of BMPs to address data collected through monitoring of storm water discharges. The Site Environmental Coordinator(s) may also rely on other sources of information to develop and implement appropriate BMPs not specifically listed in Table 2. This list of BMPs shall be reviewed and updated annually as new practices are incorporated in the plan or warranted as a result of exceedances of analytical monitoring benchmarks detailed in the permit.

FUGITIVE DUST EMISSIONS

The potential for fugitive dust to impact storm water runoff drives the need for emission management practices. The station maintains an air permit with NCDEQ that includes the control of fugitive dust emissions as a programmatic requirement. Fugitive dust emissions are managed as necessary through a variety of BMPs that include restricting frequent traffic to paved roadways, periodic wetting of haul roads, and permanent stabilization of dust generating surfaces. Fugitive dust control is typically a contractual requirement of any contractors brought on-site to perform services that may involve the creation of fugitive dust. Fugitive dust generation is typically insignificant at the facility.

LOADING AND UNLOADING OF FUELS, OILS AND NON-OIL LIQUIDS AND CHEMICALS

The plant maintains numerous locations for the loading and unloading of fuels, oils and non-oil liquids and chemicals. The potential for spills and leaks to release to storm drains or overland drainage pathways to receiving waters presents a source of unauthorized discharges and potential storm water contamination. Loading and unloading operations follow plant procedures, the requirements specified in the plant SPCC Plan, and the requirements specified in the DOT unloading/loading procedures 49 CFR Part 177, Subpart B.

Duke Energy Progress, LLC
Harris Nuclear Plant
National Pollutant Discharge Elimination System
Individual Industrial Stormwater Permit Application

Attachment 8

Form 2F – Section 4.3 – Narrative Description of Pollutant Sources

Taken from Harris Nuclear Plant's
Storm Water Pollution Prevention Plan

STORM WATER POLLUTION PREVENTION PLAN
Revision 5 May 2020

Drainage Area 1 - Storm Water Outfall SW001	
Conveyance	36 inch Reinforced Concrete Pipe
Coordinates	N 35° 38' 17" W 78° 57' 02"
Drainage Area	66 acres
% Impervious	40 %

Drainage Area Description:

Drainage Area 1 includes Warehouses Nos. 6 and 9, paved and gravel-surfaced parking areas, gravel-surfaced storage yards, rail lines, service transformers, scrap metal and solid waste dumpsters, four sewage lift stations, and grassed yard areas. Storm water runoff from this drainage area discharges to the east into Harris Reservoir north of causeway.

Industrial Activities:

Warehouses Nos. 6 and 9 receive, handle and ship various quantities of chemicals, used oils, and other potential storm water pollutants in totes, drums and bags. Miscellaneous wood, structural steel, cable, empty drums and other metal components are stored on the gravel-surfaced storage yards. Scrap metal and solid waste is collected in the dumpsters. Service transformers provide power to the two warehouses. The sewage lift stations pump raw sewage to the Wastewater Treatment Plant. Employee personal vehicles, company vehicles and freight trucks park on the paved and gravel-surfaced parking areas.

Significant Materials and Potential Pollutants:

Warehouses Nos. 6 and 9: Chemicals, used oils, and other potential storm water pollutants in totes, mineral oil in service transformers, scrap metal and solid waste in the dumpsters.
Storage areas: Miscellaneous wood, structural steel, cable, and other metal.
Sewage lift stations: Raw sewage overflow.
Parking areas: Oils, gasoline and diesel fuel.

BMP Summary:

Warehouses Nos. 6 and 9:

- Plant procedures are followed regarding storage and handling of all chemicals and materials.
- Service transformers are inspected daily.
- No liquids or potential storm water pollutants are disposed of in the scrap metal and solid waste dumpsters, and the dumpsters are kept covered.
- Warehouse personnel are trained in safe forklift usage, spill containment, and cleanup of oil and chemicals.
- Spill kits are located at receiving areas.

Sewage lift stations:

- Stations are inspected per Operations and Chemistry rounds.

Storage areas:

- No materials that could impact storm water are stored in exterior areas.

Parking areas:

- Employees are trained to promptly report and respond to spills.

STORM WATER POLLUTION PREVENTION PLAN
Revision 5 May 2020

Drainage Area 2 - Storm Water Outfall SW002	
Conveyance	36 inch Reinforced Concrete Pipe
Coordinates	N 35° 38' 09" W 78° 57' 00"
Drainage Area	14 acres
% Impervious	15 %

Drainage Area Description:

Drainage Area 2 includes the Diesel Generator Building, the northern portion of the Cooling Tower, the Major Projects Building, one 6,500 gallon phosphoric acid tank and three 4,500 gallon water treatment chemical tanks, a service transformer, a sewage lift station, gravel-surfaced parking areas, rail lines, and grassed yard areas. Storm water runoff from this drainage area discharges to the east into Harris Reservoir north of causeway.

Industrial Activities:

The Cooling Tower cools plant process water for reuse. The normal service water pumps are located on the west side of the Cooling Tower and deliver makeup water to the Cooling Tower basin. The chemical storage tanks are filled by tanker trucks. Diesel fuel is delivered via aboveground piping to the Diesel Generator Building. The service transformer provides power to the Cooling Tower and other buildings. The sewage lift station pumps raw sewage to the Wastewater Treatment Plant. Employee personal vehicles and company vehicles park on the gravel-surfaced parking areas.

Significant Materials and Potential Pollutants:

Cooling Tower: Lube oil in the normal service water pumps, cooling water spray and drift, chemical storage tanks.

Diesel Generator Building: Diesel fuel.

Service transformer: Mineral oil.

Sewage lift station: Raw sewage overflow.

Parking areas: Oils, gasoline and diesel fuel.

BMP Summary:

Cooling Tower:

- Cooling water spray and drift is a condition of the plant NPDES permit.
- Normal service water pumps are routinely inspected for condition and proper operation.

Diesel Generator Building:

- Piping, valves and fittings are inspected daily.
- Piping is located in trenches with drains to the plant oil/water separator.

Phosphoric acid tank and water treatment chemical tanks:

- Tanks are located within concrete containments
- Plant procedures are followed regarding delivery and handling of all chemicals.

Service transformer:

- Transformer is inspected daily.

Sewage lift station:

- Station is inspected per Operation and Chemistry rounds.

Parking areas:

- Employees are trained to promptly report and respond to spills.

STORM WATER POLLUTION PREVENTION PLAN
Revision 5 May 2020

Drainage Area 3 - Storm Water Outfall SW003	
Conveyance	48 inch Reinforced Concrete Pipe
Coordinates	N 35° 38' 04" W 78° 56' 57"
Drainage Area	15 acres
% Impervious	75 %

Drainage Area Description:

Drainage Area 3 includes the southern portion of the Cooling Tower, a 5,600 gallon sodium hypochlorite tank and other smaller water treatment chemical storage tanks, a chemical storage building, Cooling Tower circulating water pumps, the Transformer Yard adjacent to the Turbine Building, paved parking areas, and grassed yard areas. Storm water runoff from this drainage area discharges to the east into Harris Reservoir just north of causeway.

Industrial Activities:

The Cooling Tower cools plant process water for reuse. Cooling Tower inflowing water is treated with sodium hypochlorite and other approved water treatment chemicals from tanks at the Cooling Tower, and chemicals for sampling and analysis are stored inside the Chemical Storage Building. Chemicals are delivered by tanker truck. Circulating water pumps are located on the south side of the Cooling Tower and are used to maintain process water circulation. Nine large transformers are located in the Transformer Yard. Employee personal vehicles and company vehicles park on the paved parking areas.

Significant Materials and Potential Pollutants:

Cooling Tower: Chlorine, acid, sodium hypochlorite, triline, ammonium bisulfate, and detergents in tanks, chemicals for sampling and analysis inside the chemical storage building. cooling water spray and drift, lube oil in the circulating water pumps.

Transformer Yard: Mineral oil in transformers.

Parking areas: Oils, gasoline and diesel fuel.

BMP Summary:

Cooling Tower:

- The 5,600 gallon sodium hypochlorite tank and other small tanks are within a concrete containment. Sampling and analysis chemicals are stored inside the chemical storage building.
- Plant procedures are followed regarding delivery and handling of all chemicals.
- Cooling water spray and drift is a condition of the plant NPDES permit.
- Circulating water pumps are routinely inspected for condition and proper operation.

Transformer Yard:

- Transformers are located within concrete containment sumps with manually operated dewatering pumps that discharge into the plant oil/water separator.
- Transformers and containments are inspected daily.

Parking areas:

- Employees are trained to promptly report and respond to spills.

STORM WATER POLLUTION PREVENTION PLAN
Revision 5 May 2020

Drainage Area 4 - Storm Water Outfall SW004	
Conveyance	Riprap ditch
Coordinates	N 35° 37' 52" W 78° 56' 52"
Drainage Area	33 acres
% Impervious	5 %

Drainage Area Description:

Drainage Area 4 includes the plant gravel-surfaced Switchyard, paved roads and parking areas, and grassed yard areas. Storm water runoff from this drainage area discharges to the east into Harris Reservoir south of causeway.

Industrial Activities:

The Switchyard contains electrical equipment and batteries. Employee personal vehicles, company vehicles and freight trucks park on the paved parking areas.

Significant Materials and Potential Pollutants:

Switchyard: Mineral oil in electrical equipment, acid electrolyte solution in batteries.

Parking areas: Oils, gasoline and diesel fuel.

BMP Summary:

Switchyard:

- Switchyard equipment is inspected daily.

Parking areas:

- Employees are trained to promptly report and respond to spills.

STORM WATER POLLUTION PREVENTION PLAN
Revision 5 May 2020

Drainage Area 5 - Storm Water Outfall SW005	
Conveyance	42 inch and 60 inch Reinforced Concrete Pipe
Coordinates	N 35° 37' 47" W 78° 57' 11"
Drainage Area	12 acres
% Impervious	95 %

Drainage Area Description:

Drainage Area 5 includes the Administration Building, the Security Building, a portion of the Service Building, a portion of the Bulk Warehouse, four chemical storage tanks adjacent to the Turbine Building (one 10,800 gallon caustic tank, one 4,500 gallon sulfuric acid tank, one 1,500 gallon ammonia tank, and one liquid nitrogen tank), a sewage lift station, one aboveground and one underground diesel fuel storage tanks at the Security Building, a cooking grease storage shelter at the Service Building, paved roads and parking areas. Most of this drainage area is impervious roofs and paved areas. Storm water runoff from this drainage area discharges to the south into the Make-Up Water Intake Canal.

Industrial Activities:

The Bulk Warehouse receives and handles various quantities of chemicals and other potential storm water pollutants. Various chemicals are delivered by tanker truck to the chemical storage tanks adjacent to the Turbine Building. Diesel fuel is unloaded from tanker trucks into the two tanks at the Security Building. Cooking grease is loaded into trucks for disposal. Service transformers provide power to the Administration Building and Security Building. The sewage lift station pumps raw sewage to the Wastewater Treatment Plant. HVAC units are located on the Security Building roof. Employee personal vehicles and company vehicles park on the paved parking areas.

Significant Materials and Potential Pollutants:

Chemical storage tanks: Liquid nitrogen, ammonia, sodium hydroxide, sulfuric acid.

Security Building: Diesel fuel, leaks from the HVAC unit on the roof.

Service transformers: Mineral oil.

Service Building: Cooking grease.

Bulk Warehouse: Various chemicals and other potential storm water pollutants.

Sewage lift station: Raw sewage overflow.

Storage areas: Miscellaneous wood, structural steel, cable, and other metal.

Parking areas: Oils, gasoline and diesel fuel.

BMP Summary:

Chemical storage tanks:

- Tanks are within a concrete containment.
- Plant procedures are followed regarding delivery and handling of chemicals.

Security Building:

- The aboveground diesel fuel tank is located inside the building.
- Plant procedures are followed regarding delivery of diesel fuel.
- HVAC unit is routinely serviced.

Service transformers:

- Transformers are inspected daily.

STORM WATER POLLUTION PREVENTION PLAN

Revsion 5 May 2020

Service Building:

- Cooking grease containers are maintained inside a plastic containment shelter.

Bulk Warehouse:

- Plant procedures are followed regarding storage and handling of all oils, chemicals and materials.
- Warehouse personnel are trained in spill containment and cleanup. Spill kits are located at receiving areas.

Sewage lift station:

- Station is inspected per Operation and Chemistry rounds.

Storage Areas:

- No materials that could impact storm water are stored in exterior areas.

Parking areas:

- Employees are trained to promptly report and respond to spills.

STORM WATER POLLUTION PREVENTION PLAN
Revision 5 May 2020

Drainage Area 6 - Storm Water Outfall SW006	
Conveyance	42 inch Reinforced Concrete Pipe
Coordinates	N 35° 37' 38" W 78° 57' 13"
Drainage Area	26 acres
% Impervious	65 %

Drainage Area Description:

Drainage Area 6 includes the Water Treatment Building, the Paint Shop, the Chemical Warehouse, the Mobile Equipment Area, a portion of the Service Building, a portion of the Bulk Warehouse, the Neutralization Basin, the Settling Basin, small gasoline, diesel fuel and used oil storage tanks at various locations, the Oil/Water Separator and adjacent 1,000 gallon used oil collection tank, service transformers, three sewage lift stations, an 8,315 gallon sulfuric acid storage tank, a solid waste compactor, paved roads, gravel-surfaced areas, external storage areas, parking areas, and grassed areas. Certain yard drains, concrete trenches and open containments within this drainage area are routed into the 10,000 gallon capacity Oil/Water Separator. The Oil/Water Separator discharges clean water to Neutralization Basin. Storm water runoff from this drainage area discharges into a retention pond equipped with an inverted siphon that discharges into an open ditch. The ditch eventually discharges into an arm of Harris Reservoir south of the plant.

Industrial Activities:

Various chemicals and potential storm water pollutants are delivered and handled at the Water Treatment Building, Bulk Warehouse and Chemical Warehouse. Hazardous materials, paints, used oils and chemicals are stored, handled and shipped at the Paint Shop. The Oil/Water Separator receives inflow from various areas of the plant and stores collected oil in an adjacent 1,000 gallon tank. Gasoline and diesel fuel is delivered by tanker truck and stored in various small tanks. Used oil is loaded into tanker trucks from various tanks for off-site disposal. The Neutralization and Settling Basins treat wastewater. Acid is delivered by tanker truck to the sulfuric acid tank. Service transformers provide power to various buildings. Solid waste is compacted in the trash compactor. The sewage lift stations pumps raw sewage to the Wastewater Treatment Plant. Miscellaneous inert materials are stored in external yard areas. Employee personal vehicles and company vehicles park on the paved and gravel parking areas.

Significant Materials and Potential Pollutants:

Water Treatment Building: Various water treatment chemicals.

Bulk Warehouse: Various chemicals and other potential storm water pollutants.

Chemical Warehouse: Various chemicals and other potential storm water pollutants.

Paint Shop: Used oil, hydrazine, acids, caustics, chemistry lab materials, emptied paint and aerosol cans, and other chemicals.

Gasoline, diesel fuel and used oil storage tanks: Gasoline, diesel fuel and used oil.

Mobile Equipment Area: Used oil and diesel fuel.

Sulfuric acid storage tank: Sulfuric acid.

Oil/Water Separator and adjacent 1,000 gallon used oil collection tank: Used oil.

Neutralization and Settling Basins: Untreated wastewater.

Parking areas: Oils, gasoline and diesel fuel.

STORM WATER POLLUTION PREVENTION PLAN

Revision 5 May 2020

BMP Summary:

Water Treatment Building, Bulk Warehouse and Chemical Warehouse:

- Plant procedures are followed regarding storage and handling of all oils, chemicals and materials.
- Personnel are trained in spill containment and cleanup. Spill kits are located at receiving areas.
- No materials that could impact storm water are stored in exterior areas.
- The 220 gallon diesel fuel and gasoline tanks near the Chemical Warehouse are within a common metal containment bin.

Paint Shop:

- Plant procedures are followed regarding storage and handling of all oils, chemicals and materials.
- All oils and other materials that could impact storm water are stored on a covered concrete containment.
- The two 220 gallon used oil storage tanks are located within metal containment bins.
- Chemicals are stored inside storage cabinets.
- Floor drains in the area discharge into the Oil/Water Separator.
- Personnel are trained in spill containment and cleanup. Spill kits are located at the shop.

Other tanks:

- A 1,000 gallon temporary diesel fuel storage tank west of the Reactor Building is within a flexible containment liner.
- The 8,315 gallon sulfuric acid storage tank is within a concrete containment with an open drain to a sump that pumps to the Neutralization Basin.
- Plant procedures are followed regarding unloading of acid and diesel fuel.

Mobile Equipment Area:

- The 4,000 gallon and 2,000 gallon used oil tanks are within a common concrete containment.
- The 220 gallon diesel fuel and 220 gallon used oil tanks are within a common concrete containment.
- Plant procedures are followed regarding loading and unloading of all oils and fuels.
- Personnel are trained in spill containment and cleanup. Spill kits are located at the shop.

Oil/Water Separator:

- The Oil/Water Separator and adjacent 1,000 gallon used oil collection tank are located within a concrete containment with manually operated drain valve. Containment contents are manually drained back to the Oil/Water Separator.
- Plant procedures are followed regarding loading of used oil into tankers for off-site disposal.

Neutralization and Settling Basins:

- The basins are inspected daily.

Storage Areas:

- No materials that could impact storm water are stored in exterior areas.

Parking areas:

- Employees are trained to promptly report and respond to spills.

STORM WATER POLLUTION PREVENTION PLAN
Revision 5 May 2020

Drainage Area 7 - Storm Water Outfall SW007	
Conveyance	60" Reinforced Concrete Pipe
Coordinates	N 35° 37' 45" W 78° 57' 28"
Drainage Area	45 acres
% Impervious	20 %

Drainage Area Description:

Drainage Area 7 includes the two 110,000 gallon Auxiliary Boiler Fuel Oil Storage Tanks, the Gas Storage Yard, the Sewage Treatment Plant, a portion of the Security Training Facility, the Flex Building, two service transformers, solid waste and recycling containers, paved roads and parking areas, and grassed and wooded areas. Most of this drainage area is vegetated, non-industrial use. Storm water runoff from this drainage area discharges to the south into the Emergency Service Water Intake Canal.

Industrial Activities:

The two Auxiliary Boiler Fuel Oil Storage Tanks are filled by tanker truck, and associated aboveground fuel oil piping delivers fuel oil to the Auxiliary Boiler and other plant processes. Nitrogen and hydrogen gasses are stored in tanks at the Gas Storage Yard. Raw sewage is pumped from various plant lift stations to the Sewage Treatment Plant for treatment using aerobic and anaerobic processes and various water treatment chemicals. Firearms training is conducted at the Security Training Facility. Emergency equipment is routinely tested for functionality on the gravel-surfaced yard outside of the Flex Building. Service transformers provides power to the Sewage Treatment Plant and other buildings. Employee personal vehicles and company vehicles park on the paved parking areas.

Significant Materials and Potential Pollutants:

Auxiliary Boiler Fuel Oil Storage Tanks: Diesel fuel.

Sewage Treatment Plant: Raw sewage, sodium carbonate, sodium hypochlorite, sodium hydroxide, and water treatment polymers.

Security Training Facility: Lead from expended ammunition.

Service transformers: Mineral oil.

Flex Building: Oils and fuels in equipment being tested outside the building.

Parking areas: Oils, gasoline and diesel fuel.

BMP Summary:

Auxiliary Boiler Fuel Oil Storage Tanks:

- The fuel oil storage tanks are located within concrete containments with manually operated drain valves. Containment contents are manually drained to the Oil/Water Separator.
- Aboveground fuel oil piping is located in yard areas or within concrete trenches that drain into yard drains that discharge into the Oil/Water Separator.
- Tanker unloading operations are conducted on a concrete containment pad equipped with open drains to the Oil/Water Separator.
- Plant procedures are followed regarding unloading diesel fuel.

Sewage Treatment Plant:

- Chemicals tanks are within concrete containments or are stored in totes inside metal buildings with concrete floors
- The plant is inspected daily.

STORM WATER POLLUTION PREVENTION PLAN

Revision 5 May 2020

Flex Building:

- Personnel are trained in spill containment and cleanup. Spill kits are located at the building.

Security Training Facility

- Ammunition usage is tracked and lead is routinely harvested from the soil.
- The soil pH is maintained within a range to prevent the lead from becoming soluble.
- The transformer is inspected daily.

Service transformers:

- Transformers are inspected daily.

Parking areas:

- Employees are trained to promptly report and respond to spills.

STORM WATER POLLUTION PREVENTION PLAN

Revision 5 May 2020

Drainage Area 8 - Storm Water Outfall SW008	
Conveyance	42" Reinforced Concrete Pipe
Coordinates	N 35° 38' 08" W 78° 57' 34"
Drainage Area	10 acres
% Impervious	50 %

Drainage Area Description:

Drainage Area 8 includes the Generator Rewind Building, a legacy storm water detention pond, paved roads, gravel-surfaced areas, external storage areas, parking areas, and grassed areas. Storm water runoff from this drainage area discharges to the north into the Service Water Discharge Canal.

Industrial Activities:

Various chemicals and potential storm water pollutants are delivered and handled at the Generator Rewind Building. Inert materials are stored in external storage areas. Cranes and other company vehicles park on the parking areas.

Significant Materials and Potential Pollutants:

Generator Rewind Building: Various chemicals and other potential storm water pollutants.
Parking areas: Oils, gasoline and diesel fuel.

BMP Summary:

Generator Rewind Building:

- Plant procedures are followed regarding storage and handling of all oils, chemicals and materials.
- Personnel are trained in spill containment and cleanup. Spill kits are located at receiving areas.
- No materials that could impact storm water are stored in exterior areas.

Storage Areas:

- No materials that could impact storm water are stored in exterior areas.

Parking areas:

- Employees are trained to promptly report and respond to spills.

STORM WATER POLLUTION PREVENTION PLAN
Revision 5 May 2020

Drainage Area 9 - Storm Water Outfall SW009	
Conveyance	42" Reinforced Concrete Pipe
Coordinates	N 35° 38' 07" W 78° 57' 31"
Drainage Area	9 acres
% Impervious	70 %

Drainage Area Description:

Drainage Area 9 includes the tanker unloading station and fuel forwarding pumps for the two Emergency Diesel Generator underground fuel oil storage tanks, a service transformer, paved roads, gravel-surfaced areas, external storage areas, and grassed areas. Storm water runoff from this drainage area discharges into the Service Water Discharge Canal.

Industrial Activities:

Tanker trucks unload into the two Emergency Diesel Generator underground fuel oil storage tanks. Fuel oil is pumped from the tanks to the Diesel Generator Building. A service transformer provides power for maintenance and testing activities. Company vehicles and freight trucks use the access roads.

Significant Materials and Potential Pollutants:

Tanker unloading station and fuel forwarding pumps: Fuel oil.
Service transformers: Mineral oil.
Access roads: Oils, gasoline and diesel fuel.

BMP Summary:

Tanker unloading station and fuel forwarding pumps:

- Tanker unloading and pumps are within a curbed concrete containment apron with open drain to the Oil/Water Separator.
- Plant procedures are followed regarding tanker unloading operations.
- Personnel are trained in spill containment and cleanup. Spill kits are located at the tanker unloading station

Shelter for chemical treatment totes:

- Totes are within plastic containments under shelter.

Service transformer:

- Transformer is inspected daily.

Storage Areas:

- No materials that could impact storm water are stored in exterior areas.

Access roads:

- Employees are trained to promptly report and respond to spills.

STORM WATER POLLUTION PREVENTION PLAN
Revision 5 May 2020

Drainage Area 10	
Conveyance	Overland flow
Coordinates	N 35° 38' 06" W 78° 57' 50"
Drainage Area	7 acres
% Impervious	20 %

Drainage Area Description:

Drainage Area 10 is located west of Drainage Area 7 and includes a portion of the Security Training Facility, a service transformer, a sewage lift station, a trash dumpster, paved parking areas, and grassed and wooded areas. Most of this drainage area is vegetated, non-industrial use. Storm water runoff from this drainage area discharges via overland flow along the Emergency Service Water Intake Canal.

Industrial Activities:

Firearms training is conducted at the Security Training Facility. The sewage lift stations pump raw sewage to the Wastewater Treatment Plant. The service transformer provides power to the Security Training Facility. Trash is collected in the dumpster. Employee personal vehicles and company vehicles park on the paved parking areas.

Significant Materials and Potential Pollutants:

Security Training Facility: Lead from expended ammunition, mineral oil in service transformer.

Sewage lift station: Raw sewage overflow.

Trash dumpster: Miscellaneous trash.

Parking areas: Oils, gasoline and diesel fuel in vehicles.

BMP Summary:

Security Training Facility

- Ammunition usage is tracked and lead is routinely harvested from the installed backstops.
- The soil pH is maintained within a range to prevent the lead from becoming soluble.
- The service transformer is inspected daily.

Sewage lift station:

- Station is inspected per Operation and Chemistry rounds.

Parking areas:

- Employees are trained to promptly report and respond to spills.

STORM WATER POLLUTION PREVENTION PLAN

Revision 5 May 2020

Drainage Area A	
Conveyance	Overland flow into ditch
Coordinates	N 35° 38' 26" W 78° 57' 15"
Drainage Area	5 acres
% Impervious	0 %

Drainage Area Description:

Drainage Area A is located north of Drainage Area 1 and is comprised of non-industrial use grassed areas. Storm water runoff from this drainage area discharges through a ditch into Harris Reservoir north of the causeway.

Industrial Activities:

None.

Significant Materials and Potential Pollutants:

None.

BMP Summary:

Not applicable.

Drainage Area B	
Conveyance	Overland flow into ditch
Coordinates	N 35° 38' 06" W 78° 57' 50"
Drainage Area	28 acres
% Impervious	4 %

Drainage Area Description:

Drainage Area B is located north of Drainage Area 7 and includes two facility maintenance storage buildings, gravel-surfaced roads, paved and gravel-surfaced external storage areas, and grassed and wooded areas. Most of this drainage area is vegetated, non-industrial use. Storm water runoff from this drainage area discharges through a ditch into the Service Water Discharge Canal.

Industrial Activities:

Cranes, equipment, and inert materials are stored in external storage areas.

Significant Materials and Potential Pollutants:

Storage areas: Sand and gravel; oils, gasoline and diesel fuel in vehicles and equipment.

BMP Summary:

Parking and storage areas:

- No materials that could impact storm water are stored in exterior areas.
- Employees are trained to promptly report and respond to spills.