Progress Energy

JAN 3 0 2006

SERIAL: HNP-06-020

Mr. David Goodrich
North Carolina Department of Environment and Natural Resources
Division of Water Quality
1617 Mail Service Center
Raleigh, NC 27699-1617

JAN 3 1 2006

Subject: Carolina Power & Light Company, doing business as Progress Energy Carolinas, Inc.
Harris Nuclear Plant and Harris Energy & Environmental Center
National Pollutant Discharge Elimination System (NPDES) Permit Number NC0039586
Re-issuance Application

Dear Mr. Goodrich:

The current NPDES permit for the Harris Nuclear Plant (HNP) located in Wake County expires on July 31, 2006. Progress Energy Carolinas, Inc. (PEC) hereby requests that the NPDES permit for the facility be reissued. Enclosed is EPA Application Form 1 – General Information, EPA Application Form 2C – Wastewater Discharge Information, and EPA Form 2F - Application to Discharge Stormwater Discharges Associated with Industrial Activity, all in triplicate.

Please note that the HNP has not been able to complete the storm water sampling required by EPA Form 2F. The HNP received a determination of representative outfall status from the state on January 03, 2006, and has not had the opportunity to complete the required sampling and analysis. The plant will safely sample an appropriate storm event and submit the analytical results as soon as possible.

Also note that a sludge management plan is not included with the submittal because HNP has a contractor that takes the sludge offsite and land applies it under its own land application permit (Attachment 4).

With re-issuance of the NPDES permit, PEC requests the following:

- Eliminate the chromium and zinc monitoring requirement from Outfall 001 and add them to Outfall 006. This would be more consistent with the current required metals monitoring at Outfall 006 and would give a better indication of the actual discharge of these two metals to surface waters, if they were measured at Outfall 006.

- Eliminate the ammonia monitoring requirement for Outfall 002. The current permit requires ammonia monitoring at Outfall 006, the discharge to surface waters, and at internal Outfall 002. The plant does not see a need to continue monitoring ammonia at both the internal and external outfall locations.

Progress Energy Carolinas, Inc.
Harris Nuclear Plant
P. O. Box 165
New Hill, NC 27562

- Change the Total Suspended Residue monitoring requirement at Outfall 002 and Outfall 007 to a Total Suspended Solids monitoring Requirement with Daily Max limit of 100 mg/l. This would make the monitoring requirement consistent with the Total Suspended Solids monitoring requirement at Outfall 004 and Outfall 005.

- The Biological Oxygen Demand monitoring requirement for Outfall 007 be combined in to one requirement with limits of 30 mg/L monthly average and 45 mg/L daily max. Currently, the requirement has different limits based on the time of year. The long term average concentration of BOD discharge at this outfall based on the last years worth of data is 1.9 mg/L.

With regard to 316(b), the HNP has completed a supplement to its permit application which can be found within the attached permit application package in Attachment 12.

If there are any questions regarding the enclosed information, please contact Bob Wilson at (919) 362-2444 or Steve Cahoon at (919) 546-7457.

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,

Eric McCartney
Plant General Manager
Harris Nuclear Plant

EM/mgw

Attachments

Division of Water Quality
SERIAL: HNP-06-020

bc: Ms. D. B. Alexander
Mr. S. G. Cahoon
Mr. J. T. Ellis
Mr. R. T. Wilson
Nuclear Records
Licensing File H-X-230

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e., 12 characters/inch).

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

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting)

1. EPA I.D NUMBER: S F NCD991278284 T/A C D

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

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

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of **bold-faced terms.**

SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	MARK "X" YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters of the U.S.**? (FORM 2A)		X		B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge** to **waters of the U.S.**? (FORM 2B)		X	
	16	17	18		19	20	21
C. Is this a facility which currently results in **discharges** to **waters of the U.S.** other than those described in A or B above? (FORM 2C)	X		X	D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.**? (FORM 2D)		X	
	22	23	24		25	26	27
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)		X		F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
	28	29	30		31	32	33
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
	34	35	36		37	38	39
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X		J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	
	40	41	42		43	44	45

III. NAME OF FACILITY

C 1 SKIP: Harris Nuclear Plant and Harris Energy and Environmental Center

(15 | 16 - 29 | 30 - 69)

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
C 2: McCartney, Eric A. Plant General Manager	919 | 362 | 2000
(15 | 16 - 45)	(46 - 48 | 49 - 51 | 52 - 55)

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

C 3: 5413 Shearon Harris Road

(15 | 16 - 45)

B. CITY OR TOWN	C. STATE	D. ZIP CODE
C 4: New Hill	NC	27562
(15 | 16 - 40)	(41 42)	(47 - 51)

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

C 5: 5413 Shearon Harris Road

(15 | 16 - 45)

B. COUNTY NAME

Wake

(46 - 70)

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
C 6: New Hill	NC	27562	
(15 | 16 - 40)	(41 42)	(47 - 51)	(52 - 54)

CONTINUED FROM THE FRONT

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

A. FIRST	B. SECOND
4911 (specify) Electric Power Services	(specify)

C. THIRD	D. FOURTH
(specify)	(specify)

VIII. OPERATOR INFORMATION

A. NAME: Carolina Power & Light Co. d/b/a Progress Energy Carolinas, Inc

B. Is the name listed in Item VIII-A also the owner? [X] YES [ ] NO

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

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

P (specify) Public Utlity

D. PHONE *(area code & no.)*: A 919 362 2000

E. STREET OR P.O. BOX: P. O. Box 1551

F. CITY OR TOWN: Raleigh

G. STATE: NC

H. ZIP CODE: 27602

IX. INDIAN LAND

Is the facility located on Indian lands? [ ] YES [X] NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES *(Discharges to Surface Water)*	D. PSD *(Air Emissions from Proposed Sources)*
N	P

B. UIC *(Underground Injection of Fluids)*	E. OTHER *(specify)*
U	(specify) See Attachment 1

C. RCRA *(Hazardous Wastes)*	E. OTHER *(specify)*
R	(specify)

XI. MAP

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

XII. NATURE OF BUSINESS *(provide a brief description)*

The Harris Nuclear Plant (HNP) consists of a 900 megawatt generating unit and associated facilities.

The Harris Energy and Environmental Center (HE&EC) includes facilities that provide support services (laboratories and training classrooms) for the HNP and other Progress Energy facilities.

XIII. CERTIFICATION *(see instructions)*

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

A. NAME & OFFICIAL TITLE *(type or print)*	B. SIGNATURE	C. DATE SIGNED
Eric A. McCartney Plant General Manager	Eric A. McCartney	1/30/06

COMMENTS FOR OFFICIAL USE ONLY

EPA Form 3510-1 (8-90)

STF EM/SGAF 2

Please print or type in the unshaded areas only.

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*
NCD991278284

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

FORM 2C NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURAL OPERATIONS
Consolidated Permits Program

I. OUTFALL LOCATION

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

A. OUTFALL NUMBER *(list)*	B. LATITUDE			C. LONGITUDE			D. RECEIVING WATER *(name)*
	1. DEG.	2. MIN.	3. SEC.	1. DEG.	2. MIN.	3. SEC.	
006	35	34	47	78	58	07	Harris Lake
007	35	38	05	78	55	05	Harris Lake

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined *(e.g., for certain mining activities)*, provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALLING *(list)*	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT		
	a. OPERATION *(list)*	b. AVERAGE FLOW *(include units)*	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
	Combined Outfall	See Attachment 3	Discharge to surface water	4-A	
	Cooling Tower				
006	Blowdown	See Attachment 3	Dechlorination	2-E	
	Internal Outfall 001				
	Sanitary Waste				
	Treatment Plant	See Attachment 3	Activated Sludge, Disinfection	3-A	2-F
	Internal Outfall 002				
	Metal Cleaning				
	Wastes Internal	See Attachment 3	Neutralization, Sedimentation	2-K	1-U
	Internal Outfall 003				
	Low volume Wastes				
	Internal Outfall 004	See Attachment 3	Neutralization, Sedimentation	2-K	1-U
	Radwaste System				
	Internal Outfall 005	See Attachment 3	Multimedia filtration, Ion exchange	1-Q	2-J
	Energy and Environmental	See Attachment 3	Aerated Lagoons, Disinfection	3-B	2-F
007	Center WWTP		Dechlorination	2-E	

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

CONTINUED FROM THE FRONT

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

☒ YES *(complete the following table)* ☐ NO *(go to Section III)*

1. OUTFALL NUMBER *(list)*	2. OPERATION(s) CONTRIBUTING FLOW *(list)*	3. FREQUENCY a. DAYS PER WEEK *(specify average)*	3. FREQUENCY b. MONTHS PER YEAR *(specify average)*	4. FLOW a. FLOW RATE *(in mgd)* 1. LONG TERM AVERAGE	4. FLOW a. FLOW RATE *(in mgd)* 2. MAXIMUM DAILY	4. FLOW b. TOTAL VOLUME *(specify with units)* 1. LONG TERM AVERAGE	4. FLOW b. TOTAL VOLUME *(specify with units)* 2. MAXIMUM DAILY	4. FLOW c. DURATION *(in days)*
005	Radwaste System	1 to 2	12	0.021	0.021	0.0105	0.0105	0.5

III. PRODUCTION

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

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

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

☐ YES *(complete Item III-C)* ☒ NO *(go to Section IV)*

C. If you answered "yes" to Item III-B, list the quantity which represents an actual measurement of your level of production, expressed in the terms and units used in the applicable effluent guideline, and indicate the affected outfalls.

1. AVERAGE DAILY PRODUCTION a. QUANTITY PER DAY	b. UNITS OF MEASURE	c. OPERATION, PRODUCT, MATERIAL, ETC. *(specify)*	2. AFFECTED OUTFALLS *(list outfall numbers)*

IV. IMPROVEMENTS

A. Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions. ☐ YES *(complete the following table)* ☒ NO *(go to Item IV-B)*

1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS a. NO.	2. AFFECTED OUTFALLS b. SOURCE OF DISCHARGE	3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE a. REQUIRED	4. FINAL COMPLIANCE DATE b. PROJECTED

B. OPTIONAL: You may attach additional sheets describing any additional water pollution control programs *(or other environmental projects which may affect your discharges)* you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction. ☐ MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED

CONTINUED FROM PAGE 2

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*
NCD991278284

V. INTAKE AND EFFLUENT CHARACTERISTICS

A, B, & C: See instructions before proceeding — Complete one set of tables for each outfall — Annotate the outfall number in the space provided. NOTE: Tables V-A, V-B, and V-C are included on separate sheets numbered V-1 through V-9.

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

1. POLLUTANT	2. SOURCE	1.POLLUTANT	2. SOURCE
Asbestos	Insulation		
Strontium	Trace elements		
Uranium	occasionally present		
Vanadium	in oil used to fuel		
Zirconium	auxiliary boilers		

VI. POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

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

☒ YES *(list all such pollutants below)* ☐ NO *(go to Item VI-B)*

Although not added or produced, the following elements could potentially be present in the discharge due to normal pipe erosion/corrosion.

Copper
Iron
Zinc
Nickel
Silver

The following elements could be present in oil, which is used to fuel auxiliary boilers:

Antimony
Arsenic
Berylium
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Selenium
Silver
Thallium
Zinc

CONTINUED FROM THE FRONT

VII. BIOLOGICAL TOXICITY TESTING DATA

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

☒ YES *(identify the test(s) and describe their purposes below)* ☐ NO *(go to Section VIII)*

Outfall 006 - Acute 24-hour test using Fathead Minnows have been conducted quarterly during this permit cycle

Outfall 007 - Acute 24 hour test using fathead minnows have been conducted quarterly during this permit cycle.

VIII. CONTRACT ANALYSIS INFORMATION

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

☒ YES *(list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)* ☐ NO *(go to Section IX)*

A. NAME	B. ADDRESS	C. TELEPHONE (area code & no.)	D. POLLUTANTS ANALYZED (list)
TriTest, Inc	6701 Conference Drive Raleigh, NC 27607	919-834-4984	Outfall 006 and 007 - All parameters except those listed below.
Harris Plant Chemistry Laboratory	5413 Shearon Harris Rd New Hill, NC 27562	919-362-2555	Total Residual Chlorine
Oxford Laboratories, Inc.	1316 S. 5th Street Wilmington, NC 28401	910-763-9793	TOC, Sulfide, Bromide Boron, Mercury, and Phenols.
Florida Radiochemistry Services, Inc.	5456 Hoffner Ave Suite 201 Orlando, Fl 32812	407-382-7733	Alpha and Beta

IX. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. NAME & OFFICIAL TITLE *(type or print)*	B. PHONE NO. *(area code & no.)*
Eric A. McCartney - Plant General Manager	919-362-2000
C. SIGNATURE: Eric A. McCartney	D. DATE SIGNED: 1/30/06

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

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: NC991278284

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

OUTFALL NO. 006

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

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* (2) MASS	d. NO. OF ANALYSES	3. UNITS *(specify if blank)* a. CONCENTRATION	3. UNITS b. MASS	4. INTAKE *(optional)* a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	3.8	276.6	~~	~~	~~	~~	1	mg/l	kg/day			
b. Chemical Oxygen Demand *(COD)*	35.3	2,569.6	~~	~~	~~	~~	1	mg/l	kg/day			
c. Total Organic Carbon *(TOC)*	12.5	909.9	~~	~~	~~	~~	1	mg/l	kg/day			
d. Total Suspended Solids *(TSS)*	18.9	1,375.8	18.9	1,375.8	11.4	829.8	13	mg/l	kg/day			
e. Ammonia *(as N)*	0.47	34.2	0.47	34.2	0.35	25.5	13	mg/l	kg/day			
f. Flow	VALUE 19.2		VALUE 19.2		VALUE ~~		1	MGD		VALUE		
g. Temperature *(winter)*	VALUE 22.8		VALUE 17.7		VALUE ~~		22	°C		VALUE		
h. Temperature *(summer)*	VALUE 32.8		VALUE 31.4		VALUE ~~		30	°C		VALUE		
i. pH	MINIMUM 6.9	MAXIMUM 7.5	MINIMUM 6.9	MAXIMUM 7.5			13	STANDARD UNITS				

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

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X' a. BELIEVED PRESENT	2. MARK 'X' b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE *(optional)* a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
a. Bromide (24959-67-9)	X		0.83	60.4					1	mg/l	kg/day			
b. Chlorine, Total Residual		X	<0.1	~~					1	mg/l	~~			
c. Color	X		47.0	~~					1	CU	~~			
d. Fecal Coliform	X		18	~~					1	CFU/100ml	~~			
e. Fluoride (16984-48-8)	X		0.24	17.5					1	mg/l	kg/day			
f. Nitrate—Nitrite *(as N)*	X		0.50	36.4					1	mg/l	kg/day			

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ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X'		3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
g. Nitrogen, Total Organic (as N)	X		2.2	160.1	2.2	160.1	1.25	91.0	13	mg/l	kg/day			
h. Oil and Grease		X	<5.0	~~					1	mg/l	~~			
i. Phosphorus (as P), Total (7723-14-0)	X		0.81	59.0	0.81	59.0	0.63	45.9	13	mg/l	kg/day			
j. Radioactivity														
(1) Alpha, Total		X	<1.2	~~					1	pCi/L	~~			
(2) Beta, Total	X		8.4	0.00002					1	pCi/L	CU/day			
(3) Radium, Total			Testing	and	reporting	not	required							
(4) Radium 226, Total			Testing	and	reporting	not	required							
k. Sulfate (as SO_4) (14808-79-8)	X		28.3	356.7					1	mg/l	kg/day			
l. Sulfide (as S)		X	<0.10	~~					1	mg/l	~~			
m. Sulfite (as SO_3) (14265-45-3)		X	<1.0	~~					1	mg/l	~~			
n. Surfactants		X	<0.20	~~					1	mg/l	~~			
o. Aluminum, Total (7429-90-5)	X		0.378	27.5					1	mg/l	kg/day			
p. Barium, Total (7440-39-3)	X		0.028	2.1					1	mg/l	kg/day			
q. Boron, Total (7440-42-8)	X		0.269	19.6					1	mg/l	kg/day			
r. Cobalt, Total (7440-48-4)		X	<0.005	~~					1	mg/l	~~			
s. Iron, Total (7439-89-6)	X		1.14	83.0	1.14	83.0	0.4	29.1	13	mg/l	kg/day			
t. Magnesium, Total (7439-95-4)		X	3.87	39.5					1	mg/l	kg/day			
u. Molybdenum, Total (7439-98-7)		X	<0.005	~~					1	mg/l	~~			
v. Manganese, Total (7439-96-5)	X		0.605	44.1					1	mg/l	kg/day			
w. Tin, Total (7440-31-5)		X	<0.002	~~					1	mg/l	~~			
x. Titanium, Total (7440-32-6)		X	0.012	0.9					1	mg/l	kg/day			

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CONTINUED FROM PAGE 3 OF FORM 2-C

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

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE *(optional)*		
	a. TEST-ING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	X		X	<0.003	~~					1	mg/l	~~			
2M. Arsenic, Total (7440-38-2)	X		X	<0.005	~~					1	mg/l	~~			
3M. Beryllium, Total, 7440-41-7)	X		X	<0.002	~~					1	mg/l				
4M. Cadmium, Total (7440-43-9)	X		X	<0.005	~~					1	mg/l				
5M. Chromium, Total (7440-47-3)	X		X	<0.010	~~					1	mg/l				
6M. Copper, Total (7440-50-8)	X	X		0.12	8.7	0.12	8.7	0.01	0.7	13	mg/l	kg/day			
7M. Lead, Total (7439-92-1)	X		X	<0.005	~~					1	mg/l				
8M. Mercury, Total (7439-97-6)	X		X	<0.2	~~					1	ug/l				
9M. Nickel, Total (7440-02-0)	X	X		0.062	4.5	0.062	4.5	0.004	0.3	13	mg/l	kg/day			
10M. Selenium, Total (7782-49-2)	X		X	<0.002	~~					1	mg/l	~~			
11M. Silver, Total (7440-22-4)	X		X	<0.010	~~					1	mg/l	~~			
12M. Thallium, Total (7440-28-0)	X		X	<0.001	~~					1	mg/l	~~			
13M. Zinc, Total (7440-66-6)	X	X		0.150	10.9					1	mg/l	kg/day			
14M. Cyanide, Total (57-12-5)	X		X	<0.005	~~					1	mg/l	~~			
15M. Phenols, Total	X		X	<0.005	~~					1	mg/l	~~			
DIOXIN															
2,3,7,8 Tetra-chlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION — VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	X		X	<50	~~					1	mg/l	~~			
2V. Acrylonitrile (107-13-1)	X		X	<50	~~					1	mg/l	~~			
3V. Benzene (71-43-2)	X		X	<5	~~					1	mg/l	~~			
4V. Bis (Chloromethyl) Ether (542-88-1)				Testing	and	reporting	not	required		1	mg/l	~~			
5V. Bromoform (75-25-2)	X		X	<5	~~					1	mg/l	~~			
6V. Carbon Tetrachloride (56-23-5)	X		X	<5	~~					1	mg/l	~~			
7V. Chlorobenzene (108-90-7)	X		X	<5	~~					1	mg/l	~~			
8V. Chlorodibromomethane (124-48-1)	X		X	<5	~~					1	mg/l	~~			
9V. Chloroethane (75-00-3)	X		X	<5	~~					1	mg/l	~~			
10V. 2-Chloroethylvinyl Ether (110-75-8)	X		X	<10	~~					1	mg/l	~~			
11V. Chloroform (67-66-3)	X		X	<5	~~					1	mg/l	~~			
12V. Dichlorobromomethane (75-27-4)	X		X	<5	~~					1	mg/l	~~			
13V. Dichlorodifluoromethane (75-71-8)				Testing	and	reporting	not	required		1	mg/l	~~			
14V. 1,1-Dichloroethane (75-34-3)	X		X	<5	~~					1	mg/l	~~			
15V. 1,2-Dichloroethane (107-06-2)	X		X	<5	~~					1	mg/l	~~			
16V. 1,1-Dichloroethylene (75-35-4)	X		X	<5	~~					1	mg/l	~~			
17V. 1,2-Dichloropropane (78-87-5)	X		X	<5	~~					1	mg/l	~~			
18V. 1,3-Dichloropropylene (542-75-6)	X		X	<5	~~					1	mg/l	~~			
19V. Ethylbenzene (100-41-4)	X		X	<5	~~					1	mg/l	~~			
20V. Methyl Bromide (74-83-9)	X		X	<10	~~					1	mg/l	~~			
21V. Methyl Chloride (74-87-3)	X		X	<5	~~					1	ug/l	~~			

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

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION — BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)				Testing	and	reporting	not	required							
2B. Acenaphtylene (208-96-8)															
3B. Anthracene (120-12-7)															
4B. Benzidine (92-87-5)															
5B. Benzo *(a)* Anthracene (56-55-3)															
6B. Benzo *(a)* Pyrene (50-32-8)															
7B. 3,4-Benzo-fluoranthene (205-99-2)															
8B. Benzo *(ghi)* Perylene (191-24-2)															
9B. Benzo *(k)* Fluoranthene (207-08-9)															
10B. Bis *(2-Chloro-ethoxy)* Methane (111-91-1)															
11B. Bis *(2-Chloro-ethyl)* Ether (111-44-4)															
12B. Bis *(2-Chloroiso-propyl)* Ether (102-60-1)															
13B. Bis *(2-Ethyl-hexyl)* Phthalate (117-81-7)															
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)															
15B. Butyl Benzyl Phthalate (85-68-7)															
16B. 2-Chloro-naphthalene (91-58-7)															
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)															
18B. Chrysene (218-01-9)															
19B. Dibenzo *(a, h)* Anthracene (53-70-3)															
20B. 1,2-Dichloro-benzene (95-50-1)															
21B. 1,3-Dichloro-benzene (541-73-1)															

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1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE *(optional)*		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION — BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichlorobenzene (106-46-7)				Testing	and	reporting	not	required							
23B. 3,3'-Dichlorobenzidine (91-94-1)															
24B. Diethyl Phthalate (84-66-2)															
25B. Dimethyl Phthalate (131-11-3)															
26B. Di-N-Butyl Phthalate (84-74-2)															
27B. 2,4-Dinitrotoluene (121-14-2)															
28B. 2,6-Dinitrotoluene (606-20-2)															
29B. Di-N-Octyl Phthalate (117-84-0)															
30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7)															
31B. Fluoranthene (206-44-0)															
32B. Fluorene (86-73-7)															
33B. Hexachlorobenzene (118-74-1)															
34B. Hexachlorobutadiene (87-68-3)															
35B. Hexachlorocyclopentadiene (77-47-4)															
36B. Hexachloroethane (67-72-1)															
37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5)															
38B. Isophorone (78-59-1)															
39B. Naphthalene (91-20-3)															
40B. Nitrobenzene (98-95-3)															
41B. N-Nitrosodimethylamine (62-75-9)															
42B. N-Nitrosodi-N-Propylamine (621-64-7)															

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT						d. NO. OF ANALYSES	4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)			a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION — BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitrosodiphenylamine (86-30-6)				Testing	and	reporting	not	required							
44B. Phenanthrene (85-01-8)															
45B. Pyrene (129-00-0)															
46B. 1,2,4-Trichlorobenzene (120-82-1)															
GC/MS FRACTION — PESTICIDES															
1P. Aldrin (309-00-2)															
2P. α-BHC (319-84-6)															
3P. β-BHC (319-85-7)															
4P. γ-BHC (58-89-9)															
5P. δ-BHC (319-86-8)															
6P. Chlordane (57-74-9)															
7P. 4,4'-DDT (50-29-3)															
8P. 4,4'-DDE (72-55-9)															
9P. 4,4'-DDD (72-54-8)															
10P. Dieldrin (60-57-1)															
11P. α-Endosulfan (115-29-7)															
12P. β-Endosulfan (115-29-7)															
13P. Endosulfan Sulfate (1031-07-8)															
14P. Endrin (72-20-8)															
15P. Endrin Aldehyde (7421-93-4)															
16P. Heptachlor (76-44-8)															

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1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK 'X'			3. EFFLUENT						d. NO. OF ANAL-YSES	4. UNITS		5. INTAKE *(optional)*		
	a. TEST-ING RE-QUIR-ED	b. BE-LIEVED PRE-SENT	c. BE-LIEVED AB-SENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*			a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANAL-YSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCEN-TRATION	(2) MASS	
GC/MS FRACTION — PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)				Testing	and	reporting	not	required							
18P. PCB-1242 (53469-21-9)															
19P. PCB-1254 (11097-69-1)															
20P. PCB-1221 (11104-28-2)															
21P. PCB-1232 (11141-16-5)															
22P. PCB-1248 (12672-29-6)															
23P. PCB-1260 (11096-82-5)															
24P. PCB-1016 (12674-11-2)															
25P. Toxaphene (8001-35-2)															

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

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

OUTFALL NO. 007

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

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* (2) MASS	d. NO. OF ANALYSES	3. UNITS *(specify if blank)* a. CONCENTRATION	3. UNITS b. MASS	4. INTAKE *(optional)* a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*	35.0	1.3	17.5	0.7	1.9	0.07	31	mg/l	kg/day			
b. Chemical Oxygen Demand *(COD)*	<10	~~					1	mg/l	~~			
c. Total Organic Carbon *(TOC)*	<0.50	~~					1	mg/l	~~			
d. Total Suspended Solids *(TSS)*	<1.0	~~					1	mg/l	~~			
e. Ammonia *(as N)*	0.1	0.004	0.03	0.001	0.009	0.0003	31	mg/l	kg/day			
f. Flow	VALUE 0.021		VALUE 0.013		VALUE 0.010		53			VALUE		
g. Temperature *(winter)*	VALUE 20		VALUE 14		VALUE 11		15	°C		VALUE		
h. Temperature *(summer)*	VALUE 24		VALUE 24		VALUE 20		17	°C		VALUE		
i. pH	MINIMUM 6.4	MAXIMUM 8.7	MINIMUM 6.4	MAXIMUM 8.7			53	STANDARD UNITS				

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

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X' a. BELIEVED PRESENT	2. MARK 'X' b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE *(if available)* (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE *(if available)* (2) MASS	c. LONG TERM AVRG. VALUE *(if available)* (1) CONCENTRATION	c. LONG TERM AVRG. VALUE *(if available)* (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE *(optional)* a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
a. Bromide (24959-67-9)	X		Testing	and	Reporting	not	Required							
b. Chlorine, Total Residual		X												
c. Color		X												
d. Fecal Coliform	X													
e. Fluoride (16984-48-8)	X													
f. Nitrate—Nitrite *(as N)*	X													

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X'		3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
g. Nitrogen, Total Organic (as N)	X		Testing	and	Reporting	not	Required							
h. Oil and Grease	X													
i. Phosphorus (as P), Total (7723-14-0)	X													
j. Radioactivity														
(1) Alpha, Total		X												
(2) Beta, Total		X												
(3) Radium, Total		X												
(4) Radium 226, Total		X												
k. Sulfate (as SO_4) (14808-79-8)	X													
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants		X												
o. Aluminum, Total (7429-90-5)		X												
p. Barium, Total (7440-39-3)		X												
q. Boron, Total (7440-42-8)	X													
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)	X													
t. Magnesium, Total (7439-95-4)	X													
u. Molybdenum, Total (7439-98-7)	X													
v. Manganese, Total (7439-96-5)		X												
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total (7440-32-6)		X												

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CONTINUED FROM PAGE 3 OF FORM 2-C

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

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE *(optional)*		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)			X	Testing	and	Reporting	not	Required							
2M. Arsenic, Total (7440-38-2)			X												
3M. Beryllium, Total, 7440-41-7)			X												
4M. Cadmium, Total (7440-43-9)			X												
5M. Chromium, Total (7440-47-3)			X												
6M. Copper, Total (7440-50-8)		X													
7M. Lead, Total (7439-92-1)			X												
8M. Mercury, Total (7439-97-6)			X												
9M. Nickel, Total (7440-02-0)			X												
10M. Selenium, Total (7782-49-2)			X												
11M. Silver, Total (7440-22-4)			X												
12M. Thallium, Total (7440-28-0)			X												
13M. Zinc, Total (7440-66-6)		X													
14M. Cyanide, Total (57-12-5)			X												
15M. Phenols, Total			X												
DIOXIN															
2,3,7,8 Tetrachlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION — VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)			X	Testing	and	Reporting	not	Required							
2V. Acrylonitrile (107-13-1)			X												
3V. Benzene (71-43-2)			X												
4V. Bis (*Chloromethyl*) Ether (542-88-1)			X												
5V. Bromoform (75-25-2)			X												
6V. Carbon Tetrachloride (56-23-5)			X												
7V. Chlorobenzene (108-90-7)			X												
8V. Chlorodibromomethane (124-48-1)			X												
9V. Chloroethane (75-00-3)			X												
10V. 2-Chloroethylvinyl Ether (110-75-8)			X												
11V. Chloroform (67-66-3)		X													
12V. Dichlorobromomethane (75-27-4)			X												
13V. Dichlorodifluoromethane (75-71-8)			X												
14V. 1,1-Dichloroethane (75-34-3)			X												
15V. 1,2-Dichloroethane (107-06-2)			X												
16V. 1,1-Dichloroethylene (75-35-4)			X												
17V. 1,2-Dichloropropane (78-87-5)			X												
18V. 1,3-Dichloropropylene (542-75-6)			X												
19V. Ethylbenzene (100-41-4)			X												
20V. Methyl Bromide (74-83-9)			X												
21V. Methyl Chloride (74-87-3)			X												

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1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK 'X'			3. EFFLUENT						d. NO. OF ANAL-YSES	4. UNITS		5. INTAKE *(optional)*		
	a. TEST-ING RE-QUIR-ED	b. BE-LIEVED PRE-SENT	c. BE-LIEVED AB-SENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*			a. CONCEN-TRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANAL-YSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCEN-TRATION	(2) MASS	
GC/MS FRACTION — VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)			X	Testing	and	Reporting	not	Required							
23V. 1,1,2,2-Tetrachloroethane (79-34-5)			X												
24V. Tetrachloroethylene (127-184)			X												
25V. Toluene (108-88-3)			X												
26V. 1,2-Trans-Dichloroethylene (156-60-5)			X												
27V. 1,1,1-Trichloroethane (71-55-6)			X												
28V. 1,1,2-Trichloroethane (79-00-5)			X												
29V. Trichloroethylene (79-01-6)			X												
30V. Trichlorofluoromethane (75-69-4)			X												
31V. Vinyl Chloride (75-01-4)			X												
GC/MS FRACTION — ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)			X												
2A. 2,4-Dichlorophenol (120-83-2)			X												
3A. 2,4-Dimethylphenol (105-67-9)			X												
4A. 4,6-Dinitro-O-Cresol (534-52-1)			X												
5A. 2,4-Dinitrophenol (51-28-5)			X												
6A. 2-Nitrophenol (88-75-5)			X												
7A. 4-Nitrophenol (100-02-7)			X												
8A. P-Chloro-M-Cresol (59-50-7)			X												
9A. Pentachlorophenol (87-86-5)			X												
10A. Phenol (108-95-2)			X												
11A. 2,4,6-Trichlorophenol (88-06-2)			X												

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION — BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)				Testing	and	Reporting	not	Required							
2B. Acenaphtylene (208-96-8)															
3B. Anthracene (120-12-7)															
4B. Benzidine (92-87-5)															
5B. Benzo *(a)* Anthracene (56-55-3)															
6B. Benzo *(a)* Pyrene (50-32-8)															
7B. 3,4-Benzo-fluoranthene (205-99-2)															
8B. Benzo *(ghi)* Perylene (191-24-2)															
9B. Benzo *(k)* Fluoranthene (207-08-9)															
10B. Bis *(2-Chloro-ethoxy)* Methane (111-91-1)															
11B. Bis *(2-Chloro-ethyl)* Ether (111-44-4)															
12B. Bis *(2-Chloroiso-propyl)* Ether (102-60-1)															
13B. Bis *(2-Ethyl-hexyl)* Phthalate (117-81-7)															
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)															
15B. Butyl Benzyl Phthalate (85-68-7)															
16B. 2-Chloro-naphthalene (91-58-7)															
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)															
18B. Chrysene (218-01-9)															
19B. Dibenzo *(a, h)* Anthracene (53-70-3)															
20B. 1,2-Dichloro-benzene (95-50-1)															
21B. 1,3-Dichloro-benzene (541-73-1)															

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1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE *(optional)*		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION — BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichlorobenzene (106-46-7)				Testing	and	Reporting	not	Required							
23B. 3,3'-Dichlorobenzidine (91-94-1)															
24B. Diethyl Phthalate (84-66-2)															
25B. Dimethyl Phthalate (131-11-3)															
26B. Di-N-Butyl Phthalate (84-74-2)															
27B. 2,4-Dinitrotoluene (121-14-2)															
28B. 2,6-Dinitrotoluene (606-20-2)															
29B. Di-N-Octyl Phthalate (117-84-0)															
30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7)															
31B. Fluoranthene (206-44-0)															
32B. Fluorene (86-73-7)															
33B. Hexachlorobenzene (118-74-1)															
34B. Hexachlorobutadiene (87-68-3)															
35B. Hexachlorocyclopentadiene (77-47-4)															
36B. Hexachloroethane (67-72-1)															
37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5)															
38B. Isophorone (78-59-1)															
39B. Naphthalene (91-20-3)															
40B. Nitrobenzene (98-95-3)															
41B. N-Nitrosodimethylamine (62-75-9)															
42B. N-Nitrosodi-N-Propylamine (621-64-7)															

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION — BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitrosodiphenylamine (86-30-6)				Testing	and	Reporting	not	Required							
44B. Phenanthrene (85-01-8)															
45B. Pyrene (129-00-0)															
46B. 1,2,4-Trichlorobenzene (120-82-1)															
GC/MS FRACTION — PESTICIDES															
1P. Aldrin (309-00-2)															
2P. α-BHC (319-84-6)															
3P. β-BHC (319-85-7)															
4P. γ-BHC (58-89-9)															
5P. δ-BHC (319-86-8)															
6P. Chlordane (57-74-9)															
7P. 4,4'-DDT (50-29-3)															
8P. 4,4'-DDE (72-55-9)															
9P. 4,4'-DDD (72-54-8)															
10P. Dieldrin (60-57-1)															
11P. α-Endosulfan (115-29-7)															
12P. β-Endosulfan (115-29-7)															
13P. Endosulfan Sulfate (1031-07-8)															
14P. Endrin (72-20-8)															
15P. Endrin Aldehyde (7421-93-4)															
16P. Heptachlor (76-44-8)															

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1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE *(optional)*		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE *(if available)*		c. LONG TERM AVRG. VALUE *(if available)*		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION — PESTICIDES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)				Testing	and	Reporting	not	Required							
18P. PCB-1242 (53469-21-9)															
19P. PCB-1254 (11097-69-1)															
20P. PCB-1221 (11104-28-2)															
21P. PCB-1232 (11141-16-5)															
22P. PCB-1248 (12672-29-6)															
23P. PCB-1260 (11096-82-5)															
24P. PCB-1016 (12674-11-2)															
25P. Toxaphene (8001-35-2)															

Please print or type in the unshaded areas only

EPA ID Number *(copy from Item I of Form 1)*
NCD991278284

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

Form 2F NPDES

EPA

United States Environmental Protection Agency
Washington, DC 20460

Application for Permit To Discharge Stormwater Discharges Associated with Industrial Activity

Paperwork Reduction Act Notice

Public reporting burden for this application is estimated to average 28.6 hours per application, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate, any other aspect of this collection of information, or suggestions for improving this form, including suggestions which may increase or reduce this burden to: Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., SW, Washington, DC 20460, or Director, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

I. Outfall Location

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

A. Outfall Number *(list)*	B. Latitude	C. Longitude	D. Receiving Water *(name)*
See Attachment 7			

II. Improvements

A. Are you now required by any Federal, State, or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

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

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

III. Site Drainage Map

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

IV. Narrative Description of Pollutant Sources

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

Outfall Number	Area of Impervious Surface *(provide units)*	Total Area Drained *(provide units)*	Outfall Number	Area of Impervious Surface *(provide units)*	Total Area Drained *(provide units)*
	See Attachment 9				

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

See Attachments 10 and 11

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

Outfall Number	Treatment	List Codes from Table 2F-1
	See Attachment 11	

V. Nonstormwater Discharges

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

Name and Official Title *(type or print)*	Signature	Date Signed
Robert T. Wilson, Jr. HNP Env. Coordinator	Robert T Wilson, Jr	04/30/06

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

The stormwater outfalls were visually monitored on November 14, 2005. No non storm water was observed at any of the outfall locations.

VI. Significant Leaks or Spills

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

There have been no reportable leaks or spills of toxic or hazardous pollutants in the past three years.

EPA ID Number *(copy from Item I of Form 1)*
NCD991278284

VII. Discharge Information

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

E: Potential discharges not covered by analysis - is any pollutant listed in table 2F-2, 2F-3 or 2F-4, a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

☐ Yes *(list all such pollutants below)* ☒ No *(go to Section IX)*

VIII. Biological Toxicity Testing Data

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

☐ Yes *(list all such pollutants below)* ☒ No *(go to Section IX)*

No toxicity tests have been performed on the storm water discharges.

IX. Contract Analysis Information

Were any of the analysis reported in item VII performed by a contract laboratory or consulting firm?

☒ Yes *(list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)* ☐ No *(go to Section X)*

A. Name	B. Address	C. Area Code & Phone No.	D. Pollutants Analyzed
TriTest, Inc.	6701 Conference Drive Raleigh, NC 27607	(919) 834-4984	All Pollutants

X. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name & Official Title *(type or print)*	B. Area Code and Phone No.
Eric A. McCartney Plant General Manager	(919) 362-2000
C. Signature	D. Date Signed

EPA ID Number *(copy from Item I of Form 1)*	Form Approved. OMB No. 2040-0086
NCD991278284 003	Approval expires 5-31-92

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

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

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Oil and Grease		N/A				
Biological Oxygen Demand (BOD5)						
Chemical Oxygen Demand (COD)						
Total Suspended Solids (TSS)						
Total Nitrogen						
Total Phosphorus						
pH	Minimum	Maximum	Minimum	Maximum		

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

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Temperature						
Fecal Coliform						
Ammonia						
Copper						
(7440-50-8)						
Nickel						
(7440-02-0)						
Zinc(7440-66-6)						
Total residual						
Chlorine						
Hydrazine						
Chromium						
(7440-50-8)						
Iron						
(7439-50-8)						
Total Suspended						
Residue						
Free Available						
Chlorine						

Continued from the Front

Part C - List each pollutant shown in Tables 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements. Complete one table for each outfall.						
Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		

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

1. Date of Storm Event	2. Duration of Storm Event *(in minutes)*	3. Total rainfall during storm event *(in inches)*	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event *(gallons/minute or specify units)*	6. Total flow from rain event *(gallons or specify units)*

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

Flow estimate determined by measuring the length of time it takes to fill a container of a known volume.

STF ENV408F.5

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

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

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Oil and Grease		N/A				
Biological Oxygen Demand (BOD5)						
Chemical Oxygen Demand (COD)						
Total Suspended Solids (TSS)						
Total Nitrogen						
Total Phosphorus						
pH	Minimum	Maximum	Minimum	Maximum		

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

Pollutant and CAS Number *(if available)*	Maximum Values *(include units)*		Average Values *(include units)*		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Temperature						
Fecal Coliform						
Ammonia						
Copper						
(7440-50-8)						
Nickel						
(7440-02-0)						
Zinc(7440-66-6)						
Total Residual						
Chlorine						
Hydrazine						
Chromium						
(7440-50-8)						
Iron						
(7439-50-8)						
Total Suspended						
Residue						
Free Available						
Chlorine						

Continued from the Front

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

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

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

1. Date of Storm Event	2. Duration of Storm Event *(in minutes)*	3. Total rainfall during storm event *(in inches)*	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event *(gallons/minute or specify units)*	6. Total flow from rain event *(gallons or specify units)*

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

Flow estimate determined by measuring the length of time it takes to fill a container of known volume.

Attachment 1

Form 1 - Item X – Existing Environmental Permits

Carolina Power & Light Company
Harris Nuclear Plant and Harris Energy & Environmental Center
National Pollutant Discharge Elimination System Permit Number NC0039586

Attachment 1

Form 1 - Item X 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
DEM*	NPDES (HNP Landfill)	COC NGG 120032
DEM*	Nondischarge	WQ0009475
DEM*	Nondischarge	WQ0000584**
DEM*	Nondischarge	WQ0000506**
Division of Waste Management	Underground Storage Tank	0-006715
Division of Solid Waste Management	Industrial Landfill	92-10
Division of Water Quality (DWQ)	NPDES (HNP/HEEC)	NC0039586
DWQ	Laboratory Certification	398
DWQ	Oil Terminal Facility	924020063
DEM*	NPDES (HNP Landfill)	COC NGG 120032
DEM*	Nondischarge	WQ0009475
DEM*	Nondischarge	WQ0000584**
DEM*	Nondischarge	WQ0000506**

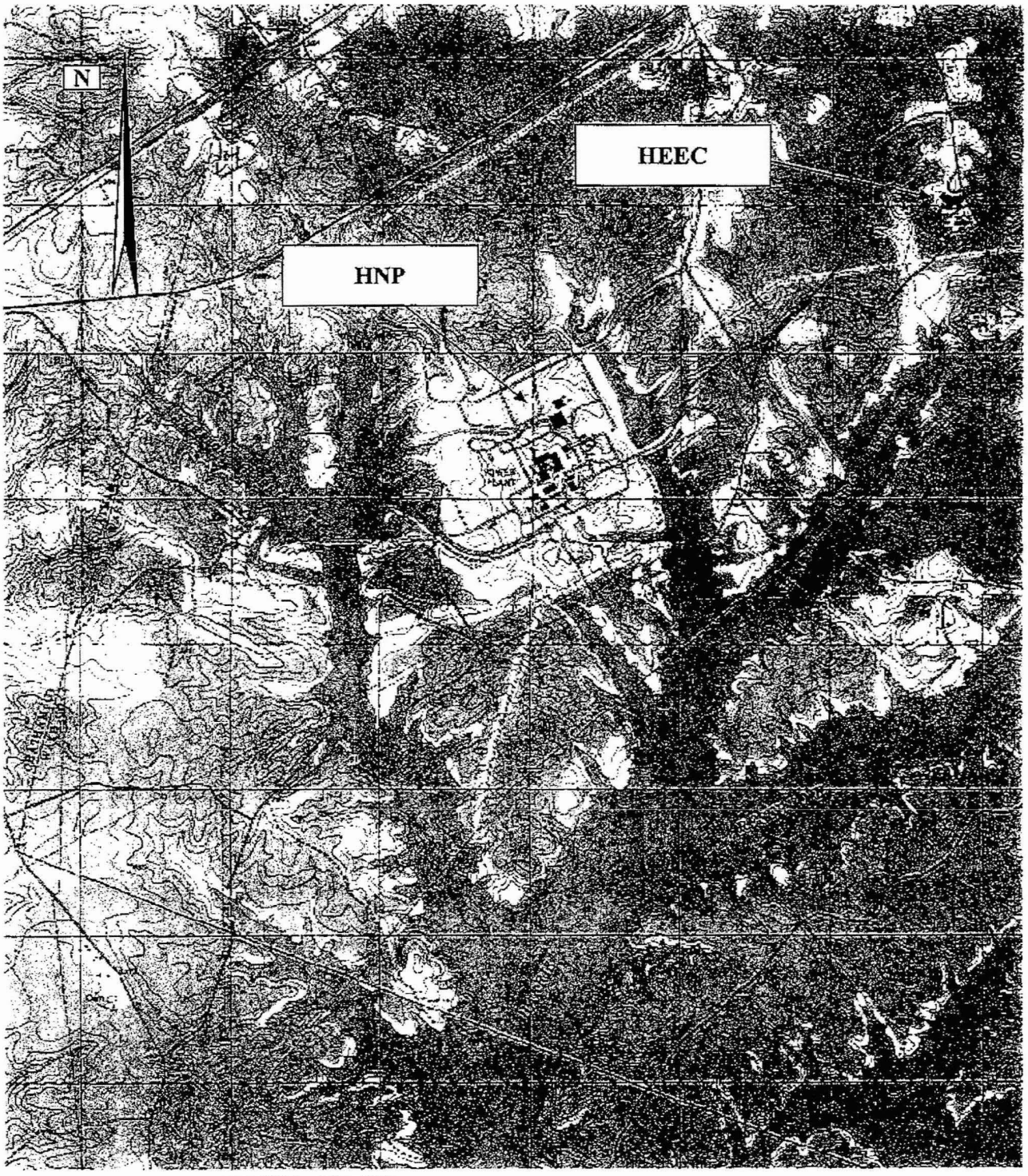
Wake County Planning	Land Use	3830
Wake County Planning	Land Use	13383
Nuclear Regulatory Commission	Facility Operating License	NPF63
Division of Radiation Protection	Radioactive Materials License	092-0218-4
US EPA	Hazardous Waste	NCD991278284

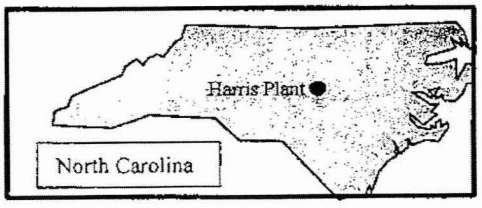
* Since issuance of permit agency name has changed to Division of Water Quality.

** Permits held by contract disposal firm

Attachment 2

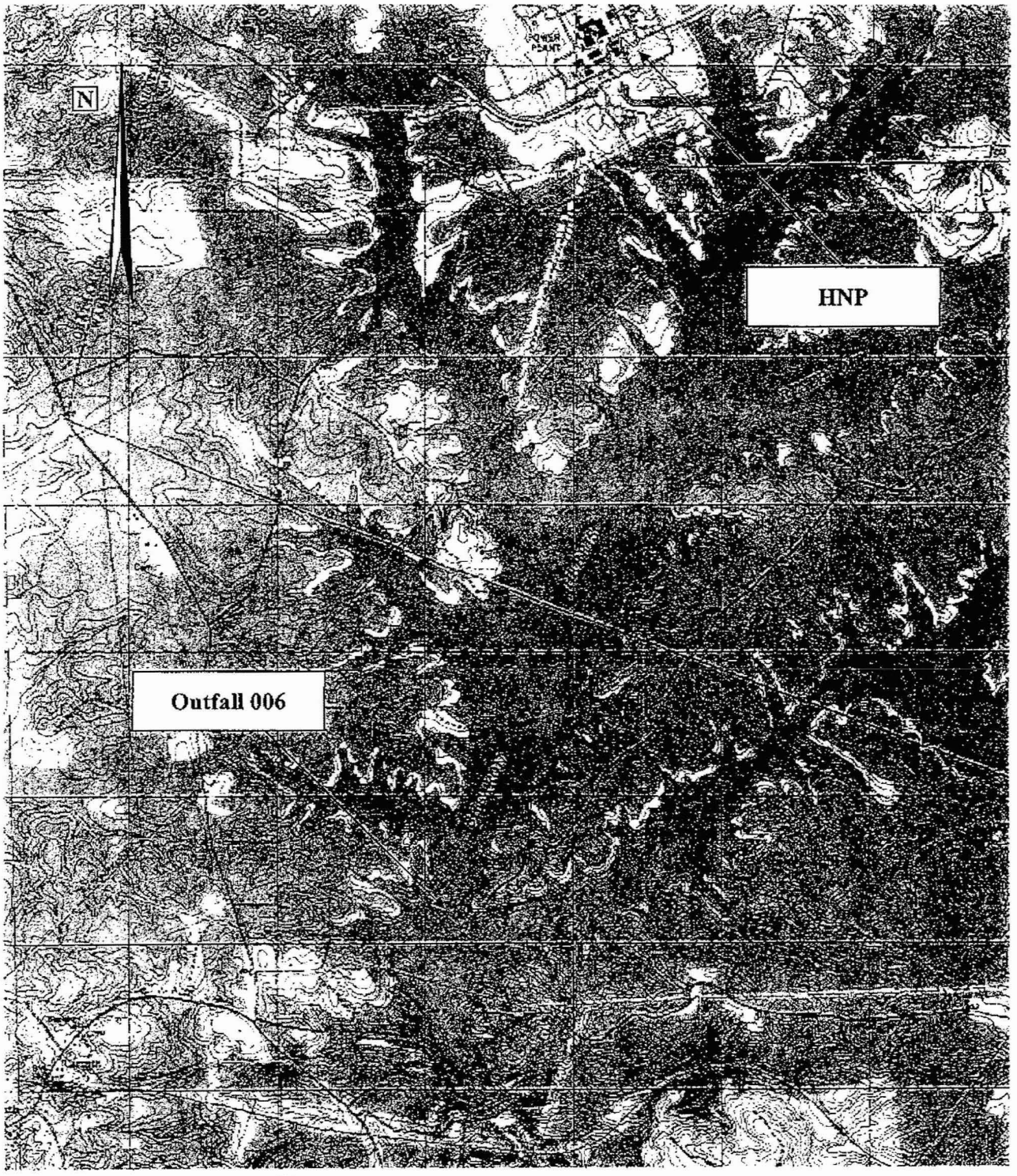
Form 1 - Item XI – Maps

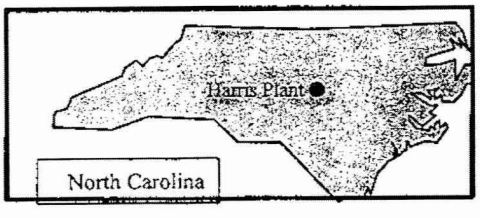




Attachment 1 - Form 1 - Item XI - Map

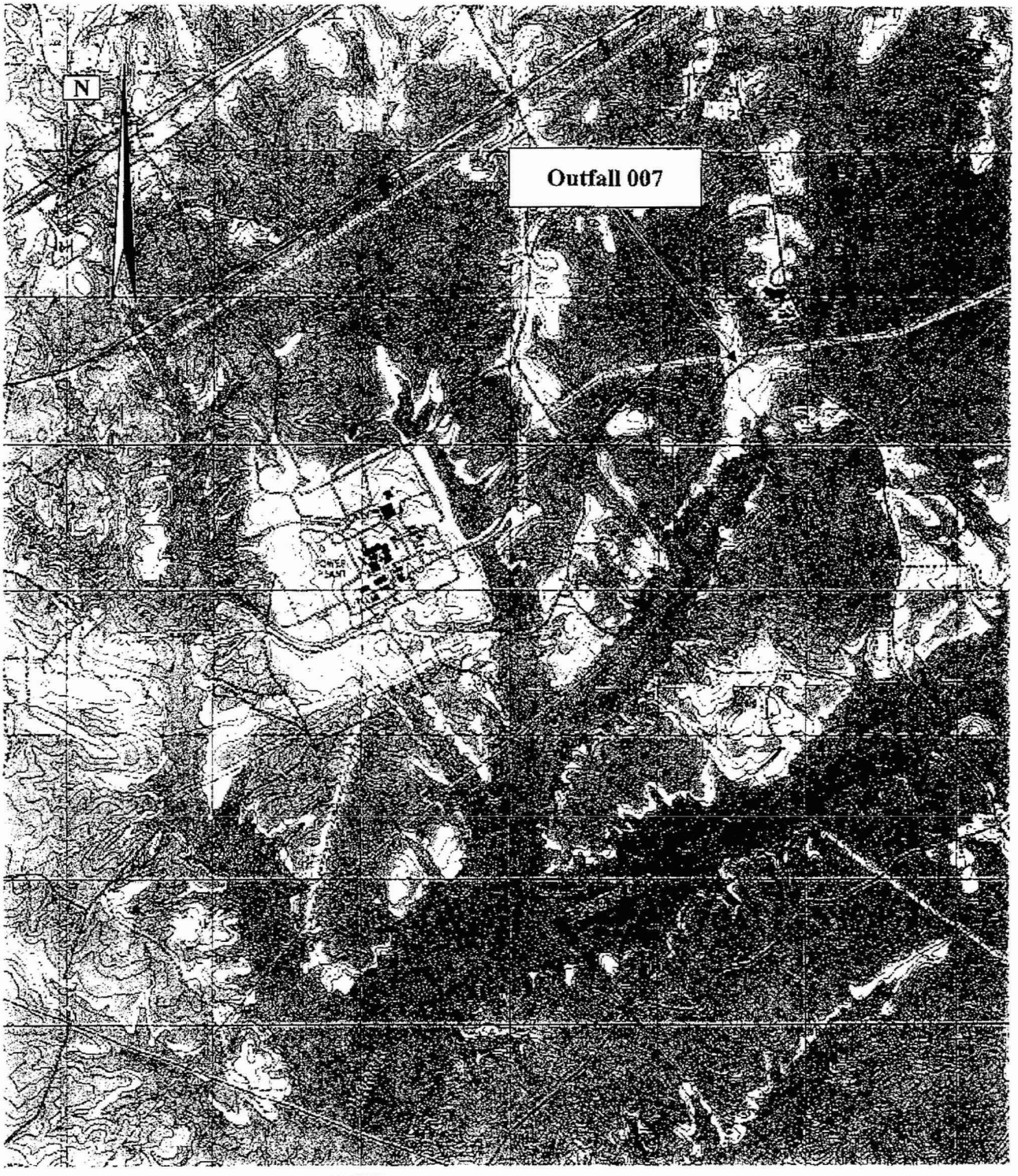
Progress Energy Carolinas, Inc.
Harris Nuclear Plant
Wake County

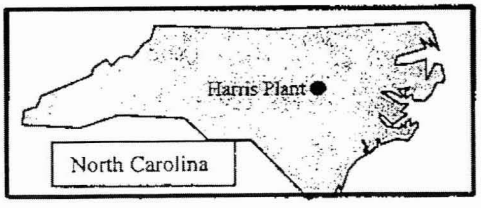




Attachment 1 - Form 1 - Item XI - Map

Progress Energy Carolinas, Inc.
Harris Nuclear Plant
Wake County



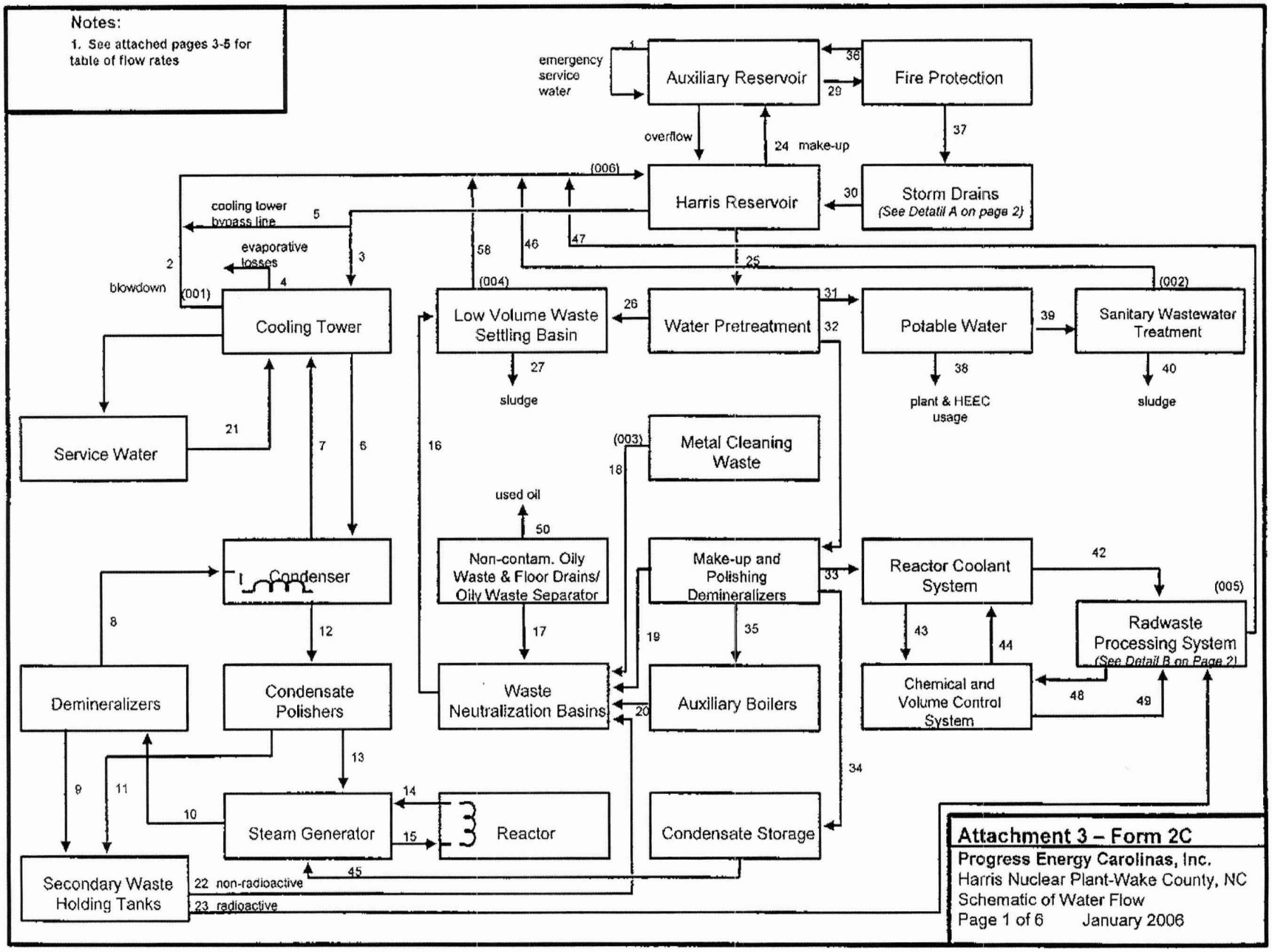


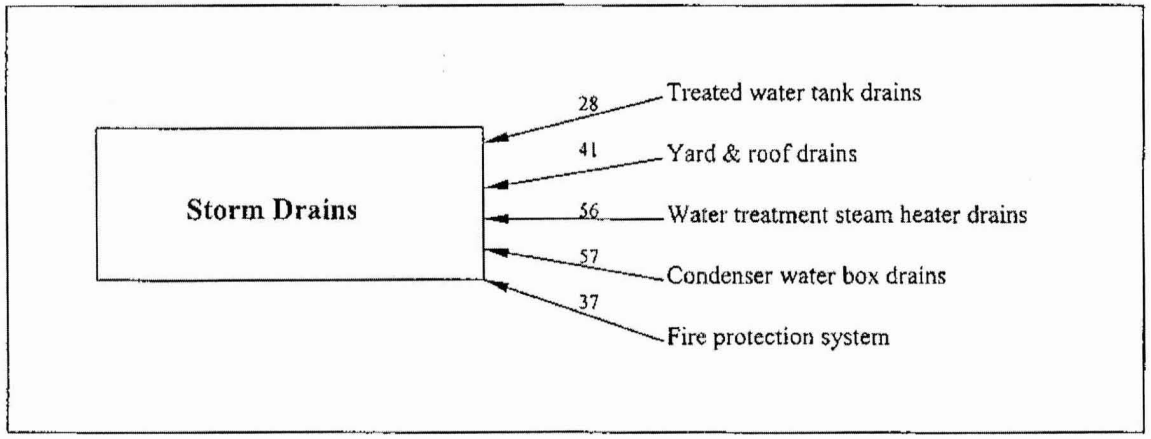
Attachment 1 - Form 1 - Item XI - Map

Progress Energy Carolinas, Inc.
Harris Nuclear Plant
Wake County

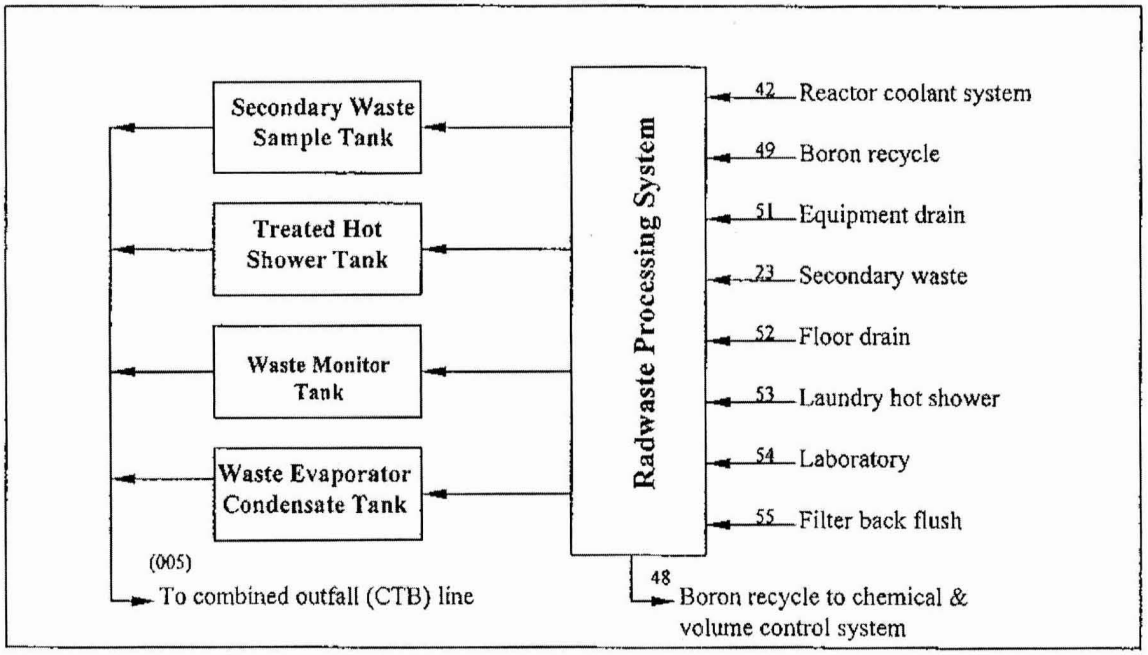
Attachment 3

Form 2C - Item II - A Flows, Sources of Pollution, and Treatment Technologies


Notes:
1. See attached pages 3-5 for table of flow rates
emergency service water
1
Auxiliary Reservoir
36
29
Fire Protection
overflow
24 make-up
37
(006)
Harris Reservoir
30
Storm Drains
(See Detail A on page 2)
cooling tower bypass line
5
evaporative losses
3
2
blowdown
(001)
4
Cooling Tower
58
46
47
25
(004)
Low Volume Waste Settling Basin
26
Water Pretreatment
31
32
Potable Water
39
(002)
Sanitary Wastewater Treatment
27
sludge
38
plant & HEEC usage
40
sludge
Service Water
21
7
6
16
(003)
Metal Cleaning Waste
18
used oil
50
Condenser
Non-contam. Oily Waste & Floor Drains/ Oily Waste Separator
Make-up and Polishing Demineralizers
33
Reactor Coolant System
42
(005)
Radwaste Processing System
(See Detail B on Page 2)
8
12
17
19
35
43
44
Demineralizers
Condensate Polishers
Waste Neutralization Basins
20
Auxiliary Boilers
Chemical and Volume Control System
48
49
9
11
13
34
10
14
15
Steam Generator
Reactor
Condensate Storage
45
Secondary Waste Holding Tanks
22 non-radioactive
23 radioactive
Attachment 3 – Form 2C
Progress Energy Carolinas, Inc.
Harris Nuclear Plant-Wake County, NC
Schematic of Water Flow
Page 1 of 6 January 2006



Detail A



Detail B

Attachment 3 – Form 2C

Progress Energy Carolinas, Inc.
Harris Nuclear Plant – Wake County, NC
Schematic of Water Flow
Page 2 of 6 January 2006

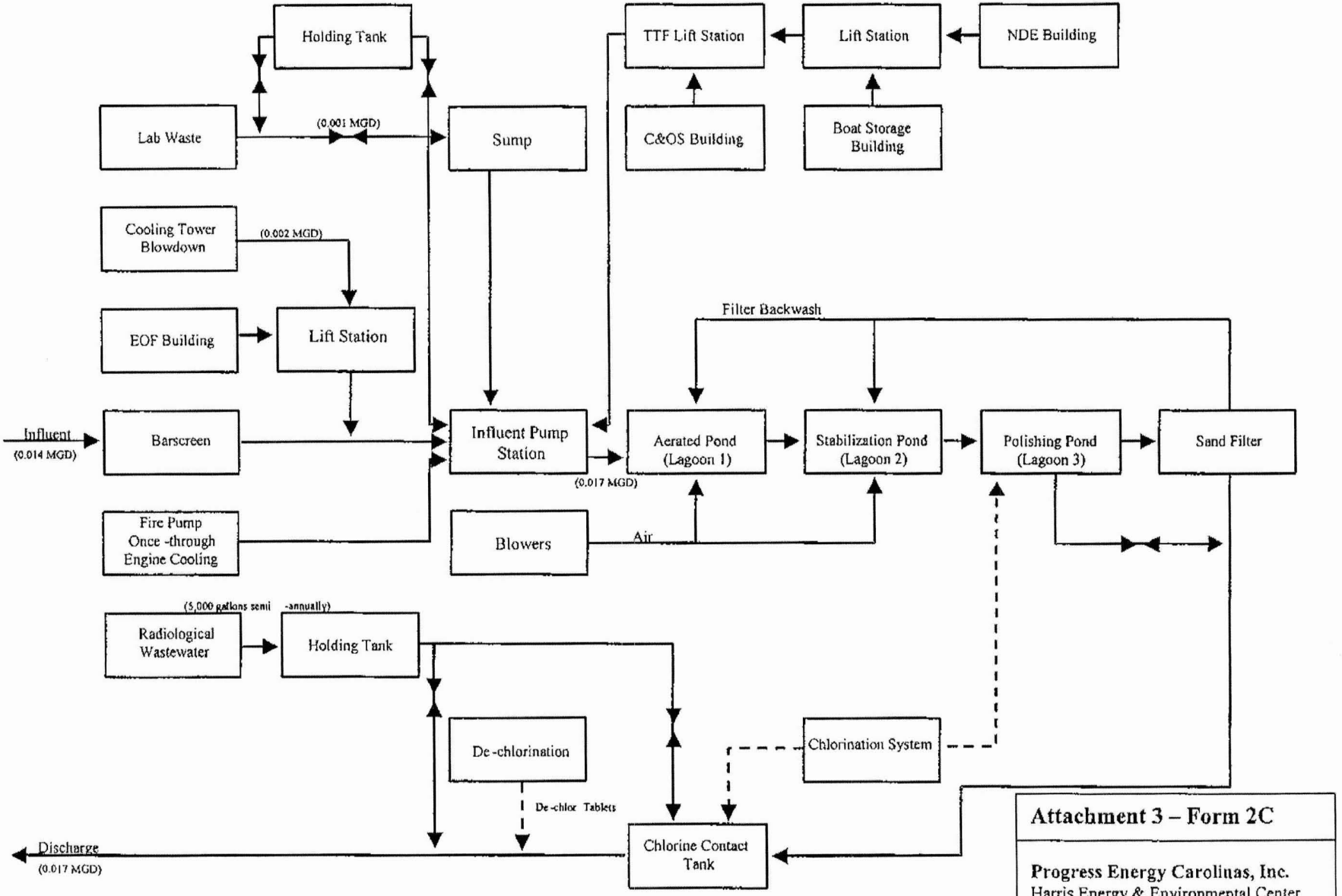
Attachment 3

Form 2C - Item II-A Flows, Sources of Pollution, and Treatment Technologies

Stream	Flow @ Maximum Power*	Flow @ Temperature Shutdown*	Notes
1	21,000 gpm	21,000 gpm	Emergency/Testing/ Intermittent use
2	510 MGM	0 – 5 MGM	Varies with dissolved solids
3	864 MGM	9 MGM	Cooling tower make-up
4	648 MGM	4 MGM	Average meteorological condition
5	0 – 14,000 gpm	0 – 14,000 gpm	Cooling tower bypass line
6	500,000 gpm	0 – 284,000 gpm	–
7	500,000 gpm	0 – 284,000 gpm	–
8	300 gpm	0 – 176 gpm	–
9	20,800	0 – 10,000	Intermittent operation
10	300 gpm	0 – 176 gpm	–
11	1.2 MGM	210,000	Condensate polisher regenerations and rinse (Intermittent operation)
12	24,000 gpm	0 – 16,500 gpm	–
13	24,000 gpm	0 – 16,500 gpm	–
14	315,900 gpm	0 – 185,000 gpm	–
15	315,900 gpm	0 – 185,000 gpm	–
16	6 MGM	5 MGM	–
17	208,300	208,300	–
18	0	0	Very infrequent operation
19	666,600	666,600	–
20	500	500	Auxiliary boiler drains
21	50,000 gpm	50,000 gpm	Service water system
22	1,220,800	220,000	Secondary waste (Nonradiological), alternate route
23	0	0	Secondary waste (Radiological), not normally used
24	0 – 1 MGM	–	Make-up as needed
25	7,645,000	7,645,000	–
26	4,000,000	4,000,000	–
27	300 lbs/month	300 lbs/month	Settling basin sludge

28	3,033	3,033	Treated water tank drains
29	11,000	11,000	Fire pump test
30	8,786,200	8,786,2000	Storm drains includes rainwater and firewater
31	1.2 MGM	1.2 MGM	Potable water
32	2,445,000	2,445,000	–
33	39,000	39,000	Reactor coolant system
34	1,200,000	1,200,000	Demineralized water
35	500	500	Demineralized water to auxiliary boilers
36	11,000	11,000	Fire pump test
37	1,167	1,167	Hydrant and drain tests
38	693,000	693,000	Plant and HE&EC water usage
39	0.2 MGM	0.2 MGM	Sanitary waste
40	–	–	Sludge removal as necessary
41	8,340,000	8,340,000	Yard and roof drains
42	10,000	10,000	–
43	33,300	33,300	–
44	–	–	Makeup as required
45	1,220,800	220,000	Makeup 9 and 11
46	0.2 MGD	0.2 MGD	Sanitary waste
47	413,000	413,000	Radwaste
48	10,000 gpm	10,000 gpm	Boron recycle
49	67,000	67,000	Boron Recycle/CVS letdown
50	30	30	Used oil
51	75,000	75,000	Equipment drains
52	316,000	316,000	Floor drains
53	7,000	7,000	Decontaminated waste
54	6,000	6,000	Laboratory waste (chemistry)
55	4,100	4,100	Varies with number of filter backwashes
56	5 – 10 gpm	5 – 10 gpm	Water treatment steam heater drains
57	120,000	120,000	Condenser water box (approximately two drains/year)
58	6,950,700	6,950,700	Low-volume waste

* Units: Gallons per month unless otherwise noted



Attachment 3 – Form 2C

Progress Energy Carolinas, Inc.
Harris Energy & Environmental Center
Wake County, NC
Schematic of Water Flow
Page 6 of 6 January 2006

Attachment 4

Form 2C - Item II - B Flows, Sources of Pollution, and Treatment Technologies

Attachment 4
Form 2C – Item II-B Flows, Sources of Pollution, and Treatment Technologies

HARRIS NUCLEAR PLANT

The Harris Nuclear Plant (HNP) consists of a 900 MW generating unit and associated facilities. The HNP systems include a Westinghouse pressurized water reactor, three recirculating steam generators, a turbine generator, a one-pass condenser, an open recirculating (cooling tower) cooling water system, and a lake to makeup water lost by evaporation. In a pressurized water reactor design, steam is produced in the secondary system steam generators using hot water from the reactor core. The primary system does not normally come into contact with any other part of the generating system, such as the steam cycle which includes the turbine and the condenser.

Outfall 006 – Combined Outfall to Harris Lake

The HNP operates on an open recirculating cooling system using a natural draft cooling tower and 4100 acre makeup water storage reservoir. All five major wastewater discharges at the HNP are combined in a 36-inch diameter common pipe which discharges to the Harris Lake 500 feet offshore at 40 feet below the surface (Discharge Serial No. 006 in this application.) The individual waste streams contributing to the common outfall pipe are: cooling tower blowdown, sanitary waste treatment plant effluent, metal cleaning wastes, low-volume wastes, and radwaste system. (These waste streams are enumerated in the present permit as Discharge Serial Numbers 001, 002, 003, 004, and 005, respectively.) Toxicity testing has been conducted on the combined outfall line since February 1990. Each of the waste streams, as well as miscellaneous discharge points, are described in this narrative. Also included is a list of chemicals which are expected to be in waste streams from the HNP (Attachment 5).

Outfall 001 - HNP Cooling Tower Blowdown discharge to Outfall 006

The cooling tower provides the condenser with a supply of water for removing the heat rejected by the condensation of steam. (The circulating water temperature rise across the condenser is 25°F.) This heat is dissipated primarily by evaporation as the water falls through the tower. This evaporation is essentially pure water vapor, with the dissolved and suspended solids remaining to concentrate.

To prevent the solids from causing scale and corrosion problems, some of the concentrated cooling water is discharged from the cooling tower basin, i.e., blowdown. During plant operation, the cooling tower basin continuously discharges for optimum performance. Blowdown currently averages approximately 6 MGD. Makeup water for cooling tower evaporative losses and cooling tower blowdown is provided from the main reservoir. The

cooling tower also serves as a partial source of service water, which is used for non-contact cooling of auxiliary equipment throughout the plant. The cooling tower is infrequently drained for maintenance. The normal operating procedure includes draining the residual water to the lake via Discharge Serial No. 006.

Occasionally, the condensers are drained for maintenance and repairs. When the condensers are drained, it is necessary to route the residual water (approximately 60,000 gallons per condenser per event) to area storm drains which discharge to the lake. This water is monitored prior to discharge for appropriate parameters required for cooling tower blowdown in accordance with the NPDES permit. Presently, condenser draining events are reported with relevant monitoring data to DWQ on attachments to monthly Discharge Monitoring Reports.

Outfall 002 - HNP Sewage Treatment Facility discharge to Outfall 006

A 0.025 MGD extended aeration sewage treatment facility serves the HNP. The facility consists of an equalization basin, aeration basin, sludge holding tanks, raw sewage holding tank, clarifiers, and chlorine contact tanks. Disinfected effluent is pumped to the common outfall pipe. Currently, sludge is land applied off site by a contract disposal firm (Granville Farms, Inc., Permit No. WQ0000838, effective June 27, 2003, expiration date February 28, 2004, permit renewal application submitted). Because the HNP sewage treatment facility receives industrial type waste as well as domestic type waste, the land application of the mixed sludge meets the exemption conditions stipulated at 40 CFR Part 503.6.

In addition to sanitary waste, HVAC condensate is discharged to the sewage treatment facility.

Outfall 003 - HNP Metal Cleaning Wastes discharge to Outfall 006

Infrequently, cleaning of heat exchanger equipment by chemical solutions may be necessary. Cleaning solutions would be routed to the waste neutralization basin for pH adjustment (or other chemical neutralization) prior to discharge to the settling basin where further treatment by sedimentation occurs. To date, the only metal cleaning which has been conducted was a preoperational flush. If a new system is added in the future or if an existing system is changed out, flushing could be necessary again. Also, metal cleaning may be needed in the future for plant systems (e.g., steam generators, auxiliary boilers, piping, etc.). Chemical solutions used may include phosphates, organic cleaners, citric acid, or oxalic acid.

Outfall 004 - HNP Low-Volume Wastes discharge to Outfall 006

In the operation of the HNP, there are many processes which result in intermittent low volumes

sedimentation, and separation. These wastes may be treated in the oily waste separator and/or neutralization basin as needed prior to routing to the sedimentation basin, which ultimately discharges to the common outfall line. Chemicals present in these systems may include corrosion products (such as copper and iron) corrosion inhibitors (such as nitrites, molybdates, ammonia, hydrazine, carbohydrazide, and ethanolamine), acids and bases from water treatment processes, and wastewater from ion exchange processes and ammonium bisulfite from dechlorination. Low-volume waste flow from the settling basin averages approximately 0.2 MGD. The various low-volume waste sources are described below:

a) Water treatment system wastes from processing of demineralized water and potable water.

(The water treatment system includes coagulation, filtration, disinfection, and ion exchange. Wastes from treatment include filter backwash and demineralizer regeneration wastes.)

b) Non-radioactive oily waste, floor drains, and chemical tank containment drains.

(Turbine building wastes which could contain oil are routed to the oily waste separator for treatment prior to routing to the neutralization basin. Used oil is collected by a contractor for reclamation.)

c) Steam generator and auxiliary boiler draining following wet layup

d) Non-radioactive secondary waste from condensate polishers

e) Miscellaneous drains/leaks from condenser, steam generator, and secondary components

f) Auxiliary boiler system blowdown

g) Miscellaneous waste streams not otherwise identified elsewhere in this application.

Outfall 005 - HNP Radwaste Treatment System discharge to Outfall 006

The radwaste system is designed to collect, store, process, and release any radioactive or potentially radioactive liquids associated with operation of the nuclear power plant. The waste streams are collected in tanks and sampled for conventional pollutants and radioactivity. The specific batch treatment is selected based on these analytical results. This allows for selection of the proper treatment processes for each individual batch. Most radwaste streams are treated by the Modular Fluidized Transfer Demineralization System (MFTDS) that uses filtration and ion exchange in a manner that minimizes the production of solid wastes. Boric acid is recycled. The

secondary waste system (SWS) is for treating radioactively-contaminated water from the secondary steam cycle system; however, since that system is not normally contaminated, those flows are routed to the normal low-volume waste treatment system after radiological monitoring.

After treatment, the radwaste flows are stored in one of four tanks: the secondary waste sample tank, the treated laundry and hot shower tank, the waste monitor tank, or the waste evaporator condensate tank. After monitoring to verify adequate treatment, the tanks are discharged to the common outfall line.

The cooling tower bypass line provides a flow of lake water for radwaste releases, as regulated by the NRC.

Other HNP Discharges

1. Storm Drains

Runoff from parking lots, outside storage areas, roof drains, and other areas on the plant site are collected in storm drains and ultimately routed to release points which discharge to Harris Lake. Flow contributed from those areas is estimated at 8.8 million gallons per month, based on average rainfall of 43 inches per year and a runoff assumption factor of 0.7.

In addition to stormwater, a few miscellaneous sources of water are also intermittently routed to the storm drains. These sources that have a minor contribution to overall storm drain flows are as follows:

a. Upflow filter clear well drains

The upflow filter clearwell stores filtered lake water which is used in the potable water treatment system. Periodically, some of the water from this tank is drained to the storm drains that discharge to Harris Lake. This water may contain low concentrations of chlorine because sodium hypochlorite is added to control biological growth in the tank prior to treatment through the upflow filter.

b. Heat exchanger on the demineralizer feedwater

It is necessary to heat the source water to the demineralized water treatment system to achieve optimum degassification. To accomplish this, steam is used to heat the feedwater. The condensed steam is discharged to the storm drains that flow to Harris Lake at approximately 5 - 10 gallons per minute. This steam could contain trace amounts of hydrazine and ammonia used for chemistry control in the

auxiliary boiler steam system. Due to the low flow rate and the long retention time, the temperature of the condensed steam should be at ambient temperature upon reaching the lake.

c. Condenser water box drains

Prior to condenser maintenance or repairs it is sometimes (approximately twice/year) necessary to drain circulating water to the storm drains (approximately 60,000 gallons per condenser per event) that discharge to Harris Lake. This water is monitored for selected cooling tower blowdown parameters.

d. Filtered water storage tank

Water from the upflow filter clearwell is treated using a micro-filtration unit for turbidity control and then stored in a tank prior to subsequent filtration (nano-filtration unit) and disinfection. Occasionally, some water from this tank may be drained to the storm drains that discharge to Harris Lake. This water may contain trace amounts of chlorine.

e. Fire protection system

Approximately 5000 gallons of lake water used for annual testing of the fire protection system is routed to most of the storm drains that discharge to Harris Lake. In the event of a fire, additional water could be discharged to storm drains.

f. Condenser hotwell

During outages (approximately once per 18 months) it is necessary to drain the condenser hotwell for condenser maintenance and inspection. Approxmiately 70,000 gallons of this water resulting from condensed steam is drained to storm drains that discharge to Harris Lake. It may contain trace amounts of ethanolamine, 100 ppb or less of boron, and 100 ppb or less ammonia.

g. Condensate storage tank

Infrequently it is necessary to drain the condensate storage tank for maintenance. Approximately 400,000 gallons per event is drained to storm drains that discharge to Harris Lake. It may contain 200 ppb or less boron, 1000 ppb or less ammonia, and trace hydrazine.

h. Air conditioning system condensate

The condensate from various building air conditioning systems flows to various storm drains to Harris Lake. The volume is generally low and is greatest in the humid summer months.

i. Service water system strainers

Infrequently, when service water strainers located at the makeup pumps from the cooling tower basin are backwashed to remove biofouling organisms or debris, a small volume of service water overflows the basin and runs to the adjacent storm drain that discharge to Harris Lake.

j. Maintenance Activities

During maintenance activities at the facility it may become necessary to drain all or some portion thereof of the following plant systems; normal service water, emergency service water, circulating water, potable water, and demineralized water. Maintenance activities at the facility may also require the hydrostatic flushing of system piping with discharge to the storm drain system. In addition, the facility may find it necessary to wash equipment with demineralized water with the discharge to storm drains

2. Emergency Service Water System

This system primarily provides non-contact cooling water for nuclear safety-related equipment systems and during emergency conditions. The emergency service water system discharges to the auxiliary reservoir which is used as the plant"s heat sink during emergency conditions, a feature required by Nuclear Regulatory Commission regulations to provide a reliable supply of cooling water. Under normal operating conditions, the auxiliary and the main reservoirs are isolated from each other; however, the reservoirs may be connected as necessary. In addition to emergency situations, this system is used periodically for testing purposes or for containment cooling as needed. This water may contain traces of chemicals identified for the cooling tower blowdown.

HARRIS ENERGY & ENVIRONMENTAL CENTER

The Harris Energy & Environmental Center (HE&EC) includes facilities that provide support services (laboratories and training classrooms) for the HNP and other CP&L operations. The sources of wastewater at the HE&EC are domestic waste, conventional laboratory waste, cooling tower blowdown, and potentially radioactive liquid waste from the radiochemistry and metallurgy laboratories. Additionally, floor drains from several shops and storage buildings are routed to the wastewater treatment facility. All waste streams, with the exception of the radiological wastewater, receive treatment in the 0.020 MGD wastewater facility.

Components of the treatment facility include a bar screen, submersible pump station as an influent pump station, three treatment ponds, sand filtration, chlorination and dechlorination, as well as the various lift stations for the HE&EC's various buildings. The pond portion of the treatment facility consists of an aerated pond with a minimum retention time of 10 days followed by a stabilization pond, also with a minimum retention time of 10 days. The third pond is a polishing pond with a minimum 2-day retention time. Effluent from the treatment facility is discharged via the effluent discharge pipe into Harris Lake.

If necessary sludge from the treatment facility will be removed and land applied by a contractor (a contractor for sludge disposal will be chosen when needed). Because the treatment facility receives industrial type waste as well as domestic type waste, the land application of the mixed sludge meets the exemption conditions stipulated as 40 CFR 503.6

Domestic Waste

The maximum domestic waste flow from the HE&EC sanitary facilities is approximately 0.014 MGD. In addition to the approximately 235 permanent employees on the site, the HE&EC, serving as a company training facility and as a visitors' center for the nearby Harris Nuclear Plant, accommodates a fluctuating population (ranging from 0 to 450 additional people per day).

Laboratory Waste

Laboratory waste flow, consisting primarily of rinse water from the chemical, metallurgical, and biological laboratories, is approximately 0.001 MGD. HE&EC personnel are educated in the proper disposal of laboratory wastes and are encouraged to minimize the use of laboratory drains for chemical disposal. Most laboratory chemical wastes and virtually all oily wastes are drummed for off-site disposal. Laboratory wastes that are not drummed may go to one of two 5,000 gallon holding/neutralization tanks for visual inspection and testing before being discharged to the influent pump station.

Cooling Tower Blowdown

Cooling tower blowdown from the HE&EC air conditioning system averages approximately 0.002 MGD. Chemical additives include an algicide (aqueous glutaraldehyde solution) and a suspension agent. The treatment and extended retention time in the ponds should ensure no algicide is discharged to Harris Lake.

Radiological Wastewater

The majority of the radiological wastewater results from the cleaning of laboratory glassware. In addition, small quantities of liquid radiochemistry laboratory samples, radioactive metallurgy laboratory wastewater (which is prefiltered with a paper cartridge to remove particulates before disposal), liquids generated from analyses of plant 10 CFR Part 61 samples, and reagents are disposed via the HE&EC radiochemistry laboratory drains to a holding tank. Approximately 5,000 gallons are discharged annually from the holding tank to the effluent discharge line below the sewage treatment plant into Harris Lake, as allowed by the radioactive materials License N0. 092-0218-4, issued by the N.C. Division of Radiation Protection.

Radiochemical analyses are performed prior to release to calculate the total activity in the waste. These analyses include gamma spectrum analysis using intrinsic germanium gamma spectrometry systems, as well as direct analysis for Tritium, Iron-55, Nickel-63 and Strontium-89/90. Individual radionuclides have different release limits, however, the total release of all radionuclides may not exceed one curie per calendar year.

Additionally, the pH of the wastewater is determined before release. The pH must be between six and nine and is adjusted, if necessary, using 50% sodium hydroxide. The tank is agitated after addition of the sodium hydroxide, and an additional sample is analyzed to verify that the appropriate pH adjustment is achieved.

Stormwater

Stormwater runoff from the HE&EC is composed of parking lot, roof, and lawn drainage. This non-industrial stormwater is not subject to the Phase I stormwater regulations of 40 CFR Part 122.

Attachment 5

Form 2C - Item VI - Potential Discharges Not Covered by Analysis

Carolina Power & Light Company
Harris Nuclear Plant and Harris Energy & Environmental Center
National Pollutant Discharge Elimination System Permit Number NC0039586

Attachment 3

Form 2C - Item VI Potential Discharges Not Covered By Analysis

Chemical	Quantity (used per year, estimate)	Frequency	Purpose
Alum	2500 gallons	As needed	Water treatment
Ammonia	2000 gallons	As needed	pH control
Ammonium Bisulfite	9000 gallons	Daily	Cl_2 removal
GEBETZ FOAMTROL 1440	100 gallons	As needed	Foam control agent
GEBETZ Flogard MS6208	1800 gallons	As needed	Corrosion control
GEBETZ Depositrol PY5200	7000 gallons	As needed	Corrosion control
GEBETZ Inhibitor AZ 8100	7000 gallons	As needed	Corrosion control
GEBETZ Spectrus BD 1500	Amount varies depending on biological activity and temperature of makeup water	As needed	Corrosion control
GEBETZ Flogard MS 6222	9000 gallons	As needed	Corrosion control
GEBETZ Polymer 1192	600 gallons	As needed	Corrosion control
Boron	13, 000 lbs	As needed	Reactivity control
Detergent and Waxes	300 – 400 gallons	Weekly	Housekeeping
Ethanolamine	7000 gallons	Daily	Corrosion control
Hydrazine	700 gallons	Daily	Corrosion control
Polyelectrolytes	200 – 300 gallons	As needed	Water treatment
Sodium Carbonate or Bicarbonate	200 – 300 lbs	As needed	pH adjustment
Sodium hypochlorite (15% solution)	Amount varies depending on biological activity and temperature of makeup water	2 to 3 times / Day	Biocide
Sodium hydroxide (25%)	200-400 gallons	As needed	pH control
Sodium hydroxide	1,106,800 lbs	As needed	pH control and resin

(50%)			regeneration
Sodium or Potassium Molybdate	100 – 200 gallons	As needed	Corrosion control
Sodium EDTA	100 – 200 gallons	As needed	Corrosion control
Sodium or Potassium Nitrite	500 clbs	As needed	Corrosion control
Sulfuric Acid	815,000 lbs	As needed	pH control and resin regeneration
Potassium Permanganate	200-400 gallons	Daily	Iron Control
50% Citric Acid	200-400 gallons	As needed	System Cleaning
GEBETZ AD-20	200-400 gallons	As needed	System Cleaning
GEBETZ AK-110	200-400 gallons	As needed	System Cleaning
GEBETZ Kleen MCT-511	200-400 gallons	As needed	System Cleaning
GEBETZ Kleen MCT-103	200-400 gallons	As needed	System Cleaning
GEBETZ DCL-32	200-400 gallons	Daily	Chlorine Removal
GEBETZ Hyperspere MDC-700	200-400 gallons	Daily	Membrane Deposit Control
GEBETZ Flogard POT 80L Zinc Phosphate	200-400 gallons	Daily	Corrosion control
Potassium Persulfate 0.6 M	100 gallons	Daily	Analyzer Reagent
Phosphoric Acid 0.6 M	100 gallons	Daily	Analyzer Reagent

Attachment 6

Outfall 007

Form 2C - Item V – and C Intake and Effluent Characteristics

Progress Energy Carolinas, Inc.
Harris Nuclear Plant and Harris Energy & Environmental Center
National Pollutant Discharge Elimination System Permit Number NC0039586

Attachment 6

Form 2C - Item V Part B and C Intake and Effluent Characteristics

Pollutant and CAS No.	Explanation in Discharge
Bromide (24959-76-9)	Naturally occurring
Fecal Coliform	Domestic waste
Fluoride (16984-48-8)	Naturally occurring
Nitrate-Nitrite	Domestic waste
Oil and Grease	Miscellaneous oils analyzed in labs, cooking
Phosphorus (7723-14-0)	Naturally occurring and result of waste treatment process
Sulfate (as SO_4) (14265-45-3)	Naturally occurring and result of waste treatment process
Boron, Total (7440-42-8)	Naturally occurring
Iron, Total (7439-89-6)	Naturally occurring
Magnesium, Total (7439-95-4)	Naturally occurring
Molybdenum, Total (7439-98-7)	Process water treatment, corrosion
Copper, Total (7440-50-8)	Naturally occurring and pipe corrosion
Zinc, Total (7440-66-6)	Potable water treatment additive
Chloroform (67-66-3)	By-product of chlorination in drinking water

Attachment 7

Form 2F – Item I Outfall Locations

Attachment 7

Form 2F – Item 1 Outfall Locations

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

Attachment 8

Form 2F – Item III Site Drainage Map

Attachment 9

Form 2F – Item IV - A Narrative Description of Pollutant Sources

A. Outfall Number	Area of Impervious Surface (Ac)	Total Area Drained (Ac)
SW-A	0.27	5.07
SW-B	1.00	27.94
SW-001	8.74	66.05
SW-002	2.06	14.08
SW-003	6.58	14.74
SW-004	1.54	33.27
SW-005	9.77	11.53
SW-006	7.45	25.84
SW-007	1.81	45.15
SW-008	0.48	9.55
SW-009	1.24	8.72

Attachment 10

Form 2F – Item IV-B Narrative Description of Pollutant Sources

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

Material Handling and Storage Practices

Potential sources of pollutants to storm water discharges include material receiving, storage, and handling areas; waste handling storage, and disposal areas; and runoff from inside the Protected Area. Exposure of pollutants to storm water may be a result of material storage or handling practices, or as a result of spills or leaks. Materials identified as being of greatest significance are lubrication oils, fuel oils, transformer fluids, and chemicals. Secondary containments for oil are maintained in accordance with the Spill Prevention Control and Countermeasure Plan (SPCC Plan).

Material Handling Practices

The majority of materials received at the HNP is brought to the receiving warehouse and temporarily stored in the warehouse. The majority of the materials are then loaded onto a trailer and transferred to the stores issue warehouse, bulk warehouse, or chemical warehouse inside the Protected Area. Bulk quantities of fuel oil are brought into the plant by tanker trucks and unloaded in accordance with the SPCC Plan. Liquid hydrogen, liquid oxygen, liquid chlorine, and polymer are brought to the site by tanker trucks and unloaded at the appropriate storage tank.

Material Storage Practices

Lubrication Oils and Fuel Oil

Major storage locations of fuel oil and lubrication oils are monitored and controlled. Operators perform daily routine checks of oil storage and handling areas inside the Protected Area in accordance with approved plant procedures. Routine transfers of oil from delivery trucks, oil leaks and/or spills are controlled and monitored per the SPCC Plan requirements and implementing plant procedures. Outside storage of oils is contained as per the SPCC Plan.

Solid Waste Handling and Storage

Chemical waste and Used Oil produced inside of the protected area is initially processed in the chemical processing area west of the paint shop. This area is sheltered from the weather and the drains in the area are routed to the Oily Waste Separator for processing.

Used Oil and waste chemical produced outside of the protected area is stored in Warehouse 6 and the Used Oil Storage area located east of the Mobil Equipment Shop. The Used Oil Storage area contains two diked tanks for Used Oil and another diked area for small tanks and drums. Storm water in the diked area is visually inspected before release to the storm water system.

The Central Hazardous Waste Storage Area is located under a shelter attached to the Chemical Warehouse. All satellite hazardous waste storage areas are either under shelters or located in plant buildings. Spill containment devices are used for the material stored under shelters and any storm water which falls into the containment usual is allowed to evaporate. Spill control and response is covered by plant procedures.

Open outside storage containers for wood and metal (steel, copper) recycling are located around the site. The containers are often moved to different work locations. Storm water drains from the bottom of these containers as it is accumulated.

Other recycled material is collected inside of the plant buildings or in covered storage containers. Examples of recycled material include used batteries, aluminum cans, fluorescent lights and printer toner cartridges.

Two closed trash compactors are utilized for sanitary waste. Roll off containers are utilized for wood and other industrial waste. Use of these containers is addressed in the HNP Landfill Waste Management Plan. Covers are used for the roll off containers if the material may contaminate storm water.

Landfills

The plant operated a landfill until December 31, 2002. The cells were closed and covered by December 31, 2003.

Waste material disposed of in the cells included wood, concrete, ashes, rubber, lunch scraps, plastics, paper, constructions rubble, cellulose materials, metal , oil sorbs, dried epoxy paint and paint wastes such as brushes, rollers, empty cans with less than 1 inch of dry solidified paint and dried paint peeled from empty cans if it is contained in a can, dry solidified industrial greases, waste activated charcoal, and waste ion exchange resins.

Attachment 11

Form 2F – Item IV-C Narrative description of Pollutant Sources

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

Site Map - Outfalls and Drainage Areas

Stormwater Outfall No.	Description
SW-1	This outfall which discharges into the finger of the lake north of the causeway receives input starting in the plant yard near the diesel fuel oil storage tanks. It receives water from warehouse roof drains, paved and gravel parking lots, and grassed areas before the outfall.
SW-2	This outfall which discharges into the finger of the lake north of the causeway receives input starting in the plant yard under the plant output transmission lines. It receives input from gravel parking lots and the normal service water pump structure area before the outfall.
SW-3	This outfall which discharges into the finger of the lake north of the causeway receives input from the first few SW-2 inputs as the two are cross tied, the circulating pump intake structure area and paved parking lots before the outfall.
SW-4	This outfall discharges into the main lake. It receives input from the electrical distribution switchyard and the main road along the switchyard. It travels through some open ditches and along a gully before the outfall.
SW-5	This outfall which discharges into the main intake canal at the emergency service water intake structure receives input starting near the turbine building and transformer area. It receives input from plant yard areas both paved and gravel and paved parking lots before the outfall.
SW-6	This outfall discharges into a retention pond with an inverted siphon discharge which travels along an open ditch, crosses a road and travels along a gully before reaching the main lake. It starts at the northwest area of the plant yard and receives input from plant roof drains Units 3 & 4 pit areas, water treatment building, auxiliary boiler area, gas yard, neutralization and settling basin areas, water treatment tank area, both gravel, paved and grass plant yard areas, warehouse roof and drain area drains, and vehicle shop area drains before the outfall.

SW-7	This outfall discharges into the emergency service water intake channel from the auxiliary reservoir. It receives input from the gas yard, auxiliary boiler fuel oil storage area, settling basin area, and gravel plant yard before entering a ditch that travels to the outfall.
SW- 8&9	These outfalls discharge into the emergency service water discharge channel to the auxiliary reservoir. Both outfalls receive input from plant yard areas that are grassy.
SW- A&B	These outfalls receive input from nonindustrial areas that are grassy.

Attachment 12

Harris Nuclear Plant NPDES Application
316(b) Supplement

HARRIS NUCLEAR PLANT NPDES REISSUANCE APPLICATION
316(b) SUPPLEMENT

The Harris Nuclear Plant hereby demonstrates that they have reduced their flow commensurate with a closed-cycle recirculating cooling system. Therefore only the information required at 40 CFR Part 122 Section 122.121(r)(2),(3) and (5) is being provided with this application.

(r)(2) Source water physical data. These include:

(i) A narrative description and scaled drawings showing the physical configuration of all source water bodies used by your facility, including areal dimensions, depths, salinity and temperature regimes, and other documentation that supports your determination of the water body type where each cooling water intake structure is located;

The source water body is Harris Reservoir. Harris Reservoir is a freshwater reservoir located in Chatham and Wake Counties, North Carolina. It was created by impounding Buckhorn Creek, a tributary of the Cape Fear River. The main body of Harris Reservoir has a surface area of approximately 4,150 acres. The main reservoir has a maximum depth of 18 m, a mean depth of 5.3 m, a volume of approximately 8.9×10^7 m^3, a full-pool elevation of 67.1 m National Geodetic Vertical Datum (NGVD) [220 ft.], and an average residence time of 28 months. The reservoir began filling in December 1980 and full-pool elevation was reached in February 1983. The 40 mile shoreline is mostly wooded and the 71 square mile drainage area is mostly rolling hills with land used primarily for forestry and agriculture. A smaller 317 acre auxiliary reservoir was also built to serve as the primary source for the Emergency Cooling Water System, which is designed to remove heat from the reactor and critical components following a loss-of-coolant accident (LOCA) or a loss of off-site power.

Refer to attached maps.

Temperature[1] – for the past few years temperature regimes are described as follows:

- Reservoir waters were slightly stratified in the Buckhorn Creek arm and in the mid reservoir during May and July and were well mixed during January and November, 2002.

- Reservoir waters were stratified at all stations during May and July and were either well mixed or very weakly stratified during January and November, 2001.

- Reservoir waters at all reservoir stations (except White Oak Creek arm) were strongly stratified during July and were either well mixed or very weakly stratified during January, May, and November, 2000.

[1] *CP&L – Progress Energy Harris Nuclear Plant Environmental Monitoring Report, 2000, 2001, 2002*

- Reservoir waters at all reservoir stations (except White Oak Creek arm) were stratified during July and were freely circulating during January, May, and November 1999.

- In general mid-depth reservoir temperature ranges from 6.1 – 9.8 °C in the winter to 19.9 – 22.7 °C in the summer.

(ii) Identification and characterization of the source waterbody's hydrological and geomorphological features, as well as the methods you used to conduct any physical studies to determine your intake's area of influence within the waterbody and the results of such studies; and

The 40 mile shoreline is mostly wooded and the 71 square mile drainage area is mostly rolling hills with land used primarily for forestry and agriculture. Refer to attached topographic maps for geomorphological features. Since the facility has a closed-cycle cooling system, no Proposal for Information Collection (PIC) is required to be developed and consequently no area of influence is required to be determined.

(iii) Locational maps.

See attached maps.

(r)(3) Cooling water intake structure data. These include:

(i) A narrative description of the configuration of each of your cooling water intake structures and where it is located in the water body and in the water column;

The plant has two cooling water intake structures but only one is equipped with cooling water intake pumps.

Cooling Tower Makeup and Emergency Service Water Intake Structure (CTMUESW)

The first structure can be called the Cooling Tower Makeup and Emergency Service Water Intake Structure (CTMUESW). It is located at the end of a canal that stems from an arm of the main reservoir. This structure is equipped with two Cooling Tower Makeup (CTMU) pumps, each rated at 26,000 gallons per minute (gpm), and two Emergency Service Water (ESW) pumps, each rated at 21,000 gpm. The structure was constructed with 14 bays but only two bays are used for the CTMU pumps and two bays are used for the ESW pumps. The ESW pump bays have a concrete dividing wall with an eight by ten foot butterfly valve. The dividing wall butterfly valve arrangement along with pipe valving permits operation of the ESW pumps by accessing water from either the main or auxiliary reservoir. The CTMU pump bays are each equipped with traveling screens with 3/8 inch openings. The ESW pump bays are fitted with traveling screens with 3/8 inch openings. Normal water elevation is 220 feet. The invert to the suction for the pumps is located at approximately 191.5 feet.

Emergency Service Water Intake Screening Structure

The second intake structure is called the Emergency Service Water Intake Screening Structure which is located at the end of a canal coming from the auxiliary reservoir. This structure has no cooling water intake pumps and functions only as an alternate screened intake opening for water withdrawal by the two ESW pumps located at the CTMUESW. This structure has traveling screens with 3/8 inch openings. The normal water elevation in the auxiliary reservoir is 250 feet and the invert to the conveyance pipes is approximately 233.3 ft. in elevation. The structure does have two screen wash pumps (@ 500 gpm) which are operated about an hour per year each; two fire protection system pumps (@ 3000 gpm) which are operated about 12 hours per year each; and one fire jockey pump with negligible flow rate and run time.

(ii) Latitude and Longitude in degrees, minutes, and seconds for each of your cooling water intake structures;

The CTMUESW structure is located at approximately 35° 37' 49" N and 78° 57' 13" W. The Emergency Service Water Intake Screening Structure is located at approximately 35° 37' 48" N and 78° 57' 20" W.

(iii) A narrative description of the operation of each of your cooling water intake structures, including design intake flows, daily hours of operation, number of days of the year in operation and seasonable changes, if applicable;

The CTMUESW structure has a design flow of 135.38 MGD (Table 1). This includes the two cooling tower make-up pumps and the two emergency service water pumps. This intake is utilized mainly to withdraw cooling tower makeup water, however it has the capability to withdraw emergency cooling water from either the Harris Reservoir (main reservoir) or the auxiliary reservoir. Usually one cooling tower make-up (CTMU) pump is in operation to provide cooling tower make up water (37.44 MGD) with the other pump functioning as a back-up. One CTMU pump is generally in use when the plant is in operation. The plant is generally in operation 24 hours per day for an average of about 329 days per year. [2]

The two ESW pumps are intended for emergency use only but are tested periodically to ensure reliable operation. Typically, one or the other ESW pump draws water from the auxiliary reservoir through the Emergency Service Water Intake Screening Structure about 4 days per quarter and draws water through the CTMUESW structure from the main reservoir about 10 days per year.

[2] Based on Capacity Utilization Rate of 90%

(iv) A flow distribution and water balance diagram that includes all sources of water to the facility, recirculating flows, and discharges;

Refer to water balance schematic provided with the NPDES reissuance application.

(v) Engineering drawings of the cooling water intake structure

See attached drawings

(r)(5) Cooling water system data.

(i) A narrative description of the operation of the cooling water system, its relationship to cooling water intake structures, the proportion of the design intake flow that is used in the system, the number of days of the year the cooling water system is in operation and seasonal changes in the operation of the system, if applicable;

The facility maintains a closed-cycle recirculating cooling water system. The closed-cycle cooling system consists of a natural draft, hyperbolic cooling tower that provides a heat sink for the recirculating condenser cooling water and the normal service water systems. The normal service water is withdrawn from the closed-cycle cooling water system (cooling tower basin) and provides cooling water to various plant components and systems. During normal operation, one CTMU pump supplies all the necessary makeup water (37.44 MGD) for the closed-cycle cooling system in order to restore losses due to drift, evaporation, blowdown and internal consumption. Infrequently, in drought years, the CTMU pumps are also used to transfer water from the main reservoir to the auxiliary reservoir. Additionally, during periods of extreme cold weather, heated cooling water may be discharged to the auxiliary reservoir in order to ensure that ice does not build up at the emergency cooling water intake screening structure. The closed-cycle recirculating cooling system is generally in operation when the plant is in operation. The plant generally is in operation an average of about 329 days per year. The closed-cycle recirculating system has a blowdown that averages approximately Four[3] MGD per month.

The two ESW pumps are intended for emergency use only but are tested periodically to ensure reliable operation. Typically, one or the other ESW pump draws water from the auxiliary reservoir about 4 days per quarter and draws water from the main reservoir about 10 days per year. This amount totals approximately 786 Million Gallons/year[4]. This water is conveyed through critical plant components and discharged back to the auxiliary reservoir by the ESW discharge canal.

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[3] Based on monthly average flows for previous 2.5 years.

[4] 30.24 MGD X 4 days/qtr. X 4 qtr./yr. = 483.84 MG/yr.; 30.24 MGD X 10days/year = 302.4 MG/yr. 483.84 + 302.4 = 786.24 MG/yr. Use 786 MG/yr.

Under normal operating conditions, the recirculating (internal) cooling water flow is 774.15 MGD. This total includes recirculating cooling water (702.15 MGD) and Normal Service Water (NSW, 72.0 MGD) flows apportioned as follows:

3 circulating water pumps @ 234.05 MGD each
1 NSW pump @ 72.0 MGD

The design flow is 846.15 MGD (Table 2).

(ii) Design and engineering calculations prepared by a qualified professional and supporting data to support the description required by paragraph (r)(5)(i) of this section.

Calculations and references for information are provided.

Table 1 – Intake Pump Design

Cooling Tower Make-up Pumps	GPM	MGD	Total MGD
• Two Pumps	26,000[5] /pump	37.44[6]/pump	74.9
Emergency Service Water Pumps			
• Two Pumps	21,000[7]/pump	30.24[8]/pump	60.48
			135.38

Table 2 – Cooling System Recirculating Water Design

Condenser Cooling Water Pumps	GPM	MGD	Total MGD
• Three Pumps	162,533[9]/pump	234.05[10]/pump	702.15
Normal Service Water			
• Two Pumps	50,000[11]/pump	72.0[12]/pump	144.0
			846.15

[5] *Progress Energy Harris Final Safety Analysis Report, Section 3.8*
[6] 26,000 gals./min. X 60 mins./ hr. X 24 hrs./ day X 1 MG/1,000,000 gals. = 37.44 MGD/pump
[7] *Progress Energy Harris Final Safety Analysis Report, Section 3.8*
[8] 21,000 gals./min. X 60 mins./ hr. X 24 hrs./ day X 1 MG/1,000,000 gals. = 30.24 MGD/pump
[9] *Progress Energy Harris Final Safety Analysis Report Table 10.4.5-3*
[10] 162,533 gals./min. X 60 mins./ hr. X 24 hrs./ day X 1 MG/1,000,000 gals. = 234.047 MGD/pump
[11] *Progress Energy Harris Final Safety Analysis Report, Table 9.2.1-2*
[12] 50,000 gals./min. X 60 mins./ hr. X 24 hrs./ day X 1 MG/1,000,000 gals. = 72.0 MGD/pump

Demonstration of Flow Reduction Commensurate With A Closed-Cycle Recirculating System

§ 125.94(a)(1)(i) of the Phase II 316(b) regulation allows a determination of best technology available for minimizing adverse impact for a facility that demonstrates they have reduced their flow commensurate with a closed-cycle recirculating system. In this case the facility also is deemed to have met the applicable performance standards. The Harris Nuclear Plant maintains a closed-cycle recirculating cooling system and therefore has reduced their flow commensurate with a closed-cycle recirculating system.

Flow reduction by the Harris Plant can be determined as follows:

The design flow of the recirculating cooling system is 846.15 MGD as previously explained. Assuming a 365 day/year operation this results in an annual flow of approximately 308,844.75 Million Gallons / year[13] or if the plant operated a once-through cooling system they would withdraw approximately this amount per year. The plant actually is designed to withdraw the following amount per year assuming no emergency withdrawal is needed:

		Annual volume
CTMU	74.9 MGD Design	27,338.5[14] MG
	37.44 MGD Actual Operation	13,665.6[15] MG
ESW		786 MG
Design Total		28,124.5[16] MG
Operation Total		14,451.6[17] MG

Proportioning the recirculating water (hypothetical once-through) to the amount actually withdrawn by the closed-cycle system, a flow reduction of approximately 91 %[18] is realized. Since generally only one CTMU pump is in operation a more realistic flow reduction is approximately 95 %[19]. Either way a flow reduction of 90% or better is certainly commensurate with those flows generally achieved by closed-cycle recirculating systems on a fresh water system.

[13] 846.15 MG/D X 365 days/year = 308,844.75 MG/year
[14] 74.9 MG/D X 365 days/year = 27,338.5 MG/year
[15] 37.44 MG/D X 365 days/year = 13,665.6 MG/year
[16] 27,338.5 MG/yr. + 786 MG/yr. = 28,124.5 MG/year
[17] 13,665.6 MG/yr. + 786 MG/yr. = 14,451.6 MG/year
[18] 308,844.75 MG - 28,087.5 MG = 280,757.25 MG; 280,757.25/308,844.75 = 0.909 or 91% reduction
[19] 308,844.75 MG – 14,414.6 MG = 294,430.15 MG; 294,430.15/308,844.75 = 0.953 or 95% reduction

New Hill Quadrangle 1993

0 0.2 0.4 0.6 0.8 1 mi