Duke Power
A Duke Energy Company

GARY R. PETERSON
Vice President
McGuire Nuclear Station

Duke Power
MG01VP / 12700 Hagers Ferry Road
Huntersville, NC 28078-9340

704 875 5333
704 875 4809 fax
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September 7, 2004

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

Subject: McGuire Nuclear Station
Docket Nos. 50-369, 50-370

Please find attached a copy of the renewal application for National Pollutant Discharge Elimination System (NPDES) Permit Number NC 0024392. This request was submitted to the North Carolina Department of Environment and Natural Resources on August 30, 2004.

Any questions regarding this submittal should be directed to Kay Crane, McGuire Regulatory Compliance at (704) 875-4306.

Gary R. Peterson

C001

cc: Mr. J. J. Shea, Project Manager
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Mr. W. D. Travers, Regional Administrator
U.S. Nuclear Regulatory Commission
Region II
Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, Georgia 30303

Mr. Joe Brady
Senior Resident Inspector
McGuire Nuclear Station

Duke Power
A Duke Energy Company

August 30, 2004

McGuire Nuclear Station
12700 Hagers Ferry Road
Huntersville, NC 28078

Mr. Charles H. Weaver Jr.
North Carolina Department of
Environment and Natural Resources
Division of Water Quality
NPDES Unit
1617 Mail Service Center
Raleigh, NC 27699-1617

Subject: Duke Energy Corporation/McGuire Nuclear Station
Renewal Application for NPDES Permit #: NC 0024392
Mecklenburg County
Record #: MN006121

Certified Mail: 7003 3110 0003 4360 2728

Dear Mr. Weaver:

Duke Power, McGuire Nuclear Station submits the following NPDES permit renewal application for NPDES Permit Number NC 0024392, which expires February 28, 2005. The attached permit application consists of 3 copies of the following documentation:

1. EPA Form 1

2. EPA Form 2C – including:
   - locations of each outfall
   - a flow diagram showing water flow through the facility (see Appendix I)
   - a description of operations contributing wastewater to each outfall average flow from each operation where available and quantifiable
   - the type treatment received by the waste water
   - a listing of intermittent or seasonal discharges with frequency and flows
   - analytical analysis for each outfall as required including Intake analysis
   - a discussion of analysis performed and results (see Appendix VI)

3. Additional, more detailed information concerning the operation of our waste water system is included in the enclosed document entitled Supplemental Information For McGuire Nuclear Station. See Appendix II

4. Requested chemicals to be excluded under 40 CFR 117, Clean Water Act, Section 311 Exclusion. See Appendix III.

5. A Topographical map showing the location of each outfall. See Appendix IV.

6. A Site Map showing the location of each outfall and other features of the site. See Appendix VIII.

316 (a) Thermal Variance

McGuire Nuclear Station requests continuation of its 316 (a) thermal variance of 99 DEG F for the months of July – September. The site currently has an approved lake monitoring plan in support of our 316 (a) thermal variance and we request continued approval of our monitoring plan. A copy of the results of our lake monitoring program is sent annually to the Chief of the Division of Water Quality. Should you desire a copy of the data submitted last year or more current data please contact John Williamson by phone at 704-875-5894, or via e-mail at jcwillia@duke-energy.com.

Requested Permit Changes

McGuire Nuclear Station requests the following permit change:

- Make all quarterly toxicity sampling monitoring dates the same (i.e., JAN, APR, JUL, OCT). Currently Outfalls 001 and 002 are sampled FEB, MAY, AUG and NOV which are odd quarters. Making the sampling dates on the standard quarter system will make keeping up with sampling dates easier.

Administrative Limits on Boron, Ethylene Glycol and Hydrazine

In 1983, Duke Power and NCDNRCD proactively agreed upon in-stream administrative limits for boron, hydrazine and ethylene glycol (reference Appendix V). This agreement was developed before water quality based limitations such as toxicity monitoring were implemented in the MNS NPDES permit. Hydrazine is currently limited for Outfalls 001, 002, and 004 (monitor and report only) while boron and ethylene glycol are not mentioned in our current permit.

We no longer dispose of large amount of ethylene glycol through our waste water system as indicated in the agreement formulated in 1983. Boron is still used by the plant and our sampling and supplemental information describe the usage of Boron in our operations.

We currently have administrative limits in our Chemistry Procedures that reflect the 1983 agreement between NCDNRCD and Duke. We plan on removing these administrative limits from our procedures and will be monitoring based on the limits in our new permit only.

We will be happy to provide further information or discuss this further at your convenience.

McGuire Nuclear Station 316 (b) Review

In conjunction with the rulemaking process for the new Phase II 316(b) rule pertaining to fish impingement and entrainment, historical data and permitting records were reviewed. Initial 316(a) and 316(b) studies associated with enactment of the Clean Water Act concluded that the location, construction capacity, and design of the cooling water intake were not detrimental to the aquatic ecosystem and minimize adverse environmental impacts. Both North Carolina and EPA regulators concurred in 1984 that 316(b) fish impingement and entrainment studies were needed at that time. Although the new Phase II 316(b) rule for existing facilities is currently being litigated, plans for information collection (PICs) are being developed to conduct a Comprehensive Demonstration Study (CDS) to determine required measures to be implemented per approval of NCDENR.

Sludge Management

Sludge generated during the operation of the sites waste water system is disposed of as indicted in Appendix VII, Sludge Management.

Please review this NPDES permit application package at your earliest convenience. We would be glad for the permit writer assigned to develop our permit to visit the site and discuss our waste water operations with personnel who are knowledgeable with its operation first hand. If a site visit is not possible we would be glad to come to Raleigh to discuss any concern or issues you may have.

This permit renewal package is being submitted at least 180 days prior to the permit expiration data as required by NC GS 143-215.1 (C).

Should you have questions concerning this permit application please contact John Williamson by phone at 704-875-5894, or via e-mail at jcwillia@duke-energy.com.

Sincerely,

Gary R. Peterson
Site Vice President
Duke Power
McGuire Nuclear Station

Attachments

cc: Margaret Barrow
Gary Sain
Robert Wylie
Kay Crane

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

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

FORM 1 GENERAL

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

S		T/A	C
F	NC0024392		D
1	2 — 13	14	15

LABEL ITEMS

- I. EPA I.D. NUMBER
- III. FACILITY NAME
- V. FACILITY MAILING LIST
- 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 proved. Refer to the instructions for detailed item descriptions and for the legal authorization 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 from 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)	☐ 16	☒ 17	☐ 18	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)	☐ 19	☒ 20	☐ 21
C. Is this facility which currently results in **discharges to waters of the U.S.** other than those described in A or B above? (FORM 2C)	☒ 22	☐ 23	☐ 24	D. Is this proposal facility *(other than those described in A or B above)* which will result in a **discharge to waters of the U.S.?** (FORM 2D)	☐ 25	☒ 26	☐ 27
E. Does or will this facility treat, store, or dispose of **hazardous wastes?** (FORM 3)	☐ 28	☒ 29	☐ 30	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)	☐ 31	☒ 32	☐ 33
G. Do you or will you inject at this facility any produced water 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)	☐ 34	☒ 35	☐ 36	H. Do you or will you inject at this facility fluids for special processes such as mining of sulfer by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)	☐ 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)	☐ 40	☒ 41	☐ 42	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 are? (FORM 5)	☐ 43	☒ 44	☐ 45

III. NAME OF FACILITY

C	SKIP	
1		*Duke Power, McGuire Nuclear Station*
15	16-29	30 — 69

IV. FACILITY CONTACT

	A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*		
C 2	*Williamson, John C. Scientist, McGuire EHS*	*704*	*875*	*5894*
15	16 — 45	46 — 48	49 — 51	52 — 55

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

C 3	*12700 Hagers Ferry Road, Mailcode: MG01EM*
15	16 — 45

	B. CITY OR TOWN	C. STATE	D. ZIP CODE
C 4	*Huntersville*	*NC*	*28078*
15	16 — 40	41 — 42	47 — 51

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

C 5	*12700 Hagers Ferry Road*
15	16 — 45

B. COUNTY NAME

Mecklenburg

46 — 70

	C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE
C 6	*Huntersville*	*NC*	*28078*	*NA*
15	16 — 40	41 — 42	47 — 51	52 — 54

CONTINUED ON REVERSE

CONTINUED FROM THE FRONT

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

A. FIRST	B. SECOND
4911 (specify) Electric Services	(specify)
C. THIRD	**D. FOURTH**
(specify)	(specify)

VIII. OPERATOR INFORMATION

A. NAME: Duke Energy

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

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other," specify.)
F = FEDERAL, S = STATE, P = PRIVATE, M = PUBLIC (other than federal or state), O = OTHER (specify)
P (specify)

D. PHONE (area code & no.): 704 875 5894

E. STREET OR PO BOX: 422 South Church Street

F. CITY OR TOWN: Charlotte

G. STATE: NC

H. ZIP CODE: 28201

IX. INDIAN LAND

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

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)	NC0024392	
B. UIC (Underground Injection of Fluids)		
C. RCRA (Hazardous Wastes)	NCD 108 706 029	
D. PSD (Air Emissions from Proposed Sources)		
E. OTHER (specify)	NC000020-Storm Water	(Specify) 60-04 - Landfill
E. OTHER (specify)	02-149-269 - Air Permit	(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)

Steam Electric Generating Facility using Nuclear Fuel.

XIII. CERTIFICATION (see instructions)

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

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
Gary R. Peterson, McGuire Site Vice President	Gary R. Peterson	8/30/04

COMMENTS FOR OFFICIAL USE ONLY

Please print or type in the unshaded areas only.

EPA I.D. NUMBER: NC0024392

Form Approved:
OMB No. 2040-0086
Approval expires 8-31-98.

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	B. Latitude			C. Longitude			D. Receiving Water (*name*)
	1. DEG.	2. MIN	3. SEC	1. DEG.	2. MIN	3. SEC	
001	35	26	03	80	56	50	Lake Norman
002	35	25	57	80	57	20	Catawba River
004	35	26	03	80	56	50	Lake Norman Via Outfall 001
005	35	25	57	80	57	20	Catawba River
006							Lake Norman / Catawba River via any outfall

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 wastwater to the effluent, and treatment units labeled to correspond to the most 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; (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. Outfall No. (*List*)	2. Operation's) Contributing Flow		3. Treatment		
	a. Operation (*list*)	b. Average Flow (*including units*)	c. Description	d. List Codes From Table 2C-1	
001	**Once Through Cooling Water**	**2626 MGD**		4-A	
	Inputs:				
	Condenser Cooling Water (RC)	2604 MGD	Once through cooling water for plant use from Lake Norman		
	Low Pressure Service Water (RL)	10.8 MGD	Once through component cooling water for Service Building. Drawn off of the RC System Crossover lines		
	Nuclear Service Water (RN)	22.2 MGD	Once through component cooling water for Reactor and Aux Buildings. From Lake Norman LLI		
	Liquid Radwaste (WM)	0.0079 MGD	See Outfall 004		
	Low Level Intake (LLI)	144 MGD	Once through cooling water. Used during hottest summer months to meet discharge temp limit. **Only used an average of 5 days per year.**		
	Ventilation Unit Condensate Drain Tank (VUCDT)	0.001544 MGD	Ventilation Unit condensate from Reactor Building ventilation		
	RN System Back flushing with CA water	Variable	RN lines are periodically back flushed with CA water to reduce fowling of piping due to silt / mud buildup during certain times of the year.		
	Storm Drains	Unknown	Stormwater runoff from discharge canal storm drains. Covered under Stormwater Permit NCS000020		

CONTINUED FROM PREVIOUS PAGE

1. Outfall No. (*List*)	2. Operation's) Contributing Flow		3. Treatment		
	a. Operation (*list*)	b. Average Flow (*including units*)	c. Description	d. List Codes From Table 2C-1	
002	**Waste Treatment System**	**0.3485 MGD**		1-U	
	Inputs: Waste Treatment Ponds		Waste Treatment Ponds for Physical Chemical Treatment	2-K	
	Turbine Building Sumps	Variable	Sumps (2) in Turbine Buildings. See supplemental info for inputs into the sumps.	4-A	
	Floor Drains	Variable	Floor Drains (various in plant) to WC System. See supplemental info for inputs	2-B	
	Water Treatment Room Sump	Variable	Sump in Water Treatment Room (TB Basement) to WC. See supplemental info for a description of inputs	1-O	
	Demineralizer Regen Waste	Variable	Regen Waste From Demineralizers (sulfuric acid and sodium hydroxide) See supplemental info for more details		
	Lab Drains	Variable	Inputs from Lab Sinks in plant		
	Steam Generator Blowdown	Variable	Steam Generator Blowdown at 200 gpm. See supplemental info for more details.		
	Wet Lay-up Solutions	Variable	Wet Lay-up Solutions (for Steam Generators) See supplemental info		
	Closed Cooling Water Systems	Variable	Closed Cooling Water Systems. Contain corrosion inhibitors. See supplemental info for more details.		
	Landfill Leachate	Variable	Rainwater runoff to the leachate pond from the Landfill. Goes to WC.		
	Oil Water Seperators	Variable	Water from Oil Water Separators in MOC, OSF, Garage		
	Standby Shutdown Facility	Variable	Standby Shutdown Facility Sump		
	Island Lab Waste	Variable	Lab sink discharges from Island Labs		
	NDE Photographic Waste	Variable	NDE Photographic Waste (from Radiography). See Supplemental Info for more details.		
	Island HVAC Cooling Towers	Variable	Discharges from Island HVAC Cooling Towers. Normally condensate but may contain some corrosion inhibitors.		
	Filter Backwash	Variable	From YF system. See supplemental info under Outfall 002, Filtered Water System.		
	Lincoln CT Turbine Blade Wash	Variable	Lincoln CT Turbine Blade Wash (about once every 5 years)		

CONTINUED FROM PREVIOUS PAGE

1. Outfall No. (*List*)	2. Operation's) Contributing Flow		3. Treatment		
	a. Operation (*list*)	b. Average Flow (*including units*)	c. Description	d. List Codes From Table 2C-1	
002 (Continued)	Low Volume Chemical Cleaning	Variable	Low Volume Chemical Cleaning of Heat Exchangers. Approximately 8,000 gallons to WC during each outage (max twice a year). Evaluating effectiveness. May discontinue.		
004	**Radwaste System**				
	Inputs: To Waste Monitor Tank	**.0079 MGD**	Radioactive waste water releases occur from this tank in batch. All radioactive limits per NRC licensing requirements.	4-A	
	Chemical Volume & Control Tank	Variable	See supplemental info Outfall 004	2-J	
	Waste Evaporator Feed Tank	Variable	See supplemental info Outfall 004	1-Q	
	Floor Drain Tank	Variable	See supplemental info Outfall 004		
	Hot Lab Sinks	Variable	See supplemental info Outfall 004		
	Auxiliary Building Floor & Equipment Drains	Variable	See supplemental info Outfall 004		
	Floor and Equipment Sump	Variable	See supplemental info Outfall 004		
	Laundry and Hot Shower Tank	Variable	See supplemental info Outfall 004		
	Incore Instrument Room Sump	Variable	See supplemental info Outfall 004		
	Auxiliary Floor Drain Tank	Variable	See supplemental info Outfall 004		
	Auxiliary Waste Evaporator Feed Tank	Variable	See supplemental info Outfall 004		
005	**Waste Water Collection Basin**	**0.633 MGD**		4-A	
	Inputs:			1-O	
	HVAC Unit Drains	Variable	See supplemental info Outfall 005	1-U	
	Storm Drains	Variable	Stormwater runoff from plant/MOC yard drains and parking lots.		
	Reverse Osmosis Unit Reject Water	0.216 MGD	Reject water from RO system		
	RC System Un-Watering	Variable	Un-Watering of the RC during re-fueling outages. See supplemental info for more details.		
	Filter Water Storage Tank Flushing	Variable	See supplemental info Outfall 002 under Filtered Water System. Reject water from the RO system goes to Outfall 005. Periodic flushing of the filtered water storage tank to the WWCB. See Supplemental info under Outfall 002, Filtered Water System for more details.		
006	**Chemical Cleaning**	**0 MGD**	This outfall has never been used, but should the need arise to clean the Steam Generators this outfall would be utilized.		

Official Use Only (*effluent guidelines sub-categories*)

EPA Form 3510-2C (8-80)

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. Outfalls 002 and 004 are batch releases.

1. Outfall Number (*list*)	2. Operation(s) Contributing Flow (*list*)	3. Frequency		4. Flow				
		a. Days Per Week (*specify average*)	b. Months Per Year (*specify average*)	a. Flow Rate (in mgd)		b. Total Volume (*specidy with units*)		c. Duration
				1. Long Term Average	2. Maximum Daily	1. Long Term Average	2. Maximum Daily	
001	Low Level Intake	0.014611872	0.000487	144 MGD	216 MGD	144 MGD	216 MGD	1 Day
	*Only operated in summer months to maintain							
	compliance with dicharge temperature limit.							
	Only operated about 5 days per year max.							
	RN backflush with CA water							
	* Performed about once per year							
	Ventilation Unit Condensate Drain Tank	0.006	12	0.001607	0.00367	1607 Gals	2580 Gals	16 Days
	*Batch release							
002	Turbine Building Sumps							
	Floor Drains							
	Water Treatment Room Sump							
	Demineralizer Regen Waste							
	Lab Drains							
	Steam Generator Blowdown							
	Wet Lay-up Solutions							
	Closed Cooling Water Systems							
	Landfill Leachate							
	Oil Water Seperators							
	Standby Shutdown Facility							
	Island Lab Waste							
	NDE Photographic Waste							
	Island HVAC Cooling Towers							
	Filtered Backwash							
	Lincoln CT Turbine Blade Wash							
	Low Volume Chemical Cleaning							
004	Waste Monitor Tank	0.0113	12	0.0078	0.1764	5207 Gals	5834 Gals	167 Days
	Chemical Volume & Control Tank							
	Waste Evaporator Feed Tank							
	Floor Drain Tank							
	Hot Lab Sinks							
	Auxilary Building Floor & Equipment Drains							
	Floor and Equipment Sump							
	Laundry and Hot Shower Tank							
	Incore Instrument Room Sump							
	Auxilary Floor Drain Tank							
	Auxilary Waste Evaporator Feed Tank							
005	HVAC Unit Drains	Unknown - performed on an as needed bases						
	RC System Un-Watering			2.88	2.88	2.88 MGD	2.88 MGD	5 Days
	Filter Water Storage Tank Flushing	Periodically based on system performance and plant operating conditions.						

The frequency and duration of these discharges can not be predicted. The operation of this equipment and the subsequent releases are based on plant thermal , hydraulic, environmental and equipment operational conditions. These systems may be drained or taken out of service individually or all together for routine or non-routine maintenance at various times during the year.

The frequency and duration of these discharges can not be predicted. The operation of this equipment and the subsequent releases are based on plant thermal , hydraulic, environmental and equipment operational conditions. These systems may be drained or taken out of service individually or all together for routine or non-routine maintenance at various times during the year.

III. Production

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

Yes (*complete Item III-B*) No (*go to Section IV*)

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

Yes (*complete Item III-C)* **No** (*go to section IV*)

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

1. Average Daily Production			2. Affected Outfalls *(list outfall numbers)*
a. Quantity Per Day	b. Units of Measure	c. Operation, Product, Material, etc. (*specify*)	
NA	NA	NA	NA

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 waste water treatment equipment or practices or any other environmental programs which may affect the discharge described in this applicaiton ? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

Yes (*complete the following table*) **No** (*go to Item IV-B*)

1. Identification of Condition, Agreement, etc.	2. Affected Outfalls		3. Brief Description of Project	4. Final Compliance Date	
	a. No	b. Source of Discharge		a. Required	b. Projected
NA	NA	NA	NA	NA	NA

B. **OPTIONAL:** You many attach additional sheets describing any additional water pollutions control programs (or other environmental projects which may affect your discharges) you now have underway or which you plan. Indicate whether each program is not underway or planned, and indicate your actual or planned schedule for construction. ☐ Mark "X" If description of additional control program is attached.

EPA FORM 3510-2C (Rev. 2-85)

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)
NC0024392

OUTFALL NO. 001

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

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 AVG. VALUE (if available) (1) Concentration	c. LONG TERM AVG. VALUE (if available) (2) Mass	d. NO. OF ANALYSES	3. UNITS a. Concentration	3. UNITS b. Mass	4. INTAKE (optional) a. LONG TERM AVG. VALUE (1) Concentration	a. LONG TERM AVG. VALUE (2) Mass	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand (BOD)	< 1.90	< 45,980.95					1	mg/l	lb/Day	< 1.90	< 45980.95	1
b. Chemical Oxygen Demand (COD)	< 20.00	< 484,010.00					1	mg/l	lb/Day	< 20.00	< 434607.60	1
c. Total Organic Carbon (TOC)	2.14	51,789.07					1	mg/l	lb/Day	2.40	52152.91	1
d. Total Suspended Solids (TSS)	< 4.00	< 96,802.00					1	mg/l	lb/Day	< 4.00	< 86921.52	1
e. Ammonia (as N)	0.03	726.02					1	mg/l	lb/Day	0.05	1086.52	1
f. Flow	VALUE 2900		VALUE 2900		VALUE 2604		1369	MGD	X	VALUE 2,604.00	X	X
g. Temperature (winter)	VALUE		VALUE 35.89		VALUE 24.41		1065	DEGREES CELSIUS		VALUE 16.75	X	1530
h. Temperature (summer)	VALUE		VALUE 39.33		VALUE 35.14		308	DEGREES CELSIUS		VALUE 28.50	X	510
i. pH	MINIMUM 6.13	MAXIMUM	MINIMUM	MAXIMUM			1	STANDARD UNITS		6.34	X	1

PART B - Mark "X" in column 2a for each pollutant you know or have reason to believe is present. Mark "X" in column 2b 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. pre-sent	2. MARK "X" b. ab-sent	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 AVG. VALUE (if available) (1) Concentration	c. LONG TERM AVG. VALUE (if available) (2) Mass	d. NO. OF ANALYSES	3. UNITS a. Concentration	3. UNITS b. Mass	4. INTAKE (optional) a. LONG TERM AVG. VALUE (1) Concentration	a. LONG TERM AVG. VALUE (2) Mass	b. NO. OF ANALYSES
a. Bromide (24959-67-9)	X		3.70	89,541.85					1	mg/l	lb/Day	< 0.10	< 2173.04	1
b. Chlorine, Total Residual	X		< 0.04	< 968.02					1	mg/l	lb/Day	< 0.03	< 651.91	1
c. Color	X		100.00	X		X		X	1	Std. Units	X	< 5.00	< X	1
d. Fecal Coliform	X		11.00	X		X		X	1	Colonies /100 ml	X	11.00	X	1
e. Flouride (16984-48-8)	X		< 0.10	< 2,420.05					1	mg/l	lb/Day	< 0.10	< 2173.04	1
f. Nitrate-Nitrite (as N)	X		0.20	4,840.10					1	mg/l	lb/Day	0.20	4346.08	1

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ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"		3. EFFLUENT							3. UNITS		4. INTAKE (optional)		
	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE		b. NO. OF ANALYSES
	a. present	b. absent	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass					(1) Concentration	(2) Mass	
g. Nitrogen, Total Organic (as N)	X		0.50	12,100.25					1	mg/l	lb/Day	0.25	5432.60	1
h. Oil and Grease	X		< 5.00	< 121,002.50					1	mg/l	lb/Day	< 5.00	< 108651.90	1
i. Phosphorous (as P), Total (7723-14-0)	X		< 0.01	< 242.01					1	mg/l	lb/Day	< 0.01	< 217.30	1
j. Radioactivity														
(1) Alpha, Total	X		< -1.30E-01	X		X		X	1	pCi/l	X	-4.70E-02	X	1
(2) Beta, Total	X		1.57E+00	X		X		X	1	pCi/l	X	1.100E+00	X	1
(3) Radium, Total	X		< 2.00E-01	X		X		X	1	pCi/l	X	< 2.00E-01	X	1
(4) Radium 226, Total	X		< 2.00E-01	X		X		X	1	pCi/l	X	< 2.00E-01	X	1
k. Sulfate (as SO4) (14808-79-8)	X		4.46	107,934.23					1	mg/l	lb/Day	4.65	101046.27	1
l. Sulfide (as S)	X		< 0.05	< 1,210.03					1	mg/l	lb/Day	< 0.05	< 1086.52	1
m. Sulfite (as SO3) (14265-45-3)	X		< 2.00	< 48,401.00					1	mg/l	lb/Day	< 2.00	< 48401.00	1
n. Surfactants	X		< 0.10	< 2,420.05					1	mg/l	lb/Day	< 0.10	< 2173.04	1
o. Aluminum, Total (7429-90-5)	X		0.03	774.42					1	mg/l	lb/Day	0.04	955.05	1
p. Barium, Total (7440-39-3)	X		0.01	314.61					1	mg/l	lb/Day	0.01	260.76	1
q. Boron, Total (7440-42-8)	X		< 0.10	< 2,420.05					1	mg/l	lb/Day	< 0.10	< 2173.04	1
r. Cobalt, Total (7440-48-4)	X		< 0.00	< 24.20					1	mg/l	lb/Day	< 0.00	< 21.73	1
s. Iron, Total (7439-89-6)	X		0.09	2,178.05					1	mg/l	lb/Day	0.11	2281.69	1
t. Magnesium, Total (7439-95-4)	X		1.41	34,098.50					1	mg/l	lb/Day	1.40	30444.26	1
u. Molybdenum, Total (7439-98-7)	X		< 0.00	< 24.20					1	mg/l	lb/Day	< 1.00	< 21730.38	
v. Manganese, Total (7439-96-5)	X		0.01	217.80					1	mg/l	lb/Day	0.01	195.57	
w. Tin, Total (7440-31-5)	X		< 0.05	< 1,210.03					1	mg/l	lb/Day	< 0.05	< 1086.52	
x. Titanium, Total (7440-32-6)	X		< 0.01	< 242.01					1	mg/l	lb/Day	< 0.01	< 217.30	

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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 NO. (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. re-quired	b. pre-sent	c. ab-sent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concen-tration	b. Mass	a. LONG TERM AVG. VALUE		d. 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			< 3.00	< 72.60					1	ug/l	lb/Day	< 3.00	< 65.19	1
2M. Arsenic, Total (7440-38-2)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
3M. Beryllium, Total (7440-41-7)	X			< 0.50	< 12.10					1	ug/l	lb/Day	< 0.50	< 10.87	1
4M. Cadmium, Total (7440-43-9)	X			< 0.50	< 12.10					1	ug/l	lb/Day	< 0.50	< 10.87	1
5M. Chromium, Total (7440-47-3)	X			< 1.00	< 24.20					1	ug/l	lb/Day	< 1.00	< 21.73	1
6M. Copper, Total (7440-50-8)	X			< 0.01	< 121.00					1	mg/l	lb/Day	< 0.01	< 108.65	1
7M. Lead, Total (7439-92-1)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
8M. Mercury, Total (7439-97-6)	X			< 0.10	< 2.42					1	ug/l	lb/Day	< 0.10	< 2.17	1
9M. Nickel, Total (7440-02-0)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
10M. Selenium, Total (7782-49-2)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
11M. Silver, Total (7440-22-4)	X			< 0.50	< 12.10					1	ug/l	lb/Day	< 0.50	< 10.87	1
12M. Thallium, Total (7440-28-0)	X			< 0.00	< 48.40					1	mg/l	lb/Day	< 2.00	< 43,460.76	1
13M. Zinc, Total (7440-66-6)	X			< 0.02	< 484.01					1	mg/l	lb/Day	< 0.02	< 434.61	1
14M. Cyanide, Total (57-12-5)	X			< 0.00	< 48.40					1	mg/l	lb/Day	< 0.00	< 43.46	1
15M. Phenols, Total	X			0.03	750.22					1	mg/l	lb/Day	0.02	325.96	1
DIOXIN															
2.3.7.8 Tetra chlorodibenzo P Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

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1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS			5. INTAKE (optional)		
	a. re-quired	b. present	c. absent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE		d. 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			< 20.00	< 484.01					1	ug/l	lb/Day	< 20.00	< 434.61	1
2V. Acrylonitrile (107-13-1)	X			< 20.00	< 484.01					1	ug/l	lb/Day	< 20.00	< 434.61	1
3V. Benzene (71-43-2)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
4V. Bis (Chloro-methyl) Ether (542-88-1)			X		X		X		X		ug/l	lb/Day	X	X	
5V. Bromoform (75-25-2)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
6V. Carbon Tetrachloride (56-23-5)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
7V. Chlorobenzene (108-90-7)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
8V. Chlorodi-bromomethane (124-48-1)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
9V. Chloroethane (75-00-3)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
10V. 2-Chloro-ethylvinyl Ether (110-75-8)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
11V. Chloroform (67-66-3)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
12V. Dichloro-bromomethane (75-27-4)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
13V. Dichloro-difluoromethane (75-61-8)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
14V. 1,1-Dichloro-ethane (75-34-3)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
15V. 1,2-Dichloro-ethane (107-06-2)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
16V. 1,1-Dichloro-ethylene (75-35-4)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
17V. 1,2-Dichloro-propane (78-87-5)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
18V. 1,3-Dichloro-propylene (542-75-6)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
19V. Ethylbenzene (100-41-4)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
20V. Methyl Bromide (74-83-9)	X			< 5.00	< 121.00					1	ug/l	lb/Day	< 2.00	< 43.46	1
21V. Methyl Chloride (74-87-3)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1

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1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. re-quired	b. present	c. absent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE		d. 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			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
24V. Tetrachloroethylene (127-18-4)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
25V. Toluene (108-88-3)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
26V. 1,2-Trans-Dichloroethylene (156-60-5)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
27V. 1,1,1-Trichloroethane (71-55-6)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
28V. 1,1,2-Trichloroethane (79-00-5)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
29V. Trichloroethylene (79-01-6)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
30V. Trichlorofluoromethane (75-69-4)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
31V. Vinyl Chloride (75-01-4)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1
GC/MS FRACTION - ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
2A. 2,4-Dichlorophenol (120-83-2)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
3A. 2,4-Dimethylphenol (105-67-9)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
4A. 4,6-Dinitro-O-Cresol (534-52-1)	X			< 25.00	< 605.01					1	ug/l	lb/Day	< 25.00	< 543.26	1
5A. 2,4-Dinitrophenol (51-28-5)	X			< 25.00	< 605.01					1	ug/l	lb/Day	< 25.00	< 543.26	1
6A. 2-Nitrophenol (88-75-5)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
7A. 4-Nitrophenol (100-02-7)	X			< 25.00	< 605.01					1	ug/l	lb/Day	< 25.00	< 543.26	1
8A. P-Chloro-M-Cresol (59-50-7)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
9A. Pentachlorophenol (87-86-5)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 25.00	< 543.26	1
10A. Phenol (108-95-2)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
11A. 2,4,6-Trichlorophenol (88-06-2)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1

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1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. re-quired	b. pre-sent	c. ab-sent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concen-tration	b. Mass	a. LONG TERM AVG. VALUE		d. NO. OF ANALYSES
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
GC/MS FRACTION - BASE NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
2B. Acenaphtylene (208-96-8)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
3B. Anthracene (120-12-7)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
4B. Benzidine (92-87-5)	X			< 80.00	< 1,936.04					1	ug/l	lb/Day	< 80.00	< 1,738.43	1
5B. Benzo (a) Anthracene (56-55-3)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
6B. Benzo (a) Pyrene (50-32-8)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
7B. 3,4-Benzo-fluoranthene (205-99-2)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
8B. Benzo (ghi) Perylene (191-24-2)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
9B. Benzo (k) Fluoranthene (207-08-9)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
10B. Bis (2-Chloro-ethoxyl) Methane (111-91-1)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
11B. Bis (2-Chloro-ethyl) Ether (111-44-4)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
12B.Bis (2-Chloroiso-propyl) Ether (108-60-1)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
13B. Bis (2-Ethyl-hexyl) Phehalate (117-81-7)	X			11.00	266.21					1	ug/l	lb/Day	< 12.00	< 260.76	1
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
15B. Butyl Benzyl Phthalate (85-68-7)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
16B. 2-Chloro-naphthalene (91-58-7)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
18B. Chrysene (218-01-9)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
19B. Dibenzo (a,h) Anthracene (53-70-3)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
20B. 1,2-Dichloro-benzene (95-50-1)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
21B. 1,3-Dichloro-benzene (541-73-1)	X			< 2.00	< 48.40					1	ug/l	lb/Day	< 2.00	< 43.46	1

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1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. re-quired	b. present	c. absent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE		d. 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)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
23B. 3,3-Dichlorobenzidine (91-94-1)	X			< 25.00	< 605.01					1	ug/l	lb/Day	< 25.00	< 543.26	1
24B. Diethyl Phthalate (84-66-2)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
25B. Dimethyl Phthalate (131-11-3)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
26B. Di-N-Butyl Phthalate (84-74-2)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
27B. 2,4-Dinitrotoluene (121-14-2)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
28B. 2,6-Dinitrotoluene (606-20-2)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
29B. Di-N-Octyl Phthalate (117-84-0)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
31B. Fluoranthene (206-44-0)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
32B. Fluorene (86-73-7)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
33B. Hexachlorobenzene (118-74-1)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
34B. Hexachlorobutadiene (87-68-3)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
35B. Hexachlorocyclopentadiene (77-47-4)	X			< 25.00	< 605.01					1	ug/l	lb/Day	< 25.00	< 543.26	1
36B. Hexachloroethane (67-72-1)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
37B. Indeno (1,2,3-cd) Pyrene (193-39-5)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
38B. Isophorone (78-59-1)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
39B. Naphthalene (91-20-3)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
40B. Nitrobenzene (98-95-3)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
41B. N-Nitrosodimethylamine (62-75-9)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
42B. N-Nitrosodi-N-Propylamine (621-64-7)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1

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1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. re-quired	b. present	c. absent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE		d. 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)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
44B. Phenanthrene (85-01-8)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
45B. Pyrene (129-00-0)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
46B. 1,2,4-Trichlorobenzene (120-82-1)	X			< 10.00	< 242.01					1	ug/l	lb/Day	< 10.00	< 217.30	1
GC/MS FRACTION - PESTICIDES															
1P. Aldrin (309-00-2)			X	< 0.05	< 1.21					1	ug/l	lb/Day	< 0.05	< 1.09	1
2P. alpha-BHC (319-84-6)			X	0.10	2.30					1	ug/l	lb/Day	0.10	2.06	1
3P. beta-BHC (315-85-7)			X	< 0.05	< 1.21					1	ug/l	lb/Day	< 0.05	< 1.09	1
4P. gamma-BHC (58-89-9)			X	< 0.05	< 1.21					1	ug/l	lb/Day	< 0.05	< 1.09	1
5P. delta-BHC (319-86-8)			X	< 0.10	< 2.42					1	ug/l	lb/Day	< 0.10	< 2.17	1
6P. Chlordane (57-74-9)			X	< 0.50	< 12.10					1	ug/l	lb/Day	< 0.50	< 10.87	1
7P. 4,4'-DDT (50-29-3)			X	< 0.10	< 2.42					1	ug/l	lb/Day	< 0.10	< 2.17	1
8P. 4,4'-DDE (72-55-9)			X	< 0.10	< 2.42					1	ug/l	lb/Day	< 0.10	< 2.17	1
9P. 4,4'-DDD (72-54-8)			X	< 0.10	< 2.42					1	ug/l	lb/Day	< 0.10	< 2.17	1
10P. Dieldrin (60-57-1)			X	< 0.10	< 2.42					1	ug/l	lb/Day	< 0.10	< 2.17	1
11P.alpha-Endosulfan (115-29-7)			X	< 0.10	< 2.42					1	ug/l	lb/Day	< 0.10	< 2.17	1
12P. beta-Endosulfan (115-29-7)			X	< 0.10	< 2.42					1	ug/l	lb/Day	< 0.10	< 2.17	1
13P. Endosulfan Sulfate (1031-07-8)			X	< 0.10	< 2.42					1	ug/l	lb/Day	< 0.10	< 2.17	1
14P. Endrin (72-20-8)			X	< 0.06	< 1.45					1	ug/l	lb/Day	< 0.06	< 1.30	1
15P. Endrin Aldehyde (7421-93-4)			X	< 0.10	< 2.42					1	ug/l	lb/Day	< 0.10	< 2.17	1
16P. Heptachlor (76-44-8)			X	< 0.05	< 1.21					1	ug/l	lb/Day	< 0.05	< 1.09	1

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1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. re-quired	b. present	c. absent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE		d. 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)			X	< 1.00	< 24.20					1	ug/l	lb/Day	< 1.00	< 21.73	1
18P. PCB-1242 (53469-21-9)			X	< 1.00	< 24.20					1	ug/l	lb/Day	< 1.00	< 21.73	1
19P. PCB-1254 (11097-69-1)			X	< 1.00	< 24.20					1	ug/l	lb/Day	< 1.00	< 21.73	1
20P. PCB-1221 (11104-28-2)			X	< 1.00	< 24.20					1	ug/l	lb/Day	< 1.00	< 21.73	1
21P. PCB-1232 (11141-16-5)			X	< 1.00	< 24.20					1	ug/l	lb/Day	< 1.00	< 21.73	1
22P. PCB-1248 (12672-29-6)			X	< 1.00	< 24.20					1	ug/l	lb/Day	< 1.00	< 21.73	1
23P. PCB-1260 (11096-82-5)			X	< 1.00	< 24.20					1	ug/l	lb/Day	< 1.00	< 21.73	1
24P. PCB-1016 (12674-11-2)			X	< 1.00	< 24.20					1	ug/l	lb/Day	< 1.00	< 21.73	1
25P. Toxaphene (8001-35-2)			X	< 1.00	< 24.20					1	ug/l	lb/Day	< 1.00	< 21.73	1

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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OUTFALL NO. 002

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

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							3. UNITS		4. INTAKE (optional)		
	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE		b. NO. OF ANALYSES
	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
a. Biochemical Oxygen Demand (BOD)	16.00	1.07					1	mg/l	lb/Day			
b. Chemical Oxygen Demand (COD)	43.30	2.89					1	mg/l	lb/Day			
c. Total Organic Carbon (TOC)	6.79	0.45					1	mg/l	lb/Day			
d. Total Suspended Solids (TSS)	16.00	1.07	18	132.0	9.437	27.4	15	mg/l	lb/Day			
e. Ammonia (as N)	2.55	0.17					1	mg/l	lb/Day			
f. Flow	VALUE 0.008		VALUE 0.879		VALUE 0.348		711	MGD	X	VALUE		
g. Temperature (winter)	VALUE		VALUE		VALUE		1	DEGREES CELSIUS		VALUE		
h. Temperature (summer)	VALUE		VALUE		VALUE			DEGREES CELSIUS		VALUE		
i. pH	MINIMUM 7.2	MAXIMUM	MINIMUM 6.6	MAXIMUM 8.42			46	STANDARD UNITS				

PART B - Mark "X" in column 2a for each pollutant you know or have reason to believe is present. Mark "X" in column 2b 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"		2. EFFLUENT							3. UNITS		4. INTAKE (optional)		
	a. present	b. absent	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE		b. NO. OF ANALYSES
			(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
a. Bromide (24959-67-9)	X		0.26	0.02					1	mg/l	lb/Day			
b. Chlorine, Total Residual	X		< 0.04	< 0.00					1	mg/l	lb/Day			
c. Color	X		25.00	X	X	X	X	X	1	Std. Units	X	X	X	X
d. Fecal Coliform	X		< 2.00	X	X	X	X	X	1	Colonies /100 ml	X	X	X	X
e. Flouride (16984-48-8)	X		< 0.10	< 0.01					1	mg/l	lb/Day			
f. Nitrate-Nitrite (as N)	X		1.75	0.12					1	mg/l	lb/Day			

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ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"		3. EFFLUENT							3. UNITS		4. INTAKE (optional)		
	a. pre-sent	b. ab-sent	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 AVG. VALUE (if available) (1) Concentration	c. LONG TERM AVG. VALUE (if available) (2) Mass	d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE (1) Concentration	a. LONG TERM AVG. VALUE (2) Mass	b. NO. OF ANALYSES
g. Nitrogen, Total Organic (as N)	X		6.15	0.41					1	mg/l	lb/Day			
h. Oil and Grease	X		< 5.00	< 0.33	5	36.7	4.5	13.1	15	mg/l	lb/Day			
i. Phosphorous (as P), Total (7723-14-0)	X		0.10	0.01					1	mg/l	lb/Day			
j. Radioactivity														
(1) Alpha, Total	X		< 3.70E-02	X		X	X	X	1	pCi/l	X	X	X	
(2) Beta, Total	X		1.58E+00	X		X	X	X	1	pCi/l	X	X	X	
(3) Radium, Total	X		< 2.00E-01	X		X	X	X	1	pCi/l	X	X	X	
(4) Radium 226, Total	X		< 1.00E-01	X		X	X	X	1	pCi/l	X	X	X	
k. Sulfate (as SO4) (14808-79-8)	X		13.58	0.91	118.09	866.2	16.16	46.9	15	mg/l	lb/Day			
l. Sulfide (as S)	X		< 0.05	< 0.00					1	mg/l	lb/Day			
m. Sulfite (as SO3) (14265-45-3)	X		< 2.00	< 0.13					1	mg/l	lb/Day			
n. Surfactants	X		< 0.10	< 0.01					1	mg/l	lb/Day			
o. Aluminum, Total (7429-90-5)	X		0.68	0.05					1	mg/l	lb/Day			
p. Barium, Total (7440-39-3)	X		0.01	0.00					1	mg/l	lb/Day			
q. Boron, Total (7440-42-8)	X		0.32	0.02					1	mg/l	lb/Day			
r. Cobalt, Total (7440-48-4)	X		< 1.00	< 0.07					1	mg/l	lb/Day			
s. Iron, Total (7439-89-6)	X		0.27	0.02					1	mg/l	lb/Day			
t. Magnesium, Total (7439-95-4)	X		1.12	0.07					1	mg/l	lb/Day			
u. Molybdenum, Total (7439-98-7)	X		0.25	0.02					1	mg/l	lb/Day			
v. Manganese, Total (7439-96-5)	X		0.02	0.00					1	mg/l	lb/Day			
w. Tin, Total (7440-31-5)	X		< 0.05	< 0.00					1	mg/l	lb/Day			
x. Titanium, Total (7440-32-6)	X		< 0.01	< 0.00					1	mg/l	lb/Day			

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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 NO. (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. re-quir-ed	b. pre-sent	c. ab-sent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concen-tration	b. Mass	a. LONG TERM AVG. VALUE		d. 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			< 3.00	< 0.0002					1	ug/l	lb/Day			
2M. Arsenic, Total (7440-38-2)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
3M. Beryllium, Total (7440-41-7)	X			< 0.50	< 0.0000					1	ug/l	lb/Day			
4M. Cadmium, Total (7440-43-9)	X			< 0.50	< 0.0000					1	ug/l	lb/Day			
5M. Chromium, Total (7440-47-3)	X			< 1.00	< 0.0001					1	ug/l	lb/Day			
6M. Copper, Total (7440-50-8)	X			0.01	0.0007					1	mg/l	lb/Day			
7M. Lead, Total (7439-92-1)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
8M. Mercury, Total (7439-97-6)	X			< 0.10	< 0.0000					1	ug/l	lb/Day			
9M. Nickel, Total (7440-02-0)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
10M. Selenium, Total (7782-49-2)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
11M. Silver, Total (7440-22-4)	X			< 0.50	< 0.0000					1	ug/l	lb/Day			
12M. Thallium, Total (7440-28-0)	X			< 0.02	< 0.0013					1	mg/l	lb/Day			
13M. Zinc, Total (7440-66-6)	X			< 0.02	< 0.0013					1	mg/l	lb/Day			
14M. Cyanide, Total (57-12-5)	X			< 0.00	< 0.0001					1	mg/l	lb/Day			
15M. Phenols, Total	X			0.02	0.0011					1	mg/l	lb/Day			
DIOXIN															
2,3,7,8 Tetra chlorodibenzo P Dioxin (1764-01-6)			X	DESCRIBE RESULTS									NOT DETECTED		

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1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS			5. INTAKE (optional)		
	a. re-quir-ed	b. pre-sent	c. ab-sent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concen-tration	b. Mass	a. LONG TERM AVG. VALUE		d. 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			< 20.00	< 0.0013					1	ug/l	lb/Day			
2V. Acrylonitrile (107-13-1)	X			< 20.00	< 0.0013					1	ug/l	lb/Day			
3V. Benzene (71-43-2)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
4V. Bis (Chloro-methyl) Ether (542-88-1)				X	X	X	X	X	X		ug/l	lb/Day	X	X	
5V. Bromoform (75-25-2)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
6V. Carbon Tetrachloride (56-23-5)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
7V. Chlorobenzene (108-90-7)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
8V. Chlorodi-bromomethane (124-48-1)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
9V. Chloroethane (75-00-3)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
10V. 2-Chloro-ethylvinyl Ether (110-75-8)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
11V. Chloroform (67-66-3)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
12V. Dichloro-bromomethane (75-27-4)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
13V. Dichloro-difluoromethane (75-51-8)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
14V. 1,1-Dichloro-ethane (75-34-3)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
15V. 1,2-Dichloro-ethane (107-06-2)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
16V. 1,1-Dichloro-ethylene (75-35-4)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
17V. 1,2-Dichloro-propane (78-87-5)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
18V. 1,3-Dichloro-propylene (542-75-6)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
19V. Ethylbenzene (100-41-4)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
20V. Methyl Bromide (74-83-9)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
21V. Methyl Chloride (74-87-3)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			

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1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. re-quired	b. present	c. absent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE		d. 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			< 2.00	< 0.0001					1	ug/l	lb/Day			
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
24V. Tetrachloroethylene (127-18-4)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
25V. Toluene (108-88-3)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
26V. 1,2-Trans-Dichloroethylene (156-60-5)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
27V. 1,1,1-Trichloroethane (71-55-6)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
28V. 1,1,2-Trichloroethane (79-00-5)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
29V. Trichloroethylene (79-01-6)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
30V. Trichlorofluoromethane (75-69-4)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
31V. Vinyl Chloride (75-01-4)	X			< 2.00	< 0.0001					1	ug/l	lb/Day			
GC/MS FRACTION - ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
2A. 2,4-Dichlorophenol (120-83-2)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
3A. 2,4-Dimethylphenol (105-67-9)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
4A. 4,6-Dinitro-O-Cresol (534-52-1)	X			< 25.00	< 0.0017					1	ug/l	lb/Day			
5A. 2,4-Dinitrophenol (51-28-5)	X			< 25.00	< 0.0017					1	ug/l	lb/Day			
6A. 2-Nitrophenol (88-75-5)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
7A. 4-Nitrophenol (100-02-7)	X			< 25.00	< 0.0017					1	ug/l	lb/Day			
8A. P-Chloro-M-Cresol (59-50-7)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
9A. Pentachlorophenol (87-86-5)	X			< 25.00	< 0.0017					1	ug/l	lb/Day			
10A. Phenol (108-95-2)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
11A. 2,4,6-Trichlorophenol (88-06-2)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			

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1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. re-quired	b. pre-sent	c. ab-sent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concen-tration	b. Mass	a. LONG TERM AVG. VALUE		d. NO. OF ANALYSES
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
GC/MS FRACTION - BASE NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
2B. Acenaphtylene (208-96-8)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
3B. Anthracene (120-12-7)	X			< 10.00	< 0.0007						ug/l	lb/Day			
4B. Benzidine (92-87-5)	X			< 80.00	< 0.0053					1	ug/l	lb/Day			
5B. Benzo (a) Anthracene (56-55-3)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
6B. Benzo (a) Pyrene (50-32-8)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
7B. 3,4-Benzo-fluoranthene (205-99-2)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
8B. Benzo (ghi) Perylene (191-24-2)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
9B. Benzo (k) Fluoranthene (207-08-9)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
10B. Bis (2-Chloro-ethoxyl) Methane (111-91-1)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
11B. Bis (2-Chloro-ethyl) Ether (111-44-4)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
12B.Bis (2-Chloroiso-propyl) Ether (108-60-1)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
13B. Bis (2-Ethyl-hexyl) Phenalate (117-81-7)	X			< 11.00	< 0.0007					1	ug/l	lb/Day			
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
15B. Butyl Benzyl Phthalate (85-68-7)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
16B. 2-Chloro-naphthalene (91-58-7)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
18B. Chrysene (218-01-9)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
19B. Dibenzo (a,h) Anthracene (53-70-3)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
20B. 1,2-Dichloro-benzene (95-50-1)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
21B. 1,3-Dichloro-benzene (541-73-1)	X			< 2.00	< 0.0001					11	ug/l	lb/Day			

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1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. re-quired	b. present	c. absent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE		d. 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)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
23B. 3,3-Dichlorobenzidine (91-94-1)	X			< 25.00	< 0.0017					1	ug/l	lb/Day			
24B. Diethyl Phthalate (84-66-2)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
25B. Dimethyl Phthalate (131-11-3)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
26B. Di-N-Butyl Phthalate (84-74-2)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
27B. 2,4-Dinitrotoluene (121-14-2)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
28B. 2,6-Dinitrotoluene (606-20-2)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
29B. Di-N-Octyl Phthalate (117-84-0)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
31B. Fluoranthene (206-44-0)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
32B. Fluorene (86-73-7)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
33B. Hexachlorobenzene (118-74-1)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
34B. Hexachlorobutadiene (87-68-3)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
35B. Hexachlorocyclopentadiene (77-47-4)	X			< 10.00	< 0.0007						ug/l	lb/Day			
36B. Hexachloroethane (67-72-1)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
37B. Indeno (1,2,3-cd) Pyrene (193-39-5)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
38B. Isophorone (78-59-1)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
39B. Naphthalene (91-20-3)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
40B. Nitrobenzene (98-95-3)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
41B. N-Nitrosodimethylamine (62-75-9)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
42B. N-Nitrosodi-N-Propylamine (621-64-7)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			

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1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. re-quired	b. present	c. absent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE		d. 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)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
44B. Phenanthrene (85-01-8)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
45B. Pyrene (129-00-0)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
46B. 1,2,4-Trichlorobenzene (120-82-1)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
GC/MS FRACTION - PESTICIDES															
1P. Aldrin (309-00-2)			X	< 0.05	< 0.0000					1	ug/l	lb/Day			
2P. alpha-BHC (319-84-6)			X	< 0.05	< 0.0000					1	ug/l	lb/Day			
3P. beta-BHC (315-85-7)			X	< 0.05	< 0.0000					1	ug/l	lb/Day			
4P. gamma-BHC (58-89-9)			X	< 0.05	< 0.0000					1	ug/l	lb/Day			
5P. delta-BHC (319-86-8)			X	< 0.10	< 0.0000					1	ug/l	lb/Day			
6P. Chlordane (57-74-9)			X	< 0.50	< 0.0000					1	ug/l	lb/Day			
7P. 4,4'-DDT (50-29-3)			X	< 0.10	< 0.0000					1	ug/l	lb/Day			
8P. 4,4'-DDE (72-55-9)			X	0.27	0.0000					1	ug/l	lb/Day			
9P. 4,4'-DDD (72-54-8)			X	< 0.10	< 0.0000					1	ug/l	lb/Day			
10P. Dieldrin (60-57-1)			X	< 0.10	< 0.0000					1	ug/l	lb/Day			
11P.alpha-Endosulfan (115-29-7)			X	< 0.10	< 0.0000					1	ug/l	lb/Day			
12P. beta-Endosulfan (115-29-7)			X	< 0.10	< 0.0000					1	ug/l	lb/Day			
13P. Endosulfan Sulfate (1031-07-8)			X	< 0.10	< 0.0000					1	ug/l				
14P. Endrin (72-20-8)			X	< 0.06	< 0.0000					1	ug/l	lb/Day			
15P. Endrin Aldehyde (7421-93-4)			X	< 0.10	< 0.0000					1	ug/l				
16P. Heptachlor (76-44-8)			X	< 0.05	< 0.0000					1	ug/l	lb/Day			

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1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. re-quired	b. pre-sent	c. ab-sent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concen-tration	b. Mass	a. LONG TERM AVG. VALUE		d. 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)			X	< 0.80	< 0.0001					1	ug/l	lb/Day			
18P. PCB-1242 (53469-21-9)			X	< 0.50	< 0.0000					1	ug/l	lb/Day			
19P. PCB-1254 (11097-69-1)			X	< 1.00	< 0.0001					1	ug/l	lb/Day			
20P. PCB-1221 (11104-28-2)			X	< 1.00	< 0.0001					1	ug/l	lb/Day			
21P. PCB-1232 (11141-16-5)			X	< 1.00	< 0.0001					1	ug/l	lb/Day			
22P. PCB-1248 (12672-29-6)			X	< 1.00	< 0.0001					1	ug/l	lb/Day			
23P. PCB-1260 (11096-82-5)			X	< 1.00	< 0.0001					1	ug/l	lb/Day			
24P. PCB-1016 (12674-11-2)			X	< 1.00	< 0.0001					1	ug/l	lb/Day			
25P. Toxaphene (8001-35-2)			X	< 1.00	< 0.0001					1	ug/l	lb/Day			

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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OUTFALL NO. 004

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

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							3. UNITS		4. INTAKE (optional)		
	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE		b. NO. OF ANALYSES
	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
a. Biochemical Oxygen Demand (BOD)	< 4.00	< 0.2637					1	mg/l	lb/Day			
b. Chemical Oxygen Demand (COD)	20.20	1.3317					1	mg/l	lb/Day			
c. Total Organic Carbon (TOC)	8.20	0.5406					1	mg/l	lb/Day			
d. Total Suspended Solids (TSS)	< 2.63	< 0.1734	39	57.4	7.84	0.5	18	mg/l	lb/Day			
e. Ammonia (as N)	1.22	0.0804					1	mg/l	lb/Day			
f. Flow	VALUE 0.0079		VALUE 0.1764		VALUE 0.0079		365	MGD	X	VALUE		
g. Temperature (winter)	VALUE		VALUE		VALUE		1	DEGREES CELSIUS		VALUE		
h. Temperature (summer)	VALUE		VALUE		VALUE			DEGREES CELSIUS		VALUE		
i. pH	MINIMUM	MAXIMUM	MINIMUM 4	MAXIMUM 9.7			1101	STANDARD UNITS				

PART B - Mark "X" in column 2a for each pollutant you know or have reason to believe is present. Mark "X" in column 2b 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"		2. EFFLUENT							3. UNITS		4. INTAKE (optional)		
	a. pre-sent	b. ab-sent	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE		b. NO. OF ANALYSES
			(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
a. Bromide (24959-67-9)	X		< 0.20	< 0.0132					1	mg/l	lb/Day			
b. Chlorine, Total Residual		X								mg/l	lb/Day			
c. Color	X		< 5.00	X		X		X	1	Std. Units	X		X	
d. Fecal Coliform	X		4.00	X		X		X	1	Colonies /100 ml	X		X	
e. Flouride (16984-48-8)	X		0.10	0.0067					1	mg/l	lb/Day			
f. Nitrate-Nitrite (as N)	X		< 0.10	< 0.0066					1	mg/l	lb/Day			

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ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"		3. EFFLUENT							3. UNITS		4. INTAKE (optional)		
			a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE		b. NO. OF ANALYSES
	a. present	b. absent	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
g. Nitrogen, Total Organic (as N)	X		0.86	0.0567					1	mg/l	lb/Day			
h. Oil and Grease	X		1.87	0.1233	16	23.6	7.118	0.5	21	mg/l	lb/Day			
i. Phosphorous (as P), Total (7723-14-0)	X		0.02	0.0013					1	mg/l	lb/Day			
j. Radioactivity														
(1) Alpha, Total	X		< 5.00E+00	X		X		X	1	pCi/l	X		X	
(2) Beta, Total	X		2.19E+03	X		X		X	1	pCi/l	X		X	
(3) Radium, Total	X		< 3.00E+00	X		X		X	1	pCi/l	X		X	
(4) Radium 226, Total	X		< 1.00E+00	X		X		X	1	pCi/l	X		X	
k. Sulfate (as SO4) (14808-79-8)	X		< 4.00	< 0.2637					1	mg/l	lb/Day			
l. Sulfide (as S)	X		< 0.10	< 0.0066					1	mg/l	lb/Day			
m. Sulfite (as SO3) (14265-45-3)	X		< 2.00	< 0.1319					1	mg/l	lb/Day			
n. Surfactants	X		0.05	0.0033					1	mg/l	lb/Day			
o. Aluminum, Total (7429-90-5)	X		< 1,500.00	< 98.8883					1	mg/l	lb/Day			
p. Barium, Total (7440-39-3)	X		< 5.00	< 0.3296					1	mg/l	lb/Day			
q. Boron, Total (7440-42-8)	X		1,480.00	0.0976					1	mg/l	lb/Day			
r. Cobalt, Total (7440-48-4)	X		< 100.00	< 6.5926					1	mg/l	lb/Day			
s. Iron, Total (7439-89-6)	X		< 5,000.00	< 329.6275					1	mg/l	lb/Day			
t. Magnesium, Total (7439-95-4)	X		< 100.00	< 6.5926					1	mg/l	lb/Day			
u. Molybdenum, Total (7439-98-7)	X		< 50.00	< 3.2963					1	mg/l	lb/Day			
v. Manganese, Total (7439-96-5)	X		< 10.00	< 0.6593					1	mg/l	lb/Day			
w. Tin, Total (7440-31-5)	X		8.05	0.5307					1	mg/l	lb/Day			
x. Titanium, Total (7440-32-6)	X		< 5.00	< 0.3296					1	mg/l	lb/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 NO. (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. REQUIRED	b. PRESENT	c. ABSENT	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE		d. 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			< 200.00	< 0.0132					1	ug/l	lb/Day			
2M. Arsenic, Total (7440-38-2)	X			88.50	0.0058					1	ug/l	lb/Day			
3M. Beryllium, Total (7440-41-7)	X			< 20.00	< 0.0013					1	ug/l	lb/Day			
4M. Cadmium, Total (7440-43-9)	X			< 10.00	< 0.0007					1	ug/l	lb/Day			
5M. Chromium, Total (7440-47-3)	X			< 300.00	< 0.0198					1	ug/l	lb/Day			
6M. Copper, Total (7440-50-8)	X			4.06	0.0003					1	mg/l	lb/Day			
7M. Lead, Total (7439-92-1)	X			< 200.00	< 0.0132					1	ug/l	lb/Day			
8M. Mercury, Total (7439-97-6)	X			< 0.20	< 0.0000					1	ug/l	lb/Day			
9M. Nickel, Total (7440-02-0)	X			< 200.00	< 0.0132					1	ug/l	lb/Day			
10M. Selenium, Total (7782-49-2)	X			< 500.00	< 0.0330					1	ug/l	lb/Day			
11M. Silver, Total (7440-22-4)	X			< 100.00	< 0.0066					1	ug/l	lb/Day			
12M. Thallium, Total (7440-28-0)	X			< 50.00	< 0.0033					1	mg/l	lb/Day			
13M. Zinc, Total (7440-66-6)	X			1.75	0.0001					1	mg/l	lb/Day			
14M. Cyanide, Total (57-12-5)	X			< 5.00	< 0.0003					1	mg/l	lb/Day			
15M. Phenols, Total	X			< 5.00	< 0.0003					1	mg/l	lb/Day			
DIOXIN															
2,3,7,8 Tetra chlorodibenzo P Dioxin (1764-01-6)			X	DESCRIBE RESULTS									NOT DETECTED		

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1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS			5. INTAKE (optional)		
	a. re-quired	b. present	c. absent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE		d. 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			< 5.00	< 0.0003					1	ug/l	lb/Day			
2V. Acrylonitrile (107-13-1)	X			< 5.00	< 0.0003					1	ug/l	lb/Day			
3V. Benzene (71-43-2)	X			< 1.00	< 0.0001					1	ug/l	lb/Day			
4V. Bis (Chloro-methyl) Ether (542-88-1)			X		X		X		X		ug/l	lb/Day		X	
5V. Bromoform (75-25-2)	X			< 1.00	< 0.0001					1	ug/l	lb/Day			
6V. Carbon Tetrachloride (56-23-5)	X			< 1.00	< 0.0001					1	ug/l	lb/Day			
7V. Chlorobenzene (108-90-7)	X			< 1.00	< 0.0001					1	ug/l	lb/Day			
8V. Chlorodi-bromomethane (124-48-1)	X			< 1.00	< 0.0001					1	ug/l	lb/Day			
9V. Chloroethane (75-00-3)	X			< 1.00	< 0.0001					1	ug/l	lb/Day			
10V. 2-Chloro-ethylvinyl Ether (110-75-8)	X			< 5.00	< 0.0003					1	ug/l	lb/Day			
11V. Chloroform (67-66-3)	X			0.44	0.0000					1	ug/l	lb/Day			
12V. Dichloro-bromomethane (75-27-4)	X			< 1.00	< 0.0001					1	ug/l	lb/Day			
13V. Dichloro-difluoromethane (75-51-8)	X			< 1.00	< 0.0001					1	ug/l	lb/Day			
14V. 1,1-Dichloro-ethane (75-34-3)	X			< 1.00	< 0.0001					1	ug/l	lb/Day			
15V. 1,2-Dichloro-ethane (107-06-2)	X			< 1.00	< 0.0001					1	ug/l	lb/Day			
16V. 1,1-Dichloro-ethylene (75-35-4)	X			< 1.00	< 0.0001					1	ug/l	lb/Day			
17V. 1,2-Dichloro-propane (78-87-5)	X			< 1.00	< 0.0001					1	ug/l	lb/Day			
18V. 1,3-Dichloro-propylene (542-75-6)	X			< 1.00	< 0.0001					1	ug/l	lb/Day			
19V. Ethylbenzene (100-41-4)	X			< 1.00	< 0.0001					1	ug/l	lb/Day			
20V. Methyl Bromide (74-83-9)	X			< 1.00	< 0.0001					1	ug/l	lb/Day			
21V. Methyl Chloride (74-87-3)	X			< 1.00	< 0.0001					1	ug/l	lb/Day			

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1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. re-quired	b. pre-sent	c. ab-sent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concen-tration	b. Mass	a. LONG TERM AVG. VALUE		d. 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			< 5.00	< 0.0003					1	ug/l	lb/Day			
23V. 1,1,2,2-Tetra-chloroethane (79-34-5)	X			< 1.00	< 0.0001					1	ug/l	lb/Day			
24V. Tetrachloro-ethylene (127-18-4)	X			< 1.00	< 0.0001					1	ug/l	lb/Day			
25V. Toluene (108-88-3)	X			< 1.00	< 0.0001					1	ug/l	lb/Day			
26V. 1,2-Trans-Dichloroethylene (156-60-5)	X			< 1.00	< 0.0001					1	ug/l	lb/Day			
27V. 1,1,1-Tri-chloroethane (71-55-6)	X			< 1.00	< 0.0001					1	ug/l	lb/Day			
28V. 1,1,2-Tri-chloroethane (79-00-5)	X			< 1.00	< 0.0001					1	ug/l	lb/Day			
29V. Trichloro-ethylene (79-01-6)	X			< 1.00	< 0.0001					1	ug/l	lb/Day			
30V. Trichloro-fluoromethane (75-69-4)	X			< 1.00	< 0.0001					1	ug/l	lb/Day			
31V. Vinyl Chloride (75-01-4)	X			< 1.00	< 0.0001					1	ug/l	lb/Day			
GC/MS FRACTION - ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
2A. 2,4-Dichloro-phenol (120-83-2)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
3A. 2,4-Dimethyl-phenol (105-67-9)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
4A. 4,6-Dinitro-O-Cresol (534-52-1)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
5A. 2,4-Dinitro-phenol (51-28-5)	X			< 18.20	< 0.0012					1	ug/l	lb/Day			
6A. 2-Nitrophenol (88-75-5)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
7A. 4-Nitrophenol (100-02-7)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
8A. P-Chloro-M-Cresol (59-50-7)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
9A. Pentachloro-phenol (87-86-5)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
10A. Phenol (108-95-2)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
11A. 2,4,6-Tri-chlorophenol (88-06-2)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			

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1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. re-quired	b. present	c. absent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE		d. NO. OF ANALYSES
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
GC/MS FRACTION - BASE NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	X			< 0.91	< 0.0001					1	ug/l	lb/Day			
2B. Acenaphtylene (208-96-8)	X			< 0.91	< 0.0001					1	ug/l	lb/Day			
3B. Anthracene (120-12-7)	X			< 0.91	< 0.0001					1	ug/l	lb/Day			
4B. Benzidine (92-87-5)	X			< 45.50	< 0.0030					1	ug/l	lb/Day			
5B. Benzo (a) Anthracene (56-55-3)	X			< 0.91	< 0.0001					1	ug/l	lb/Day			
6B. Benzo (a) Pyrene (50-32-8)	X			< 0.91	< 0.0001					1	ug/l	lb/Day			
7B. 3,4-Benzo-fluoranthene (205-99-2)	X			< 0.91	< 0.0001					1	ug/l	lb/Day			
8B. Benzo (ghi) Perylene (191-24-2)	X			< 0.91	< 0.0001					1	ug/l	lb/Day			
9B. Benzo (k) Fluoranthene (207-08-9)	X			< 0.91	< 0.0001					1	ug/l	lb/Day			
10B. Bis (2-Chloro-ethoxyl) Methane (111-91-1)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
11B. Bis (2-Chloro-ethyl) Ether (111-44-4)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
12B.Bis (2-Chloroiso-propyl) Ether (108-60-1)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
13B. Bis (2-Ethyl-hexyl) Phehalate (117-81-7)	X			1.62	0.0001					1	ug/l	lb/Day			
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
15B. Butyl Benzyl Phthalate (85-68-7)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
16B. 2-Chloro-naphthalene (91-58-7)	X			< 0.91	< 0.0001					1	ug/l	lb/Day			
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
18B. Chrysene (218-01-9)	X			< 0.91	< 0.0001					1	ug/l	lb/Day			
19B. Dibenzo (a,h) Anthracene (53-70-3)	X			< 0.91	< 0.0001					1	ug/l	lb/Day			
20B. 1,2-Dichloro-benzene (95-50-1)	X			0.53	0.0000					1	ug/l	lb/Day			
21B. 1,3-Dichloro-benzene (541-73-1)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			

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1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. re-quired	b. present	c. absent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE		d. 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)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
23B. 3,3-Dichlorobenzidine (91-94-1)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
24B. Diethyl Phthalate (84-66-2)	X			2.09	0.0001					1	ug/l	lb/Day			
25B. Dimethyl Phthalate (131-11-3)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
26B. Di-N-Butyl Phthalate (84-74-2)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
27B. 2,4-Dinitrotoluene (121-14-2)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
28B. 2,6-Dinitrotoluene (606-20-2)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
29B. Di-N-Octyl Phthalate (117-84-0)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
31B. Fluoranthene (206-44-0)	X			< 0.91	< 0.0001					1	ug/l	lb/Day			
32B. Fluorene (86-73-7)	X			< 0.91	< 0.0001					1	ug/l	lb/Day			
33B. Hexachlorobenzene (118-74-1)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
34B. Hexachlorobutadiene (87-68-3)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
35B. Hexachlorocyclopentadiene (77-47-4)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
36B. Hexachloroethane (67-72-1)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
37B. Indeno (1,2,3-cd) Pyrene (193-39-5)	X			< 0.91	< 0.0001					1	ug/l	lb/Day			
38B. Isophorone (78-59-1)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
39B. Naphthalene (91-20-3)	X			< 0.91	< 0.0001					1	ug/l	lb/Day			
40B. Nitrobenzene (98-95-3)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
41B. N-Nitrosodimethylamine (62-75-9)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
42B. N-Nitrosodi-N-Propylamine (621-64-7)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			

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1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. re-quir-ed	b. pre-sent	c. ab-sent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concen-tration	b. Mass	a. LONG TERM AVG. VALUE		d. NO. OF ANALYSES
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)															
43B. N-Nitro-sodiphenylamine (86-30-6)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
44B. Phenanthrene (85-01-8)	X			< 0.91	< 0.0001					1	ug/l	lb/Day			
45B. Pyrene (129-00-0)	X			< 0.91	< 0.0001					1	ug/l	lb/Day			
46B. 1,2,4-Tri-chlorobenzene (120-82-1)	X			< 9.09	< 0.0006					1	ug/l	lb/Day			
GC/MS FRACTION - PESTICIDES															
1P. Aldrin (309-00-2)			X	< 0.02	< 0.0000					1	ug/l	lb/Day			
2P. alpha-BHC (319-84-6)			X	< 0.02	< 0.0000					1	ug/l	lb/Day			
3P. beta-BHC (315-85-7)			X	< 0.02	< 0.0000					1	ug/l	lb/Day			
4P. gamma-BHC (58-89-9)			X	< 0.02	< 0.0000					1	ug/l	lb/Day			
5P. delta-BHC (319-86-8)			X	< 0.02	< 0.0000					1	ug/l	lb/Day			
6P. Chlordane (57-74-9)			X	< 0.24	< 0.0000					1	ug/l	lb/Day			
7P. 4,4'-DDT (50-29-3)			X	< 0.04	< 0.0000					1	ug/l	lb/Day			
8P. 4,4'-DDE (72-55-9)			X	< 0.04	< 0.0000					1	ug/l	lb/Day			
9P. 4,4'-DDD (72-54-8)			X	< 0.04	< 0.0000					1	ug/l	lb/Day			
10P. Dieldrin (60-57-1)			X	< 0.04	< 0.0000					1	ug/l	lb/Day			
11P.alpha-Endosulfan (115-29-7)			X	< 0.02	< 0.0000					1	ug/l	lb/Day			
12P. beta-Endosulfan (115-29-7)			X	< 0.04	< 0.0000					1	ug/l	lb/Day			
13P. Endosulfan Sulfate (1031-07-8)			X	< 0.04	< 0.0000					1	ug/l				
14P. Endrin (72-20-8)			X	< 0.04	< 0.0000					1	ug/l	lb/Day			
15P. Endrin Aldehyde (7421-93-4)			X	< 0.04	< 0.0000					1	ug/l				
16P. Heptachlor (76-44-8)			X	< 0.02	< 0.0000					1	ug/l	lb/Day			

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1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. re-quired	b. present	c. absent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE		d. 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)			X	< 0.02	0.0000					1	ug/l	lb/Day			
18P. PCB-1242 (53469-21-9)			X	< 0.49	< 0.0000					1	ug/l	lb/Day			
19P. PCB-1254 (11097-69-1)			X	< 0.49	< 0.0000					1	ug/l	lb/Day			
20P. PCB-1221 (11104-28-2)			X	< 0.49	< 0.0000					1	ug/l	lb/Day			
21P. PCB-1232 (11141-16-5)			X	< 0.49	< 0.0000					1	ug/l	lb/Day			
22P. PCB-1248 (12672-29-6)			X	< 0.49	< 0.0000					1	ug/l	lb/Day			
23P. PCB-1260 (11096-82-5)			X	< 0.49	< 0.0000					1	ug/l	lb/Day			
24P. PCB-1016 (12674-11-2)			X	< 0.49	< 0.0000					1	ug/l	lb/Day			
25P. Toxaphene (8001-35-2)			X	< 0.97	< 0.0001					1	ug/l	lb/Day			

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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OUTFALL NO. 005

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

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 AVG. VALUE (if available) (1) Concentration	c. LONG TERM AVG. VALUE (if available) (2) Mass	d. NO. OF ANALYSES	3. UNITS a. Concentration	3. UNITS b. Mass	4. INTAKE (optional) a. LONG TERM AVG. VALUE (1) Concentration	a. LONG TERM AVG. VALUE (2) Mass	b. NO. OF ANALYSES
a. Biochemical Oxygen Demand (BOD)	3.00	7.1600					1	mg/l	lb/Day			
b. Chemical Oxygen Demand (COD)	< 20.00	< 47.7334					1	mg/l	lb/Day			
c. Total Organic Carbon (TOC)	3.98	9.4989					1	mg/l	lb/Day			
d. Total Suspended Solids (TSS)	< 4.00	< 9.5467	5	556.2	4.0625	21.5	15	mg/l	lb/Day			
e. Ammonia (as N)	0.04	0.0955					1	mg/l	lb/Day			
f. Flow	VALUE 0.286		VALUE 13.33		VALUE 0.633		234	MGD	X	VALUE		
g. Temperature (winter)	VALUE 9.5		VALUE		VALUE		1	DEGREES CELSIUS		VALUE		
h. Temperature (summer)	VALUE X		VALUE		VALUE			DEGREES CELSIUS		VALUE		
i. pH	MINIMUM 6.16	MAXIMUM	MINIMUM 9	MAXIMUM 6.4	7.559		20	STANDARD UNITS				

PART B - Mark "X" in column 2a for each pollutant you know or have reason to believe is present. Mark "X" in column 2b 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. pre-sent	2. MARK "X" b. ab-sent	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 AVG. VALUE (if available) (1) Concentration	c. LONG TERM AVG. VALUE (if available) (2) Mass	d. NO. OF ANALYSES	3. UNITS a. Concentration	3. UNITS b. Mass	4. INTAKE (optional) a. LONG TERM AVG. VALUE (1) Concentration	a. LONG TERM AVG. VALUE (2) Mass	b. NO. OF ANALYSES
a. Bromide (24959-67-9)	X		< 1.00	< 2.3867					1	mg/l	lb/Day			
b. Chlorine, Total Residual	X		< 0.04	< 0.0955					1	mg/l	lb/Day			
c. Color	X		5.00	X		X		X	1	Std. Units	X		X	
d. Fecal Coliform	X		14.00	X		X		X	1	Colonies /100 ml	X		X	
e. Flouride (16984-48-8)	X		< 0.10	< 0.2387					1	mg/l	lb/Day			
f. Nitrate-Nitrite (as N)	X		0.13	0.3103					1	mg/l	lb/Day			

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ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"		3. EFFLUENT							3. UNITS		4. INTAKE (optional)		
	a. pre-sent	b. ab-sent	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 AVG. VALUE (if available) (1) Concentration	c. LONG TERM AVG. VALUE (if available) (2) Mass	d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE (1) Concentration	a. LONG TERM AVG. VALUE (2) Mass	b. NO. OF ANALYSES
g. Nitrogen, Total Organic (as N)	X		0.86	2.0525					1	mg/l	lb/Day			
h. Oil and Grease	X		< 5.00	< 11.9334	5	556.2	4.311	22.8	16	mg/l	lb/Day			
i. Phosphorous (as P), Total (7723-14-0)	X		0.01	0.0239					1	mg/l	lb/Day			
j. Radioactivity														
(1) Alpha, Total	X		< -2.30E-01	X	X	X	X	X	1	pCi/l	X			
(2) Beta, Total	X		1.57E+00	X	X	X	X	X	1	pCi/l	X			
(3) Radium, Total	X		< 2.00E+00	X	X	X	X	X	1	pCi/l	X			
(4) Radium 226, Total	X		1.00E-01	X	X	X	X	X	1	pCi/l	X			
k. Sulfate (as SO4) (14808-79-8)	X		6.40	15.2747					1	mg/l	lb/Day			
l. Sulfide (as S)	X		< 0.50	< 1.1933					1	mg/l	lb/Day			
m. Sulfite (as SO3) (14265-45-3)	X		< 2.00	< 4.7733					1	mg/l	lb/Day			
n. Surfactants	X		< 0.10	< 0.2387					1	mg/l	lb/Day			
o. Aluminum, Total (7429-90-5)	X		0.74	1.7759					1	mg/l	lb/Day			
p. Barium, Total (7440-39-3)	X		0.01	0.0263					1	mg/l	lb/Day			
q. Boron, Total (7440-42-8)	X		< 0.10	< 0.2387					1	mg/l	lb/Day			
r. Cobalt, Total (7440-48-4)	X		< 1.00	< 2.3867					1	mg/l	lb/Day			
s. Iron, Total (7439-89-6)	X		0.23	0.5585	347	38599.9	160.81	849.5	15	mg/l	lb/Day			
t. Magnesium, Total (7439-95-4)	X		1.95	4.6540					1	mg/l	lb/Day			
u. Molybdenum, Total (7439-98-7)	X		< 1.00	< 2.3867					1	mg/l	lb/Day			
v. Manganese, Total (7439-96-5)	X		0.07	0.1599					1	mg/l	lb/Day			
w. Tin, Total (7440-31-5)	X		< 0.05	< 0.1193					1	mg/l	lb/Day			
x. Titanium, Total (7440-32-6)	X		< 0.01	< 0.0239					1	mg/l	lb/Day			

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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 NO. (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. re-quired	b. pre-sent	c. ab-sent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concen-tration	b. Mass	a. LONG TERM AVG. VALUE		d. 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			< 3.00	< 0.0072					1	ug/l	lb/Day			
2M. Arsenic, Total (7440-38-2)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
3M. Beryllium, Total (7440-41-7)	X			< 0.50	< 0.0012					1	ug/l	lb/Day			
4M. Cadmium, Total (7440-43-9)	X			< 0.50	< 0.0012					1	ug/l	lb/Day			
5M. Chromium, Total (7440-47-3)	X			< 1.00	< 0.0024					1	ug/l	lb/Day			
6M. Copper, Total (7440-50-8)	X			< 0.01	< 0.0119					1	mg/l	lb/Day			
7M. Lead, Total (7439-92-1)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
8M. Mercury, Total (7439-97-6)	X			< 0.10	< 0.0002					1	ug/l	lb/Day			
9M. Nickel, Total (7440-02-0)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
10M. Selenium, Total (7782-49-2)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
11M. Silver, Total (7440-22-4)	X			< 0.50	< 0.0012					1	ug/l	lb/Day			
12M. Thallium, Total (7440-28-0)	X			< 2.00	< 4.7733					1	mg/l	lb/Day			
13M. Zinc, Total (7440-66-6)	X			< 0.02	< 0.0477					1	mg/l	lb/Day			
14M. Cyanide, Total (57-12-5)	X			< 0.00	< 0.0048					1	mg/l	lb/Day			
15M. Phenols, Total	X			0.01	0.0286					1	mg/l	lb/Day			
DIOXIN															
2,3,7,8 Tetra chlorodibenzo P Dioxin (1764-01-6)			X	DESCRIBE RESULTS									NOT DETECTED		

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1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. re-quired	b. present	c. absent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE		d. 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			< 20.00	< 0.0477					1	ug/l	lb/Day			
2V. Acrylonitrile (107-13-1)	X			< 20.00	< 0.0477					1	ug/l	lb/Day			
3V. Benzene (71-43-2)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
4V. Bis (Chloromethyl) Ether (542-88-1)			X	X	X	X	X	X	X	X	ug/l	lb/Day	X	X	X
5V. Bromoform (75-25-2)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
6V. Carbon Tetrachloride (56-23-5)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
7V. Chlorobenzene (108-90-7)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
8V. Chlorodibromomethane (124-48-1)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
9V. Chloroethane (75-00-3)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
10V. 2-Chloroethylvinyl Ether (110-75-8)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
11V. Chloroform (67-66-3)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
12V. Dichlorobromomethane (75-27-4)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
13V. Dichlorodifluoromethane (75-51-8)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
14V. 1,1-Dichloroethane (75-34-3)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
15V. 1,2-Dichloroethane (107-06-2)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
16V. 1,1-Dichloroethylene (75-35-4)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
17V. 1,2-Dichloropropane (78-87-5)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
18V. 1,3-Dichloropropylene (542-75-6)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
19V. Ethylbenzene (100-41-4)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
20V. Methyl Bromide (74-83-9)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
21V. Methyl Chloride (74-87-3)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			

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1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. re-quired	b. present	c. absent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE		d. 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			< 2.00	< 0.0048					1	ug/l	lb/Day			
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
24V. Tetrachloroethylene (127-18-4)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
25V. Toluene (108-88-3)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
26V. 1,2-Trans-Dichloroethylene (156-60-5)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
27V. 1,1,1-Trichloroethane (71-55-6)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
28V. 1,1,2-Trichloroethane (79-00-5)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
29V. Trichloroethylene (79-01-6)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
30V. Trichlorofluoromethane (75-69-4)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
31V. Vinyl Chloride (75-01-4)	X			< 2.00	< 0.0048					1	ug/l	lb/Day			
GC/MS FRACTION - ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
2A. 2,4-Dichlorophenol (120-83-2)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
3A. 2,4-Dimethylphenol (105-67-9)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
4A. 4,6-Dinitro-O-Cresol (534-52-1)	X			< 25.00	< 0.0597					1	ug/l	lb/Day			
5A. 2,4-Dinitrophenol (51-28-5)	X			< 25.00	< 0.0597					1	ug/l	lb/Day			
6A. 2-Nitrophenol (88-75-5)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
7A. 4-Nitrophenol (100-02-7)	X			< 25.00	< 0.0597					1	ug/l	lb/Day			
8A. P-Chloro-M-Cresol (59-50-7)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
9A. Pentachlorophenol (87-86-5)	X			< 25.00	< 0.0597					1	ug/l	lb/Day			
10A. Phenol (108-95-2)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
11A. 2,4,6-Trichlorophenol (88-06-2)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			

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1. POLLUTANT AND CAS NO. (if available)	2. MARK "X" a. re-quir-ed	b. pre-sent	c. ab-sent	3. EFFLUENT a. MAXIMUM DAILY VALUE (if available) (1) Concentration	(2) Mass	b. MAXIMUM 30 DAY VALUE (if available) (1) Concentration	(2) Mass	c. LONG TERM AVG. VALUE (if available) (1) Concentration	(2) Mass	d. NO. OF ANALYSES	4. UNITS a. Concen-tration	b. Mass	5. INTAKE (optional) a. LONG TERM AVG. VALUE (1) Concentration	(2) Mass	d. NO. OF ANALYSES
GC/MS FRACTION - BASE NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
2B. Acenaphtylene (208-96-8)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
3B. Anthracene (120-12-7)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
4B. Benzidine (92-87-5)	X			< 80.00	< 0.1909					1	ug/l	lb/Day			
5B. Benzo (a) Anthracene (56-55-3)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
6B. Benzo (a) Pyrene (50-32-8)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
7B. 3,4-Benzo-fluoranthene (205-99-2)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
8B. Benzo (ghi) Perylene (191-24-2)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
9B. Benzo (k) Fluoranthene (207-08-9)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
10B. Bis (2-Chloro-ethoxyl) Methane (111-91-1)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
11B. Bis (2-Chloro-ethyl) Ether (111-44-4)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
12B. Bis (2-Chloroiso-propyl) Ether (108-60-1)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
13B. Bis (2-Ethyl-hexyl) Phehalate (117-81-7)	X			14.00	0.0334					1	ug/l	lb/Day			
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
15B. Butyl Benzyl Phthalate (85-68-7)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
16B. 2-Chloro-naphthalene (91-58-7)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
18B. Chrysene (218-01-9)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
19B. Dibenzo (a,h) Anthracene (53-70-3)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
20B. 1,2-Dichloro-benzene (95-50-1)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
21B. 1,3-Dichloro-benzene (541-73-1)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			

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1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. re-quired	b. pre-sent	c. ab-sent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concen-tration	b. Mass	a. LONG TERM AVG. VALUE		d. NO. OF ANALYSES
				(1) Concentration	(2) Mass	(1) Concentration	(2) Mass	(1) Concentration	(2) Mass				(1) Concentration	(2) Mass	
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)															
22B. 1,4-Dichloro-benzene (106-46-7)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
23B. 3,3-Dichloro-benzidine (91-94-1)	X			< 25.00	< 0.0597					1	ug/l	lb/Day			
24B. Diethyl Phthalate (84-66-2)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
25B. Dimethyl Phthalate (131-11-3)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
26B. Di-N-Butyl Phthalate (84-74-2)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
27B. 2,4-Dinitro-toluene (121-14-2)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
28B. 2,6-Dinitro-toluene (606-20-2)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
29B. Di-N-Octyl Phthalate (117-84-0)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
30B. 1,2-Diphenyl-hydrazine (as Azo-benzene) (122-66-7)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
31B. Fluoranthene (206-44-0)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
32B. Fluorene (86-73-7)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
33B. Hexachloro-benzene (118-74-1)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
34B. Hexa-chlorobutadiene (87-68-3)	X			< 25.00	< 0.0597					1	ug/l	lb/Day			
35B. Hexachloro-cyclopentadiene (77-47-4)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
36B. Hexachloro-ethane (67-72-1)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
37B. Indeno (1,2,3-cd) Pyrene (193-39-5)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
38B. Isophorone (78-59-1)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
39B. Naphthalene (91-20-3)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
40B. Nitrobenzene (98-95-3)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
41B. N-Nitro-sodimethylamine (62-75-9)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
42B. N-Nitrosodi-N-Propylamine (621-64-7)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NC0024392	005

CONTINUED FROM PAGE V-7

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. re-quired	b. present	c. absent	a. MAXIMUM DAILY VALUE (if available)		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. Concentration	b. Mass	a. LONG TERM AVG. VALUE		d. 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)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
44B. Phenanthrene (85-01-8)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
45B. Pyrene (129-00-0)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
46B. 1,2,4-Trichlorobenzene (120-82-1)	X			< 10.00	< 0.0239					1	ug/l	lb/Day			
GC/MS FRACTION - PESTICIDES															
1P. Aldrin (309-00-2)			X	< 0.05	< 0.0001					1	ug/l	lb/Day			
2P. alpha-BHC (319-84-6)			X	< 0.05	< 0.0001					1	ug/l	lb/Day			
3P. beta-BHC (315-85-7)			X	< 0.05	< 0.0001					1	ug/l	lb/Day			
4P. gamma-BHC (58-89-9)			X	< 0.05	< 0.0001					1	ug/l	lb/Day			
5P. delta-BHC (319-86-8)			X	< 0.10	< 0.0002					1	ug/l	lb/Day			
6P. Chlordane (57-74-9)			X	< 0.50	< 0.0012					1	ug/l	lb/Day			
7P. 4,4'-DDT (50-29-3)			X	< 0.10	< 0.0002					1	ug/l	lb/Day			
8P. 4,4'-DDE (72-55-9)			X	< 0.10	< 0.0002					1	ug/l	lb/Day			
9P. 4,4'-DDD (72-54-8)			X	< 0.10	< 0.0002					1	ug/l	lb/Day			
10P. Dieldrin (60-57-1)			X	< 0.10	< 0.0002					1	ug/l	lb/Day			
11P.alpha-Endosulfan (115-29-7)			X	< 0.10	< 0.0002					1	ug/l	lb/Day			
12P. beta-Endosulfan (115-29-7)			X	< 0.10	< 0.0002					1	ug/l	lb/Day			
13P. Endosulfan Sulfate (1031-07-8)			X	< 0.10	< 0.0002					1	ug/l				
14P. Endrin (72-20-8)			X	< 0.06	< 0.0001					1	ug/l	lb/Day			
15P. Endrin Aldehyde (7421-93-4)			X	< 0.10	< 0.0002					1	ug/l				
16P. Heptachlor (76-44-8)			X	< 0.05	< 0.0001					1	ug/l	lb/Day			

CONTINUE ON PAGE V-9

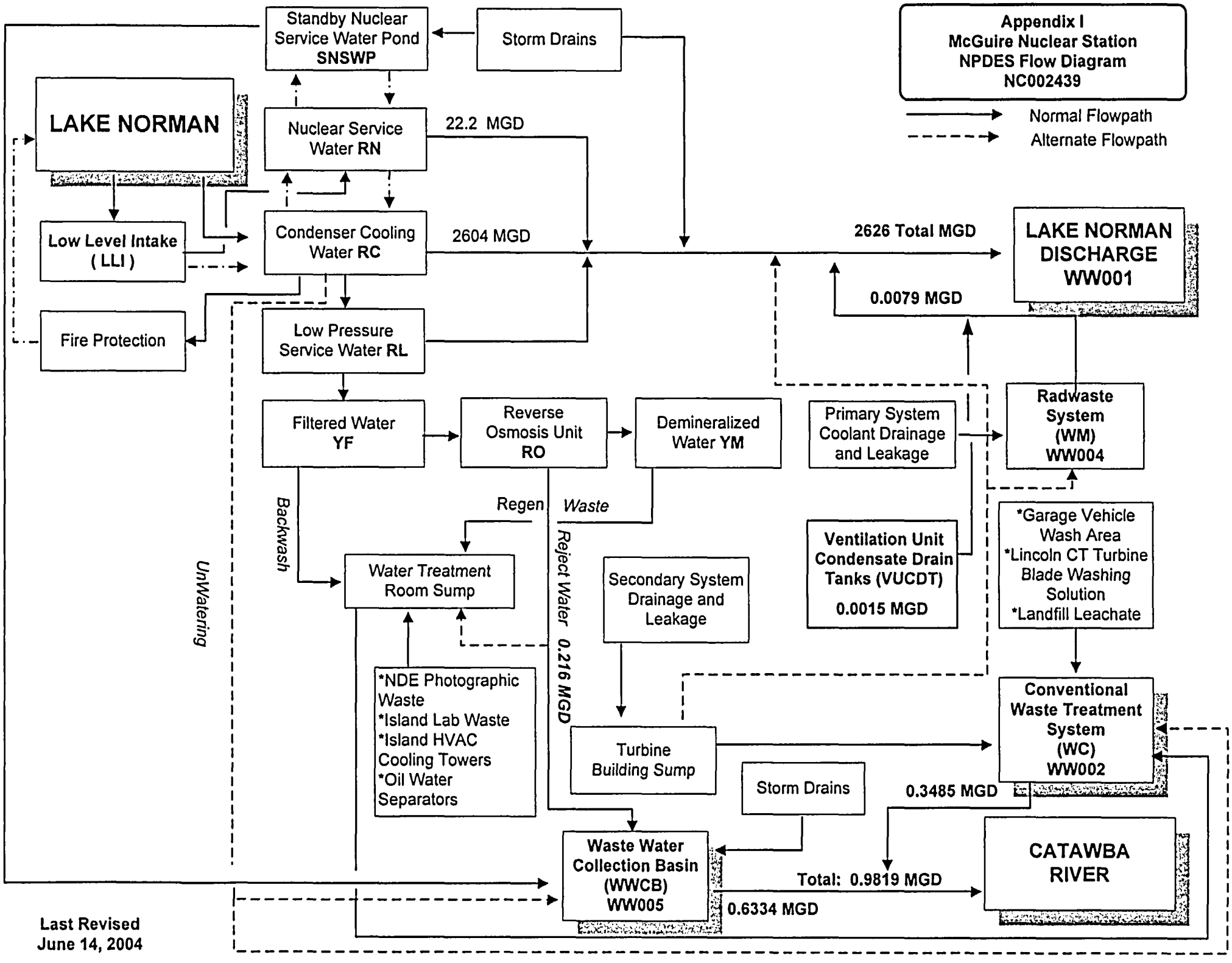
EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
NC0024392	005

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X" a. required	2. MARK "X" b. present	2. MARK "X" c. absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (if available) (1) Concentration	3. EFFLUENT a. MAXIMUM DAILY VALUE (if available) (2) Mass	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) Concentration	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) Mass	3. EFFLUENT c. LONG TERM AVG. VALUE (if available) (1) Concentration	3. EFFLUENT c. LONG TERM AVG. VALUE (if available) (2) Mass	3. EFFLUENT d. NO. OF ANALYSES	4. UNITS a. Concentration	4. UNITS b. Mass	5. INTAKE (optional) a. LONG TERM AVG. VALUE (1) Concentration	5. INTAKE (optional) a. LONG TERM AVG. VALUE (2) Mass	5. INTAKE (optional) d. NO. OF ANALYSES
GC/MS FRACTION - PESTICIDES (continued)															
17P. Heptachlor Epoxide (1024-57-3)			X	< 1.00	< 0.0024					1	ug/l	lb/Day			
18P. PCB-1242 (53469-21-9)			X	< 1.00	< 0.0024					1	ug/l	lb/Day			
19P. PCB-1254 (11097-69-1)			X	< 1.00	< 0.0024					1	ug/l	lb/Day			
20P. PCB-1221 (11104-28-2)			X	< 1.00	< 0.0024					1	ug/l	lb/Day			
21P. PCB-1232 (11141-16-5)			X	< 1.00	< 0.0024					1	ug/l	lb/Day			
22P. PCB-1248 (12672-29-6)			X	< 1.00	< 0.0024					1	ug/l	lb/Day			
23P. PCB-1260 (11096-82-5)			X	< 1.00	< 0.0024					1	ug/l	lb/Day			
24P. PCB-1016 (12674-11-2)			X	< 1.00	< 0.0024					1	ug/l	lb/Day			
25P. Toxaphene (8001-35-2)			X	< 1.00	< 0.0024					1	ug/l	lb/Day			

APPENDIX I

FLOW DIAGRAM


Appendix I
McGuire Nuclear Station
NPDES Flow Diagram
NC002439
Normal Flowpath
Alternate Flowpath
Standby Nuclear Service Water Pond SNSWP
Storm Drains
LAKE NORMAN
Nuclear Service Water RN
22.2 MGD
Low Level Intake (LLI)
Condenser Cooling Water RC
2604 MGD
2626 Total MGD
LAKE NORMAN DISCHARGE WW001
0.0079 MGD
Fire Protection
Low Pressure Service Water RL
Filtered Water YF
Reverse Osmosis Unit RO
Demineralized Water YM
Primary System Coolant Drainage and Leakage
Radwaste System (WM) WW004
Backwash
Regen
Waste
UnWatering
Reject Water 0.216 MGD
Water Treatment Room Sump
Secondary System Drainage and Leakage
Ventilation Unit Condensate Drain Tanks (VUCDT)
0.0015 MGD
*Garage Vehicle Wash Area
*Lincoln CT Turbine Blade Washing Solution
*Landfill Leachate
*NDE Photographic Waste
*Island Lab Waste
*Island HVAC Cooling Towers
*Oil Water Separators
Turbine Building Sump
Storm Drains
Conventional Waste Treatment System (WC) WW002
0.3485 MGD
Waste Water Collection Basin (WWCB) WW005
Total: 0.9819 MGD
0.6334 MGD
CATAWBA RIVER
Last Revised
June 14, 2004

APPENDIX II

SUPPLEMENTAL INFORMATION FOR McGUIRE NUCLEAR STATION

NPDES

SUPPLEMENTAL INFORMATION

FOR

MCGUIRE NUCLEAR STATION

Revision 4: 8/30/04

TABLE OF CONTENTS

OVERVIEW

The McGuire Nuclear Station is a two unit nuclear steam electric generating station. It is owned and operated by Duke Energy Corporation. Each unit has a four loop pressurized water reactor. Reactor fuel consists of uranium oxide pellets clad in zirconium alloy fuel rods. Reactor heat absorbed by the Reactor Coolant System (primary side) is transferred to four steam generators to produce steam (secondary side) sufficient enough to drive a turbine generator with a design net electrical rating of 1180 megawatts.

The nuclear reaction is controlled by control rods and chemical neutron absorption. Boric acid is used as a chemical neutron absorber and to provide borated water for emergency safety injection. During reactor operation, changes are made in the reactor coolant boron concentration.

A schematic diagram of water use and waste water discharges for McGuire Nuclear Station is attached as Appendix 1. It is possible for any of the discharges to contain low levels of radioactivity. All discharges of radioactivity are regulated by the Nuclear Regulatory Commission in accordance with 10 CFR Part 20 and 10 CFR Part 50. The following is a brief description of the major systems.

STATION INTAKE

All water for McGuire Nuclear Station is withdrawn from Lake Norman through a dual intake system, a surface and a subsurface system. These systems supply the Main Condenser Cooling Water (RC), Conventional Low Pressure Service Water (RL), Nuclear Service Water (RN), Fire Protection System (RF/RY), and Containment Ventilation Cooling Water System (RV).

Surface Intake

McGuire Nuclear Station has two power generating units with four RC pumps per unit. There are two intake screens per pump for a total of 16 screens. The intake screens are back washed on an intermittent basis to prevent differential pressure buildup across the intake screens. The frequency of cleaning is determined by the amount of debris on the screens. Approximately 8,500 gallons of water are used to backwash each screen. The water is returned to Lake Norman at the intake bay. The backwash water is raw lake water. No chemicals are used in the backwash water.

Subsurface Intake

The subsurface intake (Low Level Intake) is located near the bottom of Lake Norman at Cowans Ford Dam. There are six low-level intake pumps with a capacity of 150,000 GPM each. During certain times of the year, this system pumps cooler water from the lake hypolimnion (perpetually cold water in the lower part of the lake) and mixes it with the warmer water in the surface intake

structure during times of high lake surface water temperatures. At all times of the year, the Low Level Intake (LLI) supplies water to RV and RN.

The LLI lines are periodically drained for inspection to the Catawba River just below the Cowan's Ford Dam.

NUCLEAR SERVICE WATER

The Nuclear Service Water (RN) System is a safety related, once-through, non-contact Cooling water system. The RN System supplies cooling water to various heat loads in both the primary and secondary portions of each unit. There are two pumps per unit (four pumps total) that are capable of delivering 17,500 GPM per pump. The water supply is from Lake Norman or the Standby Nuclear Service Water Pond (SNSWP). Water from Lake Norman is supplied by the RC system from the surface intake or by the Low Level Intake (LLI). The normal source of water is the LLI system. The normal discharge is to Lake Norman through Outfall 001.

The SNSWP is a 34.9 acre pond designed to provide cooling water for the safe shutdown of the station in the unlikely event that Lake Norman becomes unavailable. The level in the pond is maintained, per requirements of the McGuire Nuclear Station Technical Specifications, by pumping water from Lake Norman into the pond. The pond overflows to the Catawba River via the Wastewater Collection Basin (WWCB), Outfall 005. The pond also receives storm water runoff from a drainage area of 100 acres. When the RN System is aligned to take suction from the SNSWP, discharge is back to the SNSWP. This recirculation mode is normally implemented for three hours every six weeks.

As a result of accelerated corrosion of RN System components, some components have corrosion inhibitors added. Corrosion inhibitors may contain nitrites, borates, carbonates, silicates, hydroxides, triazoles, and azoles. Low levels of one or more of these corrosion inhibitors would be discharged at environmentally acceptable levels.

Macrofouling by Corbicula (Asiatic clams) and Dreissena (Zebra Mussels) can impact the safe operation of the station. We currently do not have a problem with Zebra Mussels in Lake Norman but other utilities have experienced macrofouling with Zebra Mussels. Microbial influenced corrosion (MIC) has caused failures of piping and heat exchanger tubing due to pitting. Non-oxidizing biocides, chlorine, or sodium hypochlorite may be used at concentrations, which will not impact the environment to address macrofouling and MIC. Surfactants, which act as biopenetrants may be added along with biocides to improve their efficacy. To prevent mud fouling of components cooled by the RN System, dispersants are added.

CONTAINMENT SPRAY HEAT EXCHANGERS

In order to mitigate corrosion of carbon steel, a wet lay-up system is being used on the Containment Spray Heat Exchangers (NS). Various corrosion inhibitor solutions containing nitrites, borates, azoles, and triazoles may be used. The corrosion inhibitor solution is released 5

to 10 times per year per heat exchanger (2 heat exchangers per unit) to either the SNSWP or Lake Norman via Outfall 001, during the flow balance and heat exchanger performance testing. Each heat exchanger has a capacity of 3600 gallons. Organic biocides are added for biofouling control.

CONVENTIONAL LOW PRESSURE SERVICE WATER

The Low Pressure Cooling System (RL) supplies cooling water for various functions on the secondary (steam) side of the station. The system takes suction from the RC crossover lines and supplies cooling water to various motor bearings, seals, lube oil coolers, vacuum breaker valves, and a blowdown separator. Discharge is normally back through the RC System. RL is the supply for the plants Filtered Water System (YF).

FIRE PROTECTION SYSTEM

The Fire Protection Systems (RF/RY) provide the plant with fire protection water. The system is equipped with two 200 GPM jockey pumps which take suction from the RC System. One pump is capable of maintaining system pressure. However, the second pump is used to supplement the jockey pump system capacity. In the event the jockey pumps can no longer supply enough water to maintain system pressure, there are three 2,500 GPM main fire pumps that will start as necessary to maintain system pressure. The fire protection system is chlorinated, when water temperatures are greater than 62^0 F, to a concentration of approximately 1-5 ppm Chlorine to assure that Corbicula and Dreissena are not present in the system's piping. The fire protection system is used as the back-up source of water for bearing lubrication and gland seal on the low level intake pumps. System operability is demonstrated by periodically testing of the system. A summary of the current testing schedule follows:

Monthly, the main fire pumps are started, then stopped, to assure operability. Pump Suction is taken from Lake Norman and discharged directly back into the lake. Each valve on each hydrant is stroked semiannually to assure proper operation. At this same time, each hydrant is opened and flushed to verify flow. Very little water is discharged. Any water discharged, flows across paved lots, dirt, or grass to yard drains from which it discharges to the SNSWP or WWCB.

Other routine tests are performed periodically to ensure operability of the RF/RY System. These tests include pump head curve and pump starts in which the water is recirculated back into Lake Norman. Water is also pumped through the system to ensure there are no obstructions in the lines, which discharge water across paved lots, and grass to the yard drain system.

OUTFALL 001

Inputs to Outfall 001 include discharges from the RC, RL, and RN systems. Outfall 004 combines with Outfall 001 before discharging into Lake Norman. Storm drains along the discharge canal combine with Outfall 001.

Condenser Cooling Water

The RC System is a once through non-contact cooling water system that removes heat rejected from the main and feedwater pump turbine condensers and other miscellaneous heat exchangers. Each of the two power generating units has four RC pumps for a total of eight (8) pumps. The flow for each unit depends on the number of pumps operating as shown by the following table:

Number of Pumps Operating	Total Flow/Unit (GPM)
1	254,000
2	640,000
3	867,000
4	1,016,000

The operational schedule of the pumps of each unit is a function of the intake water temperature and the unit load. At 100% load and with the intake temperature near its summer high, three and sometimes four, RC pumps per unit are used. During winter when intake temperatures are lower, three pumps may be used.

Condenser cleaning is accomplished by mechanical means using the "Amertap" system. This system circulates small sponge rubber balls through the condenser continuously. There are 8 Amertap pumps per unit, 16 altogether. Each system (2 systems per unit, one for main condenser and one for the FWPTs (Feedwater Pump Turbines)) has a capacity of approximately 1240 balls. The balls are injected on the inlet side of the condenser and are retrieved on screens on the discharge side of the condenser. Periodically some balls escape the retrieval system and are discharged through Outfall 001. Efforts are made to minimize the loss of balls within the system.

It may become necessary at times to institute chemical control for macroinvertebrate infestation, general corrosion, and microbiologically induced corrosion (MIC). Chemicals anticipated to be added include chlorine (sodium or calcium hypochlorite), organic biocides, dispersants, and corrosion inhibitors. The corrosion inhibitors include nitrites, carbonates, triazoles, borates, triazoles, and azoles. Discharge concentrations are maintained below permitted discharge levels.

Ventilation Unit Drains

The Ventilation Unit Condensate Drain Tanks (VUCDT) collects condensate from air handling units from each reactor building. Each VUCDT (1 per unit) has a volume of 4,000 gallons.

This condensate typically has little radionuclide contamination. The condensate may also contain a small amount of boron from condenser ice melt. The condensate is sampled for radionuclide

contamination before being released. If the results of this sampling indicates the need, the VUCDT contents are transferred to the Floor Drain Tank (FDT) for processing through Outfall 004. If no processing is needed, the condensate is released from the VUCDT via the RC System piping to Lake Norman (Outfall 001).

Note: Outfall 004 and the VUCDTs discharge through the same piping to Lake Norman through Outfall 001.

During refueling outages, the ice in the ice condenser is melted. The ice melt is normally routed to WC via the Turbine Building Sumps, however on occasion the ice melt may be routed through the VUCDT. This drainage contains small amounts of boron. Boron is used as a neutron absorber in the ice to control reactivity.

Additionally, small amounts of oil have also been found to accumulate on the ice in the ice condensers. The source of the oil is from pneumatic tools used to vibrate the ice from the condenser's ice baskets.

316 (a) Study and Thermal Variance

A 316(a) study was submitted to the state on August 9, 1985 and a 316(a) variance was granted on October 18, 1985. Plant operating conditions and load factors remain unchanged and are expected to remain so for the term of the permit. A Lake Norman aquatic environment maintenance monitoring program was implemented on July 8, 1987. Duke Power is not aware of any changes to plant discharges or other discharges in the plant site area which would negatively impact the thermal discharge or biological habitat of Lake Norman.

OUTFALL 002

Outfall 002 discharges treated wastewater from the Conventional Wastewater Treatment (WC) System through a Parshall flume to the Catawba River below Cowans Ford Dam. The WC System consists of a concrete lined initial holdup pond (200,000 gallon capacity), two parallel clay-lined settling ponds (2.5 million gallons each), and a concrete lined final holdup pond (1 million gallon capacity). Normally, inputs are received in the Initial Holdup Pond (IHP) but can be routed directly to an in-service settling pond. The IHP serves as a common mixing point for all wastewater, a surge dampening function to the remainder of the system, and also allows the heavy solids to settle for periodic removal. Retention time in the IHP is 12 to 24 hours. Solids removed from the IHP are dewatered and disposed of in a permitted landfill.

Flow is directed from the IHP to the in service settling pond. Caustic, acid, and/or other chemicals may be added as necessary. Sulfuric acid and sodium hydroxide may be added for pH control or to precipitate various chemical compounds. Coagulants may be added to facilitate the settling of lighter solids. Additional treatment may include chemical oxidation with hypochlorite (calcium or sodium) or catalyzed hydrogen peroxide. Retention time for each of the settling ponds ranges between 6 and 12 days. The settling ponds can discharge to the FHP or directly to

the Catawba River. Treatment and discharge are normally on a batch basis. During normal operations, the FHP is bypassed.

The FHP can be aerated and may be used to remove any persistent oxygen demand or provide additional holdup capacity. The capability is available for recirculation intra- or inter- basin.

Discharge to the Catawba River may be by gravity at a rate of approximately 200 GPM or be pumped at a rate of approximately 350 GPM. The pH of the discharge from the WC System is adjusted to within permitted limits by the automatically controlled addition of carbon dioxide.

The WC System accepts all conventional plant wastes except sanitary sewage. Inputs to the system are from the Turbine Building Sumps, Water Treatment Room Sump, Closed Cooling Systems, the Standby Shutdown Facility, Diesel Generator Room Sumps, Laboratory Drains, Landfill Leachate. Steam Generator Blowdown, Wet Layup Drains, and the Unwatering Pump discharges may occasionally be routed through this system as well. Several other building also have inputs to the WC system, including the Vehicle Maintenance Facility, McGuire Office Complex, Nondestructive Examination Lab, Island Labs, and the McGuire Medical Facility.

Water Treatment Room Sump

Inputs to the Water Treatment Room Sump consist of drainage from all equipment including pump seal leakoff and bearing cooling water located in the Water Treatment Room. Other inputs include the Diatomaceous Earth (DE) Slurry Tank drain, Filtered Water (YF), Acid and Caustic day-tank storage overflow drains, Carbon Filter backwash and sluice, filter backwash, YM demineralizer regeneration waste, rinsate of empty hydrazine, ammonia, carbohydrazide, dimethylamine containers and backflow preventer drains. In addition, floor wash and sample line flush water are routed to this sump. Antifoaming agents and wax strippers are routinely present in this waste stream. Rinsate from empty microbiocide containers (used in the closed cooling systems) are periodically added to this sump. The drains in the plant Auxiliary Electric Boiler Room also route to this sump.

Filtered Water System

Water from Lake Norman is treated for process use. Filtration is performed by Diatomaceous Earth (DE) pressure filters. Water from the RL System is treated with chlorine for disinfection purposes and polyelectrolytes to coagulate colloidal material. The water is filtered through one DE filter while a second filter is in standby. The filtered water is stored in two 42,500 gallon Filtered Water Storage Tanks. When the administratively established pressure differential across the filter is achieved, the filter is backwashed thereby removing the filter cake. Approximately 400 pounds of DE and 32 ounces of polyelectrolyte are used by each filter between backwashes.

When a YF Filter is backwashed it takes approximately 8,500 gallons of water. The backwash water containing the waste DE and filtered solids is routed to the WC System where solids are

accumulated and ultimately placed in a permitted landfill. Approximately 2 times/year, oxalic acid is used to clean the filter elements because of tube fouling. Yearly, approximately 150 gallons of oxalic acid waste is disposed of through Outfall 002 due to tube cleaning.

McGuire Nuclear Station personnel are currently reviewing a possible upgrade to the filtered water system. If an upgrade is implemented the existing DE pressure filters will likely be replaced with an alternate type that has a reusable media. The generated waste would then consist mainly of backwashed filterable solids. The waste diatomaceous earth and the need to clean filter elements with oxalic acid should be eliminated.

Drinking Water

Drinking Water for the McGuire Site is supplied by the Charlotte/Mecklenburg Utility Department.

Demineralized Water System

The Demineralized Water System (YM) provides high purity water for makeup to the primary and secondary systems and for laboratory usage. There are two carbon filters, three Reverse Osmosis (RO) units and two mixed bed regenerative demineralizers with a system flow rate of 475 GPM. Normally, two carbon filters, three RO Units and one regenerative demineralzer are in use, while the other demineralizer is being regenerated or in standby. YM pumps take suction from the Filtered Water (YF) Storage Tanks and discharge through the Carbon Filters to the RO units. The RO units discharge to holding tank(s) which discharges to the YM demineralizer in service. The RO units can be bypassed during high water demands.

The carbon filters remove organic substances and any residual chlorine. These filters may be cleaned by backwashing, steam cleaning, or rinsing. Backwashing is usually performed weekly on alternating filters. Rinse water is discharged via the Water Treatment Room Sump to the WC System (Outfall 002). Approximately 15,000 gallons of water is used per rinse. Each carbon bed is sluiced and reloaded with new carbon as needed. Waste carbon is routed to the WC Initial Holdup Pond where it is collected and deposited in a permitted landfill. Waste carbon may also be collected directly from the carbon filter and deposited in a permitted landfill

The RO units provide pretreatment to the demineralizers. They consist of a high pressure pump for each unit which forces water through a series of membranes which cleans a portion of the water (approximately 300 GPM) to a acceptable level (permeate) and sends the rest of the water (reject water of approximately 150 GPM) to the Waste Water Collection Basin (Outfall 005). Sulfuric acid can be injected to the process stream to maintain proper pH. The RO Units are periodically cleaned based on performance standards. The cleaning process may involve the use of surfactants, acids and caustics. When cleaning is conducted, the cleaning water is discharged via the Water Treatment Sump and then to the WC System (Outfall 002).

Demineralizers are regenerated based on through-put or chemistry limits on contaminant levels. To regenerate the resins, sulfuric acid and sodium hydroxide are flushed through the bed. At the

present time, each regeneration normally takes approximately 200 gallons of 93% Sulfuric Acid, 400 gallons of 50% Sodium Hydroxide and 75,000 gallons of YM water. The amounts of required acid and caustic will vary as dictated by operational requirements. Based on annual resin analysis results, the beds may be surfactant cleaned, caustic soaked or brine soaked. The water from these cleanings is discharged via the Water Treatment Room Sump to the WC System (Outfall 002). The demineralizer resin is replenished approximately every six to eight years depending on resin sampling results. Waste resin is routed via the Water Treatment Room Sump to the WC System, Initial Holdup Pond and is ultimately placed in a permitted landfill.

Waste resin may also be collected directly from the ion exchange vessel and either recycled if reusable, or deposited in a permitted landfill.

Turbine Building Sumps

The Turbine Building Sumps (TBS), one for each unit, receive inputs from leakage, drainage, and liquid wastes from equipment and floor drains located in the Turbine Building. Inputs include Groundwater Drainage Sumps (WZ), Auxiliary Electric Boiler Blowdown, Steam Generator Blowdown, air handling units, Diesel Generator Room Sumps, lab drains, floor washes, normal condensate system leakage, and condensate polisher backwashes. Other possible inputs may include RC Un-watering, closed cooling system drainage, and steam generator wet lay-up/drain down. Periodically, condensate from air compressors is processed through an oil water separator and routed to the TBS then to the WC Initial Holdup Pond. The TBS's pump out to the WC Initial Holdup Pond. If radioactivity limits are exceeded, theses sumps may be routed through the Radwaste Liquid Waste Monitoring (WM) System (Outfall 004) or directly to RC (Outfall 001) depending on the treatment needed. All radioactive releases are controlled and regulated by the NRC. Discharges from the TBS may also be routed to RC (Outfall 001) if system inventory is high.

Chemicals that may be present in the TBS include the following:

- ammonia
- hydrazine
- carbohydrazide
- 3-methoxypropylamine (MPA)
- dimethylamine (DMA)
- microbiocides
- corrosion inhibitors (examples include: molybdate, nitrite, tolyltriazole, etc.)
- janitorial cleaning products
- ethylene glycol (from ice melt)
- Boric Acid / Borax (from ice melt)
- miscellaneous system/component cleaning products (low –volume wastes not associated with chemical metal cleaning)
- laboratory chemicals
- poly acrylic acid (PAA)

- surfactants
- dispersants

During refueling outages, the ice in the ice condenser is melted. The ice melt is routed to WC via the Turbine Building Sumps. This drainage contains small amounts of boron. Boron is used as a neutron absorber in the ice to control reactivity.

Additionally, small amounts of oil have also been found to accumulate on the ice in the ice condensers. The source of the oil is from pneumatic tools used to vibrate the ice from the condenser's ice baskets.

Diesel Generator Room Sumps

The Diesel Generator Room Sumps (WN), receive inputs from the leakage or drainage of the four, diesel generator engine cooling water, fuel oil, and lubrication systems. Each diesel generator room has two sumps. The smaller sump has a volume of 600 gallons and one pump with a capacity of 25 GPM. The larger sump has a volume of approximately 4,000 gallons and contains two pumps with a rated capacity of 450 GPM each, and a third pump, with a rated capacity of 50 GPM. Fuel oil and lube oil is collected in the "drip tank" which is then pumped to the Waste Oil Storage Tank (WOST).

Each of the four engine cooling water systems has a volume of 800 gallons. The systems may be treated with various corrosion inhibitors which may contain molybdate, hydroxides, borates, silicates, triazoles and azoles. Miscellaneous biocides and dispersants may also be added. Each system is drained and flushed to the WC System, approximately once per year. Additionally, the fuel oil used in the diesels contains biocide which is added to reduce bacterial breakdown of the oil during storage.

Lab Drains

There are several analytical laboratories on site which discharge to the WC System. The discharges contain small quantities of typical laboratory chemicals used in analytical procedures. The island environmental labs discharge to the WC System.

The lab sinks in the Island Technical Services Center (TSC), building 7406, drain to CMUD. There are signs on all of the TSC lab sinks telling lab personnel not to dispose of any chemicals down the lab sink drains. There is very little chemical use in these labs. The TSC labs perform weight calibration, and sound and vibration analysis.

Condensate Polisher Backwash

Over time, trace impurities in the condensate system increase in concentration. In order to maintain the integrity of the condensate system, the condensate is processed through ion exchange resin. Condensate polishers are backwashed an average of twice per year. Each

polisher backwash contains approximately 15 - 20 cubic feet of resin, 120 milliliters of polymer, and requires approximately 10,000 gallons of condensate or YM water. The backwash is discharged to the WC System. Each unit has 4 Condensate Polishers. Normally, the spent resin is pumped into a liner, de-watered and shipped to a low level radioactive waste disposal site. This resin may also be discharged to the WC System or to the Liquid Waste Monitoring System (WM) depending on levels of radioactivity and volume.

Steam Generator Blowdown

There are four steam generators (SG) per unit at McGuire for a total of eight steam generators. Each has an operating volume of 16,000 gallons. Each unit is provided with a Steam Generator Blowdown Recycle System. Steam generator blowdown is continuous at a rate of approximately 200 gallons per minute per unit. The blowdown is directed to either the condensate polishing demineralizers or to the steam generator blowdown demineralizers. If the blowdown water quality is unacceptable, it is rejected. Rejected water is discharged to the WC System or to the WM System depending on levels of radioactivity.

During normal operation, hydrazine is added to the condensate system for oxygen scavenging. The hydrazine concentration is maintained within a range of 25-200 ppb. 3-methoxypropylamine is added for pH control. The steam generators and hotwell are placed in wet lay-up if a unit is to be in extended shutdown or per management direction. Each unit is normally shutdown every 12 – 18 months for refueling and maintenance.

Dispersants may be used in the plants Steam Generators to control corrosion and sediment buildup, therefore the potential exists that rejected blowdown waste water may contain small amounts of the dispersant.

Steam Generator Wet Lay-up

Wet lay-up is the method used for protecting the steam generators against corrosion during inactive periods. Chemical additions are made up in a 150 gallon addition tank. Normally, 40 gallons of 12% Carbohydrazide and 2 gallons of 40% 3-methoxypropylamine (MPA) are made up for transfer to the steam generators. Any remaining chemical solution is drained to the WC System via the Turbine Building Sump. Prior to returning the unit to operation, this wet layup solution is drained to the WC System or WM System via the TBS.

The hotwell on each unit has a volume of approximately 250,000 gallons. During each unit shutdown or per chemistry management direction, the hotwell is placed in wet layup. Maximum chemical concentrations are approximately 70 ppm Carbohydrazide or 50 ppm hydrazine with the pH adjusted with MPA. Hydrazine is only used if Carbohydrazide is not available. Prior to returning the unit to operation, this wet layup solution is discharged to the WC System or WM System via the TBS.

Auxiliary Electric Boiler Blowdown

The Auxiliary Electric Boiler is supplied feedwater from the condensate system. Trisodium phosphate is added as an electrolyte. The blowdown from the boiler may contain these chemicals and approximately 1-2 ppm suspended solids. Blowdown is routed to the WC System via the TBS.

Groundwater Drainage System

The Groundwater Drainage System (WZ) is designed to relieve hydrostatic pressure from the Reactor and Auxiliary Buildings by discharging groundwater collected in sumps to either a yard drain or the TBS. There are three groundwater sumps with two 250 GPM sump pumps each. Two of the sumps discharge to the TBS while the third sump discharges to a yard drain that is routed to the Standby Nuclear Service Water Pond (SNSWP).

RC System Unwatering

The RC System for each of the two units has a volume of approximately 2 million gallons. During refueling outages and periodically during other shutdowns, the RC System must be unwatered. This water is essentially untreated lake water. The principle unwatering discharge route is through the WWCB, but it can be routed through the WC System for short periods of time. See additional details under Outfall 005.

Closed Cooling Systems

There are several closed cooling systems within the station. The largest system has a volume of approximately 30,000 gallons. The main components of these systems are constructed of carbon steel. In order to mitigate corrosion of the carbon steel, various corrosion inhibitor solutions which may contain nitrite, borate, carbonate, azole, triazole, silicate, phosphate, and molybdate compounds are used. Dispersants may also be used to control corrosion and reduce fouling. Biocides such as gluteraldehyde, isothiazolin and DBNPA can be used to prevent microfouling. Surfactants which act as biopenetrants may be added to improve efficacy. The systems may need to be drained, individually, for non-routine maintenance. Should this occur, these systems would be drained to the RC discharge, WC System, or WM System, if contaminated with radioactivity.

Standby Shutdown Facility

The Standby Shutdown Facility (SSF) is an alternate and independent means to shutdown the station during emergencies should the need arise. The independent power supply for the SSF is a diesel generator system. The SSF contains a sump to collect system leakage, floor wash, and drainage of the equipment for maintenance. The closed cooling system for the diesel generator uses corrosion inhibitors which may contain nitrite, borate, carbonate, azole, triazole, silicate, phosphate, and molybdate compounds. Biocides such as gluteraldehyde, isothiazolin and

DBNPA can be used to prevent microfouling. Surfactants which act as biopenetrants may be added to improve efficacy. To maintain efficiency, the cooling-system is flushed annually to the SSF sump which drains to the WC System.

Steam Generator Cleaning

Each electrical generating unit contains four steam generators that have a capacity of approximately 25,000 gallons each. There has been no chemical cleaning of the steam generators to date, but the possibility exists that cleaning may be required. The actual chemicals used for cleaning will depend on the type of fouling, and may include use of the chemicals listed below.

Miscellaneous System/Component Cleaning

Other systems/components (such as strainers, HVAC heat exchangers, etc.) are cleaned periodically because of scaling or plugging. Other components are cleaned as necessary for various fouling problems. Solutions utilized are dilute acids or caustics. Typically only small volumes of waste are generated. Chemicals utilized by these methodologies, alone or in combination, mayinclude the following:

Alkaline Boilout Solutions

non-ionic surfactants
anionic surfactants
cationic surfactants
sodium hydroxide
soda ash
trisodium phosphate
disodium phosphate
monosodium phosphate
sodium bicarbonate

Acid Solutions

hydrochloric acid
sulfuric acid
phosphoric acid
formic acid
hydroxyacetic acid
sulfuric acid
citric acid
nitric acid

Acid Solution Additives

thiourea
ammonium bifluoride
oxalic acid

EDTA Compounds and HEDTA

pH adjusted tetra-ammonium EDTA
tetra-ammonium EDTA
di-ammonium EDTA
hydroxyethylenediaminetriacetic acid
tetrasodium EDTA

Miscellaneous Compounds

chlorothene
sodium chloride
potassium permanganate
aqua ammonia
ammonium persulfate
antifoam
sodium sulfite
chlorine

These solutions are described in the Development Document for Effluent Limitations Guidelines and New Source Performance Standards for the Steam Electric Power Generating Point Source Category (Development Document).

The wastes from these cleanings will be analyzed to determine proper waste disposal. These cleaning solutions will be released through the WC System or WM System depending on levels of radioactivity.

Landfill Leachate

The McGuire Site operates a synthetically lined sanitary waste landfill (Permit 60-04), which is located on Duke Power property, on the opposite side of Highway 73, from the McGuire Plant. The landfill began operation in January 1992. The maximum active area of the landfill in current usage is 3.0 acres, but the active area can be expanded to approximately 5 acres, as needed. The landfill accepts only non-hazardous solid wastes, which contain no free liquids.

The leachate collection system is designed to collect rainwater that falls directly onto the landfill. In the landfill cells, a perforated pipe collects the leachate which is then routed to the leachate collection pond. The leachate system is designed to collect a maximum of 68,000 gallons. From

the leachate collection pond, the leachate is pumped to the WC System Initial Holdup Pond. The Leachate will also contain pump seal water. The estimated average flow from the landfill leachate system is 200 GPD. This will vary according to rainfall amounts. The leachate is sampled semi-annually the results are and submitted to the N.C. Department of Environment, Health, and Natural Resources, Solid Waste Section, per Landfill Operation permit conditions.

McGuire Garage

The McGuire Garage conducts maintenance on a variety of vehicles and heavy equipment. Examples include cars, trucks, boats, fork lifts, cranes, etc. All industrial waste generated at this facility is routed through an oil water separator to the WC System via the Initial Holdup Pond (IHP). To add weight to some equipment, water is added to the tires. To prevent the water from freezing, calcium chloride is added. Approximately 500 gallons of this solution is generated each year. Some of this solution is reused. Portions that are not reused are disposed of in the Initial Holdup Pond.

McGuire Office Complex

All industrial waste generated in this building is routed to the WC system via the Initial Holdup Pond. Waste from an oil water separator is also routed to the WC system. The average daily flow has not been be estimated due to the highly intermittent nature of the flow but it is expected to be less than 5 GPD (Gallons Per Day).

Office Shop Facility

All industrial waste generated in this building is routed to the WC system via the Initial Holdup Pond. Waste from an oil water separator is also routed to the WC system. The average daily flow has note been estimated due to the highly intermittent nature of the flow but it is expected to be less than 5 GPD (Gallons Per Day).

Nondestructive Examination

Nondestructive Examination (NDE) includes X-ray testing of various components. The photographic waste from X-raying is routed to the WC system via the IHP. NDE is usually conducted in a building inside the protected area. If this X-ray processing unit is unavailable, then a trailer which has the same type of equipment is utilized. The trailer also discharges the photographic waste to the WC System via the IHP. When operating, the X-ray processing unit has a waste stream which consists of approximately 0.0059 GPM developer replenisher working solution, 0.0297 GPM fixer and replenisher working solution and 4.0 GPM water. The developer replenisher working solution contains hydroquinone, glutaraldehyde, and potassium acetate. The fixer and replenisher working solution contains ammonium thiosulfate and sodium sulfate. Other developer working solutions and /or fixer replenisher working solutions with other constituents may be substituted in the future. Silver is recovered from the process unit flow before it enters the waste stream. The developing process can be operated a maximum of 30

hours per week (4.3 hours/day) but averages only 6 hours per week (1.2 hours/day). Operation of the developing process results in a maximum of approximately 1040 GPD, with an average of 290 GPD of photographic waste discharging to the WC System.

Medical Facility

The Medical Facility has an X-ray processing unit that discharges to the WC System. The chemical nature of this waste stream does not differ substantially from the NDE X-ray process. Silver is recovered from the process before it enters the waste stream. The X-Ray processor operates intermittently, Monday through Friday. The average waste stream flowrate is 110 GPD, with a maximum flowrate of 300 GPD.

Lincoln Combustion Turbine Blade Wash Water

A State Approved Pilot Study was conducted in 1997 to determine if McGuire's wastewater treatment system could process wastewater from the Lincoln Combustion Turbine (LCT) Plant. The results of the study indicated that wastewater from the LCT could be satisfactorily treated at McGuire with little to no effect on McGuire's effluent limits. The wastewater is primarily detergent/surfactant wastewater from washing of turbine compressor blades. This washing may occur up to once per year and can generate up to 70,000 gallons.

Ice Condenser

During refueling outages, ice melt from the plants ice condenser is routed to WC. Potential chemicals in ice melt include:

- Borax
- Boric Acid
- Trace amount of oil from ice removal pneumatic tools
- Ethylene Glycol from spills from the ice making equipment. The amount of Ethylene Glycol in the ice melt would be <55 gallons total.

OUTFALL 003

Outfall 003 was eliminated as of June 28, 1998. All sanitary wastewater is now discharged to the Charlotte/Mecklenburg Utilities Department (CMUD).

OUTFALL 004

Outfall 004 discharges wastewater from the Radwaste Liquid Waste Monitoring System (WM). This discharge combines with RC water before discharging through the concrete discharge structure (Outfall 001) into Lake Norman as a batch discharge. All radioactive and potentially radioactive liquids are collected, segregated and processed prior to release. These effluents are classified as recyclable or non-recyclable liquids. Recyclable liquids are recirculated back to their process streams. Non-recyclable liquids are collected and processed to Nuclear Regulatory

Commission (NRC) requirements per 10 CFR Part 20 and 10 CFR Part 50 requirements prior to release. The type of processing depends on the type of waste. The maximum discharge rate from WM is 120 GPM. The batch discharge flow for a Waste Monitor Tank Release is a function of activity level, the number of RC pumps in operation, and the resultant boron concentration in Lake Norman.

The WM collects waste in three subsystems; floor and equipment drains, laundry waste, and ventilation unit drains. Chemicals that may be present in the WM System include:

boric acid
borax
nitrate
ammonia
carbohydrazide
Dimethylamine (DMA)
3-methoxypropylamine (MPA)
Cat Floc T-2
lithium hydroxide
ethylene glycol (from ice melt)
corrosion inhibitors (examples include: molybdate, nitrite, tolyltriazole, etc.)
hydrazine
chlorine/hypochlorite
hydrogen peroxide
pump bearing cleaning chemicals
laboratory chemicals
surfactants
polyelectrolytes
miscellaneous system/component cleaning waste (low volume waste not associated with chemical metals cleaning)
microbiocides
tool and component decontamination waste
janitorial cleaning products.

The TBS can become contaminated with radioactivity. When this occurs, it can be pumped to the Floor Drain Tank (FDT) or to the WM release point in the RC crossover line. Any chemicals listed as being in the TBS have the potential to be present in the Waste Monitor Tank (WMT) when the sump is routed to WM. Any solids generated in the treatment process are de-watered and transported to a State licensed low level radioactive waste disposal facility.

Floor, Equipment, and Laundry Drains

All floor drains in the Auxiliary Building, drainage from all equipment (pumps, tanks, heat exchangers, etc.) which process radioactive waste, waste from showers in the change rooms and washing equipment which is used to decontaminate protective clothing, and waste from the Unit

1 and Unit 2 Containment Floor and Equipment Sumps are routed to the Floor Drain Tank (FDT), Waste Evaporator Feed Tank (WEFT), Auxiliary Floor Drain Tank (AFDT), Auxiliary Waste Evaporator Feed Tank (AWEFT), and/or Laundry and Hot Shower Tank (LHST). The total tank volume is 125,000 gallons. These collection tanks are used interchangeably and/or as backup and surge capacity for waste collection upstream of processing.

Waste from these collection tanks is then processed using filters and/or demineralizers. The processed effluent is collected in the Waste Monitor Tanks for sampling and analysis prior to release. Release is to Lake Norman via the RC crossover line.

Chemical Volume and Control System

The Chemical Volume and Control System (NV) regulates the concentration of chemical neutron absorber in the Reactor Coolant System (NC) to control reactivity changes and maintain the required water inventory in the NC System. Boron is used as the chemical neutron absorber.

Other control elements introduced into the NC System by the NV System include lithium and/or carbohydrazide or hydrazine. Approximately 120 pounds of lithium hydroxide monohydrate is used in each unit per year for pH control. The lithium is removed by demineralizers in the NC System. During start-up, carbohydrazide or hydrazine is used as an oxygen scavenging agent. It is consumed upon unit heat-up, and is not used at any other time. During shutdown, hydrogen peroxide is added to the NC System to facilitate the removal of activated corrosion products.

Chemical Treatment in WM System

Occasionally, it is necessary to oxidize sodium nitrite in the waste monitor tank using hypochlorite (calcium or sodium) or catalyzed hydrogen peroxide. When this treatment is performed, the waste monitor tank is isolated, recirculated, and mixed. The tank is sampled to ensure that the nitrite has been oxidized. The addition of the oxidation chemicals should result in a small residual of nitrite in the tank, since the oxidation chemicals will not be added in stoicheometrical excess.

OUTFALL 005

Outfall 005 discharges flow from the Waste Water Collection Basin (WWCB). The WWCB is a 13.4 acre collection basin having a total capacity of approximately 40 million gallons with a maximum drawdown capacity of approximately 1.1 million gallons. Discharge from the basin ranges from 0 to 20,000 GPM. If the Standby Nuclear Service Water Pond (SNSWP) is being flushed, no holdup of the WWCB is possible. Otherwise, holdup is minimal. The WWCB provides sedimentation, natural neutralization, and skimming. The overflow from the WWCB mixes with discharge from the WC System (Outfall 002) in a concrete apron and is discharged to the Catawba River downstream of Cowans Ford Dam.

Inputs to the basin include overflow from the SNSWP, yard drains, RO reject flow, miscellaneous Administrative Building drains, and RC System un-watering.

RO reject flow is routed to the WWCB through a storm drain pipe in the south west side of the lower administrative building parking lot.

Standby Nuclear Service Water Pond

The SNSWP is a 34.9 acre pond designed to provide water for the safe shutdown of the station in the unlikely event that Cowans Ford Dam is damaged and Lake Norman becomes unavailable. The level in the pond is maintained, per requirements of the McGuire Nuclear Station Technical Specifications, by pumping water from Lake Norman into the pond. The pond will receive runoff from a drainage area of 100 acres. The containment spray heat exchanger cleaning solutions (NS System) may occasionally be routed to the SNSWP. Overflow of the SNSWP is routed to the WWCB.

Administrative Building Drains

The Administrative Building drains include an HVAC sump, floor drains, janitorial sink, hot water boiler, and chiller water system discharge. Any chemicals in the drains would include the typical commercial products used to clean and maintain the floors as well as closed cooling corrosion inhibitors and microbicides from leakage/drainage of the HVAC Systems. The corrosion inhibitors may contain nitrite, borate, carbonate, triazole, azole, and glycol compounds.

Additionally, HVAC cooling units are periodically cleaned using dilute coil cleaning solutions. These cleaning solutions are typically flushed to storm drains near the building which drain to the SNSWP or the WWCB. Volumes are less than 55 gallons. The coil cleaning solutions are typically Phosphoric Acid or Hydrofluoric Acid based.

RC System Un-watering

The RC System for each of the two units has a total volume of approximately 2 million gallons. Whenever a unit is scheduled for refueling, periodically during other shutdowns, and for condenser tube leaks, the system must be un-watered for purposes of maintenance. Un-watering must continue while maintenance is performed because of leakage by the valves in the approximately 11 foot diameter RC piping. The maximum un-watering rate is approximately 2,000 GPM and the water is essentially lake water. Treated liquid radioactive waste effluent (Outfall 004) discharges into a crossover line between the RC System of the two units. During un-watering, the possibility exists for trace amounts of radioactivity to be released into the water from the un-watering process because of isolation valve leak-by. All radioactivity is accounted for and regulated by the NRC. The principle discharge route of the un-watering is through the WWCB. However, it may be routed through the WC System for short periods of time.

Filtered Water

Filtered Water (YF) storage tanks on the service building roof are periodically flushed to remove any sediment on the bottom of the tanks. These flushes go to roof drains which discharge into yard drains going to the SNSWP.

HVAC Unit Drains

Several HVAC units have once through non- contact cooling water drains which discharge to yard drains on the east and west sides of the Administrative Building. The flow from each of these units is 10 GPM. These HVAC units are supplied by RL.

Additionally, HVAC cooling units are periodically cleaned using dilute coil cleaning solutions. These cleaning solutions are typically flushed to storm drains near the building which drain to the SNSWP or the WWCB. Volumes are less than 55 gallons. The coil cleaning solutions are typically Phosphoric Acid or Hydrofluoric Acid based.

Yard Drains

Most yard drains discharge to the WWCB or SNSWP. The drainage area for the plant site is approximately 250 acres. The yard drain system is described in McGuire's Stormwater Supplemental Information.

OUTFALL 006

Performance standards require that certain metal components be periodically cleaned using an acid or caustic solution. This cleaning actually attacks the base metal of the component. The waste metal cleaning solutions which are generated will be neutralized. The other compounds will be mixed, oxidized, and/or precipitated as necessary for treatment. The wastes from these cleanings will be sampled and analyzed to determine proper waste disposal. If the wastewater is in specification it will be released through the WC System or WM System. If the waste solution exceeds the permitted discharge limits, it will either be treated further or sent off-site to an approved disposal facility.

APPENDIX III

SECTION 311 LIST

APPENDIX III

The table below identifies hazardous substances located on-site that have the potential to be released in quantities greater than the Reportable Quantity (RQ) listed in 40 CFR 117. This list is being provided in order to qualify for the spill reportability exemption provided in 40 CFR 117. Releases of these chemicals will be to the Outfalls indicated below. The values listed below represent the maximum quantities on-site that could be released at one time. These quantities do not reflect quantities that are discharged through typical use.

CHEMICAL NAME	USE	POTENTIAL RELEASE AMOUNT	TREATMENT	OUTFALL
Sodium Hydroxide	Bulk Chemical used for resin regeneration and wastewater neutralization. Stored in bulk tanks in a diked area.	500 Gallons / 4000 lbs	WC	002
Sulfuric Acid	Bulk Chemical used for resin regeneration and wastewater pH adjustment. Stored in Bulk Tanks in a diked area and in 350 gallon Tote Tanks.	500 Gallons / 4000 lbs	WC	002
Hydrazine	Used as an oxygen removal agent in plant systems. The greatest potential for a release of Hydrazine would be from a 350 Gallon Tote Tank spilled to the ground or inside the Turbine Building.	1500 lbs	WC / WWCB	002 / 005

APPENDIX IV

TOPOGRAPHIC MAP

THIS PAGE IS AN OVERSIZED DRAWING OR FIGURE,

THAT CAN BE VIEWED AT THE RECORD TITLED:

"LAKE NORMAN SOUTH QUADRANGLE NORTH CAROLINA 7.5 MINUTE SERIES (TOPOGRAPHIC)"

WITHIN THIS PACKAGE

D-01

APPENDIX V

ADMINISTRATIVE LIMITS ON BORON, ETHYLENE GLYCOL AND HYDRAZINE

DUKE POWER COMPANY
NUCLEAR PRODUCTION DEPARTMENT
P.O. BOX 33189, 422 SOUTH CHURCH STREET
CHARLOTTE, N.C. 28242
(704) 373-4011

September 8, 1983

Mr. Mark Lewis
North Carolina Department of Natural
Resources & Community Development (NCDNRCD)
P. O. Box 27687
Raleigh, NC 27611

Subject: McGuire Nuclear Station
Miscellaneous Chemical Releases
File: MC-702.35

Dear Mr. Lewis:

Duke Power Company periodically needs to dispose of several chemical wastes during the operation of its McGuire Nuclear Station. The most economical and practical disposal of these wastes is to discharge them into either the Condenser Cooling Water (CCW) system which discharges into Lake Norman or into the Conventional Waste Treatment (WC) system which discharges into the Catawba River. Duke Power Company (DPC) has conducted a literature search on boron, ethylene glycol, and hydrazine. Based on this literature search and the operational capabilities of various systems, DPC is in the process of establishing station administrative release limits to ensure no detrimental environmental effects. In retrospect to the May 23, 1983 memo to Mr. D. R. Gleason, DPC is requesting NCDNRCD's approval of the basis to be used for establishing its administrative limits. Additional information on boron and hydrazine have been requested by your office since the May 23, 1983 memo. In response to your request, DPC summarizes its previous literature search, provides the requested information, and provides the proposed basis for establishing its administrative limits as follows:

Boron

The United States Atomic Energy Commission's (USAEC) "Toxicity of Power Plant Chemicals to Aquatic Life", 1973, did not note any toxic effects to aquatic life below 100 ppm. In addition, the USAEC noted that "Boron in drinking water is not generally regarded as a hazard to human beings, and concentrations up to 30 mg/l in drinking water are said not to be harmful." The USEPA 1976 Quality Criteria for Water recommends a criterion of 0.75 mg/l to protect sensitive crops during long term irrigation.

With reference to long term irrigation, DPC contacted the County Extension Offices for counties which surround Lake Norman and Mountain Island Lake. Their responses (Attachment 1) indicate that presently these lakes are

not used for the commercial irrigation of sensitive (primarily citrus) crops. Additionally, DPC collected samples from September 1982 through April 1983 on a monthly basis at Cowans Ford Dam Forebay, in Ramsey Creek and outside the McGuire mixing zone at locations 2, 5, and 8 of the attached map (Attachment 2). All boron concentrations were less than 0.027 mg/l except for location 2 in November, 1982 in which the concentration was 0.030 mg/l. Note the analyses were performed on the ICP with a 0.027 mg/l limit of determination. The use of Lake Norman and Mountain Island Lake for irrigation is not a very common practice and previous data indicates lake concentrations are substantially lower than 0.75 mg/l. Therefore, DPC feels that this limit is not applicable.

With reference to the USAEC report, DPC feels that an in-stream maximum concentration of 12 ppm boron will ensure no detrimental environmental effects. Based on a maximum flowrate of 300 gpm from the liquid radwaste system and a minimum dilution flowrate of 320,000 gpm from the condenser cooling water system, then a release concentration less than 12,800 ppm from the liquid radwaste system will ensure that boron concentrations in the discharge canal are less than 12 ppm.

Based on a maximum flowrate of 500 gpm from the Conventional Wastewater Treatment (WC) system, an average flowrate of 307 gpm from the Wastewater Collection Basin (WWCB) and a minimum dilution flow of 54,300 gpm from Cowans Ford Dam, then a WC boron release concentration less than 1320 ppm will ensure that boron levels in the Catawba River are less than 12 ppm.

Since in-plant system concentrations rarely exceed 2100 ppm prior to treatment in either the WC or WL system, it is unlikely that the above concentrations will be seen in either system discharge.

Ethylene Glycol

Ethylene glycol is used as a coolant/anti-freeze in the ice condenser system. Our literature search has determined that concentrations of 100-1000 ppm are safe for aquatic life. It is our recommendation that in-stream concentrations be limited to 1 ppm for conservatism.

Based on a maximum flowrate of 300 gpm from the liquid radwaste system and a minimum dilution flowrate of 320,000 gpm from the condenser cooling water system, then a release concentration less than 1060 ppm will ensure that ethylene glycol concentrations in the discharge canal are less than 1 ppm.

Based on a maximum flowrate of 500 gpm from the Conventional Wastewater Treatment (WC) system, an average flowrate of 307 gpm from the Wastewater Collection Basin (WWCB) and a minimum dilution flow of 54,300 gpm from Cowans Ford Dam, then a WC ethylene glycol release concentration less than 110 ppm will ensure that ethylene glycol levels in the Catawba River are less than 1 ppm.

Hydrazine

As stated in my May 23, 1983 memo, DPC literature search determined that the most conservative information lists a hydrazine 96 hour no lethal effect of 0.43 ppm for bluegill. Additional information was requested as to the effects of hydrazine on the fathead minnow and daphnid. Recently (June and August 1983) DPC conducted toxicity tests of hydrazine on the fathead minnow and daphnid. One test was performed on the fathead minnow and two tests were conducted on daphnid. The fathead minnow exhibited a 96-hr LC50 value of 6.36 mg/l hydrazine. During the 96 hour test on the fathead minnow, there were no deaths at a concentration of 2.25 mg/l. Daphnids exhibited a 48-hr effecti e concentration (EC)50 of 0.19 and 0.16 mg/l hydrazine for the first and second test, respectively. Daphnids exhibited no immobility during the first 12 hour at concentrations of 1.25 and 0.56 mg/l during the first and second test, respectively. Immobility was the criteria used for daphnid in determining the EC, since the determination for the LC requires analyzing each potentiall deceased daphnid under a microscope.

As discussed in my May 23, 1983 memo, hydrazine is periodically discharged at McGuire from the Conventional Wastewater Treatment (WC) and the liquid radwaste (WL) systems. The WC system is normally a continuous discharge with the capability of retaining flow from its settling ponds. It is an infrequent occurrence in which hydrazine is discharged continuously for more than 12 hours. The WL normally discharges at intervals ranging from four to twenty four hours for a period of approximately one hour per discharge. Under normal operation the hydrazine concentration in the WC and WL systems will be less than 1 ppm. At Oconee Nuclear Station a five month monitoring program was conducted (Attachment 3) with the hydrazine concentrations being less than 1 ppm continuously at the radwaste system and the ambient sampling site. Duri g June 1983, the maximum concentration at the turbine building sump was 1.6 ppm.

In order to ensure that no detrimental environmental effects will result from the release of hydrazine, DPC plans on establishing administrative discharge limits to ensure that levels in Lake Norman and the Catawba River are less than 0.43 ppm. Based on a maximum flowrate of 300 gpm from the liquid radwast (WL) system and a minimum dilution flowrate of 320,000 gpm from the condenser cooling water system, then a release concentration less than 458 ppm from the liquid radwaste system will ensure that hydrazine concentrations in the discharge canal are less than 0.43 ppm.

Based on a maximum flowrate of 500 gpm from the Conventional Wastewater Treat ment (WC) system, an average flowrate of 307 gpm from the Wastewater Collecti n Basin (WWCB) and a minimum dilution flow of 54,300 gpm from Cowans Ford Dam, then a WC hydrazine release concentration less than 47 ppm will ensure that hydrazine levels in the Catawba River are less than 0.43 ppm.

DPC feels that establishing administrative release limits based on system operation and meeting in-stream concentration limits of 12 ppm boron, 1 ppm ethylene glycol and 0.43 ppm hydrazine will protect the environment and seeks NCDNRCD's approval. We are willing to meet with you to discuss further. If you have any questions, please call me at (704)373-2310.

Yours very truly,

Robert T. Simril

Robert T. Simril
System Engineer
Nuclear Environmental Compliance

RRW/scd
Attachments

cc: D. R. Gleason

bcc: W. A. Haller
J. E. Lansche
J. I. Wyant
G. E. Vaughan
R.M. Propst
R. P. Michael

North Carolina Department of Natural Resources & Community Development
James B. Hunt, Jr., Governor Joseph W. Grimsley, Secretary

DIVISION OF ENVIRONMENTAL MANAGEMENT
Robert F. Helms
Director
Telephone 919/733-3015

DIVISION OF ENVIRONMENTAL MANAGEMENT

November 9, 1983

Mr. Robert Wylie
Duke Power Company
Nuclear Production Department
Post Office Box 33189
422 South Church Street
Charlotte, North Carolina 27242

Dear Mr. Wylie:

We have reviewed your proposed administrative limits for ethylene glycol, boron and hydrazine, and still are concerned that an environmental impact could result if the proposed limits are implemented. As before, our concerns deal with the limits you have proposed for boron and hydrazine; we have no problem with your recommended instream limit of 1 ppm for ethylene glycol.

Hydrazine

Duke Power's bioassay tests have resulted in the following acute toxic hydrazine concentrations:

Fathead Minnow	96 hr. LC_{50} = 6.36 ppm
Daphnia sp.	48 hr. EC_{50} = 0.19 and 0.16 ppm

A literature survey indicated that hydrazine had a "96 hour no lethal effect concentration" of 0.43 ppm for bluegill. Duke Power proposes this level as an administrative limit.

We feel that this limit is insufficient to protect the ecosystems which may be exposed to this level for the following reasons:

1. This is a "no lethal" (acute) effect level; the chronic exposure level is likely to be significantly less than this value.

2. .43 ppm is greater than the 48 hr. EC_{50} for daphnids.

According to the North Carolina Administrative Code (Title 15, Chapter 2, Subchapter 2B, Section .0208), "The concentration of toxic substances in the receiving water, when not specified elsewhere in this section, shall not exceed 0.01 of the 96-hour LC_{50}." We, therefore, recommend an administrative in-stream limit of .06 ppm for hydrazine.

Boron

Duke Power has stated that the USEPA recommends an in-stream level of 0.75 ppm of boron to protect sensitive crops. Duke Power is proposing a level of 12 ppm as a final instream concentration, sixteen (16) times the EPA safe level. The justification for this elevated limit is the lack of agricultural irrigation for some of the crops which may be sensitive in the surrounding area. This seems to contradict the "Best Usage" requirement of our water quality regulations. In Subchapter 2B, Section .0211, the Best Usage of Class A-II waters is defined to include "any Best Usage specified by the "C" classification." The Best Usage of Class "C" waters is defined to include agriculture; where agriculture "shall include the use of waters for stock watering, irrigation,.....".

Our contention is that the receiving waters for Duke Power's discharge are required to be suitable for irrigation, regardless of whether or not they are currently used for this purpose. We, therefore, recommend an administrative in-stream limit of 0.75 ppm, in accordance with EPA's safe level.

Please review these recommendations and feel free to contact us in response to these suggestions.

Sincerely,

W. Lee Fleming, Chief
Water Quality Section

WLF:cs

APPENDIX VI

DISCUSSION OF SAMPLE ANALYSIS RESULTS

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Sample Result – all sample results that were below the limit of detection for the analysis performed are preceded by a < sign.

Flows – flows shown for outfalls that have intermittent discharges were calculated based on pump capacities. The number of days with flow were calculated based on the actual number of days that flow was present at the outfall, not 365 day years. This includes flows for outfalls 002, 004, 005, and the Ventilation Unit Condensate Drain Tanks (VUCDT).

Intake samples were all obtained by Grab Sampling.

Color analysis for Outfall 001 indicated an **intake** value of <5. The analysis for Outfall 001 **discharge** showed a value of 100. We believe this result to be in error. During the last 2 permit renewals Color values for Outfall 001 have been 5 and 12. If needed we can re-sample Color for this Outfall if the 100 value would trigger some additional type of monitoring.

APPENDIX VII

SLUDGE MANAGEMENT

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Conventional Waste System sludge is disposed of in the site's permitted landfill. The sludge is first sampled, then removed and de-watered.

The source of the sites sludge is its filtered water system which is used to provide ultra high purity system water to the plant. This system uses Diatomaceous Earth (DE) pressure filters. The filters are backwashed and the DE is collected in the Initial Hold-up Pond. The DE must be removed approximately every 24 months. As indicated above the sludge is sampled and disposed of in the sites permitted landfill.

Any radioactive contaminated sludge is disposed of per the sites NRC operational permit.

Sourced of radioactive sludge could be various sumps in the auxiliary building.

APPENDIX VIII

SITE MAP

THIS PAGE IS AN OVERSIZED DRAWING OR FIGURE,

THAT CAN BE VIEWED AT THE RECORD TITLED: "MCGUIRE NUCLEAR STATION SITE MAP"

WITHIN THIS PACKAGE

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