LPDES PERMIT NO. LA0007374

LPDES FACT SHEET and RATIONALE
FOR THE DRAFT LOUISIANA POLLUTANT DISCHARGE ELIMINATION SYSTEM
(LPDES) PERMIT TO DISCHARGE TO WATERS OF LOUISIANA

I. Company/Facility Name: Entergy Operations, Inc.
Waterford 3 Steam Electric Station
Post Office Box B
Killona, Louisiana 70066

II. Issuing Office: Louisiana Department of Environmental Quality (LDEQ)
Office of Water Resources
Post Office Box 82215
Baton Rouge, Louisiana 70884-2215

III. Prepared By: Elizabeth A. Ballard
Industrial Permits Section
Water Pollution Control Division
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Date Prepared: July 22, 1998

IV. Permit Action/Status:

A. Reason For Permit Action:

Proposed reissuance of an expired Louisiana Pollutant Discharge Elimination System (LPDES) permit for a 5-year term following regulations promulgated at LAC 33:IX.2365/40 CFR 122.46*.

* In order to ease the transition from NPDES to LPDES permits, dual regulatory references are provided where applicable. The LAC references are the legal references while the 40 CFR references are presented for informational purposes only. In most cases, LAC language is based on and is identical to the 40 CFR language. 40 CFR Parts 401-402, and 404-471 have been adopted by reference at LAC 33:IX.2533 and will not have dual references. In addition, state standards (LAC Chapter 11) will not have dual references.

LAC 33:IX Citations: Unless otherwise stated, citations to LAC 33:IX refer to promulgated regulations listed at Louisiana Administrative Code, Title 33, Part IX.

40 CFR Citations: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations in accordance with the dates specified at LAC 33:IX.2531, 2533, and 2301.F.

B. NPDES permit - NPDES permit effective date: May 20, 1991
NPDES permit expiration date: May 19, 1996
EPA has not retained enforcement authority.

C. LWDPS permit - Louisiana Stream Control Commission letter dated
WP4832 September 27, 1973

D. LWDPS permit - Class I Sanitary General Permit
LAG530192 Authorization date: April 29, 1998
Permit expiration date: November 18, 2002

F. Original application received on November 17, 1995, with revised applications received on February 25, 1998, an addendum received on June 15, 1998, and a letter with revised flow diagram received on July 29, 1998.

V. Facility Information:

A. Location - LA Highway 18 (River Road) in Killona (1¼ miles west of the intersection of LA Highway 3142, and LA Highway 18), St. Charles Parish

B. Applicant Activity -

According to the application, Entergy Waterford 3 Steam Electric Station is a nuclear fueled steam electric generating station with a net output of 1,104 megawatts (MWe).

This Office does not have authority to regulate radioactive materials in water discharge permits. Jurisdiction for regulation of these materials is held by the Nuclear Regulatory Commission (NRC) under the Atomic Energy Act, 42 U.S.C. 2021, et seq. Therefore, the permittee must comply with radiation standards established and regulated by the NRC. Furthermore, this permit will not address those radiation standards.

C. Technology Basis - (40 CFR Chapter 1, Subchapter N/Parts 401-402, and 404-471 have been adopted by reference at LAC 33:IX.2533)

Guideline	Reference
Steam Electric Power Generating Point Source Category	40 CFR 423

Max 30 Day Average Continuous Flow - 1,346 MGD

Other sources of technology based limits:
LA0007374 Certification of NPDES Permit Modification, dated 6/16/95, by Percy V. Harris (LDEQ)
LA0007374 EPA Fact Sheet public noticed on June 3, 1995
LA0007374 NPDES Permit effective 5/20/91, and modification effective on July 21, 1995
LDEQ Stormwater Guidance, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6)

Final Environmental Statement, Louisiana Power & Light Co.(LP&L), September 1981
Demonstration Under Section 316(a) of the CWA, Louisiana Power & Light Co., April 1979
Hydrologic and Quality Characteristics of the Lower Mississippi River, Technical Report Number 5
LDEQ Sanitary General Permits
Best Professional Judgement using:
Letter from LDEQ to Entergy dated 6/23/98
Letter from Entergy to LDEQ dated 6/13/97
Letter from LDEQ to Entergy dated 8/26/96
Letter from EPA Region 6 to Entergy dated 4/16/96
Letter from EPA Region 6 to Entergy dated 1/23/96
Letter from Entergy to EPA Region 6 dated 10/25/94
Letter from Entergy to LDEQ dated 9/9/94
Letter from EPA Region 6 to LP&L dated 5/30/85
Letter from LP&L to EPA Region 6 dated 3/1/85

D. Fee Rate -
1. Fee Rating Facility Type: Major
2. Complexity Type: V
3. Wastewater Type: I
4. SIC code: 4911

E. Continuous Facility Effluent Flow (Max 30-Day) - 1,346 MGD

VI. Receiving Waters:

Mississippi River (Outfall 001):

1. TSS (15%), mg/L: 25.0
2. Average Hardness, mg/L $CaCO_3$: 149.70
3. Critical Flow, cfs: 141,955
4. Mixing Zone Fraction: 0.333
5. Harmonic Mean Flow, cfs: 366,748
6. River Basin: Mississippi River, Segment No. 070301
7. Designated Uses:
The designated uses are primary contact recreation, secondary contact recreation, fish and wildlife propagation, and drinking water supply.

Information based on the following: Water Quality Management Plan, Volume 5A, 1994; LAC 33:IX Chapter 11;/Recommendation(s) from the Engineering Section. Hardness and 15% TSS data come from monitoring station 58010321 on the Mississippi River listed in Hardness and TSS Data for All LDEQ Ambient Stations for the Period of Record as of March 1998, LeBlanc.

40 Arpent Canal thence to Lac Des Allemands (Outfalls 004 & 005):

1. River Basin: Barataria Basin, Segment No. 020202
2. Designated Uses:
   The designated uses are primary contact recreation, secondary contact recreation, and fish and wildlife propagation.

VII. Outfall Information:

Outfall 001

A. Type of wastewater - the continuous discharge from the turbine condenser cooling system to the Mississippi River. The turbine condenser cooling system receives once-through non-contact cooling water from the Mississippi River that flows through the main condenser, the steam generator blowdown heat exchangers, and the turbine building closed cooling heat exchanger. Previously monitored low volume discharges from Internal Outfalls 101 (former 01A), 201 (former 01B), 301 (former 01C), 401 (former 01D), 501, 601, 701, 801, and 901 also exit the facility via Outfall 001.

B. Location - at the point of discharge from the turbine condenser cooling system where the once-through non-contact cooling water, and the previously monitored effluents discharge prior to entering the Mississippi River at Latitude 29059'47", Longitude 90028'8", +129.5 M.A.H.P.

C. Treatment - treatment of once-through non-contact cooling water consists of:
   - intake screening
   - chlorination, when required
   - LDEQ approved mussels treatment, when required
   - addition of dispersant/polymer, when required

D. Flow - Continuous, (Max 30-Day) 1,346 MGD.

E. Receiving waters - Mississippi River

F. Basin and segment - Mississippi River Basin, Segment 070301

G. Effluent Data - The following is a summary of the effluent characteristics reported in the revised permit application (EPA Form 2C) received on June 15, 1998.

POLLUTANT	EFFLUENT

PART A	(mg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Biochemical Oxygen Demand	<2.0	<2.0	---
Chemical Oxygen Demand	46.1	46.1	---
Total Organic Carbon	6.7	6.7	---
Total Suspended Solids	269	269	---
Ammonia (as N)	<0.05	<0.05	---
Temperature (Winter)	21.10C	29.70C	---
(Summer)	41.10C	42.70C	---
pH (Standard Units)	NA (min)	NA (max)	---

PART B	(mg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Bromide	BA	BA	---
Chlorine, Total Residual	BA	BA	---
Color (nM Units)	BA	BA	---
Fecal Coliform (col/100 mL)	BA	BA	---
Fluoride	BA	BA	---
Nitrate-Nitrite (N)	BA	BA	---
Organic Nitrogen, Total as (N)	BA	BA	---
Oil and Grease	<5.0	<5.0	---
Phosphorous, Total as (P)	BA	BA	---
Radioactivity:			
Alpha, Total (pCi/L)	0.0129	0.0129	---
Beta, Total (pCi/L)	4.2	4.2	---
Radium, Total (pCi/L)	BA	BA	---
Radium 226, Total (pCi/L)	BA	BA	---
Sulfate (as SO_4)	84.2	84.2	---
Sulfide (as S)	BA	BA	---
Sulfite (as SO_3)	BA	BA	---
Surfactants	<0.1	<0.1	---
Aluminum (Total)	BA	BA	---
Barium (Total)	<0.2	<0.2	---
Boron (Total)	0.111	0.111	---
Cobalt (Total)	BA	BA	---
Iron (Total)	0.795	0.795	---
Magnesium (Total)	BA	BA	---
Manganese (Total)	BA	BA	---
Tin (Total)	BA	BA	---
Titanium (Total)	BA	BA	---

METALS, CYANIDE & TOTAL PHENOL	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Antimony (Total)	BA	BA	60
Arsenic (Total)	<10	<10	10
Beryllium (Total)	<5	<5	5
Cadmium (Total)	<1	<1	1
Chromium (Total)	<10	<10	10

Chromium (3+)	NA	NA	10
Chromium (6+)	NA	NA	10
Copper (Total)	<10	<10	10
Lead (Total)	<3	<3	5
Mercury (Total)	<0.2	<0.2	0.2
Molybdenum (Total)	BA	BA	30
Nickel (Total) Freshwater	<40	<40	40
Nickel (Total) Marine	NA	NA	5
Selenium (Total)	<5	<5	5
Silver (Total)	<2	<2	2
Thallium (Total)	<10	<10	10
Zinc (Total)	25.2	25.2	20
Cyanide (Total)	<10	<10	10
Phenolics, Total Recoverable (4AAP)	<50	<50	5

DIOXIN	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
2,3,7,8-TCDD	BA	BA	0.00001

VOLATILE COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Acrolein	<10	<10	50
Acrylonitrile	<10	<10	50
Benzene	<5	<5	10
Bis(Chloromethyl)Ether	BA	BA	10
Bromoform	<5	<5	10
Carbon Tetrachloride	<5	<5	10
Chlorobenzene	<5	<5	10
Chlorodibromomethane	<5	<5	10
Chloroethane	<10	<10	50
2-Chloroethylvinylether	<5	<5	10
Chloroform	<5	<5	10
Dichlorobromomethane	<5	<5	10
Dichlorodifluoromethane	BA	BA	10
1,1-Dichloroethane	<5	<5	10
1,2-Dichloroethane	<5	<5	10
1,1-Dichloroethylene	<5	<5	10
1,2-Dichloropropane	<5	<5	10
1,3-Dichloropropylene	<5	<5	10
Ethylbenzene	<5	<5	10
Methyl Bromide [Bromomethane]	<10	<10	50
Methyl Chloride [Chloromethane]	<10	<10	50
Methylene Chloride	<5	<5	20
1,1,2,2-Tetrachloroethane	<5	<5	10
Tetrachloroethylene	<5	<5	10
Toluene	<5	<5	10
1,2-trans-Dichloroethylene	<5	<5	10
1,1,1-Trichloroethane	<5	<5	10

1,1,2-Trichloroethane	<5	<5	10
Trichloroethylene	<5	<5	10
Trichlorofluoromethane	BA	BA	10
Vinyl Chloride	<10	<10	10

ACID COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
2-Chlorophenol	<10	<10	10
2,4-Dichlorophenol	<10	<10	10
2,4-Dimethylphenol	<10	<10	10
4,6-Dinitro-o-Cresol	<50	<50	50
2,4-Dinitrophenol	<50	<50	50
2-Nitrophenol	<10	<10	20
4-Nitrophenol	<50	<50	50
p-Chloro-m-Cresol	<10	<10	10
Pentachlorophenol	<50	<50	50
Phenol	<10	<10	10
2,4,6-Trichlorophenol	<10	<10	10

BASE/NEUTRAL COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Acenaphthene	<10	<10	10
Acenaphthylene	<10	<10	10
Anthracene	<10	<10	10
Benzidine	<30	<30	50
Benzo(a)anthracene	<10	<10	10
Benzo(a)pyrene	<10	<10	10
3,4-Benzofluoranthene	<10	<10	10
Benzo(ghi)perylene	<10	<10	20
Benzo(k)fluoranthene	<10	<10	10
Bis(2-chloroethoxy) Methane	<10	<10	10
Bis(2-chloroethyl) Ether	<10	<10	10
Bis(2-chloroisopropyl) Ether	<10	<10	10
Bis(2-ethylhexyl) Phthalate	<10	<10	10
4-Bromophenyl Phenyl Ether	<10	<10	10
Butylbenzyl Phthalate	<10	<10	10
2-Chloronaphthalene	<10	<10	10
4-Chlorophenyl Phenyl Ether	<10	<10	10
Chrysene	<10	<10	10
Dibenzo(a,h)anthracene	<10	<10	20
1,2-Dichlorobenzene	<10	<10	10
1,3-Dichlorobenzene	<10	<10	10
1,4-Dichlorobenzene	<10	<10	10
3,3'-Dichlorobenzidine	<20	<20	50
Diethyl Phthalate	<10	<10	10
Dimethyl Phthalate	<10	<10	10
Di-n-Butyl Phthalate	<10	<10	10
2,4-Dinitrotoluene	<10	<10	10
2,6-Dinitrotoluene	<10	<10	10

Di-n-octyl Phthalate	<10	<10	10
1,2-Diphenylhydrazine	<10	<10	20
Fluoranthene	<10	<10	10
Fluorene	<10	<10	10
Hexachlorobenzene	<10	<10	10
Hexachlorobutadiene	<10	<10	10
Hexachlorocyclopentadiene	<10	<10	10
Hexachloroethane	<10	<10	20
Indeno(1,2,3-cd)pyrene	<10	<10	20
Isophorone	<10	<10	10
Naphthalene	<10	<10	10
Nitrobenzene	<10	<10	10
n-Nitrosodimethylamine	<20	<20	50
n-Nitrosodi-n-Propylamine	<10	<10	20
n-Nitrosodiphenylamine	<10	<10	20
Phenanthrene	<10	<10	10
Pyrene	<10	<10	10
1,2,4-Trichlorobenzene	<10	<10	10

PESTICIDES	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Aldrin	BA	BA	0.05
Alpha-BHC	BA	BA	0.05
Beta-BHC	BA	BA	0.05
Gamma-BHC [Lindane]	BA	BA	0.05
Delta-BHC	BA	BA	0.05
Chlordane	BA	BA	0.2
4,4'-DDT	BA	BA	0.1
4,4'-DDE [p,p-DDX]	BA	BA	0.1
4,4'-DDD [p,p-TDE]	BA	BA	0.1
Dieldrin	BA	BA	0.1
Alpha-Endosulfan	BA	BA	0.1
Beta-Endosulfan	BA	BA	0.1
Endosulfan Sulfate	BA	BA	0.1
Endrin	BA	BA	0.1
Endrin Aldehyde	BA	BA	0.1
Heptachlor	BA	BA	0.05
Heptachlor Epoxide	BA	BA	0.05
PCB-1242	BA	BA	1.0
PCB-1254	BA	BA	1.0
PCB-1221	BA	BA	1.0
PCB-1232	BA	BA	1.0
PCB-1248	BA	BA	1.0
PCB-1260	BA	BA	1.0
PCB-1016	BA	BA	1.0
Toxaphene	BA	BA	5.0

BA - Believed Absent
NA - Not Available

Internal Outfall 101 (Former 01A)

A. Type of wastewater - the intermittent internal discharge from the liquid waste management system to Final Outfall 001 via the turbine condenser cooling system. The liquid waste management system receives low volume wastewater from the following sources, including but not limited to: the turbine and reactor building equipment and floor drains, primary plant water makeup, laboratory drains, and other low volume wastewater sources as defined in 40 CFR 423.

B. Location - at the point of discharge from the liquid waste management system prior to combining with the waters of Final Outfall 001 at Latitude 29059'40", Longitude 90028'16".

C. Treatment - treatment of these low volume wastewaters consists of:
- filtering/screening
- cationic and anionic polymer injection
- ion exchange
- neutralization/pH adjustment, when required
- distillation, when required

D. Flow - Intermittent, (Max 30-Day) 0.0129 MGD

E. Receiving waters - Discharge to Outfall 001

F. Effluent Data - The following is a summary of the effluent characteristics reported in the revised permit application (EPA Form 2C) received on June 15, 1998.

POLLUTANT	EFFLUENT		
PART A	(mg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Biochemical Oxygen Demand	<10.0	<10.0	---
Chemical Oxygen Demand	38.0	38.0	---
Total Organic Carbon	10	10	---
Total Suspended Solids	17.4	28.3	---
Ammonia (as N)	3.0	3.0	---
Temperature (Winter)	NA	NA	---
(Summer)	NA	NA	---
pH (Standard Units)	6.04 (min)	8.98 (max)	---

PART B	(mg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Bromide	BA	BA	---

Chlorine, Total Residual	BA	BA	---
Color (nM Units)	15.0	15.0	---
Fecal Coliform (col/100 mL)	BA	BA	---
Fluoride	BA	BA	---
Nitrate-Nitrite (N)	7.3	7.3	---
Organic Nitrogen, Total as (N)	BA	BA	---
Oil and Grease	5.91	11.4	---
Phosphorous, Total as (P)	0.44	0.44	---
Radioactivity:			
Alpha, Total (pCi/L)	259	259	---
Beta, Total (pCi/L)	84,000	84,000	---
Radium, Total (pCi/L)	BA	BA	---
Radium 226, Total (pCi/L)	BA	BA	---
Sulfate (as SO_4)	2.0	2.0	---
Sulfide (as S)	BA	BA	---
Sulfite (as SO_3)	BA	BA	---
Surfactants	<0.1	<0.1	---
Aluminum (Total)	<0.5	<0.5	---
Barium (Total)	<0.2	<0.2	---
Boron (Total)	598	1,425	---
Cobalt (Total)	BA	BA	---
Iron (Total)	<1.0	<1.0	---
Magnesium (Total)	<1.0	<1.0	---
Manganese (Total)	BA	BA	---
Tin (Total)	BA	BA	---
Titanium (Total)	BA	BA	---

METALS, CYANIDE & TOTAL PHENOL (µg/L, UNLESS STATED)	30-Day Max	Daily Max	MQL (µg/L)
Antimony (Total)	<600	<600	60
Arsenic (Total)	<10	<10	10
Beryllium (Total)	<50	<50	5
Cadmium (Total)	<1	<1	1
Chromium (Total)	<2	<2	10
Chromium (3+)	NA	NA	10
Chromium (6+)	NA	NA	10
Copper (Total)	<100	<100	10
Lead (Total)	<31	<31	5
Mercury (Total)	3.9	3.9	0.2
Molybdenum (Total)	<100	<100	30
Nickel (Total) Freshwater	<400	<400	40
Nickel (Total) Marine	NA	NA	5
Selenium (Total)	<5	<5	5
Silver (Total)	<2	<2	2
Thallium (Total)	<10	<10	10
Zinc (Total)	<200	<200	20
Cyanide (Total)	25	25	10
Phenolics, Total Recoverable (4AAP)	14	14	5

DIOXIN	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
2,3,7,8-TCDD	BA	BA	0.00001

VOLATILE COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Acrolein	BA	BA	50
Acrylonitrile	BA	BA	50
Benzene	<5	<5	10
Bis(Chloromethyl)Ether	BA	BA	10
Bromoform	<5	<5	10
Carbon Tetrachloride	<5	<5	10
Chlorobenzene	<5	<5	10
Chlorodibromomethane	<5	<5	10
Chloroethane	<10	<10	50
2-Chloroethylvinylether	<5	<5	10
Chloroform	15	15	10
Dichlorobromomethane	<5	<5	10
Dichlorodifluoromethane	<10	<10	10
1,1-Dichloroethane	<5	<5	10
1,2-Dichloroethane	<5	<5	10
1,1-Dichloroethylene	<5	<5	10
1,2-Dichloropropane	<5	<5	10
1,3-Dichloropropylene	<5	<5	10
Ethylbenzene	<5	<5	10
Methyl Bromide [Bromomethane]	<10	<10	50
Methyl Chloride [Chloromethane]	<10	<10	50
Methylene Chloride	<5	<5	20
1,1,2,2-Tetrachloroethane	<5	<5	10
Tetrachloroethylene	<5	<5	10
Toluene	<5	<5	10
1,2-trans-Dichloroethylene	BA	BA	10
1,1,1-Trichloroethane	<5	<5	10
1,1,2-Trichloroethane	<5	<5	10
Trichloroethylene	<5	<5	10
Trichlorofluoromethane	<10	<10	10
Vinyl Chloride	<10	<10	10

ACID COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
2-Chlorophenol	<5	<5	10
2,4-Dichlorophenol	<5	<5	10
2,4-Dimethylphenol	<5	<5	10
4,6-Dinitro-o-Cresol	<25	<25	50
2,4-Dinitrophenol	<25	<25	50
2-Nitrophenol	<5	<5	20
4-Nitrophenol	<25	<25	50
p-Chloro-m-Cresol	<5	<5	10

Pentachlorophenol	<20	<20	50
Phenol	<5	<5	10
2,4,6-Trichlorophenol	<5	<5	10

BASE/NEUTRAL COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Acenaphthene	<5	<5	10
Acenaphthylene	<5	<5	10
Anthracene	<5	<5	10
Benzidine	<50	<50	50
Benzo(a)anthracene	<5	<5	10
Benzo(a)pyrene	<5	<5	10
3,4-Benzofluoranthene	<5	<5	10
Benzo(ghi)perylene	<5	<5	20
Benzo(k)fluoranthene	<5	<5	10
Bis(2-chloroethoxy) Methane	<5	<5	10
Bis(2-chloroethyl) Ether	<5	<5	10
Bis(2-chloroisopropyl) Ether	BA	BA	10
Bis(2-ethylhexyl) Phthalate	6.8	6.8	10
4-Bromophenyl Phenyl Ether	<5	<5	10
Butylbenzyl Phthalate	<5	<5	10
2-Chloronaphthalene	<5	<5	10
4-Chlorophenyl Phenyl Ether	<5	<5	10
Chrysene	<5	<5	10
Dibenzo(a,h)anthracene	<5	<5	20
1,2-Dichlorobenzene	<5	<5	10
1,3-Dichlorobenzene	<5	<5	10
1,4-Dichlorobenzene	<5	<5	10
3,3'-Dichlorobenzidine	<10	<10	50
Diethyl Phthalate	<5	<5	10
Dimethyl Phthalate	<5	<5	10
Di-n-Butyl Phthalate	<5	<5	10
2,4-Dinitrotoluene	<5	<5	10
2,6-Dinitrotoluene	<5	<5	10
Di-n-octyl Phthalate	<5	<5	10
1,2-Diphenylhydrazine	BA	BA	20
Fluoranthene	<5	<5	10
Fluorene	<5	<5	10
Hexachlorobenzene	<5	<5	10
Hexachlorobutadiene	<5	<5	10
Hexachlorocyclopentadiene	<5	<5	10
Hexachloroethane	<5	<5	20
Indeno(1,2,3-cd)pyrene	<5	<5	20
Isophorone	<5	<5	10
Naphthalene	<5	<5	10
Nitrobenzene	<5	<5	10
n-Nitrosodimethylamine	BA	BA	50
n-Nitrosodi-n-Propylamine	<25	<25	20
n-Nitrosodiphenylamine	<5	<5	20

Phenanthrene	<5	<5	10
Pyrene	<5	<5	10
1,2,4-Trichlorobenzene	<5	<5	10

PESTICIDES	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Aldrin	BA	BA	0.05
Alpha-BHC	BA	BA	0.05
Beta-BHC	BA	BA	0.05
Gamma-BHC [Lindane]	BA	BA	0.05
Delta-BHC	BA	BA	0.05
Chlordane	BA	BA	0.2
4,4'-DDT	BA	BA	0.1
4,4'-DDE [p,p-DDX]	BA	BA	0.1
4,4'-DDD [p,p-TDE]	BA	BA	0.1
Dieldrin	BA	BA	0.1
Alpha-Endosulfan	BA	BA	0.1
Beta-Endosulfan	BA	BA	0.1
Endosulfan Sulfate	BA	BA	0.1
Endrin	BA	BA	0.1
Endrin Aldehyde	BA	BA	0.1
Heptachlor	BA	BA	0.05
Heptachlor Epoxide	BA	BA	0.05
PCB-1242	BA	BA	1.0
PCB-1254	BA	BA	1.0
PCB-1221	BA	BA	1.0
PCB-1232	BA	BA	1.0
PCB-1248	BA	BA	1.0
PCB-1260	BA	BA	1.0
PCB-1016	BA	BA	1.0
Toxaphene	BA	BA	5.0

BA - Believed Absent
NA - Not Available

Internal Outfall 201 (Former 01B)

A. Type of wastewater - the intermittent internal discharge from the boron management system to Final Outfall 001 via the turbine condenser cooling system. The boron management system concentrates and recovers boron from low volume wastewaters for reuse within the plant. The boron management system receives low volume wastewater from the following sources, including but not limited to: the turbine and reactor building equipment and floor drains, primary plant water makeup, laboratory drains, and other low volume wastewater sources as defined in 40 CFR 423.

B. Location - at the point of discharge from the boron management system prior to combining with the waters of Final Outfall 001 at Latitude 29059'40", Longitude 90028'16".

C. Treatment - treatment of these low volume wastewaters consists of:
- filtering/screening
- ion exchange
- neutralization/pH adjustment, when required
- distillation, when required

D. Flow - Intermittent, (Max 30-Day) 0.0134 MGD

E. Receiving waters - Discharge to Outfall 001

F. Effluent Data - The following is a summary of the effluent characteristics reported in the revised permit application (EPA Form 2C) received on June 15, 1998.

POLLUTANT	EFFLUENT		
PART A	(mg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Biochemical Oxygen Demand	<10.0	<10.0	---
Chemical Oxygen Demand	<1.0	<1.0	---
Total Organic Carbon	<1.0	<1.0	---
Total Suspended Solids	<4.0	<4.0	---
Ammonia (as N)	<0.1	<0.1	---
Temperature (Winter)	NA	NA	---
(Summer)	NA	NA	---
pH (Standard Units)	6.05 (min)	7.71 (max)	---
PART B	(mg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Bromide	BA	BA	---
Chlorine, Total Residual	BA	BA	---
Color (nM Units)	<5.0	<5.0	---
Fecal Coliform (col/100 mL)	BA	BA	---
Fluoride	BA	BA	---
Nitrate-Nitrite (N)	<0.1	<0.1	---
Organic Nitrogen, Total as (N)	BA	BA	---
Oil and Grease	5.5	9.2	---
Phosphorous, Total as (P)	<0.25	<0.25	---
Radioactivity:			
Alpha, Total (pCi/L)	0.5	0.5	---
Beta, Total (pCi/L)	875	875	---
Radium, Total (pCi/L)	BA	BA	---
Radium 226, Total (pCi/L)	BA	BA	---
Sulfate (as SO_4)	<1.0	<1.0	---

Sulfide (as S)	BA	BA	---
Sulfite (as SO_3)	BA	BA	---
Surfactants	BA	BA	---
Aluminum (Total)	<0.25	<0.25	---
Barium (Total)	<0.1	<0.1	---
Boron (Total)	1,391	1,614	---
Cobalt (Total)	BA	BA	---
Iron (Total)	NA	NA	---
Magnesium (Total)	<0.5	<0.5	---
Manganese (Total)	<0.05	<0.05	---
Tin (Total)	BA	BA	---
Titanium (Total)	BA	BA	---

METALS, CYANIDE & TOTAL PHENOL	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Antimony (Total)	<300	<300	60
Arsenic (Total)	<10	<10	10
Beryllium (Total)	<25	<25	5
Cadmium (Total)	<1	<1	1
Chromium (Total)	<2	<2	10
Chromium (3+)	NA	NA	10
Chromium (6+)	NA	NA	10
Copper (Total)	<50	<50	10
Lead (Total)	<31	<31	5
Mercury (Total)	<0.2	<0.2	0.2
Molybdenum (Total)	<50	<50	30
Nickel (Total) Freshwater	<200	<200	40
Nickel (Total) Marine	NA	NA	5
Selenium (Total)	<5	<5	5
Silver (Total)	<2	<2	2
Thallium (Total)	<10	<10	10
Zinc (Total)	<100	<100	20
Cyanide (Total)	10	10	10
Phenolics, Total Recoverable (4AAP)	<10	<10	5

DIOXIN	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
2,3,7,8-TCDD	BA	BA	0.00001

VOLATILE COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Acrolein	BA	BA	50
Acrylonitrile	BA	BA	50
Benzene	<5	<5	10
Bis(Chloromethyl)Ether	BA	BA	10
Bromoform	<5	<5	10
Carbon Tetrachloride	<5	<5	10
Chlorobenzene	<5	<5	10

Chlorodibromomethane	<5	<5	10
Chloroethane	<10	<10	50
2-Chloroethylvinylether	<5	<5	10
Chloroform	<5	<5	10
Dichlorobromomethane	<5	<5	10
Dichlorodifluoromethane	<10	<10	10
1,1-Dichloroethane	<5	<5	10
1,2-Dichloroethane	<5	<5	10
1,1-Dichloroethylene	<5	<5	10
1,2-Dichloropropane	<5	<5	10
1,3-Dichloropropylene	<5	<5	10
Ethylbenzene	<5	<5	10
Methyl Bromide [Bromomethane]	<10	<10	50
Methyl Chloride [Chloromethane]	<10	<10	50
Methylene Chloride	<5	<5	20
1,1,2,2-Tetrachloroethane	<5	<5	10
Tetrachloroethylene	<5	<5	10
Toluene	<5	<5	10
1,2-trans-Dichloroethylene	BA	BA	10
1,1,1-Trichloroethane	<5	<5	10
1,1,2-Trichloroethane	<5	<5	10
Trichloroethylene	<5	<5	10
Trichlorofluoromethane	<10	<10	10
Vinyl Chloride	<10	<10	10

ACID COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
2-Chlorophenol	<5	<5	10
2,4-Dichlorophenol	<5	<5	10
2,4-Dimethylphenol	<5	<5	10
4,6-Dinitro-o-Cresol	<25	<25	50
2,4-Dinitrophenol	<25	<25	50
2-Nitrophenol	<5	<5	20
4-Nitrophenol	<25	<25	50
p-Chloro-m-Cresol	<5	<5	10
Pentachlorophenol	<20	<20	50
Phenol	<5	<5	10
2,4,6-Trichlorophenol	<5	<5	10

BASE/NEUTRAL COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Acenaphthene	<5	<5	10
Acenaphthylene	<5	<5	10
Anthracene	<5	<5	10
Benzidine	<50	<50	50
Benzo(a)anthracene	<5	<5	10
Benzo(a)pyrene	<5	<5	10
3,4-Benzofluoranthene	<5	<5	10
Benzo(ghi)perylene	<5	<5	20

Benzo(k)fluoranthene	<5	<5	10
Bis(2-chloroethoxy) Methane	<5	<5	10
Bis(2-chloroethyl) Ether	<5	<5	10
Bis(2-chloroisopropyl) Ether	BA	BA	10
Bis(2-ethylhexyl) Phthalate	<5	<5	10
4-Bromophenyl Phenyl Ether	<5	<5	10
Butylbenzyl Phthalate	<5	<5	10
2-Chloronaphthalene	<5	<5	10
4-Chlorophenyl Phenyl Ether	<5	<5	10
Chrysene	<5	<5	10
Dibenzo(a,h)anthracene	<5	<5	20
1,2-Dichlorobenzene	<5	<5	10
1,3-Dichlorobenzene	<5	<5	10
1,4-Dichlorobenzene	<5	<5	10
3,3'-Dichlorobenzidine	<10	<10	50
Diethyl Phthalate	<5	<5	10
Dimethyl Phthalate	<5	<5	10
Di-n-Butyl Phthalate	<5	<5	10
2,4-Dinitrotoluene	<5	<5	10
2,6-Dinitrotoluene	<5	<5	10
Di-n-octyl Phthalate	<5	<5	10
1,2-Diphenylhydrazine	BA	BA	20
Fluoranthene	<5	<5	10
Fluorene	<5	<5	10
Hexachlorobenzene	<5	<5	10
Hexachlorobutadiene	<5	<5	10
Hexachlorocyclopentadiene	<5	<5	10
Hexachloroethane	<5	<5	20
Indeno(1,2,3-cd)pyrene	<5	<5	20
Isophorone	<5	<5	10
Naphthalene	<5	<5	10
Nitrobenzene	<5	<5	10
n-Nitrosodimethylamine	BA	BA	50
n-Nitrosodi-n-Propylamine	<25	<25	20
n-Nitrosodiphenylamine	<5	<5	20
Phenanthrene	<5	<5	10
Pyrene	<5	<5	10
1,2,4-Trichlorobenzene	<5	<5	10

PESTICIDES	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Aldrin	BA	BA	0.05
Alpha-BHC	BA	BA	0.05
Beta-BHC	BA	BA	0.05
Gamma-BHC [Lindane]	BA	BA	0.05
Delta-BHC	BA	BA	0.05
Chlordane	BA	BA	0.2
4,4'-DDT	BA	BA	0.1
4,4'-DDE [p,p-DDX]	BA	BA	0.1

4,4'-DDD [p,p-TDE]	BA	BA	0.1
Dieldrin	BA	BA	0.1
Alpha-Endosulfan	BA	BA	0.1
Beta-Endosulfan	BA	BA	0.1
Endosulfan Sulfate	BA	BA	0.1
Endrin	BA	BA	0.1
Endrin Aldehyde	BA	BA	0.1
Heptachlor	BA	BA	0.05
Heptachlor Epoxide	BA	BA	0.05
PCB-1242	BA	BA	1.0
PCB-1254	BA	BA	1.0
PCB-1221	BA	BA	1.0
PCB-1232	BA	BA	1.0
PCB-1248	BA	BA	1.0
PCB-1260	BA	BA	1.0
PCB-1016	BA	BA	1.0
Toxaphene	BA	BA	5.0

BA - Believed Absent
NA - Not Available

Internal Outfall 301 (Former 01C)

A. Type of wastewater - the intermittent internal discharge of filter flush water from the primary water treatment system to Final Outfall 001 via the turbine condenser cooling system. The primary water treatment system filters river water for various plant uses. The filters of this system are flushed periodically with untreated river water to remove solids trapped in the filter beds.

B. Location - at the point of discharge from the primary water treatment system prior to combining with the waters of Final Outfall 001 at Latitude 29059'40", Longitude 90028'16".

C. Treatment - filter/screening
- separation
- polymer injection, when required

D. Flow - Intermittent, (Max 30-Day) 0.0029 MGD

E. Receiving waters - Discharge to Outfall 001

F. Effluent Data -Effluent Data - The following is a summary of the effluent characteristics reported in the revised permit application (EPA Form 2C) received on June 15, 1998.

POLLUTANT	EFFLUENT	
PART A	(mg/L, UNLESS STATED)	MQL (µg/L)

	30-Day Max	Daily Max	
Biochemical Oxygen Demand	33.5	33.5	---
Chemical Oxygen Demand	<5.0	<5.0	---
Total Organic Carbon	4.4	4.4	---
Total Suspended Solids	46	46	---
Ammonia (as N)	0.828	0.828	---
Temperature (Winter)	NA	NA	---
(Summer)	NA	NA	---
pH (Standard Units)	7.30 (min)	7.90 (max)	---

PART B	(mg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Bromide	BA	BA	---
Chlorine, Total Residual	BA	BA	---
Color (nM Units)	25	25	---
Fecal Coliform (col/100 mL)	BA	BA	---
Fluoride	BA	BA	---
Nitrate-Nitrite (N)	1.28	1.28	---
Organic Nitrogen, Total as (N)	BA	BA	---
Oil and Grease	BA	BA	---
Phosphorous, Total as (P)	0.53	0.53	---
Radioactivity:			
Alpha, Total (pCi/L)	BA	BA	---
Beta, Total (pCi/L)	BA	BA	---
Radium, Total (pCi/L)	BA	BA	---
Radium 226, Total (pCi/L)	BA	BA	---
Sulfate (as SO_4)	79.1	79.1	---
Sulfide (as S)	<0.02	<0.02	---
Sulfite (as SO_3)	<2.0	<2.0	---
Surfactants	<0.04	<0.04	---
Aluminum (Total)	0.478	0.478	---
Barium (Total)	<0.2	<0.2	---
Boron (Total)	BA	BA	---
Cobalt (Total)	BA	BA	---
Iron (Total)	0.716	0.716	---
Magnesium (Total)	15.0	15.0	---
Manganese (Total)	BA	BA	---
Tin (Total)	BA	BA	---
Titanium (Total)	BA	BA	---

METALS, CYANIDE & TOTAL PHENOL	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Antimony (Total)	BA	BA	60
Arsenic (Total)	<10	<10	10
Beryllium (Total)	<5	<5	5
Cadmium (Total)	<1	<1	1
Chromium (Total)	<10	<10	10
Chromium (3+)	NA	NA	10

Chromium (6+)	NA	NA	10
Copper (Total)	<10	<10	10
Lead (Total)	<3	<3	5
Mercury (Total)	<0.2	<0.2	0.2
Molybdenum (Total)	BA	BA	30
Nickel (Total) Freshwater	<40	<40	40
Nickel (Total) Marine	NA	NA	5
Selenium (Total)	<5	<5	5
Silver (Total)	<2	<2	2
Thallium (Total)	<10	<10	10
Zinc (Total)	85.1	85.1	20
Cyanide (Total)	<10	<10	10
Phenolics, Total Recoverable (4AAP)	<50	<50	5

DIOXIN	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
2,3,7,8-TCDD	BA	BA	0.00001

VOLATILE COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Acrolein	<10	<10	50
Acrylonitrile	<10	<10	50
Benzene	<5	<5	10
Bis(Chloromethyl)Ether	BA	BA	10
Bromoform	<5	<5	10
Carbon Tetrachloride	<5	<5	10
Chlorobenzene	<5	<5	10
Chlorodibromomethane	<5	<5	10
Chloroethane	<10	<10	50
2-Chloroethylvinylether	<5	<5	10
Chloroform	35.9	35.9	10
Dichlorobromomethane	16.3	16.3	10
Dichlorodifluoromethane	BA	BA	10
1,1-Dichloroethane	<5	<5	10
1,2-Dichloroethane	<5	<5	10
1,1-Dichloroethylene	<5	<5	10
1,2-Dichloropropane	<5	<5	10
1,3-Dichloropropylene	<5	<5	10
Ethylbenzene	<5	<5	10
Methyl Bromide [Bromomethane]	<10	<10	50
Methyl Chloride [Chloromethane]	<10	<10	50
Methylene Chloride	<5	<5	20
1,1,2,2-Tetrachloroethane	<5	<5	10
Tetrachloroethylene	<5	<5	10
Toluene	<5	<5	10
1,2-trans-Dichloroethylene	<5	<5	10
1,1,1-Trichloroethane	<5	<5	10
1,1,2-Trichloroethane	<5	<5	10

Trichloroethylene	<5	<5	10
Trichlorofluoromethane	BA	BA	10
Vinyl Chloride	<10	<10	10

ACID COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
2-Chlorophenol	<10	<10	10
2,4-Dichlorophenol	<10	<10	10
2,4-Dimethylphenol	<10	<10	10
4,6-Dinitro-o-Cresol	<50	<50	50
2,4-Dinitrophenol	<50	<50	50
2-Nitrophenol	<10	<10	20
4-Nitrophenol	<50	<50	50
p-Chloro-m-Cresol	<10	<10	10
Pentachlorophenol	<50	<50	50
Phenol	<10	<10	10
2,4,6-Trichlorophenol	<10	<10	10

BASE/NEUTRAL COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Acenaphthene	<10	<10	10
Acenaphthylene	<10	<10	10
Anthracene	<10	<10	10
Benzidine	<30	<30	50
Benzo(a)anthracene	<10	<10	10
Benzo(a)pyrene	<10	<10	10
3,4-Benzofluoranthene	<10	<10	10
Benzo(ghi)perylene	<10	<10	20
Benzo(k)fluoranthene	<10	<10	10
Bis(2-chloroethoxy) Methane	<10	<10	10
Bis(2-chloroethyl) Ether	<10	<10	10
Bis(2-chloroisopropyl) Ether	<10	<10	10
Bis(2-ethylhexyl) Phthalate	<10	<10	10
4-Bromophenyl Phenyl Ether	<10	<10	10
Butylbenzyl Phthalate	<10	<10	10
2-Chloronaphthalene	<10	<10	10
4-Chlorophenyl Phenyl Ether	<10	<10	10
Chrysene	<10	<10	10
Dibenzo(a,h)anthracene	<10	<10	20
1,2-Dichlorobenzene	<10	<10	10
1,3-Dichlorobenzene	<10	<10	10
1,4-Dichlorobenzene	<10	<10	10
3,3'-Dichlorobenzidine	<20	<20	50
Diethyl Phthalate	<10	<10	10
Dimethyl Phthalate	<10	<10	10
Di-n-Butyl Phthalate	<10	<10	10
2,4-Dinitrotoluene	<10	<10	10
2,6-Dinitrotoluene	<10	<10	10
Di-n-octyl Phthalate	<10	<10	10

1,2-Diphenylhydrazine	<10	<10	20
Fluoranthene	<10	<10	10
Fluorene	<10	<10	10
Hexachlorobenzene	<10	<10	10
Hexachlorobutadiene	<10	<10	10
Hexachlorocyclopentadiene	<10	<10	10
Hexachloroethane	<10	<10	20
Indeno(1,2,3-cd)pyrene	<10	<10	20
Isophorone	<10	<10	10
Naphthalene	<10	<10	10
Nitrobenzene	<10	<10	10
n-Nitrosodimethylamine	<20	<20	50
n-Nitrosodi-n-Propylamine	<10	<10	20
n-Nitrosodiphenylamine	<10	<10	20
Phenanthrene	<10	<10	10
Pyrene	<10	<10	10
1,2,4-Trichlorobenzene	<10	<10	10

PESTICIDES	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Aldrin	BA	BA	0.05
Alpha-BHC	BA	BA	0.05
Beta-BHC	BA	BA	0.05
Gamma-BHC [Lindane]	BA	BA	0.05
Delta-BHC	BA	BA	0.05
Chlordane	BA	BA	0.2
4,4'-DDT	BA	BA	0.1
4,4'-DDE [p,p-DDX]	BA	BA	0.1
4,4'-DDD [p,p-TDE]	BA	BA	0.1
Dieldrin	BA	BA	0.1
Alpha-Endosulfan	BA	BA	0.1
Beta-Endosulfan	BA	BA	0.1
Endosulfan Sulfate	BA	BA	0.1
Endrin	BA	BA	0.1
Endrin Aldehyde	BA	BA	0.1
Heptachlor	BA	BA	0.05
Heptachlor Epoxide	BA	BA	0.05
PCB-1242	BA	BA	1.0
PCB-1254	BA	BA	1.0
PCB-1221	BA	BA	1.0
PCB-1232	BA	BA	1.0
PCB-1248	BA	BA	1.0
PCB-1260	BA	BA	1.0
PCB-1016	BA	BA	1.0
Toxaphene	BA	BA	5.0

BA - Believed Absent
NA - Not Available

Internal Outfall 401 (Former 01D)

A. Type of wastewater - the intermittent internal discharge of steam generator blowdown and other low volume wastewaters to Final Outfall 001 via the turbine condenser cooling system. In addition to steam generator blowdown, low volume wastewater from other sources as defined in 40 CFR 423 are discharged from this outfall.

B. Location - at the point of discharge from the secondary steam plant system prior to combining with the waters of Final Outfall 001 at Latitude 29059'41", Longitude 90028'15".

C. Treatment - treatment of these wastewaters consists of:
- filtration
- ion exchange
- neutralization/pH adjustment, when required

D. Flow - Intermittent, (Max 30-Day) 0.72 MGD

E. Receiving waters - Discharge to Outfall 001

F. Effluent Data - The following is a summary of the effluent characteristics reported in the revised permit application (EPA Form 2C) received on June 15, 1998.

POLLUTANT	EFFLUENT		
PART A	(mg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Biochemical Oxygen Demand	<2.0	<2.0	---
Chemical Oxygen Demand	<5.0	<5.0	---
Total Organic Carbon	<1.0	<1.0	---
Total Suspended Solids	4.14	4.14	---
Ammonia (as N)	0.086	0.086	---
Temperature (Winter)	NA	NA	---
(Summer)	NA	NA	---
pH (Standard Units)	6.30 (min)	8.06 (max)	---

PART B	(mg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Bromide	BA	BA	---
Chlorine, Total Residual	BA	BA	---
Color (nM Units)	BA	BA	---
Fecal Coliform (col/100 mL)	BA	BA	---
Fluoride	BA	BA	---
Nitrate-Nitrite (N)	BA	BA	---
Organic Nitrogen, Total as (N)	BA	BA	---
Oil and Grease	BA	BA	---
Phosphorous, Total as (P)	BA	BA	---

Radioactivity:			
Alpha, Total (pCi/L)	NA	NA	---
Beta, Total (pCi/L)	NA	NA	---
Radium, Total (pCi/L)	BA	BA	---
Radium 226, Total (pCi/L)	BA	BA	---
Sulfate (as SO_4)	<10.0	<10.0	---
Sulfide (as S)	BA	BA	---
Sulfite (as SO_3)	BA	BA	---
Surfactants	<0.1	<0.1	---
Aluminum (Total)	BA	BA	---
Barium (Total)	BA	BA	---
Boron (Total)	BA	BA	---
Cobalt (Total)	BA	BA	---
Iron (Total)	BA	BA	---
Magnesium (Total)	BA	BA	---
Manganese (Total)	BA	BA	---
Tin (Total)	BA	BA	---
Titanium (Total)	BA	BA	---

METALS, CYANIDE & TOTAL PHENOL	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Antimony (Total)	BA	BA	60
Arsenic (Total)	<10	<10	10
Beryllium (Total)	<5	<5	5
Cadmium (Total)	<1	<1	1
Chromium (Total)	<10	<10	10
Chromium (3+)	NA	NA	10
Chromium (6+)	NA	NA	10
Copper (Total)	<10	<10	10
Lead (Total)	<3	<3	5
Mercury (Total)	<0.2	<0.2	0.2
Molybdenum (Total)	BA	BA	30
Nickel (Total) Freshwater	<40	<40	40
Nickel (Total) Marine	NA	NA	5
Selenium (Total)	<5	<5	5
Silver (Total)	<2	<2	2
Thallium (Total)	<10	<10	10
Zinc (Total)	<20	<20	20
Cyanide (Total)	<10	<10	10
Phenolics, Total Recoverable (4AAP)	<50	<50	5

DIOXIN	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
2,3,7,8-TCDD	BA	BA	0.00001

VOLATILE COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Acrolein	<10	<10	50
Acrylonitrile	<10	<10	50

Benzene	<5	<5	10
Bis(Chloromethyl)Ether	BA	BA	10
Bromoform	<5	<5	10
Carbon Tetrachloride	<5	<5	10
Chlorobenzene	<5	<5	10
Chlorodibromomethane	<5	<5	10
Chloroethane	<10	<10	50
2-Chloroethylvinylether	<5	<5	10
Chloroform	<5	<5	10
Dichlorobromomethane	<5	<5	10
Dichlorodifluoromethane	BA	BA	10
1,1-Dichloroethane	<5	<5	10
1,2-Dichloroethane	<5	<5	10
1,1-Dichloroethylene	<5	<5	10
1,2-Dichloropropane	<5	<5	10
1,3-Dichloropropylene	<5	<5	10
Ethylbenzene	<5	<5	10
Methyl Bromide [Bromomethane]	<10	<10	50
Methyl Chloride [Chloromethane]	<10	<10	50
Methylene Chloride	<5	<5	20
1,1,2,2-Tetrachloroethane	<5	<5	10
Tetrachloroethylene	<5	<5	10
Toluene	<5	<5	10
1,2-trans-Dichloroethylene	<5	<5	10
1,1,1-Trichloroethane	<5	<5	10
1,1,2-Trichloroethane	<5	<5	10
Trichloroethylene	<5	<5	10
Trichlorofluoromethane	BA	BA	10
Vinyl Chloride	<10	<10	10

ACID COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
2-Chlorophenol	<10	<10	10
2,4-Dichlorophenol	<10	<10	10
2,4-Dimethylphenol	<10	<10	10
4,6-Dinitro-o-Cresol	<50	<50	50
2,4-Dinitrophenol	<50	<50	50
2-Nitrophenol	<10	<10	20
4-Nitrophenol	<50	<50	50
p-Chloro-m-Cresol	<10	<10	10
Pentachlorophenol	<50	<50	50
Phenol	<10	<10	10
2,4,6-Trichlorophenol	<10	<10	10

BASE/NEUTRAL COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Acenaphthene	<10	<10	10
Acenaphthylene	<10	<10	10
Anthracene	<10	<10	10

Benzidine	<30	<30	50
Benzo(a)anthracene	<10	<10	10
Benzo(a)pyrene	<10	<10	10
3,4-Benzofluoranthene	<10	<10	10
Benzo(ghi)perylene	<10	<10	20
Benzo(k)fluoranthene	<10	<10	10
Bis(2-chloroethoxy) Methane	<10	<10	10
Bis(2-chloroethyl) Ether	<10	<10	10
Bis(2-chloroisopropyl) Ether	<10	<10	10
Bis(2-ethylhexyl) Phthalate	23.4	23.4	10
4-Bromophenyl Phenyl Ether	<10	<10	10
Butylbenzyl Phthalate	<10	<10	10
2-Chloronaphthalene	<10	<10	10
4-Chlorophenyl Phenyl Ether	<10	<10	10
Chrysene	<10	<10	10
Dibenzo(a,h)anthracene	<10	<10	20
1,2-Dichlorobenzene	<10	<10	10
1,3-Dichlorobenzene	<10	<10	10
1,4-Dichlorobenzene	<10	<10	10
3,3'-Dichlorobenzidine	<20	<20	50
Diethyl Phthalate	<10	<10	10
Dimethyl Phthalate	<10	<10	10
Di-n-Butyl Phthalate	<10	<10	10
2,4-Dinitrotoluene	<10	<10	10
2,6-Dinitrotoluene	<10	<10	10
Di-n-octyl Phthalate	<10	<10	10
1,2-Diphenylhydrazine	<10	<10	20
Fluoranthene	<10	<10	10
Fluorene	<10	<10	10
Hexachlorobenzene	<10	<10	10
Hexachlorobutadiene	<10	<10	10
Hexachlorocyclopentadiene	<10	<10	10
Hexachloroethane	<10	<10	20
Indeno(1,2,3-cd)pyrene	<10	<10	20
Isophorone	<10	<10	10
Naphthalene	<10	<10	10
Nitrobenzene	<10	<10	10
n-Nitrosodimethylamine	<20	<20	50
n-Nitrosodi-n-Propylamine	<10	<10	20
n-Nitrosodiphenylamine	<10	<10	20
Phenanthrene	<10	<10	10
Pyrene	<10	<10	10
1,2,4-Trichlorobenzene	<10	<10	10

PESTICIDES	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Aldrin	BA	BA	0.05
Alpha-BHC	BA	BA	0.05
Beta-BHC	BA	BA	0.05

Gamma-BHC [Lindane]	BA	BA	0.05
Delta-BHC	BA	BA	0.05
Chlordane	BA	BA	0.2
4,4'-DDT	BA	BA	0.1
4,4'-DDE [p,p-DDX]	BA	BA	0.1
4,4'-DDD [p,p-TDE]	BA	BA	0.1
Dieldrin	BA	BA	0.1
Alpha-Endosulfan	BA	BA	0.1
Beta-Endosulfan	BA	BA	0.1
Endosulfan Sulfate	BA	BA	0.1
Endrin	BA	BA	0.1
Endrin Aldehyde	BA	BA	0.1
Heptachlor	BA	BA	0.05
Heptachlor Epoxide	BA	BA	0.05
PCB-1242	BA	BA	1.0
PCB-1254	BA	BA	1.0
PCB-1221	BA	BA	1.0
PCB-1232	BA	BA	1.0
PCB-1248	BA	BA	1.0
PCB-1260	BA	BA	1.0
PCB-1016	BA	BA	1.0
Toxaphene	BA	BA	5.0

BA - Believed Absent
NA - Not Available

Internal Outfall 501

A. Type of wastewater - the intermittent internal discharge from Auxiliary Component Cooling Water Basin A to Final Outfall 001 via the turbine condenser cooling system. Low volume wastewater sources contributing to the flow monitored at this outfall include, but are not limited to, auxiliary component cooling water, component cooling water, Mississippi River water used for flow testing, and stormwater.

B. Location - at the point of discharge from Auxiliary Component Cooling Water Basin A prior to combining with the waters of Final Outfall 001 at Latitude 29059'44", Longitude 90028'13".

C. Treatment - treatment of these low volume wastewaters consists of:
- sedimentation
- neutralization/pH adjustment, when required
- side stream ionization, when required
- filtration, when required

D. Flow - Intermittent, (Max 30-Day) 0.26 MGD

E. Receiving waters - Discharge to Outfall 001

F. Effluent Data - The following is a summary of the effluent characteristics reported in the revised permit application (EPA Form 2C) received on June 15, 1998.

POLLUTANT	EFFLUENT		
PART A	(mg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Biochemical Oxygen Demand	<2.0	<2.0	---
Chemical Oxygen Demand	26.0	26.0	---
Total Organic Carbon	7.0	7.0	---
Total Suspended Solids	4.3	4.3	---
Ammonia (as N)	<0.1	<0.1	---
Temperature (Winter)	NA	NA	---
(Summer)	NA	NA	---
pH (Standard Units)	7.47 (min)	7.71 (max)	---
PART B	(mg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Bromide	BA	BA	---
Chlorine, Total Residual	BA	BA	---
Color (nM Units)	15.0	15.0	---
Fecal Coliform (col/100 mL)	BA	BA	---
Fluoride	BA	BA	---
Nitrate-Nitrite (N)	0.9	0.9	---
Organic Nitrogen, Total as (N)	BA	BA	---
Oil and Grease	<1.0	<1.0	---
Phosphorous, Total as (P)	2.5	2.5	---
Radioactivity:			
Alpha, Total (pCi/L)	0.5	0.5	---
Beta, Total (pCi/L)	11.0	11.0	---
Radium, Total (pCi/L)	BA	BA	---
Radium 226, Total (pCi/L)	BA	BA	---
Sulfate (as SO_4)	11.0	11.0	---
Sulfide (as S)	BA	BA	---
Sulfite (as SO_3)	BA	BA	---
Surfactants	BA	BA	---
Aluminum (Total)	0.09	0.09	---
Barium (Total)	<0.02	<0.02	---
Boron (Total)	0.2	0.2	---
Cobalt (Total)	BA	BA	---
Iron (Total)	0.5	0.5	---
Magnesium (Total)	0.5	0.5	---
Manganese (Total)	BA	BA	---
Tin (Total)	BA	BA	---
Titanium (Total)	BA	BA	---

METALS, CYANIDE & TOTAL PHENOL	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Antimony (Total)	<50	<50	60
Arsenic (Total)	<3	<3	10
Beryllium (Total)	<4	<4	5
Cadmium (Total)	<1	<1	1
Chromium (Total)	10	10	10
Chromium (3+)	NA	NA	10
Chromium (6+)	NA	NA	10
Copper (Total)	20	20	10
Lead (Total)	6	6	5
Mercury (Total)	2.0	2.0	0.2
Molybdenum (Total)	<10	<10	30
Nickel (Total) Freshwater	<40	<40	40
Nickel (Total) Marine	NA	NA	5
Selenium (Total)	<5	<5	5
Silver (Total)	<0.5	<0.5	2
Thallium (Total)	<5	<5	10
Zinc (Total)	1,720	1,720	20
Cyanide (Total)	<10	<10	10
Phenolics, Total Recoverable (4AAP)	<10	<10	5

DIOXIN	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
2,3,7,8-TCDD	BA	BA	0.00001

VOLATILE COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Acrolein	BA	BA	50
Acrylonitrile	BA	BA	50
Benzene	<5	<5	10
Bis(Chloromethyl)Ether	BA	BA	10
Bromoform	<5	<5	10
Carbon Tetrachloride	<5	<5	10
Chlorobenzene	<5	<5	10
Chlorodibromomethane	<5	<5	10
Chloroethane	<10	<10	50
2-Chloroethylvinylether	<5	<5	10
Chloroform	<5	<5	10
Dichlorobromomethane	<5	<5	10
Dichlorodifluoromethane	<10	<10	10
1,1-Dichloroethane	<5	<5	10
1,2-Dichloroethane	<5	<5	10
1,1-Dichloroethylene	<5	<5	10
1,2-Dichloropropane	<5	<5	10
1,3-Dichloropropylene	<5	<5	10
Ethylbenzene	<5	<5	10
Methyl Bromide [Bromomethane]	<10	<10	50

Methyl Chloride [Chloromethane]	<10	<10	50
Methylene Chloride	<5	<5	20
1,1,2,2-Tetrachloroethane	<5	<5	10
Tetrachloroethylene	<5	<5	10
Toluene	<5	<5	10
1,2-trans-Dichloroethylene	BA	BA	10
1,1,1-Trichloroethane	<5	<5	10
1,1,2-Trichloroethane	<5	<5	10
Trichloroethylene	<5	<5	10
Trichlorofluoromethane	<10	<10	10
Vinyl Chloride	<10	<10	10

ACID COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
2-Chlorophenol	<5	<5	10
2,4-Dichlorophenol	<5	<5	10
2,4-Dimethylphenol	<5	<5	10
4,6-Dinitro-o-Cresol	<50	<50	50
2,4-Dinitrophenol	<50	<50	50
2-Nitrophenol	<5	<5	20
4-Nitrophenol	<50	<50	50
p-Chloro-m-Cresol	<5	<5	10
Pentachlorophenol	<50	<50	50
Phenol	<5	<5	10
2,4,6-Trichlorophenol	<5	<5	10

BASE/NEUTRAL COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Acenaphthene	<5	<5	10
Acenaphthylene	<5	<5	10
Anthracene	<5	<5	10
Benzidine	<50	<50	50
Benzo(a)anthracene	<5	<5	10
Benzo(a)pyrene	<5	<5	10
3,4-Benzofluoranthene	<5	<5	10
Benzo(ghi)perylene	<5	<5	20
Benzo(k)fluoranthene	<5	<5	10
Bis(2-chloroethoxy) Methane	<5	<5	10
Bis(2-chloroethyl) Ether	<5	<5	10
Bis(2-chloroisopropyl) Ether	<5	<5	10
Bis(2-ethylhexyl) Phthalate	<5	<5	10
4-Bromophenyl Phenyl Ether	<5	<5	10
Butylbenzyl Phthalate	<5	<5	10
2-Chloronaphthalene	<5	<5	10
4-Chlorophenyl Phenyl Ether	<5	<5	10
Chrysene	<5	<5	10
Dibenzo(a,h)anthracene	<5	<5	20
1,2-Dichlorobenzene	<5	<5	10
1,3-Dichlorobenzene	<5	<5	10

1,4-Dichlorobenzene	<5	<5	10
3,3'-Dichlorobenzidine	<5	<5	50
Diethyl Phthalate	<5	<5	10
Dimethyl Phthalate	<5	<5	10
Di-n-Butyl Phthalate	<5	<5	10
2,4-Dinitrotoluene	<5	<5	10
2,6-Dinitrotoluene	<5	<5	10
Di-n-octyl Phthalate	<5	<5	10
1,2-Diphenylhydrazine	<5	<5	20
Fluoranthene	<5	<5	10
Fluorene	<5	<5	10
Hexachlorobenzene	<5	<5	10
Hexachlorobutadiene	<5	<5	10
Hexachlorocyclopentadiene	<5	<5	10
Hexachloroethane	<5	<5	20
Indeno(1,2,3-cd)pyrene	<5	<5	20
Isophorone	<5	<5	10
Naphthalene	<5	<5	10
Nitrobenzene	<5	<5	10
n-Nitrosodimethylamine	<5	<5	50
n-Nitrosodi-n-Propylamine	<5	<5	20
n-Nitrosodiphenylamine	<5	<5	20
Phenanthrene	<5	<5	10
Pyrene	<5	<5	10
1,2,4-Trichlorobenzene	<5	<5	10

PESTICIDES	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Aldrin	BA	BA	0.05
Alpha-BHC	BA	BA	0.05
Beta-BHC	BA	BA	0.05
Gamma-BHC [Lindane]	BA	BA	0.05
Delta-BHC	BA	BA	0.05
Chlordane	BA	BA	0.2
4,4'-DDT	BA	BA	0.1
4,4'-DDE [p,p-DDX]	BA	BA	0.1
4,4'-DDD [p,p-TDE]	BA	BA	0.1
Dieldrin	BA	BA	0.1
Alpha-Endosulfan	BA	BA	0.1
Beta-Endosulfan	BA	BA	0.1
Endosulfan Sulfate	BA	BA	0.1
Endrin	BA	BA	0.1
Endrin Aldehyde	BA	BA	0.1
Heptachlor	BA	BA	0.05
Heptachlor Epoxide	BA	BA	0.05
PCB-1242	BA	BA	1.0
PCB-1254	BA	BA	1.0
PCB-1221	BA	BA	1.0
PCB-1232	BA	BA	1.0

PCB-1248	BA	BA	1.0
PCB-1260	BA	BA	1.0
PCB-1016	BA	BA	1.0
Toxaphene	BA	BA	5.0

BA - Believed Absent
NA - Not Available

Internal Outfall 601

A. Type of wastewater - the intermittent internal discharge from Auxiliary Component Cooling Water Basin B to Final Outfall 001 via the turbine condenser cooling system. Low volume wastewater sources contributing to the flow monitored at this outfall include, but are not limited to, auxiliary component cooling water, component cooling water, Mississippi River water used for flow testing, and stormwater.

B. Location - at the point of discharge from Auxiliary Component Cooling Water Basin B prior to combining with the waters of Final Outfall 001 at Latitude 29059'44", Longitude 90028'13".

C. Treatment - treatment of these low volume wastewaters consists of:
- sedimentation
- neutralization/pH adjustment, when required
- side stream ionization, when required
- filtration, when required

D. Flow - Intermittent, (Max 30-Day) 0.26 MGD

E. Receiving waters - Discharge to Outfall 001

F. Effluent Data - The following is a summary of the effluent characteristics reported in the revised permit application (EPA Form 2C) received on June 15, 1998.

POLLUTANT	EFFLUENT		
PART A	(mg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Biochemical Oxygen Demand	<2.0	<2.0	---
Chemical Oxygen Demand	26.0	26.0	---
Total Organic Carbon	7.0	7.0	---
Total Suspended Solids	4.3	4.3	---
Ammonia (as N)	<0.1	<0.1	---
Temperature (Winter)	NA	NA	---
(Summer)	NA	NA	---
pH (Standard Units)	7.47 (min)	7.71 (max)	---

PART B	(mg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Bromide	BA	BA	---
Chlorine, Total Residual	BA	BA	---
Color (nM Units)	15.0	15.0	---
Fecal Coliform (col/100 mL)	BA	BA	---
Fluoride	BA	BA	---
Nitrate-Nitrite (N)	0.9	0.9	---
Organic Nitrogen, Total as (N)	BA	BA	---
Oil and Grease	<1.0	<1.0	---
Phosphorous, Total as (P)	2.5	2.5	---
Radioactivity:			
Alpha, Total (pCi/L)	0.5	0.5	---
Beta, Total (pCi/L)	11.0	11.0	---
Radium, Total (pCi/L)	BA	BA	---
Radium 226, Total (pCi/L)	BA	BA	---
Sulfate (as SO_4)	11.0	11.0	---
Sulfide (as S)	BA	BA	---
Sulfite (as SO_3)	BA	BA	---
Surfactants	BA	BA	---
Aluminum (Total)	0.09	0.09	---
Barium (Total)	<0.02	<0.02	---
Boron (Total)	0.2	0.2	---
Cobalt (Total)	BA	BA	---
Iron (Total)	0.5	0.5	---
Magnesium (Total)	0.5	0.5	---
Manganese (Total)	BA	BA	---
Tin (Total)	BA	BA	---
Titanium (Total)	BA	BA	---

METALS, CYANIDE & TOTAL PHENOL	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Antimony (Total)	<50	<50	60
Arsenic (Total)	<3	<3	10
Beryllium (Total)	<4	<4	5
Cadmium (Total)	<1	<1	1
Chromium (Total)	10	10	10
Chromium (3+)	NA	NA	10
Chromium (6+)	NA	NA	10
Copper (Total)	20	20	10
Lead (Total)	6	6	5
Mercury (Total)	2.0	2.0	0.2
Molybdenum (Total)	<10	<10	30
Nickel (Total) Freshwater	<40	<40	40
Nickel (Total) Marine	NA	NA	5
Selenium (Total)	<5	<5	5
Silver (Total)	<0.5	<0.5	2
Thallium (Total)	<5	<5	10

Zinc (Total)	1,720	1,720	20
Cyanide (Total)	<10	<10	10
Phenolics, Total Recoverable (4AAP)	<10	<10	5

DIOXIN	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
2,3,7,8-TCDD	BA	BA	0.00001

VOLATILE COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Acrolein	BA	BA	50
Acrylonitrile	BA	BA	50
Benzene	<5	<5	10
Bis(Chloromethyl)Ether	BA	BA	10
Bromoform	<5	<5	10
Carbon Tetrachloride	<5	<5	10
Chlorobenzene	<5	<5	10
Chlorodibromomethane	<5	<5	10
Chloroethane	<10	<10	50
2-Chloroethylvinylether	<5	<5	10
Chloroform	<5	<5	10
Dichlorobromomethane	<5	<5	10
Dichlorodifluoromethane	<10	<10	10
1,1-Dichloroethane	<5	<5	10
1,2-Dichloroethane	<5	<5	10
1,1-Dichloroethylene	<5	<5	10
1,2-Dichloropropane	<5	<5	10
1,3-Dichloropropylene	<5	<5	10
Ethylbenzene	<5	<5	10
Methyl Bromide [Bromomethane]	<10	<10	50
Methyl Chloride [Chloromethane]	<10	<10	50
Methylene Chloride	<5	<5	20
1,1,2,2-Tetrachloroethane	<5	<5	10
Tetrachloroethylene	<5	<5	10
Toluene	<5	<5	10
1,2-trans-Dichloroethylene	BA	BA	10
1,1,1-Trichloroethane	<5	<5	10
1,1,2-Trichloroethane	<5	<5	10
Trichloroethylene	<5	<5	10
Trichlorofluoromethane	<10	<10	10
Vinyl Chloride	<10	<10	10

ACID COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
2-Chlorophenol	<5	<5	10
2,4-Dichlorophenol	<5	<5	10
2,4-Dimethylphenol	<5	<5	10
4,6-Dinitro-o-Cresol	<50	<50	50

2,4-Dinitrophenol	<50	<50	50
2-Nitrophenol	<5	<5	20
4-Nitrophenol	<50	<50	50
p-Chloro-m-Cresol	<5	<5	10
Pentachlorophenol	<50	<50	50
Phenol	<5	<5	10
2,4,6-Trichlorophenol	<5	<5	10

BASE/NEUTRAL COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Acenaphthene	<5	<5	10
Acenaphthylene	<5	<5	10
Anthracene	<5	<5	10
Benzidine	<50	<50	50
Benzo(a)anthracene	<5	<5	10
Benzo(a)pyrene	<5	<5	10
3,4-Benzofluoranthene	<5	<5	10
Benzo(ghi)perylene	<5	<5	20
Benzo(k)fluoranthene	<5	<5	10
Bis(2-chloroethoxy) Methane	<5	<5	10
Bis(2-chloroethyl) Ether	<5	<5	10
Bis(2-chloroisopropyl) Ether	<5	<5	10
Bis(2-ethylhexyl) Phthalate	<5	<5	10
4-Bromophenyl Phenyl Ether	<5	<5	10
Butylbenzyl Phthalate	<5	<5	10
2-Chloronaphthalene	<5	<5	10
4-Chlorophenyl Phenyl Ether	<5	<5	10
Chrysene	<5	<5	10
Dibenzo(a,h)anthracene	<5	<5	20
1,2-Dichlorobenzene	<5	<5	10
1,3-Dichlorobenzene	<5	<5	10
1,4-Dichlorobenzene	<5	<5	10
3,3'-Dichlorobenzidine	<5	<5	50
Diethyl Phthalate	<5	<5	10
Dimethyl Phthalate	<5	<5	10
Di-n-Butyl Phthalate	<5	<5	10
2,4-Dinitrotoluene	<5	<5	10
2,6-Dinitrotoluene	<5	<5	10
Di-n-octyl Phthalate	<5	<5	10
1,2-Diphenylhydrazine	<5	<5	20
Fluoranthene	<5	<5	10
Fluorene	<5	<5	10
Hexachlorobenzene	<5	<5	10
Hexachlorobutadiene	<5	<5	10
Hexachlorocyclopentadiene	<5	<5	10
Hexachloroethane	<5	<5	20
Indeno(1,2,3-cd)pyrene	<5	<5	20
Isophorone	<5	<5	10
Naphthalene	<5	<5	10

Nitrobenzene	<5	<5	10
n-Nitrosodimethylamine	<5	<5	50
n-Nitrosodi-n-Propylamine	<5	<5	20
n-Nitrosodiphenylamine	<5	<5	20
Phenanthrene	<5	<5	10
Pyrene	<5	<5	10
1,2,4-Trichlorobenzene	<5	<5	10

PESTICIDES	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Aldrin	BA	BA	0.05
Alpha-BHC	BA	BA	0.05
Beta-BHC	BA	BA	0.05
Gamma-BHC [Lindane]	BA	BA	0.05
Delta-BHC	BA	BA	0.05
Chlordane	BA	BA	0.2
4,4'-DDT	BA	BA	0.1
4,4'-DDE [p,p-DDX]	BA	BA	0.1
4,4'-DDD [p,p-TDE]	BA	BA	0.1
Dieldrin	BA	BA	0.1
Alpha-Endosulfan	BA	BA	0.1
Beta-Endosulfan	BA	BA	0.1
Endosulfan Sulfate	BA	BA	0.1
Endrin	BA	BA	0.1
Endrin Aldehyde	BA	BA	0.1
Heptachlor	BA	BA	0.05
Heptachlor Epoxide	BA	BA	0.05
PCB-1242	BA	BA	1.0
PCB-1254	BA	BA	1.0
PCB-1221	BA	BA	1.0
PCB-1232	BA	BA	1.0
PCB-1248	BA	BA	1.0
PCB-1260	BA	BA	1.0
PCB-1016	BA	BA	1.0
Toxaphene	BA	BA	5.0

BA - Believed Absent
NA - Not Available

Internal Outfall 701

A. Type of wastewater - the intermittent internal discharge of cooling tower blowdown and low volume wastewaters from Dry Cooling Tower Sump #1 to Final Outfall 001 via the turbine condenser cooling system. In addition to the wet cooling tower blowdown, low volume wastewater from various sources as defined in 40 CFR 423 are discharged from this outfall. Low volume wastewater sources contributing to this monitored flow include, but are not limited to, wet cooling tower leakage, auxiliary component cooling

water, component cooling water, and stormwater. Previously monitored effluent from the Yard Oil Separator System (Internal Outfall 104) is infrequently discharged through this outfall as a result of maintenance activities. Optional discharge to Final Outfall 004 via the plant drainage ditches may occur during periods when the circulating water system is unavailable.

B. Location - at the point of discharge from Dry Cooling Tower Sump #1 prior to combining with the waters of Final Outfall 001 or Final Outfall 004 at Latitude 29059'44", Longitude 90028'13".

C. Treatment - treatment of these wastewaters consists of:
- sedimentation
- neutralization/pH adjustment, when required
- side stream ionization, when required
- filtration, when required

D. Flow - Intermittent, (Max 30-Day) 0.01 MGD

E. Receiving waters - Discharge to Outfall 001 or the optional discharge to Outfall 004

F. Effluent Data - The following is a summary of the effluent characteristics reported in the revised permit application (EPA Form 2C) received on June 15, 1998.

POLLUTANT	EFFLUENT		
PART A	(mg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Biochemical Oxygen Demand	<2.0	<2.0	---
Chemical Oxygen Demand	26.0	26.0	---
Total Organic Carbon	7.0	7.0	---
Total Suspended Solids	4.3	4.3	---
Ammonia (as N)	<0.1	<0.1	---
Temperature (Winter)	NA	NA	---
(Summer)	NA	NA	---
pH (Standard Units)	7.47 (min)	7.71 (max)	---
PART B	(mg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Bromide	BA	BA	---
Chlorine, Total Residual	BA	BA	---
Color (nM Units)	15.0	15.0	---
Fecal Coliform (col/100 mL)	BA	BA	---
Fluoride	BA	BA	---
Nitrate-Nitrite (N)	0.9	0.9	---
Organic Nitrogen, Total as (N)	BA	BA	---

Oil and Grease	<1.0	<1.0	---
Phosphorous, Total as (P)	2.5	2.5	---
Radioactivity:			
Alpha, Total (pCi/L)	0.5	0.5	---
Beta, Total (pCi/L)	11.0	11.0	---
Radium, Total (pCi/L)	BA	BA	---
Radium 226, Total (pCi/L)	BA	BA	---
Sulfate (as SO_4)	11.0	11.0	---
Sulfide (as S)	BA	BA	---
Sulfite (as SO_3)	BA	BA	---
Surfactants	BA	BA	---
Aluminum (Total)	0.09	0.09	---
Barium (Total)	<0.02	<0.02	---
Boron (Total)	0.2	0.2	---
Cobalt (Total)	BA	BA	---
Iron (Total)	0.5	0.5	---
Magnesium (Total)	0.5	0.5	---
Manganese (Total)	BA	BA	---
Tin (Total)	BA	BA	---
Titanium (Total)	BA	BA	---

METALS, CYANIDE & TOTAL PHENOL	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Antimony (Total)	<50	<50	60
Arsenic (Total)	<3	<3	10
Beryllium (Total)	<4	<4	5
Cadmium (Total)	<1	<1	1
Chromium (Total)	10	10	10
Chromium (3+)	NA	NA	10
Chromium (6+)	NA	NA	10
Copper (Total)	20	20	10
Lead (Total)	6	6	5
Mercury (Total)	2.0	2.0	0.2
Molybdenum (Total)	<10	<10	30
Nickel (Total) Freshwater	<40	<40	40
Nickel (Total) Marine	NA	NA	5
Selenium (Total)	<5	<5	5
Silver (Total)	<0.5	<0.5	2
Thallium (Total)	<5	<5	10
Zinc (Total)	1,720	1,720	20
Cyanide (Total)	<10	<10	10
Phenolics, Total Recoverable (4AAP)	<10	<10	5

DIOXIN	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
2,3,7,8-TCDD	BA	BA	0.00001

VOLATILE COMPOUNDS	(µg/L, UNLESS STATED)	MQL (µg/L)

	30-Day Max	Daily Max	
Acrolein	BA	BA	50
Acrylonitrile	BA	BA	50
Benzene	<5	<5	10
Bis(Chloromethyl)Ether	BA	BA	10
Bromoform	<5	<5	10
Carbon Tetrachloride	<5	<5	10
Chlorobenzene	<5	<5	10
Chlorodibromomethane	<5	<5	10
Chloroethane	<10	<10	50
2-Chloroethylvinylether	<5	<5	10
Chloroform	<5	<5	10
Dichlorobromomethane	<5	<5	10
Dichlorodifluoromethane	<10	<10	10
1,1-Dichloroethane	<5	<5	10
1,2-Dichloroethane	<5	<5	10
1,1-Dichloroethylene	<5	<5	10
1,2-Dichloropropane	<5	<5	10
1,3-Dichloropropylene	<5	<5	10
Ethylbenzene	<5	<5	10
Methyl Bromide [Bromomethane]	<10	<10	50
Methyl Chloride [Chloromethane]	<10	<10	50
Methylene Chloride	<5	<5	20
1,1,2,2-Tetrachloroethane	<5	<5	10
Tetrachloroethylene	<5	<5	10
Toluene	<5	<5	10
1,2-trans-Dichloroethylene	BA	BA	10
1,1,1-Trichloroethane	<5	<5	10
1,1,2-Trichloroethane	<5	<5	10
Trichloroethylene	<5	<5	10
Trichlorofluoromethane	<10	<10	10
Vinyl Chloride	<10	<10	10

ACID COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
2-Chlorophenol	<5	<5	10
2,4-Dichlorophenol	<5	<5	10
2,4-Dimethylphenol	<5	<5	10
4,6-Dinitro-o-Cresol	<50	<50	50
2,4-Dinitrophenol	<50	<50	50
2-Nitrophenol	<5	<5	20
4-Nitrophenol	<50	<50	50
p-Chloro-m-Cresol	<5	<5	10
Pentachlorophenol	<50	<50	50
Phenol	<5	<5	10
2,4,6-Trichlorophenol	<5	<5	10

BASE/NEUTRAL COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	

Acenaphthene	<5	<5	10
Acenaphthylene	<5	<5	10
Anthracene	<5	<5	10
Benzidine	<50	<50	50
Benzo(a)anthracene	<5	<5	10
Benzo(a)pyrene	<5	<5	10
3,4-Benzofluoranthene	<5	<5	10
Benzo(ghi)perylene	<5	<5	20
Benzo(k)fluoranthene	<5	<5	10
Bis(2-chloroethoxy) Methane	<5	<5	10
Bis(2-chloroethyl) Ether	<5	<5	10
Bis(2-chloroisopropyl) Ether	<5	<5	10
Bis(2-ethylhexyl) Phthalate	<5	<5	10
4-Bromophenyl Phenyl Ether	<5	<5	10
Butylbenzyl Phthalate	<5	<5	10
2-Chloronaphthalene	<5	<5	10
4-Chlorophenyl Phenyl Ether	<5	<5	10
Chrysene	<5	<5	10
Dibenzo(a,h)anthracene	<5	<5	20
1,2-Dichlorobenzene	<5	<5	10
1,3-Dichlorobenzene	<5	<5	10
1,4-Dichlorobenzene	<5	<5	10
3,3'-Dichlorobenzidine	<5	<5	50
Diethyl Phthalate	<5	<5	10
Dimethyl Phthalate	<5	<5	10
Di-n-Butyl Phthalate	<5	<5	10
2,4-Dinitrotoluene	<5	<5	10
2,6-Dinitrotoluene	<5	<5	10
Di-n-octyl Phthalate	<5	<5	10
1,2-Diphenylhydrazine	<5	<5	20
Fluoranthene	<5	<5	10
Fluorene	<5	<5	10
Hexachlorobenzene	<5	<5	10
Hexachlorobutadiene	<5	<5	10
Hexachlorocyclopentadiene	<5	<5	10
Hexachloroethane	<5	<5	20
Indeno(1,2,3-cd)pyrene	<5	<5	20
Isophorone	<5	<5	10
Naphthalene	<5	<5	10
Nitrobenzene	<5	<5	10
n-Nitrosodimethylamine	<5	<5	50
n-Nitrosodi-n-Propylamine	<5	<5	20
n-Nitrosodiphenylamine	<5	<5	20
Phenanthrene	<5	<5	10
Pyrene	<5	<5	10
1,2,4-Trichlorobenzene	<5	<5	10

PESTICIDES	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	

Aldrin	BA	BA	0.05
Alpha-BHC	BA	BA	0.05
Beta-BHC	BA	BA	0.05
Gamma-BHC [Lindane]	BA	BA	0.05
Delta-BHC	BA	BA	0.05
Chlordane	BA	BA	0.2
4,4'-DDT	BA	BA	0.1
4,4'-DDE [p,p-DDX]	BA	BA	0.1
4,4'-DDD [p,p-TDE]	BA	BA	0.1
Dieldrin	BA	BA	0.1
Alpha-Endosulfan	BA	BA	0.1
Beta-Endosulfan	BA	BA	0.1
Endosulfan Sulfate	BA	BA	0.1
Endrin	BA	BA	0.1
Endrin Aldehyde	BA	BA	0.1
Heptachlor	BA	BA	0.05
Heptachlor Epoxide	BA	BA	0.05
PCB-1242	BA	BA	1.0
PCB-1254	BA	BA	1.0
PCB-1221	BA	BA	1.0
PCB-1232	BA	BA	1.0
PCB-1248	BA	BA	1.0
PCB-1260	BA	BA	1.0
PCB-1016	BA	BA	1.0
Toxaphene	BA	BA	5.0

BA - Believed Absent
NA - Not Available

Internal Outfall 801

A. Type of wastewater - the intermittent internal discharge of cooling tower blowdown and low volume wastewaters from Dry Cooling Tower Sump #2 to Final Outfall 001 via the turbine condenser cooling system. In addition to the wet cooling tower blowdown, low volume wastewater from various sources as defined in 40 CFR 423 are discharged from this outfall. Low volume wastewater sources contributing to this monitored flow include, but are not limited to, wet cooling tower leakage, auxiliary component cooling water, component cooling water, and stormwater. Previously monitored effluent from the Yard Oil Separator System (Internal Outfall 104) is infrequently discharged through this outfall as a result of maintenance activities. Optional discharge to Final Outfall 004 via the plant drainage ditches may occur during periods when the circulating water system is unavailable.

B. Location - at the point of discharge from Dry Cooling Tower Sump #2 prior to combining with the waters of Final Outfall 001 or Final Outfall 004 at Latitude 29059'44", Longitude 90028'13".

C. Treatment - treatment of these wastewaters consists of:
- sedimentation
- neutralization/pH adjustment, when required
- side stream ionization, when required
- filtration, when required

D. Flow - Intermittent, (Max 30-Day) 0.01 MGD

E. Receiving waters - Discharge to Outfall 001 or the optional discharge to Outfall 004

F. Effluent Data - The following is a summary of the effluent characteristics reported in the revised permit application (EPA Form 2C) received on June 15, 1998.

POLLUTANT	EFFLUENT		
PART A	(mg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Biochemical Oxygen Demand	<2.0	<2.0	---
Chemical Oxygen Demand	26.0	26.0	---
Total Organic Carbon	7.0	7.0	---
Total Suspended Solids	4.3	4.3	---
Ammonia (as N)	<0.1	<0.1	---
Temperature (Winter)	NA	NA	---
(Summer)	NA	NA	---
pH (Standard Units)	7.47	7.71	---
	(min)	(max)	
PART B	(mg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Bromide	BA	BA	---
Chlorine, Total Residual	BA	BA	---
Color (nM Units)	15.0	15.0	---
Fecal Coliform (col/100 mL)	BA	BA	---
Fluoride	BA	BA	---
Nitrate-Nitrite (N)	0.9	0.9	---
Organic Nitrogen, Total as (N)	BA	BA	---
Oil and Grease	<1.0	<1.0	---
Phosphorous, Total as (P)	2.5	2.5	---
Radioactivity:			
Alpha, Total (pCi/L)	0.5	0.5	---
Beta, Total (pCi/L)	11.0	11.0	---
Radium, Total (pCi/L)	BA	BA	---
Radium 226, Total (pCi/L)	BA	BA	---
Sulfate (as SO_4)	11.0	11.0	---

Sulfide (as S)	BA	BA	---
Sulfite (as SO_3)	BA	BA	---
Surfactants	BA	BA	---
Aluminum (Total)	0.09	0.09	---
Barium (Total)	<0.02	<0.02	---
Boron (Total)	0.2	0.2	---
Cobalt (Total)	BA	BA	---
Iron (Total)	0.5	0.5	---
Magnesium (Total)	0.5	0.5	---
Manganese (Total)	BA	BA	---
Tin (Total)	BA	BA	---
Titanium (Total)	BA	BA	---

METALS, CYANIDE & TOTAL PHENOL	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Antimony (Total)	<50	<50	60
Arsenic (Total)	<3	<3	10
Beryllium (Total)	<4	<4	5
Cadmium (Total)	<1	<1	1
Chromium (Total)	10	10	10
Chromium (3+)	NA	NA	10
Chromium (6+)	NA	NA	10
Copper (Total)	20	20	10
Lead (Total)	6	6	5
Mercury (Total)	2.0	2.0	0.2
Molybdenum (Total)	<10	<10	30
Nickel (Total) Freshwater	<40	<40	40
Nickel (Total) Marine	NA	NA	5
Selenium (Total)	<5	<5	5
Silver (Total)	<0.5	<0.5	2
Thallium (Total)	<5	<5	10
Zinc (Total)	1,720	1,720	20
Cyanide (Total)	<10	<10	10
Phenolics, Total Recoverable (4AAP)	<10	<10	5

DIOXIN	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
2,3,7,8-TCDD	BA	BA	0.00001

VOLATILE COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Acrolein	BA	BA	50
Acrylonitrile	BA	BA	50
Benzene	<5	<5	10
Bis(Chloromethyl)Ether	BA	BA	10
Bromoform	<5	<5	10
Carbon Tetrachloride	<5	<5	10
Chlorobenzene	<5	<5	10

Chlorodibromomethane	<5	<5	10
Chloroethane	<10	<10	50
2-Chloroethylvinylether	<5	<5	10
Chloroform	<5	<5	10
Dichlorobromomethane	<5	<5	10
Dichlorodifluoromethane	<10	<10	10
1,1-Dichloroethane	<5	<5	10
1,2-Dichloroethane	<5	<5	10
1,1-Dichloroethylene	<5	<5	10
1,2-Dichloropropane	<5	<5	10
1,3-Dichloropropylene	<5	<5	10
Ethylbenzene	<5	<5	10
Methyl Bromide [Bromomethane]	<10	<10	50
Methyl Chloride [Chloromethane]	<10	<10	50
Methylene Chloride	<5	<5	20
1,1,2,2-Tetrachloroethane	<5	<5	10
Tetrachloroethylene	<5	<5	10
Toluene	<5	<5	10
1,2-trans-Dichloroethylene	BA	BA	10
1,1,1-Trichloroethane	<5	<5	10
1,1,2-Trichloroethane	<5	<5	10
Trichloroethylene	<5	<5	10
Trichlorofluoromethane	<10	<10	10
Vinyl Chloride	<10	<10	10

ACID COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
2-Chlorophenol	<5	<5	10
2,4-Dichlorophenol	<5	<5	10
2,4-Dimethylphenol	<5	<5	10
4,6-Dinitro-o-Cresol	<50	<50	50
2,4-Dinitrophenol	<50	<50	50
2-Nitrophenol	<5	<5	20
4-Nitrophenol	<50	<50	50
p-Chloro-m-Cresol	<5	<5	10
Pentachlorophenol	<50	<50	50
Phenol	<5	<5	10
2,4,6-Trichlorophenol	<5	<5	10

BASE/NEUTRAL COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Acenaphthene	<5	<5	10
Acenaphthylene	<5	<5	10
Anthracene	<5	<5	10
Benzidine	<50	<50	50
Benzo(a)anthracene	<5	<5	10
Benzo(a)pyrene	<5	<5	10
3,4-Benzofluoranthene	<5	<5	10
Benzo(ghi)perylene	<5	<5	20

Benzo(k)fluoranthene	<5	<5	10
Bis(2-chloroethoxy) Methane	<5	<5	10
Bis(2-chloroethyl) Ether	<5	<5	10
Bis(2-chloroisopropyl) Ether	<5	<5	10
Bis(2-ethylhexyl) Phthalate	<5	<5	10
4-Bromophenyl Phenyl Ether	<5	<5	10
Butylbenzyl Phthalate	<5	<5	10
2-Chloronaphthalene	<5	<5	10
4-Chlorophenyl Phenyl Ether	<5	<5	10
Chrysene	<5	<5	10
Dibenzo(a,h)anthracene	<5	<5	20
1,2-Dichlorobenzene	<5	<5	10
1,3-Dichlorobenzene	<5	<5	10
1,4-Dichlorobenzene	<5	<5	10
3,3'-Dichlorobenzidine	<5	<5	50
Diethyl Phthalate	<5	<5	10
Dimethyl Phthalate	<5	<5	10
Di-n-Butyl Phthalate	<5	<5	10
2,4-Dinitrotoluene	<5	<5	10
2,6-Dinitrotoluene	<5	<5	10
Di-n-octyl Phthalate	<5	<5	10
1,2-Diphenylhydrazine	<5	<5	20
Fluoranthene	<5	<5	10
Fluorene	<5	<5	10
Hexachlorobenzene	<5	<5	10
Hexachlorobutadiene	<5	<5	10
Hexachlorocyclopentadiene	<5	<5	10
Hexachloroethane	<5	<5	20
Indeno(1,2,3-cd)pyrene	<5	<5	20
Isophorone	<5	<5	10
Naphthalene	<5	<5	10
Nitrobenzene	<5	<5	10
n-Nitrosodimethylamine	<5	<5	50
n-Nitrosodi-n-Propylamine	<5	<5	20
n-Nitrosodiphenylamine	<5	<5	20
Phenanthrene	<5	<5	10
Pyrene	<5	<5	10
1,2,4-Trichlorobenzene	<5	<5	10

PESTICIDES	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Aldrin	BA	BA	0.05
Alpha-BHC	BA	BA	0.05
Beta-BHC	BA	BA	0.05
Gamma-BHC [Lindane]	BA	BA	0.05
Delta-BHC	BA	BA	0.05
Chlordane	BA	BA	0.2
4,4'-DDT	BA	BA	0.1
4,4'-DDE [p,p-DDX]	BA	BA	0.1

4,4'-DDD [p,p-TDE]	BA	BA	0.1
Dieldrin	BA	BA	0.1
Alpha-Endosulfan	BA	BA	0.1
Beta-Endosulfan	BA	BA	0.1
Endosulfan Sulfate	BA	BA	0.1
Endrin	BA	BA	0.1
Endrin Aldehyde	BA	BA	0.1
Heptachlor	BA	BA	0.05
Heptachlor Epoxide	BA	BA	0.05
PCB-1242	BA	BA	1.0
PCB-1254	BA	BA	1.0
PCB-1221	BA	BA	1.0
PCB-1232	BA	BA	1.0
PCB-1248	BA	BA	1.0
PCB-1260	BA	BA	1.0
PCB-1016	BA	BA	1.0
Toxaphene	BA	BA	5.0

BA - Believed Absent
NA - Not Available

Internal Outfall 901

A. Type of wastewater - the intermittent internal discharge of metal cleaning wastewaters from internal components of plant equipment to Final Outfall 001 via the turbine condenser cooling system. Metal cleaning wastewaters (both chemical and non-chemical) result from the cleaning washes/rinses of various plant equipment components including, but not limited to, the steam generator, the cooling water heat exchangers, and piping.

B. Location - at the point of discharge from the mobile cleaning process unit(s) prior to combining with the waters of Final Outfall 001 at Latitude 29059'47", Longitude 90028'8".

C. Treatment - treatment of these wastewaters consists of:
- chemical precipitation
- neutralization
- sedimentation
- pre-aeration, when required
- flocculation, when required
- ion exchange, when required

D. Flow - Intermittent, (Max 30-Day) 0.36 MGD

E. Receiving waters - Discharge to Outfall 001

F. Effluent Data - not available, new outfall

Outfall 004

A. Type of wastewater - the intermittent discharge from the plant drainage ditch system to 40 Arpent Canal. Outfall 004 is a new outfall that consolidates Outfalls 04A and 04B from former NPDES Permit LA0007374. Most of the effluent monitored at this outfall is 85% stormwater runoff. Besides stormwater, potable water from the fire water system, maintenance wastewaters including, but not limited to: hydrostatic test water, air conditioning condensate, low volume wastewaters from various sources as defined in 40 CFR 423, and previously monitored effluents exit the facility via Outfall 004. Low volume sources contributing wastewater to this outfall include, but are not limited to, reverse osmosis reject water and demineralized water. The plant drainage ditch system receives treated discharge from the yard oil separator system (Internal Outfall 104), untreated vehicle wash wastewater (Internal Outfall 204), and during maintenance activities discharges from Dry Cooling Tower Sump #1 (Internal Outfall 701) and Dry Cooling Tower Sump #2 (Internal Outfall 801).

B. Location - at the point of discharge from the plant drainage ditch system where the plant stormwater runoff, the previously monitored effluents, and other infrequently discharged low volume wastewaters discharge at Latitude 29059'19", Longitude 90028'25" prior to entering 40 Arpent Canal.

C. Treatment - none.

D. Flow - Intermittent, (Max 30-Day) 0.784 MGD

E. Receiving waters - 40 Arpent Canal thence to Lac Des Allemands

F. Basin and segment - Barataria Basin, Segment 020202

G. Effluent Data - The following is a summary of the effluent characteristics reported in the revised permit application (EPA Form 2C) received on June 15, 1998.

POLLUTANT	EFFLUENT		
PART A	(mg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Biochemical Oxygen Demand	<2.0	<2.0	---
Chemical Oxygen Demand	<5.0	<5.0	---
Total Organic Carbon	3.7	3.7	---
Total Suspended Solids	7.0	7.0	---
Ammonia (as N)	0.230	0.230	---
Temperature (Winter)	NA	NA	---

(Summer)	NA	NA	---
pH (Standard Units)	6.88 (min)	8.30 (max)	---

PART B	(mg/L, UNLESS STATED) 30-Day Max	Daily Max	MQL (µg/L)
Bromide	BA	BA	---
Chlorine, Total Residual	BA	BA	---
Color (nM Units)	15.0	15.0	---
Fecal Coliform (col/100 mL)	BA	BA	---
Fluoride	BA	BA	---
Nitrate-Nitrite (N)	0.614	0.614	---
Organic Nitrogen, Total as (N)	BA	BA	---
Oil and Grease	<5.9	<5.9	---
Phosphorous, Total as (P)	0.186	0.186	---
Radioactivity:			
Alpha, Total (pCi/L)	NA	NA	---
Beta, Total (pCi/L)	NA	NA	---
Radium, Total (pCi/L)	BA	BA	---
Radium 226, Total (pCi/L)	BA	BA	---
Sulfate (as SO_4)	38.7	38.7	---
Sulfide (as S)	<1.0	<1.0	---
Sulfite (as SO_3)	<2.0	<2.0	---
Surfactants	<0.04	<0.04	---
Aluminum (Total)	0.415	0.415	---
Barium (Total)	<0.2	<0.2	---
Boron (Total)	NA	NA	---
Cobalt (Total)	BA	BA	---
Iron (Total)	0.795	0.795	---
Magnesium (Total)	11.3	11.3	---
Manganese (Total)	BA	BA	---
Tin (Total)	BA	BA	---
Titanium (Total)	BA	BA	---

METALS, CYANIDE & TOTAL PHENOL	(µg/L, UNLESS STATED) 30-Day Max	Daily Max	MQL (µg/L)
Antimony (Total)	BA	BA	60
Arsenic (Total)	BA	BA	10
Beryllium (Total)	<5	<5	5
Cadmium (Total)	BA	BA	1
Chromium (Total)	<10	<10	10
Chromium (3+)	NA	NA	10
Chromium (6+)	NA	NA	10
Copper (Total)	<10	<10	10
Lead (Total)	BA	BA	5
Mercury (Total)	<0.2	<0.2	0.2
Molybdenum (Total)	<10	<10	30
Nickel (Total) Freshwater	<40	<40	40
Nickel (Total) Marine	NA	NA	5

Selenium (Total)	BA	BA	5
Silver (Total)	BA	BA	2
Thallium (Total)	BA	BA	10
Zinc (Total)	39.2	39.2	20
Cyanide (Total)	<10	<10	10
Phenolics, Total Recoverable (4AAP)	<50	<50	5

DIOXIN	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
2,3,7,8-TCDD	BA	BA	0.00001

VOLATILE COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Acrolein	<10	<10	50
Acrylonitrile	<10	<10	50
Benzene	<5	<5	10
Bis(Chloromethyl)Ether	BA	BA	10
Bromoform	<5	<5	10
Carbon Tetrachloride	<5	<5	10
Chlorobenzene	<5	<5	10
Chlorodibromomethane	<5	<5	10
Chloroethane	<10	<10	50
2-Chloroethylvinylether	<5	<5	10
Chloroform	<5	<5	10
Dichlorobromomethane	<5	<5	10
Dichlorodifluoromethane	BA	BA	10
1,1-Dichloroethane	<5	<5	10
1,2-Dichloroethane	<5	<5	10
1,1-Dichloroethylene	<5	<5	10
1,2-Dichloropropane	<5	<5	10
1,3-Dichloropropylene	<5	<5	10
Ethylbenzene	<5	<5	10
Methyl Bromide [Bromomethane]	<10	<10	50
Methyl Chloride [Chloromethane]	<10	<10	50
Methylene Chloride	<5	<5	20
1,1,2,2-Tetrachloroethane	<5	<5	10
Tetrachloroethylene	<5	<5	10
Toluene	<5	<5	10
1,2-trans-Dichloroethylene	BA	BA	10
1,1,1-Trichloroethane	<5	<5	10
1,1,2-Trichloroethane	<5	<5	10
Trichloroethylene	<5	<5	10
Trichlorofluoromethane	BA	BA	10
Vinyl Chloride	<10	<10	10

ACID COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
2-Chlorophenol	<10	<10	10

2,4-Dichlorophenol	<10	<10	10
2,4-Dimethylphenol	<10	<10	10
4,6-Dinitro-o-Cresol	<25	<25	50
2,4-Dinitrophenol	<25	<25	50
2-Nitrophenol	<10	<10	20
4-Nitrophenol	<25	<25	50
p-Chloro-m-Cresol	<10	<10	10
Pentachlorophenol	<25	<25	50
Phenol	<10	<10	10
2,4,6-Trichlorophenol	<10	<10	10

BASE/NEUTRAL COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Acenaphthene	<10	<10	10
Acenaphthylene	<10	<10	10
Anthracene	<10	<10	10
Benzidine	<30	<30	50
Benzo(a)anthracene	<10	<10	10
Benzo(a)pyrene	<10	<10	10
3,4-Benzofluoranthene	<10	<10	10
Benzo(ghi)perylene	<10	<10	20
Benzo(k)fluoranthene	<10	<10	10
Bis(2-chloroethoxy) Methane	<10	<10	10
Bis(2-chloroethyl) Ether	<10	<10	10
Bis(2-chloroisopropyl) Ether	<10	<10	10
Bis(2-ethylhexyl) Phthalate	<10	<10	10
4-Bromophenyl Phenyl Ether	<10	<10	10
Butylbenzyl Phthalate	<10	<10	10
2-Chloronaphthalene	<10	<10	10
4-Chlorophenyl Phenyl Ether	<10	<10	10
Chrysene	<10	<10	10
Dibenzo(a,h)anthracene	<10	<10	20
1,2-Dichlorobenzene	<10	<10	10
1,3-Dichlorobenzene	<10	<10	10
1,4-Dichlorobenzene	<10	<10	10
3,3'-Dichlorobenzidine	<20	<20	50
Diethyl Phthalate	<10	<10	10
Dimethyl Phthalate	<10	<10	10
Di-n-Butyl Phthalate	<10	<10	10
2,4-Dinitrotoluene	<10	<10	10
2,6-Dinitrotoluene	<10	<10	10
Di-n-octyl Phthalate	<10	<10	10
1,2-Diphenylhydrazine	<10	<10	20
Fluoranthene	<10	<10	10
Fluorene	<10	<10	10
Hexachlorobenzene	<10	<10	10
Hexachlorobutadiene	<10	<10	10
Hexachlorocyclopentadiene	<10	<10	10
Hexachloroethane	<10	<10	20

Indeno(1,2,3-cd)pyrene	<10	<10	20
Isophorone	<10	<10	10
Naphthalene	<10	<10	10
Nitrobenzene	<10	<10	10
n-Nitrosodimethylamine	<10	<10	50
n-Nitrosodi-n-Propylamine	<10	<10	20
n-Nitrosodiphenylamine	<10	<10	20
Phenanthrene	<10	<10	10
Pyrene	<10	<10	10
1,2,4-Trichlorobenzene	<10	<10	10

PESTICIDES	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Aldrin	BA	BA	0.05
Alpha-BHC	BA	BA	0.05
Beta-BHC	BA	BA	0.05
Gamma-BHC [Lindane]	BA	BA	0.05
Delta-BHC	BA	BA	0.05
Chlordane	BA	BA	0.2
4,4'-DDT	BA	BA	0.1
4,4'-DDE [p,p-DDX]	BA	BA	0.1
4,4'-DDD [p,p-TDE]	BA	BA	0.1
Dieldrin	BA	BA	0.1
Alpha-Endosulfan	BA	BA	0.1
Beta-Endosulfan	BA	BA	0.1
Endosulfan Sulfate	BA	BA	0.1
Endrin	BA	BA	0.1
Endrin Aldehyde	BA	BA	0.1
Heptachlor	BA	BA	0.05
Heptachlor Epoxide	BA	BA	0.05
PCB-1242	BA	BA	1.0
PCB-1254	BA	BA	1.0
PCB-1221	BA	BA	1.0
PCB-1232	BA	BA	1.0
PCB-1248	BA	BA	1.0
PCB-1260	BA	BA	1.0
PCB-1016	BA	BA	1.0
Toxaphene	BA	BA	5.0

BA - Believed Absent
NA - Not Available

Internal Outfall 104 (Former 002)

A. Type of wastewater - the intermittent internal discharge from the yard oil separator system to Final Outfall 004 via a plant drainage ditch. Wastewater sources contributing to the flow monitored at Outfall 104 include auxiliary boiler blowdown, stormwater, and low volume wastewaters from various sources as

defined by 40 CFR 423. Low volume sources contributing wastewater to this outfall include, but are not limited to, secondary water system drains, system leakage, auxiliary boiler sumps, turbine building equipment and floor drains, turbine building floor wash downs, and laboratory drains. Optional discharge to Internal Outfall 701 or 801 may occur during maintenance periods.

B. Location - at the point of discharge from the yard oil separator system prior to combining with the waters of Final Outfall 004 or Internal Outfall 701 or Internal Outfall 801 at Latitude 29059'37", Longitude 90028'15".

C. Treatment - treatment of these wastewaters consists of:
- sedimentation
- flotation
- oil/water separation
- polymer injection, when required
- neutralization/pH adjustment, when required
- flocculation, when required
- filtration, when required

D. Flow - Intermittent, (Max 30-Day) 0.0221 MGD

E. Receiving waters - Discharge to Outfall 004, with option to discharge to either Internal Outfall 701, or Internal Outfall 801 during maintenance activities.

F. Effluent Data - The following is a summary of the effluent characteristics reported in the revised permit application (EPA Form 2C) received on June 15, 1998.

POLLUTANT	EFFLUENT		
PART A	(mg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Biochemical Oxygen Demand	<2.0	<2.0	---
Chemical Oxygen Demand	9.1	9.1	---
Total Organic Carbon	3.0	3.0	---
Total Suspended Solids	23.9	29.6	---
Ammonia (as N)	0.197	0.197	---
Temperature (Winter)	NA	NA	---
(Summer)	NA	NA	---
pH (Standard Units)	6.62 (min)	8.24 (max)	---
PART B	(mg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Bromide	BA	BA	---
Chlorine, Total Residual	BA	BA	---

Color (nM Units)	10	10	---
Fecal Coliform (col/100 mL)	BA	BA	---
Fluoride	BA	BA	---
Nitrate-Nitrite (N)	0.05	0.05	---
Organic Nitrogen, Total as (N)	BA	BA	---
Oil and Grease	10.1	18.5	---
Phosphorous, Total as (P)	0.23	0.23	---
Radioactivity:			
Alpha, Total (pCi/L)	0.05	0.05	---
Beta, Total (pCi/L)	0.01	0.01	---
Radium, Total (pCi/L)	BA	BA	---
Radium 226, Total (pCi/L)	BA	BA	---
Sulfate (as SO_4)	<10.0	<10.0	---
Sulfide (as S)	<0.020	<0.020	---
Sulfite (as SO_3)	<2.0	<2.0	---
Surfactants	<0.1	<0.1	---
Aluminum (Total)	<0.2	<0.2	---
Barium (Total)	<0.2	<0.2	---
Boron (Total)	BA	BA	---
Cobalt (Total)	BA	BA	---
Iron (Total)	0.249	0.249	---
Magnesium (Total)	<5.0	<5.0	---
Manganese (Total)	BA	BA	---
Tin (Total)	BA	BA	---
Titanium (Total)	BA	BA	---

METALS, CYANIDE & TOTAL PHENOL (µg/L, UNLESS STATED)	30-Day Max	Daily Max	MQL (µg/L)
Antimony (Total)	BA	BA	60
Arsenic (Total)	<10	<10	10
Beryllium (Total)	<5	<5	5
Cadmium (Total)	<1	<1	1
Chromium (Total)	<10	<10	10
Chromium (3+)	NA	NA	10
Chromium (6+)	NA	NA	10
Copper (Total)	<10	<10	10
Lead (Total)	<3	<3	5
Mercury (Total)	<0.2	<0.2	0.2
Molybdenum (Total)	<50	<50	30
Nickel (Total) Freshwater	<40	<40	40
Nickel (Total) Marine	NA	NA	5
Selenium (Total)	<5	<5	5
Silver (Total)	<2	<2	2
Thallium (Total)	<10	<10	10
Zinc (Total)	84.5	84.5	20
Cyanide (Total)	<10	<10	10
Phenolics, Total Recoverable (4AAP)	<50	<50	5

DIOXIN	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
2,3,7,8-TCDD	BA	BA	0.00001

VOLATILE COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Acrolein	<10	<10	50
Acrylonitrile	<10	<10	50
Benzene	<5	<5	10
Bis(Chloromethyl)Ether	BA	BA	10
Bromoform	<5	<5	10
Carbon Tetrachloride	<5	<5	10
Chlorobenzene	<5	<5	10
Chlorodibromomethane	<5	<5	10
Chloroethane	<10	<10	50
2-Chloroethylvinylether	<5	<5	10
Chloroform	<5	<5	10
Dichlorobromomethane	<5	<5	10
Dichlorodifluoromethane	BA	BA	10
1,1-Dichloroethane	<5	<5	10
1,2-Dichloroethane	<5	<5	10
1,1-Dichloroethylene	<5	<5	10
1,2-Dichloropropane	<5	<5	10
1,3-Dichloropropylene	<5	<5	10
Ethylbenzene	<5	<5	10
Methyl Bromide [Bromomethane]	<10	<10	50
Methyl Chloride [Chloromethane]	<10	<10	50
Methylene Chloride	<5	<5	20
1,1,2,2-Tetrachloroethane	<5	<5	10
Tetrachloroethylene	<5	<5	10
Toluene	<5	<5	10
1,2-trans-Dichloroethylene	<5	<5	10
1,1,1-Trichloroethane	<5	<5	10
1,1,2-Trichloroethane	<5	<5	10
Trichloroethylene	<5	<5	10
Trichlorofluoromethane	BA	BA	10
Vinyl Chloride	<10	<10	10

ACID COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
2-Chlorophenol	<10	<10	10
2,4-Dichlorophenol	<10	<10	10
2,4-Dimethylphenol	<10	<10	10
4,6-Dinitro-o-Cresol	<50	<50	50
2,4-Dinitrophenol	<50	<50	50
2-Nitrophenol	<10	<10	20
4-Nitrophenol	<50	<50	50
p-Chloro-m-Cresol	<10	<10	10
Pentachlorophenol	<50	<50	50

Phenol	<10	<10	10
2,4,6-Trichlorophenol	<10	<10	10

BASE/NEUTRAL COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Acenaphthene	<10	<10	10
Acenaphthylene	<10	<10	10
Anthracene	<10	<10	10
Benzidine	<30	<30	50
Benzo(a)anthracene	<10	<10	10
Benzo(a)pyrene	<10	<10	10
3,4-Benzofluoranthene	<10	<10	10
Benzo(ghi)perylene	<10	<10	20
Benzo(k)fluoranthene	<10	<10	10
Bis(2-chloroethoxy) Methane	<10	<10	10
Bis(2-chloroethyl) Ether	<10	<10	10
Bis(2-chloroisopropyl) Ether	<10	<10	10
Bis(2-ethylhexyl) Phthalate	<10	<10	10
4-Bromophenyl Phenyl Ether	<10	<10	10
Butylbenzyl Phthalate	<10	<10	10
2-Chloronaphthalene	<10	<10	10
4-Chlorophenyl Phenyl Ether	<10	<10	10
Chrysene	<10	<10	10
Dibenzo(a,h)anthracene	<10	<10	20
1,2-Dichlorobenzene	<10	<10	10
1,3-Dichlorobenzene	<10	<10	10
1,4-Dichlorobenzene	<10	<10	10
3,3'-Dichlorobenzidine	<20	<20	50
Diethyl Phthalate	<10	<10	10
Dimethyl Phthalate	<10	<10	10
Di-n-Butyl Phthalate	<10	<10	10
2,4-Dinitrotoluene	<10	<10	10
2,6-Dinitrotoluene	<10	<10	10
Di-n-octyl Phthalate	<10	<10	10
1,2-Diphenylhydrazine	<10	<10	20
Fluoranthene	<10	<10	10
Fluorene	<10	<10	10
Hexachlorobenzene	<10	<10	10
Hexachlorobutadiene	<10	<10	10
Hexachlorocyclopentadiene	<10	<10	10
Hexachloroethane	<10	<10	20
Indeno(1,2,3-cd)pyrene	<10	<10	20
Isophorone	<10	<10	10
Naphthalene	<10	<10	10
Nitrobenzene	<10	<10	10
n-Nitrosodimethylamine	<20	<20	50
n-Nitrosodi-n-Propylamine	<10	<10	20
n-Nitrosodiphenylamine	<10	<10	20
Phenanthrene	<10	<10	10

Pyrene	<10	<10	10
1,2,4-Trichlorobenzene	<10	<10	10

PESTICIDES	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Aldrin	BA	BA	0.05
Alpha-BHC	BA	BA	0.05
Beta-BHC	BA	BA	0.05
Gamma-BHC [Lindane]	BA	BA	0.05
Delta-BHC	BA	BA	0.05
Chlordane	BA	BA	0.2
4,4'-DDT	BA	BA	0.1
4,4'-DDE [p,p-DDX]	BA	BA	0.1
4,4'-DDD [p,p-TDE]	BA	BA	0.1
Dieldrin	BA	BA	0.1
Alpha-Endosulfan	BA	BA	0.1
Beta-Endosulfan	BA	BA	0.1
Endosulfan Sulfate	BA	BA	0.1
Endrin	BA	BA	0.1
Endrin Aldehyde	BA	BA	0.1
Heptachlor	BA	BA	0.05
Heptachlor Epoxide	BA	BA	0.05
PCB-1242	BA	BA	1.0
PCB-1254	BA	BA	1.0
PCB-1221	BA	BA	1.0
PCB-1232	BA	BA	1.0
PCB-1248	BA	BA	1.0
PCB-1260	BA	BA	1.0
PCB-1016	BA	BA	1.0
Toxaphene	BA	BA	5.0

BA - Believed Absent
NA - Not Available

Internal Outfall 204 (New Outfall)

A. Type of wastewater - the intermittent internal discharge of vehicle wash wastewater.

B. Location - at the point of discharge from the area where vehicles will be washed prior to combining with the waters of Final Outfall 004.

C. Treatment - none.

D. Flow - Intermittent.

E. Receiving waters - Discharge to Outfall 004.

F. Effluent Data - not available, new outfall.

Outfall 005

A. Type of wastewater - the intermittent discharge from the Entergy Energy Education Center sewage treatment plant to 40 Arpent Canal. In addition to the sanitary wastewater, a de minimis discharge from the HVAC unit enters the sewage treatment plant.

B. Location - at the point of discharge from the sewage treatment plant prior to combining with the waters of the 40 Arpent Canal at Latitude 29058'53", Longitude 90028'35".

C. Treatment - a package sewage treatment plant with chlorination used for disinfection.

D. Flow - Intermittent, (Max 30-Day) 0.0018 MGD.

E. Receiving waters - 40 Arpent Canal thence to Lac Des Allemands

F. Basin and segment - Barataria Basin, Segment 020202

G. Effluent Data - The following is a summary of the effluent characteristics reported in the revised permit application (EPA Form 2C) received on June 15, 1998.

POLLUTANT	EFFLUENT		
PART A	(mg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Biochemical Oxygen Demand	28.0	28.0	---
Chemical Oxygen Demand	56.9	56.9	---
Total Organic Carbon	18.6	18.6	---
Total Suspended Solids	24	27	---
Ammonia (as N)	17.9	17.9	---
Temperature (Winter)	NA	NA	---
(Summer)	NA	NA	---
pH (Standard Units)	7.20 (min)	8.27 (max)	---
PART B	(mg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Bromide	BA	BA	---
Chlorine, Total Residual	BA	BA	---
Color (nM Units)	25	25	---
Fecal Coliform (col/100 mL)	<2.0	<2.0	---
Fluoride	BA	BA	---
Nitrate-Nitrite (N)	3.77	3.77	---
Organic Nitrogen, Total as (N)	BA	BA	---
Oil and Grease	<5.60	<5.60	---

Phosphorous, Total as (P)	2.8	2.8	---
Radioactivity:			
Alpha, Total (pCi/L)	BA	BA	---
Beta, Total (pCi/L)	BA	BA	---
Radium, Total (pCi/L)	BA	BA	---
Radium 226, Total (pCi/L)	BA	BA	---
Sulfate (as SO_4)	1,510	1,510	---
Sulfide (as S)	<1.0	<1.0	---
Sulfite (as SO_3)	<2.0	<2.0	---
Surfactants	<0.04	<0.04	---
Aluminum (Total)	BA	BA	---
Barium (Total)	BA	BA	---
Boron (Total)	BA	BA	---
Cobalt (Total)	BA	BA	---
Iron (Total)	BA	BA	---
Magnesium (Total)	BA	BA	---
Manganese (Total)	BA	BA	---
Tin (Total)	BA	BA	---
Titanium (Total)	BA	BA	---

METALS, CYANIDE & TOTAL PHENOL	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Antimony (Total)	BA	BA	60
Arsenic (Total)	<10	<10	10
Beryllium (Total)	<5	<5	5
Cadmium (Total)	0.161	0.161	1
Chromium (Total)	<10	<10	10
Chromium (3+)	NA	NA	10
Chromium (6+)	NA	NA	10
Copper (Total)	118	118	10
Lead (Total)	<3	<3	5
Mercury (Total)	<0.2	<0.2	0.2
Molybdenum (Total)	BA	BA	30
Nickel (Total) Freshwater	<40	<40	40
Nickel (Total) Marine	NA	NA	5
Selenium (Total)	<5	<5	5
Silver (Total)	<1	<1	2
Thallium (Total)	<10	<10	10
Zinc (Total)	<20	<20	20
Cyanide (Total)	19	19	10
Phenolics, Total Recoverable (4AAP)	<50	<50	5

DIOXIN	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
2,3,7,8-TCDD	BA	BA	0.00001

VOLATILE COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	

Acrolein	<10	<10	50
Acrylonitrile	<10	<10	50
Benzene	<5	<5	10
Bis(Chloromethyl)Ether	BA	BA	10
Bromoform	<5	<5	10
Carbon Tetrachloride	<5	<5	10
Chlorobenzene	<5	<5	10
Chlorodibromomethane	<5	<5	10
Chloroethane	<10	<10	50
2-Chloroethylvinylether	<5	<5	10
Chloroform	19.7	19.7	10
Dichlorobromomethane	<5	<5	10
Dichlorodifluoromethane	BA	BA	10
1,1-Dichloroethane	<5	<5	10
1,2-Dichloroethane	<5	<5	10
1,1-Dichloroethylene	<5	<5	10
1,2-Dichloropropane	<5	<5	10
1,3-Dichloropropylene	<5	<5	10
Ethylbenzene	<5	<5	10
Methyl Bromide [Bromomethane]	<10	<10	50
Methyl Chloride [Chloromethane]	<10	<10	50
Methylene Chloride	13.9	13.9	20
1,1,2,2-Tetrachloroethane	<5	<5	10
Tetrachloroethylene	<5	<5	10
Toluene	<5	<5	10
1,2-trans-Dichloroethylene	BA	BA	10
1,1,1-Trichloroethane	<5	<5	10
1,1,2-Trichloroethane	<5	<5	10
Trichloroethylene	<5	<5	10
Trichlorofluoromethane	BA	BA	10
Vinyl Chloride	<10	<10	10

ACID COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
2-Chlorophenol	<10	<10	10
2,4-Dichlorophenol	<10	<10	10
2,4-Dimethylphenol	<10	<10	10
4,6-Dinitro-o-Cresol	<25	<25	50
2,4-Dinitrophenol	<25	<25	50
2-Nitrophenol	<10	<10	20
4-Nitrophenol	<25	<25	50
p-Chloro-m-Cresol	<10	<10	10
Pentachlorophenol	<25	<25	50
Phenol	<10	<10	10
2,4,6-Trichlorophenol	<10	<10	10

BASE/NEUTRAL COMPOUNDS	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Acenaphthene	<10	<10	10

Acenaphthylene	<10	<10	10
Anthracene	<10	<10	10
Benzidine	<30	<30	50
Benzo(a)anthracene	<10	<10	10
Benzo(a)pyrene	<10	<10	10
3,4-Benzofluoranthene	<10	<10	10
Benzo(ghi)perylene	<10	<10	20
Benzo(k)fluoranthene	<10	<10	10
Bis(2-chloroethoxy) Methane	<10	<10	10
Bis(2-chloroethyl) Ether	<10	<10	10
Bis(2-chloroisopropyl) Ether	<10	<10	10
Bis(2-ethylhexyl) Phthalate	<10	<10	10
4-Bromophenyl Phenyl Ether	<10	<10	10
Butylbenzyl Phthalate	<10	<10	10
2-Chloronaphthalene	<10	<10	10
4-Chlorophenyl Phenyl Ether	<10	<10	10
Chrysene	<10	<10	10
Dibenzo(a,h)anthracene	<10	<10	20
1,2-Dichlorobenzene	<10	<10	10
1,3-Dichlorobenzene	<10	<10	10
1,4-Dichlorobenzene	<10	<10	10
3,3'-Dichlorobenzidine	<20	<20	50
Diethyl Phthalate	<10	<10	10
Dimethyl Phthalate	<10	<10	10
Di-n-Butyl Phthalate	<10	<10	10
2,4-Dinitrotoluene	<10	<10	10
2,6-Dinitrotoluene	<10	<10	10
Di-n-octyl Phthalate	<10	<10	10
1,2-Diphenylhydrazine	<10	<10	20
Fluoranthene	<10	<10	10
Fluorene	<10	<10	10
Hexachlorobenzene	<10	<10	10
Hexachlorobutadiene	<10	<10	10
Hexachlorocyclopentadiene	<10	<10	10
Hexachloroethane	<10	<10	20
Indeno(1,2,3-cd)pyrene	<10	<10	20
Isophorone	<10	<10	10
Naphthalene	<10	<10	10
Nitrobenzene	<10	<10	10
n-Nitrosodimethylamine	<10	<10	50
n-Nitrosodi-n-Propylamine	<10	<10	20
n-Nitrosodiphenylamine	<10	<10	20
Phenanthrene	<10	<10	10
Pyrene	<10	<10	10
1,2,4-Trichlorobenzene	<10	<10	10

PESTICIDES	(µg/L, UNLESS STATED)		MQL (µg/L)
	30-Day Max	Daily Max	
Aldrin	BA	BA	0.05

Alpha-BHC	BA	BA	0.05
Beta-BHC	BA	BA	0.05
Gamma-BHC [Lindane]	BA	BA	0.05
Delta-BHC	BA	BA	0.05
Chlordane	BA	BA	0.2
4,4'-DDT	BA	BA	0.1
4,4'-DDE [p,p-DDX]	BA	BA	0.1
4,4'-DDD [p,p-TDE]	BA	BA	0.1
Dieldrin	BA	BA	0.1
Alpha-Endosulfan	BA	BA	0.1
Beta-Endosulfan	BA	BA	0.1
Endosulfan Sulfate	BA	BA	0.1
Endrin	BA	BA	0.1
Endrin Aldehyde	BA	BA	0.1
Heptachlor	BA	BA	0.05
Heptachlor Epoxide	BA	BA	0.05
PCB-1242	BA	BA	1.0
PCB-1254	BA	BA	1.0
PCB-1221	BA	BA	1.0
PCB-1232	BA	BA	1.0
PCB-1248	BA	BA	1.0
PCB-1260	BA	BA	1.0
PCB-1016	BA	BA	1.0
Toxaphene	BA	BA	5.0

BA - Believed Absent
NA - Not Available

VIII. Proposed Permit Limits:

The specific effluent limitations and/or conditions will be found in the draft permit. Development and calculation of permit limits are detailed in the Permit Limit Rationale section below.

Summary of Proposed Changes From the Current NPDES Permit:

A. Final Outfall 001:

1. Increase the instantaneous daily maximum temperature limit from 1100F to 1180F.

2. Increase the daily maximum heat limit from 8.5 x 10^9 BTU/hr to 9.5 x 10^9 BTU/hr.

3. Change the acute freshwater whole effluent toxicity biomonitoring frequency from quarterly to once per year.

B. Internal Outfall 101 (Former 01A):

1. Only daily maximum reporting of flow in MGD rather than the daily average flow limit of 0.0288 MGD is proposed due to the intermittent nature of the wastestream.

2. Only daily maximum limitations are proposed due to the intermittent nature of the wastestream.

C. Internal Outfall 201 (Former 01B):

1. Only daily maximum reporting of flow in MGD rather than the daily average flow limit of 0.0288 MGD is proposed due to the intermittent nature of the wastestream.

2. Only daily maximum limitations are proposed due to the intermittent nature of the wastestream.

D. Internal Outfall 301 (Former 01C):

1. Only daily maximum reporting of flow in MGD is proposed due to the intermittent nature of the wastestream.

2. Change the reporting requirement for clarifying agents.

E. Internal Outfall 401 (Former 01D):

1. Only daily maximum reporting of flow in MGD is proposed due to the intermittent nature of the wastestream.

2. Only daily maximum limitation for Total Suspended Solids is proposed due to the intermittent nature of the wastestream.

3. Establish daily maximum limitation for oil and grease (O&G) at 20 mg/l.

4. Establish monitoring frequency of 1/week for TSS, Oil & Grease, and pH, when discharging.

F. Internal Outfall 501 (New Outfall):

1. Add Internal Outfall 501 for the intermittent discharge from Auxiliary Component Cooling Water Basin A to Final Outfall 001 via the turbine condenser cooling system.

2. The daily maximum reporting of flow in MGD is proposed due to the intermittent nature of the wastestream.

3. Establish daily maximum limitation for total organic carbon (TOC) at 50 mg/l.

4. Establish daily maximum limitation for total suspended solids (TSS) at 100 mg/l.

5. Establish daily maximum limitation for oil and grease (O&G) at 20 mg/l.

6. Establish limitation for pH of not less than 6.0 standard units nor greater than 9.0 standard units.

7. Establish monitoring frequency of 1/week for TOC, TSS, Oil & Grease, and pH, when discharging.

G. Internal Outfall 601 (New Outfall):

1. Add Internal Outfall 601 for the intermittent discharge from Auxiliary Component Cooling Water Basin B to Final Outfall 001 via the turbine condenser cooling system.

2. The daily maximum reporting of flow in MGD is proposed due to the intermittent nature of the wastestream.

3. Establish daily maximum limitation for total organic carbon (TOC) at 50 mg/l.

4. Establish daily maximum limitation for total suspended solids (TSS) at 100 mg/l.

5. Establish daily maximum limitation for oil and grease (O&G) at 20 mg/l.

6. Establish limitation for pH of not less than 6.0 standard units nor greater than 9.0 standard units.

7. Establish monitoring frequency of 1/week for TOC, TSS, Oil & Grease, and pH, when discharging.

H. Internal Outfall 701 (New Outfall):

1. Add Internal Outfall 701 for the intermittent discharge of cooling tower blowdown and low volume wastewaters from Dry Cooling Tower Sump #1 and the occasional discharge of previously monitored effluent from Internal Outfall 104 to Final Outfall 001 via the turbine condenser cooling system or Final Outfall 004.

2. The daily maximum reporting of flow in MGD is proposed due to the intermittent nature of the wastestream.

3. Establish daily maximum limitation for total organic carbon (TOC) at 50 mg/l.

4. Establish daily maximum limitation for total suspended solids (TSS) at 100 mg/l.

5. Establish daily maximum limitation for oil and grease (O&G) at 20 mg/l.

6. Establish limitation for pH of not less than 6.0 standard units nor greater than 9.0 standard units.

7. Establish daily maximum limitation for free available chlorine (FAC) at 0.5 mg/l, when discharging cooling tower blowdown.

8. Establish daily maximum limitation for total chromium at 0.2 mg/l, when discharging cooling tower blowdown.

9. Establish daily maximum limitation for total zinc at 1.0 mg/l, when discharging cooling tower blowdown.

10. Establish monitoring frequency of 1/month for TOC, TSS, Oil & Grease, pH, FAC, total chromium, and total zinc, when discharging.

I. Internal Outfall 801 (New Outfall):

1. Add Internal Outfall 801 for the intermittent discharge of cooling tower blowdown and low volume wastewaters from Dry Cooling Tower Sump #2 and the occasional discharge of previously monitored effluent from Internal Outfall 104 to Final Outfall 001 via the turbine condenser cooling system or Final Outfall 004.

2. The daily maximum reporting of flow in MGD is proposed due to the intermittent nature of the wastestream.

3. Establish daily maximum limitation for total organic carbon (TOC) at 50 mg/l.

4. Establish daily maximum limitation for total suspended solids (TSS) at 100 mg/l.

5. Establish daily maximum limitation for oil and grease (O&G) at 20 mg/l.

6. Establish limitation for pH of not less than 6.0 standard units nor greater than 9.0 standard units.

7. Establish daily maximum limitation for free available chlorine (FAC) at 0.5 mg/l, when discharging cooling tower blowdown.

8. Establish daily maximum limitation for total chromium at 0.2 mg/l, when discharging cooling tower blowdown.

9. Establish daily maximum limitation for total zinc at 1.0 mg/l, when discharging cooling tower blowdown.

10. Establish monitoring frequency of 1/month for TOC, TSS, Oil & Grease, pH, FAC, total chromium, and total zinc, when discharging.

J. Internal Outfall 901 (New Outfall):

1. Add Internal Outfall 901 for the intermittent, mobile discharge of metal cleaning wastewaters from internal components of plant equipment to Final Outfall 001 via the turbine condenser cooling system.

2. The daily maximum reporting of flow in MGD is proposed due to the intermittent nature of the wastestream.

3. Establish daily maximum limitation for total suspended solids (TSS) at 100 mg/l.

4. Establish daily maximum limitation for oil and grease (O&G) at 20 mg/l.

5. Establish limitation for pH of not less than 6.0 standard units nor greater than 9.0 standard units.

6. Establish daily maximum limitation for total copper at 1.0 mg/l.

7. Establish daily maximum limitation for total iron at 1.0 mg/l.

8. Establish monitoring frequency of 1/week for TSS, Oil & Grease, pH, total copper, and total iron, when discharging.

K. Final Outfall 004 (New Outfall):

1. Add Final Outfall 004 for the intermittent discharge from the plant drainage ditch system to 40 Arpent Canal and the occasional discharge from Internal Outfall 701 and Internal Outfall 801.

2. The daily maximum reporting of flow in MGD is proposed due to the intermittent nature of the wastestream.

3. Establish daily maximum limitation for total organic carbon (TOC) at 50 mg/l.

4. Establish daily maximum limitation for oil and grease (O&G) at 15 mg/l.

5. Require discharge limits for total suspended solids (TSS) of 100 mg/l for daily maximum, when discharging low volume wastewaters during maintenance activities.

6. Establish limitation for pH of not less than 6.0 standard units nor greater than 9.0 standard units.

7. Establish monitoring frequency for TOC, O&G, and pH at once per quarter.

8. Establish monitoring frequency for TSS at once per quarter, when discharging low volume wastewaters.

L. Internal Outfall 104 (Former 002):

1. Add an optional flow path for occasional discharges from the yard oil separator system to Dry Cooling Tower Sump #1 (Internal Outfall 701) and/or Dry Cooling Tower Sump #2 (Internal Outfall 801) as a result of maintenance activities.

2. Only daily maximum limitations are proposed due to the intermittent nature of the wastestream.

3. Change the monitoring frequency for TSS, O&G, and pH to once per month.

M. Internal Outfall 204 (New Outfall):

1. Add Internal Outfall 204 for the intermittent discharge of vehicle wash wastewaters to Final Outfall 004.

2. The monthly average and daily maximum reporting of flow in MGD is proposed.

3. Establish limitations for chemical oxygen demand (COD) at 200 mg/l and 300 mg/l, monthly average and daily maximum respectively.

4. Establish daily maximum limitation for total suspended solids (TSS) at 45 mg/l.

5. Establish daily maximum limitation for oil and grease (O&G) at 15 mg/l.

6. Establish limitation for pH of not less than 6.0 standard units nor greater than 9.0 standard units.

7. Establish inventory requirement for the soaps and/or detergents used.

8. Establish monitoring frequency for COD, TSS, O&G, and pH at once per quarter.

N. Final Outfall 005 (New Outfall):

1. Add Final Outfall 005 for the intermittent discharge from the Entergy Energy Education Center sewage treatment plant to 40 Arpent Canal.

2. The weekly average reporting of flow in MGD is proposed due to the intermittent nature of the wastestream.

3. Establish weekly average limitation for total suspended solids (TSS) at 45 mg/l.

4. Establish weekly average limitation for biological oxygen demand (5 days) (BOD_5) at 45 mg/l.

5. Establish weekly average limitation for fecal coliform at 400 colonies/100 ml.

6. Establish limitation for pH of not less than 6.0 standard units nor greater than 9.0 standard units.

7. Establish monitoring frequency for TSS, pH, BOD_5, and fecal coliform at once per six months.

O. Part II:

1. Specify that the 126 priority pollutants as listed in 40 CFR 423 Appendix A, other than total chromium and total zinc, will not be detected in the effluent in accordance with 40 CFR 423.

IX. Permit Limit Rationale:

The following section sets forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit. Also set forth are any calculations or other explanations of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guideline or performance standard provisions as required under LAC 33:IX.2361/40 CFR Part 122.44 and reasons why they are applicable or an explanation of how the alternate effluent limitations were developed.

A. TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Following regulations promulgated at LAC 33:IX.2361.L.2.b/40 CFR Part 122.44(l)(2)(ii), the draft permit limits are based on either technology-based effluent limits pursuant to LAC 33:IX.2361.A/40 CFR Part 122.44(a) or on State water quality standards and requirements pursuant to LAC 33:IX.2361.D/40 CFR Part 122.44(d), whichever are more stringent.

B. TECHNOLOGY-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Regulations promulgated at LAC 33:IX.2361.A/40 CFR Part 122.44(a) require technology-based effluent limitations to be placed in LPDES permits based on effluent limitations guidelines where applicable, on best professional judgement (BPJ) in the absence of guidelines, or on a combination of the two.

The permittee is subject to Best Practicable Control Technology Currently Available (BPT) and Best Available Technology Economically Achievable (BAT) effluent limitation guidelines listed below:

Manufacturing Operation	Guideline
Steam Electric Power Generating Point Source Category	40 CFR 423

Outfall 001

This outfall is the continuous discharge from the turbine condenser cooling system to the Mississippi River. The turbine condenser cooling system receives once-through non-contact cooling water from the Mississippi River that flows through the main condenser, the steam generator blowdown heat exchangers, and the turbine building closed cooling heat exchanger. Previously monitored discharges from Internal Outfalls 101 (former 01A), 201 (former 01B), 301 (former 01C), 401 (former 01D), 501, 601, 701, 801, and 901 also are discharged via Outfall 001. The combined flow volume of these intermittent internal outfalls (estimated at 1.65 MGD) is significantly less than the maximum 30 day average flow of the once-through non-contact cooling water through Outfall 001 (1,346 MGD). The effluent limitations proposed for Outfall 001 in the draft LPDES permit are as follows:

Parameter	Monthly Average	Daily Maximum
Flow	Report 1,518 MGD	
Temperature (0F)	Report 1180F	
Heat	N/A	9.5 x 10^9 BTU/Hour
Boron	N/A	0.2 mg/l
Total Residual Chlorine	N/A	211 lbs/day

Flow

The flow limitation of 1,518 MGD for daily maximum at Outfall 001 is retained from the current NPDES permit. This maximum daily flow limit was requested by Louisiana Power and Light Company (LP&L, predecessor to Entergy) in a letter to EPA Region 6 dated March 1, 1985. This letter requested an increase in the daily maximum flow of the once-through non-contact cooling water from the limit of 1,445 MGD then in effect to 1,518 MGD which LP&L described as the "maximum hydraulic capability" of the turbine condenser cooling system. This request was granted in a letter from EPA Region 6 to LP&L dated May 30, 1985. Discharge flow is to be determined from calibrated pumping curves or calculated using appropriate heat balance methodology.

Boron

The current NPDES permit established a calculated daily maximum discharge limit of 0.2 mg/l for boron at Outfall 001. The fact sheet for this NPDES permit stated this boron limitation was based on BPJ since boron is for reactivity control in the reactor. The limit is retained on the same basis.

Total Residual Chlorine

The current NPDES permit established daily maximum discharge limits of 211 lbs/day and 0.2 mg/l for total residual chlorine (TRC) at Outfall 001. The limit is based on 40 CFR 423.13(b)(1)(BAT). Since the discharge from Outfall 001 is continuous and not significantly variable, only the mass limitation is continued.

Site-Specific Consideration

Temperature and Heat

In an application addendum submitted June 15, 1998, the permittee requested that the temperature and heat discharge limits included in the current NPDES permit, 1100F and 8.5 x 10^9 BTU/Hour, be increased to 118 0F and 9.5 x 10^9 BTU/Hour, respectively, or removed from the new permit entirely.

The permittee bases the request for an increase in temperature and heat discharge limits on a planned "power uprate" to be implemented in the near future at Waterford 3. On August 26, 1996, this Office issued a letter of no objection to the permittee's request for a power uprate. However, the permit limitations and conditions in the current permit were not adjusted to accommodate a power uprate and compliance with those limitations was still required. Current limits can not be met with a production increase, especially during months when customer demand for electricity is high. This increase in the megawatt output of the facility will result in more waste heat that will need to be transferred from the turbine condenser to the once-through non-contact cooling water. Because the turbine condenser cooling system will continue to operate within its current hydraulic capability, the removal of this additional waste heat will result in higher discharge temperatures for the once-through non-contact cooling water.

Due to the Nuclear Regulatory Commission (NRC) approved design of the plant itself, full power operation, following a power uprate, would result in an increase in temperature and heat discharged in once-through non-contact cooling water. The following is an explanation of how this occurs.

> Thermal energy is generated from the nuclear fuel inside a reactor. Reactor coolant is circulated inside the reactor coolant system to carry that thermal energy to the secondary coolant via a non-contact steam generator. Steam produced from the steam generator drives the turbine-generator producing electricity. Exhaust steam from the outlet of the turbine is condensed by the non-contact cooling water in the circulating water system. Approximately one-third of the heat produced by the reactor is absorbed by the non-contact cooling water in the circulating water system which discharges through Outfall 001 to the Mississippi River. Therefore to increase the electrical output, the thermal energy produced by the reactor must increase proportionally to the increase of electricity. As a result of the increase in reactor thermal power, more heat is absorbed by the non-contact cooling water in the circulating water system.

Both the temperature and heat limitations included in the current permit are technology-based limitations. 40 CFR 423 promulgated as commanded by Section 304 of the Clean Water Act did not establish temperature or heat limitations. Therefore, best professional judgment (BPJ) was used by EPA, Region VI, to establish the Best Available Technology (BAT), economically achievable, for the current temperature and heat limitations contained in the NPDES permit.

The heat limit currently in effect, 8.5×10^9 BTU/Hour, resulted from the Demonstration under Section 316(a) of the Clean Water Act submitted by LP&L in April 1979. On page 35 of this document, LP&L requested that EPA establish 8.5×10^9 BTU/Hour as an alternative thermal limitation for Waterford 3. An internal EPA Region 6 memo dated August 24, 1979 discussed the EPA review of this 316(a) demonstration. In this memo, the EPA reviewer concurred with LP&L's conclusion that the alternative thermal limitation "adequately

regulates the amount of heat discharged to the Mississippi River from this facility such that it protects the balanced indigenous population". However, the EPA reviewer continued "although the demonstration requests no maximum thermal limitation be placed in the permit, I recommend an instantaneous thermal maximum of 110 0F be placed in the permit to further insure protection of the aquatic species". The 110 0F stems from a maximum instantaneous heat discharge of 8.5 x 10^9 BTU/Hour, an instantaneous flow rate of 1,000 MGD for the once-through non-contact cooling water, and a typical maximum stream temperature of 86 0F.

The definition of a British thermal unit (BTU) is the amount of heat required to raise the temperature of one pound of water one degree Fahrenheit at or near 39.20F. Ignoring the slight variation in thermal conductivity of water due to its ambient temperature, the temperature increase of the cooling water conveying the waste heat from the turbine condenser can be estimated by dividing the waste heat in BTU/hour by the cooling water flow in pounds per hour (lbs/hour).

The conversion of the cooling water flow from MGD to lbs/hour is accomplished as follows:

[(1,000 x 10^6 gal/day) x (8.337 lbs/gal)] ÷ [24 hr/day] = 347,375,000 lbs/hour

Dividing the alternative heat limit by the converted cooling water flow yields:

(8.5 x 10^9 BTU/Hour) ÷ (347,375,000 lbs/hour) = 24.50F

Adding this to the typical maximum stream temperature produces the following discharge temperature:

860F + 24.50F = 110.50F or approximately 1100F

Applying the same methodology for a heat limit of 9.5 x 10^9 BTU/Hour and a maximum fresh water stream temperature of 900F (specified in LAC 33:IX.1113.C.4) produces a discharge temperature of approximately 1180F.

Using a flow of 1,000 MGD in these calculations is reasonable because the long term average flow for Outfall 001 is 1,085 MGD according to the permit application.

To further ensure attainment of LAC 33:IX.1113.C.4.b.i.(a), the 50F allowable rise of temperature above ambient was applied at the edge of the mixing zone. Appendix A illustrates that a violation of the above citation would not occur with a discharge limitation for temperature at 1180F.

The Demonstration under Section 316(a) of the Clean Water Act classified the Mississippi River near Waterford 3 as "an area of low potential impact for

thermal discharges". This classification resulted from: (1) the determination that this stretch of the Mississippi River was not "unique" for any shellfish, fish, or wildlife; and (2) the realization that most of the cross-sectional area available for flow in the river would be unaffected by the thermal plume. Therefore, the indigenous population of shellfish, fish, and wildlife, which are present in abundance in areas away from Waterford 3, either would have ample opportunity to pass by the facility without encountering elevated stream temperatures or would only experience the higher temperatures for such brief periods that no deleterious effects would result.

The 316(a) demonstration found that no threatened or endangered species were present near Waterford 3. The species that were present also were abundant in other areas of the Mississippi River. The study also determined that no special fish spawning habitat existed near the facility.

The 316(a) demonstration documented thermal model results for various flow and temperature conditions reflecting seasonal variations in this stretch of the Mississippi River. The models accounted for the historically calibrated thermal discharges for the nearby Waterford 1 and 2 and Little Gypsy steam electric generating plants, as well as for the 8.5 x 10^9 BTU/Hour anticipated for Waterford 3. A worst case scenario of an extreme low flow of 100,000 cubic feet per second (cfs) was modeled in the study. This minimum flow in the lower Mississippi River is maintained by the Old River Control Structure operated by the U.S. Army Corps of Engineers and is less than the 7Q10 flow for this segment of the river (141,955 cfs). Under this worst case, extreme low flow situation, the model determined that less than 15% of the cross-sectional area of the river would experience temperature increases of 5 ^{0}F. This thermal plume also stayed near the surface of the river extending no deeper than 10 feet.

In the Final Environmental Statement Related to the Operation of Waterford Steam Electric Station, Unit No. 3, the Nuclear Regulatory Commission (NRC) documented model studies conducted by their staff to independently confirm the results presented by LP&L in the 316(a) demonstration. Using a different model, the NRC produced results that were "generally in agreement" with those presented by LP&L. The NRC model produced a slightly larger combined thermal plume or mixing zone, but the environmental statement concluded that operation of Waterford 3 would be "in compliance with the Louisiana Water Quality Criteria relating to temperature". With all three plants operating at peak loads during extreme low flow conditions, an adequate zone of passage (83% of the river cross-sectional area) will still remain for aquatic species to pass by facilities without entering the combined thermal mixing zone. Species entering the mixing zone probably would pass through it in one hour or less, minimizing the impact of the elevated temperatures. Also natural ambient river surface temperatures above 86 ^{0}F should only occur about 2.5% of the time.

Applying the percentage increase of thermal discharge at Waterford 3 to the model worst case, extreme low flow thermal plume should provide a conservative

estimate of the combined thermal mixing zone that would result from the planned power uprate. This should be very conservative due to Waterford 3 contributing less heat to the river than Waterford 1 and 2 and Little Gypsy combined. Increasing the heat discharge to 9.5 x 10^9 BTU/Hour from 8.5 x 10^9 BTU/Hour constitutes a 12% gain. Applying this proportional gain to the worst case combined thermal plume (17% of river cross-sectional area) yields an anticipated combined thermal mixing zone of 19%. This leaves approximately 81% of the river flow unaffected by the temperature increase after the Waterford 3 power uprate, even under extreme low flow conditions.

LAC 33:IX.1115.C.7 specifies the mixing zone for streams with 7Q10 flow greater than 100 cfs as either 100 cfs or 1/3 of the flow, whichever is greater. The anticipated thermal mixing zone of 19% is substantially less than 33% of cross-sectional area or 1/3 of the flow. Therefore, the increased heat discharge and temperature limits requested for Outfall 001 are expected to meet Louisiana Water Quality Criteria for temperature.

In response to this Office's concern expressed in the August 26, 1996 letter, the combined thermal discharges from Waterford 1 and 2, Waterford 3, and Little Gypsy were evaluated in respect to the cooling tower operations of a downstream facility, Union Carbide. This facility is 1.6 river miles down from Waterford 3. In 1971, the U.S. Department of Interior, Geological Survey in cooperation with Louisiana Department of Public Works, prepared Hydrologic and Quality Characteristics of the Lower Mississippi River, Technical Report Number 5. The purpose of the report was to further an understanding of the hydrologic and quality characteristics of the lower Mississippi River, including the effects of industrial development on water quality and the ability of the river to assimilate wastes. In evaluating the effects of heated effluent, the report states "Very little vertical mixing occurred because the heated water was less dense and floated on the surface." Because the heated water is less dense than the cooler ambient river water, the combined thermal mixing zone remains near the surface. As mentioned earlier, the worst case thermal plume extends no more than about 10 feet deep.

Since the intake structure for Union Carbide is 3 feet below mean sea level, no rise in temperature above ambient would be detected. Additionally, Union Carbide's cooling water enters the facility via an internal canal. This canal would effectively return river water to ambient temperature prior to entering the facility's cooling system.

Technology to achieve the current limitations for temperature and heat does exist through the use of cooling towers. However, that technology is not economically achievable for Waterford 3. This facility is regulated by the NRC and any change in the operation or equipment must be approved by that agency. For the relatively small increase in temperature and heat caused by the power uprate, modifying the plant itself is not economically justified.

In conclusion, this permit proposes to increase the temperature to 1180F and heat to 9.5 x 10^9 BTU/hour as requested by the permittee.

Internal Outfalls

In accordance with 40 CFR 122.56(b)(1)(ii), the following is an explanation for the establishment of Internal Outfalls 101, 201, 301, 401, 501, 601, 701, 801, 901, 104, and 204. Certain permit effluent limitations at the point of discharge are impractical because at the final discharge point the wastes at the point discharge are so diluted as to make monitoring impracticable. pH must be monitored internally at the outfalls internal to Outfall 001 because the design of the plant does not allow for the measurement to be taken prior to entering the Mississippi River. Therefore, in accordance with 40 CFR 122.46(h)(2) the internal outfalls described below are established.

Internal Outfall 101 (Former 01A) - Liquid Waste Management System

This outfall is the intermittent internal discharge from the liquid waste management system to Final Outfall 001 via the turbine condenser cooling system. The liquid waste management system receives low volume wastewater from the following sources, including but not limited to: the turbine and reactor building equipment and floor drains, primary plant water makeup, laboratory drains, and other low volume wastewater sources as defined in 40 CFR 423. The effluent limitations proposed for Outfall 101 in the draft LPDES permit are as follows:

Parameter	Monthly Average mg/L	Daily Maximum mg/L
Flow, MGD	N/A	Report
Total Suspended Solids	N/A	100
Oil and Grease	N/A	20
Boron	N/A	Report
pH, standard units	6.0 (min)	9.0 (max)

Flow

The permittee has requested to change the daily average flow limitation from 0.0288 MGD to Report. The daily average flow limitation of 0.0288 MGD at Internal Outfall 101 (former 01A) is in the current NPDES permit. This average daily flow limit was requested by LP&L in a letter to EPA Region 6 dated March 1, 1985. This letter requested an increase in the daily average flow of the liquid waste management system from the limit of 0.0093 MGD then in effect to 0.0288 MGD which LP&L described as necessary "to accommodate efficient operation of the plant". This request was granted in a letter from EPA Region 6 to LP&L dated May 30, 1985.

The permittee contends that this flow limit at Internal Outfall 101 unnecessarily restricts plant operations without adding to the quality of the discharges from the facility. Because discharges from the liquid waste management system occur in batches and each batch requires monitoring prior to

discharge, all the effluent conveyed past Internal Outfall 101 meets the discharge criteria specified in the permit, regardless of flow quantity.

Given that a power uprate at Waterford 3 will require additional operation of the liquid waste management system to support the increased generation of electricity, the permittee's request to remove the daily average flow limit of 0.0288 MGD is granted. Discharge flow is totalized when the discharge occurs.

Total Suspended Solids

The current NPDES permit established a daily average discharge limit of 30 mg/l and a daily maximum discharge limit of 100 mg/l for total suspended solids at Internal Outfall 101 (former 01A). Since the flow to this outfall is intermittent only the daily maximum limitation is continued from the current permit. This limit is based on 40 CFR 423.12(b)(3)(BPT).

Oil and Grease

The current NPDES permit established a daily average discharge limit of 15 mg/l and a daily maximum discharge limit of 20 mg/l for oil and grease at Internal Outfall 101 (former 01A). Since the flow to this outfall is intermittent only the daily maximum limitation is continued from the current permit. This limit is based on 40 CFR 423.12(b)(3)(BPT).

Boron

The current NPDES permit established Report for both the daily average discharge limit and daily maximum discharge limit for boron at Internal Outfall 101 (former 01A). Since the flow to this outfall is intermittent only the daily maximum reporting requirement is continued from the current permit. This requirement is based on the current permit.

pH

The current NPDES permit established a minimum discharge limit of 6.0 standard units and a maximum discharge limit of 9.0 standard units for pH at Outfall 101 (former 01A). These limits are based on 40 CFR 423.12(b)(1)(BPT) and are retained from the current permit.

Internal Outfall 201 (Former 01B) - Boron Management System

This outfall is the intermittent internal discharge from the boron management system to Final Outfall 001 via the turbine condenser cooling system. The boron management system concentrates and recovers boron from low volume wastewaters for reuse within the plant. The boron management system receives low volume wastewater from the following sources, including but not limited to: the turbine and reactor building equipment and floor drains, primary plant water makeup, laboratory drains, and other low volume wastewater sources

as defined in 40 CFR 423. The effluent limitations proposed for Internal Outfall 201 in the draft LPDES permit are as follows:

Parameter	Monthly Average mg/L	Daily Maximum mg/L
Flow, MGD	N/A	Report
Total Suspended Solids	N/A	100
Oil and Grease	N/A	20
Boron	N/A	Report
pH, standard units	6.0 (min)	9.0 (max)

Flow

The permittee has requested to change the daily average flow limitation from 0.0288 MGD to Report. The daily average flow limitation of 0.0288 MGD at Internal Outfall 201 (former 01B) is included in the current NPDES permit. This average daily flow limit was requested by LP&L in a letter to EPA Region 6 dated March 1, 1985. This letter requested an increase in the daily average flow of the boron management system from the limit of 0.0144 MGD then in effect to 0.0288 MGD which LP&L described as necessary "to accommodate efficient operation of the plant". This request was granted in a letter from EPA Region 6 to LP&L dated May 30, 1985.

The permittee contends that this flow limit at Internal Outfall 201 unnecessarily restricts plant operations without adding to the quality of the discharges from the facility. Because discharges from the boron management system occur in batches and each batch requires monitoring prior to discharge, all the effluent conveyed past Internal Outfall 201 meets the discharge criteria specified in the permit, regardless of flow quantity.

Given that a power uprate at Waterford 3 will require additional operation of the boron management system to support the increased generation of electricity, the permitee’s request to remove the daily average flow limit of 0.0288 MGD is granted. Discharge flow is totalized when the discharge occurs.

Total Suspended Solids

The current NPDES permit established a daily average discharge limit of 30 mg/l and a daily maximum discharge limit of 100 mg/l for total suspended solids at Internal Outfall 201 (former 01B). Since the flow to this outfall is intermittent only the daily maximum limitation is continued from the current permit. This limit is based on 40 CFR 423.12(b)(3)(BPT).

Oil and Grease

The current NPDES permit established a daily average discharge limit of 15 mg/l and a daily maximum discharge limit of 20 mg/l for oil and grease at Internal Outfall 201 (former 01B). Since the flow to this outfall is

intermittent only the daily maximum limitation is continued from the current permit. This limit is based on 40 CFR 423.12(b)(3)(BPT).

Boron

The current NPDES permit established Report for both the daily average discharge limit and daily maximum discharge limit for boron at Internal Outfall 201 (former 01B). Since the flow to this outfall is intermittent only the daily maximum reporting requirement is continued from the current permit. This requirement is based on the current permit.

pH

The current NPDES permit established a minimum discharge limit of 6.0 standard units and a maximum discharge limit of 9.0 standard units for pH at Internal Outfall 201 (former 01B). These limits are based on 40 CFR 423.12(b)(1)(BPT) and are retained from the current permit.

Internal Outfall 301 (Former 01C) - Filter Flush System

This outfall is the intermittent internal discharge of filter flush water from the primary water treatment system to Final Outfall 001 via the turbine condenser cooling system. The primary water treatment system filters river water for various plant uses. The filters of this system are flushed periodically with untreated river water to remove solids trapped in the filter beds. The effluent limitations proposed for Internal Outfall 301 in the draft LPDES permit are as follows:

Parameter	Monthly Average	Daily Maximum
Flow, MGD	N/A	Report
Clarifying Agents Used		

Flow

The current NPDES permit required the daily average flow and daily maximum flow to be reported at Internal Outfall 301 (former 01C). Since the flow to this outfall is intermittent, the daily maximum flow is to be reported. Discharge flow is totalized when the discharge occurs.

Clarifying Agents Used

The current NPDES permit specified the recording of the monthly amount of clarifying agents used at Internal Outfall 301 (former 01C). This requirement is continued from the current permit. However, no reporting on Discharge Monitoring Reports (DMRs) will be required. The permittee is required to keep these monthly records onsite, available to DEQ or EPA anytime or upon request. The draft permit establishes a permit requirement for the onsite maintenance of this information in Part I.

Internal Outfall 401 (Former 01D) - Low Volume Wastewaters

This outfall is the intermittent internal discharge of steam generator blowdown and other low volume wastewaters to Final Outfall 001 via the turbine condenser cooling system. In addition to steam generator blowdown, low volume wastewater from other sources as defined in 40 CFR 423 are discharged from this outfall. The effluent limitations proposed for Internal Outfall 401 in the draft LPDES permit are as follows:

Parameter	Monthly Average mg/L	Daily Maximum mg/L
Flow, MGD	N/A	Report
Total Suspended Solids	N/A	100
Oil and Grease	N/A	20
pH, standard units	6.0 (min)	9.0 (max)

Flow

The current NPDES permit requires the daily average flow and daily maximum flow to be reported at Internal Outfall 401 (former 01D). Since the flow to this outfall is intermittent, only the daily maximum flow is to be reported. Discharge flow is totalized when the discharge occurs during periods of blowdown. When low volume wastewaters are discharged, the flow must be estimated.

Total Suspended Solids

The current NPDES permit established a daily average discharge limit of 30 mg/l and a daily maximum discharge limit of 100 mg/l for total suspended solids at Internal Outfall 401 (former 01D). Since the flow to this outfall is intermittent the daily maximum limitation is continued from the current permit. This limit are based on 40 CFR 423.12(b)(3)(BPT).

Oil and Grease

This draft permit establishes a daily maximum discharge limit of 20 mg/l for oil and grease at Internal Outfall 401. This limit is based on 40 CFR 423.12(b)(3)(BPT).

pH

The current NPDES permit established a minimum discharge limit of 6.0 standard units and a maximum discharge limit of 9.0 standard units for pH at Internal Outfall 401 (former 01D). These limits are based on 40 CFR 423.12(b)(1)(BPT) and are retained from the current permit.

Internal Outfall 501 - Auxiliary Component Cooling Water Basin A

Plant systems have been modified to allow effluent from the auxiliary component cooling water basins to be directly discharged via the turbine condenser cooling system, leaving the facility through Final Outfall 001.

This new outfall monitors the intermittent internal discharge from Auxiliary Component Cooling Water Basin A to Final Outfall 001 via the turbine condenser cooling system. Low volume wastewater sources contributing to the flow monitored at this outfall include, but are not limited to, auxiliary component cooling water, component cooling water, Mississippi River water, and stormwater. The effluent limitations proposed for Internal Outfall 501 in the draft LPDES permit are as follows:

Parameter	Monthly Average mg/L	Daily Maximum mg/L
Flow, MGD	N/A	Report
Total Organic Carbon	N/A	50
Total Suspended Solids	N/A	100
Oil and Grease	N/A	20
pH, standard units	6.0 (min)	9.0 (max)

Flow

This draft permit requires the daily maximum flow to be reported at Internal Outfall 501 by estimating using best engineering judgement. This requirement is based on 40 CFR 122.44(i)(1)(iii).

Total Organic Carbon

This draft permit establishes a daily maximum discharge limit of 50 mg/l for total organic carbon at Internal Outfall 501. Total Organic Carbon is established because stormwater could be discharged via this outfall. The limitation is based on BPJ in accordance with this Office's guidance on stormwater, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6).

Total Suspended Solids

This draft permit establishes a daily maximum discharge limit of 100 mg/l for total suspended solids at Internal Outfall 501. This limit is based on 40 CFR 423.12(b)(3)(BPT). When the circulating water flow test is performed, TSS is not limited due to Mississippi River water being used for this test. This test is infrequently done, historically only during times of refueling outages.

Oil and Grease

This draft permit establishes a daily maximum discharge limit of 20 mg/l for oil and grease at Internal Outfall 501. This limit is based on 40 CFR 423.12(b)(3)(BPT).

pH

This draft permit establishes a minimum discharge limit of 6.0 standard units and a maximum discharge limit of 9.0 standard units for pH at Internal Outfall 501. These limits are based on 40 CFR 423.12(b)(1)(BPT).

Internal Outfall 601 - Auxiliary Component Cooling Water Basin B

Plant systems have been modified to allow effluent from the auxiliary component cooling water basins to be directly discharged via the turbine condenser cooling system, leaving the facility through Final Outfall 001.

This new outfall monitors the intermittent internal discharge from Auxiliary Component Cooling Water Basin B to Final Outfall 001 via the turbine condenser cooling system. Low volume wastewater sources contributing to the flow monitored at this outfall include, but are not limited to, auxiliary component cooling water, component cooling water, Mississippi River water, and stormwater. The effluent limitations proposed for Internal Outfall 601 in the draft LPDES permit are as follows:

Parameter	Monthly Average mg/L	Daily Maximum mg/L
Flow, MGD	N/A	Report
Total Organic Carbon	N/A	50
Total Suspended Solids	N/A	100
Oil and Grease	N/A	20
pH, standard units	6.0 (min)	9.0 (max)

Flow

This draft permit requires the daily maximum flow to be reported at Internal Outfall 601 by estimating using best engineering judgement. This requirement is based on 40 CFR 122.44(i)(1)(iii).

Total Organic Carbon

This draft permit establishes a daily maximum discharge limit of 50 mg/l for total organic carbon at Internal Outfall 501. Total Organic Carbon is established because stormwater could be discharged via this outfall. The limitation is based on BPJ in accordance with this Office's guidance on stormwater, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6).

Total Suspended Solids

This draft permit establishes a daily maximum discharge limit of 100 mg/l for total suspended solids at Internal Outfall 601. This limit is based on 40 CFR 423.12(b)(3)(BPT). When the circulating water flow test is performed, TSS is not limited due to Mississippi River water being used for this test. This test is infrequently done, historically only during times of refueling outages.

Oil and Grease

This draft permit establishes a daily maximum discharge limit of 20 mg/l for oil and grease at Internal Outfall 601. This limit is based on 40 CFR 423.12(b)(3)(BPT).

pH

This draft permit establishes a minimum discharge limit of 6.0 standard units and a maximum discharge limit of 9.0 standard units for pH at Internal Outfall 601. These limits are based on 40 CFR 423.12(b)(1)(BPT).

Internal Outfall 701 - Dry Cooling Tower Sump #1

Plant systems have been modified to allow effluent from the dry cooling tower sumps to be directly discharged via the turbine condenser cooling system, leaving the facility through Final Outfall 001.

This outfall monitors the intermittent internal discharge which is comprised of greater than 85% stormwater, in addition to cooling tower blowdown and low volume wastewaters from Dry Cooling Tower Sump #1 to Final Outfall 001 via the turbine condenser cooling system or to Final Outfall 004 via the plant drainage ditches. In addition to the wet cooling tower blowdown, low volume wastewater from various sources as defined in 40 CFR 423 are discharged from this outfall. Low volume wastewater sources contributing to this monitored flow include, but are not limited to, wet cooling tower leakage, auxiliary component cooling water, component cooling water, and stormwater. Previously monitored effluent from the Yard Oil Separator System (Internal Outfall 104) is infrequently discharged through this outfall as a result of maintenance activities. The effluent limitations proposed for Internal Outfall 701 in the draft LPDES permit are as follows:

Parameter	Monthly Average mg/L	Daily Maximum mg/L
Flow, MGD	N/A	Report
Total Organic Carbon	N/A	50
Total Suspended Solids	N/A	100
Oil and Grease	N/A	20
Free Available Chlorine	N/A	0.5
Chromium, Total	N/A	0.2
Zinc, Total	N/A	1.0

pH, standard units 6.0 (min) 9.0 (max)

Flow

This draft permit requires the daily maximum flow to be reported at Internal Outfall 701 by estimating using best engineering judgement. This requirement is based on 40 CFR 122.44(i)(1)(iii).

Total Organic Carbon

This draft permit establishes a daily maximum discharge limit of 50 mg/l for total organic carbon at Internal Outfall 501. Total Organic Carbon is established because stormwater is discharged via this outfall. The limitation is based on BPJ in accordance with this Office's guidance on stormwater, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6).

Total Suspended Solids

This draft permit establishes a daily maximum discharge limit of 100 mg/l for total suspended solids at Internal Outfall 701. This limit is based on 40 CFR 423.12(b)(3)(BPT).

Oil and Grease

This draft permit establishes a daily maximum discharge limit of 20 mg/l for oil and grease at Internal Outfall 701. This limit is based on 40 CFR 423.12(b)(3)(BPT).

Free Available Chlorine

This draft permit establishes a daily maximum discharge limit of 0.5 mg/l for free available chlorine at Internal Outfall 701, when the discharge includes cooling tower blowdown. This limit is based on 40 CFR 423.13(d)(1)(BAT).

Total Chromium

This draft permit establishes a daily maximum discharge limit of 0.2 mg/l for total chromium at Internal Outfall 701, when the discharge includes cooling tower blowdown. This limit is based on 40 CFR 423.13(d)(1)(BAT).

Total Zinc

This draft permit establishes a daily maximum discharge limit of 1.0 mg/l for total zinc at Internal Outfall 701, when the discharge includes cooling tower blowdown. This limit is based on 40 CFR 423.13(d)(1)(BAT).

pH

This draft permit establishes a minimum discharge limit of 6.0 standard units and a maximum discharge limit of 9.0 standard units for pH at Internal Outfall 701. These limits are based on 40 CFR 423.12(b)(1)(BPT).

Internal Outfall 801 - Dry Cooling Tower Sump #2

Plant systems have been modified to allow effluent from the dry cooling tower sumps to be directly discharged via the turbine condenser cooling system, leaving the facility through Final Outfall 001.
This outfall monitors the intermittent internal discharge which is comprised of greater than 85% stormwater, in addition to cooling tower blowdown and low volume wastewaters from Dry Cooling Tower Sump #2 to Final Outfall 001 via the turbine condenser cooling system or to Final Outfall 004 via the plant drainage ditches. In addition to the wet cooling tower blowdown, low volume wastewater from various sources as defined in 40 CFR 423 are discharged from this outfall. Low volume wastewater sources contributing to this monitored flow include, but are not limited to, wet cooling tower leakage, auxiliary component cooling water, component cooling water, and stormwater. Previously monitored effluent from the Yard Oil Separator System (Internal Outfall 104) is infrequently discharged through this outfall as a result of maintenance activities. The effluent limitations proposed for Internal Outfall 801 in the draft LPDES permit are as follows:

Parameter	Monthly Average mg/L	Daily Maximum mg/L
Flow, MGD	N/A	Report
Total Organic Carbon	N/A	50
Total Suspended Solids	N/A	100
Oil and Grease	N/A	20
Free Available Chlorine	N/A	0.5
Chromium, Total	N/A	0.2
Zinc, Total	N/A	1.0
pH, standard units	6.0 (min)	9.0 (max)

Flow

This draft permit requires the daily maximum flow to be reported at Internal Outfall 801 by estimating using best engineering judgement. This requirement is based on 40 CFR 122.44(i)(1)(iii).

Total Organic Carbon

This draft permit establishes a daily maximum discharge limit of 50 mg/l for total organic carbon at Internal Outfall 501. Total Organic Carbon is established because stormwater is discharged via this outfall. The limitation is based on BPJ in accordance with this Office's guidance on stormwater, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6).

Total Suspended Solids

This draft permit establishes a daily maximum discharge limit of 100 mg/l for total suspended solids at Internal Outfall 801. This limit is based on 40 CFR 423.12(b)(3)(BPT).

Oil and Grease

This draft permit establishes a daily maximum discharge limit of 20 mg/l for oil and grease at Internal Outfall 801. This limit is based on 40 CFR 423.12(b)(3)(BPT).

Free Available Chlorine

This draft permit establishes a daily maximum discharge limit of 0.5 mg/l for free available chlorine at Internal Outfall 801, when the discharge includes cooling tower blowdown. This limit is based on 40 CFR 423.13(d)(1)(BAT).

Total Chromium

This draft permit establishes a daily maximum discharge limit of 0.2 mg/l for total chromium at Internal Outfall 801, when the discharge includes cooling tower blowdown. These limits are based on 40 CFR 423.13(d)(1)(BAT).

Total Zinc

This draft permit establishes a daily maximum discharge limit of 1.0 mg/l for total zinc at Internal Outfall 801, when the discharge includes cooling tower blowdown. These limits are based on 40 CFR 423.13(d)(1)(BAT).

pH

This draft permit establishes a minimum discharge limit of 6.0 standard units and a maximum discharge limit of 9.0 standard units for pH at Internal Outfall 801. These limits are based on 40 CFR 423.12(b)(1)(BPT).

<u>Internal Outfall 901 - Metal Cleaning Wastewater</u>

This new mobile outfall monitors the intermittent internal discharge of metal cleaning wastewaters from internal components of plant equipment to Final Outfall 001 via the turbine condenser cooling system. Metal cleaning wastewaters (both chemical and non-chemical) result from the cleaning washes/rinses of various plant equipment components including, but not limited to, the steam generator and the cooling water heat exchangers and piping. The effluent limitations proposed for Internal Outfall 901 in the draft LPDES permit are as follows:

Parameter	Monthly Average mg/L	Daily Maximum mg/L

Flow, MGD	N/A	Report
Total Suspended Solids	N/A	100
Oil and Grease	N/A	20
Copper, Total	N/A	1.0
Iron, Total	N/A	1.0
pH, standard units	6.0 (min)	9.0 (max)

Flow

This draft permit requires the daily maximum flow to be reported at Internal Outfall 901 by estimating using best engineering judgement. This requirement is based on 40 CFR 122.44(i)(1)(iii).

Total Suspended Solids

This draft permit establishes a daily maximum discharge limit of 100 mg/l for total suspended solids at Internal Outfall 901. These limits are based on 40 CFR 423.12(b)(5)(BPT).

Oil and Grease

This draft permit establishes a daily maximum discharge limit of 20 mg/l for oil and grease at Internal Outfall 901. These limits are based on 40 CFR 423.12(b)(5)(BPT).

Total Copper

This draft permit establishes a daily maximum discharge limit of 1.0 mg/l for total copper at Internal Outfall 901. These limits are based on 40 CFR 423.12(b)(5)(BPT).

Total Iron

This draft permit establishes a daily maximum discharge limit of 1.0 mg/l for total iron at Internal Outfall 901. These limits are based on 40 CFR 423.12(b)(5)(BPT).

pH

This draft permit establishes a minimum discharge limit of 6.0 standard units and a maximum discharge limit of 9.0 standard units for pH at Internal Outfall 901. These limits are based on 40 CFR 423.12(b)(1)(BPT).

<u>Outfall 004 - Stormwater</u>

Outfall 004 is a new outfall that consolidates Outfalls 04A and 04B from the current NPDES Permit LA0007374. Most of the effluent monitored at this outfall is 85% stormwater runoff. Besides stormwater, potable water from the fire water system, maintenance wastewaters including, but not limited to:

hydrostatic test water, air conditioning condensate, low volume wastewaters from various sources as defined in 40 CFR 423, and previously monitored effluents exit the facility via Outfall 004. Low volume sources contributing wastewater to this outfall include, but are not limited to, reverse osmosis reject water and demineralized water. The plant drainage ditch system receives treated discharge from the yard oil separator system (Internal Outfall 104), untreated vehicle wash wastewater (Internal Outfall 204) and during maintenance activities discharges from Dry Cooling Tower Sump #1 (Internal Outfall 701) and Dry Cooling Tower Sump #2 (Internal Outfall 801).
The effluent limitations proposed for Outfall 004 in the draft LPDES permit are as follows:

Parameter	Monthly Average mg/L	Daily Maximum mg/L
Flow, MGD	N/A	Report
Total Organic Carbon	N/A	50
Total Suspended Solids	N/A	100
Oil and Grease	N/A	15
pH, standard units	6.0 (min)	9.0 (max)

Flow

This draft permit requires the daily maximum flow to be reported at Outfall 004 by estimating using best engineering judgement. This requirement is based on 40 CFR 122.44(i)(1)(iii) and the current permit.

Total Organic Carbon

This draft permit establishes a daily maximum discharge limit of 50 mg/l for total organic carbon at Outfall 004. Total Organic Carbon is established because stormwater is discharged via this outfall. The limitation is based on BPJ in accordance with this Office's guidance on stormwater, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6).

Total Suspended Solids

This draft permit establishes a daily maximum discharge limit of 100 mg/l for total suspended solids at Outfall 004, when the discharge includes low volume wastewaters as defined by 40 CFR 423 (excludes Mississippi River water that accumulates in the condenser water boxes). This limit is based on 40 CFR 423.12(b)(3)(BPT) and the current permit.

Oil and Grease

This draft permit establishes a daily maximum discharge limit of 15 mg/l for oil and grease at Outfall 004. The limitation is based on BPJ in accordance with this Office's guidance on stormwater, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6).

pH

This draft permit establishes a minimum discharge limit of 6.0 standard units and a maximum discharge limit of 9.0 standard units for pH at Outfall 004. These limits are based on 40 CFR 423.12(b)(1)(BPT) and the current permit.

Internal Outfall 104 (Formerly 002) - Yard Oil Separator

This outfall is currently Outfall 002. It is being redesignated Internal Outfall 104 because it exits the facility through Final Outfall 004 via a plant drainage ditch. It is the intermittent internal discharge from the yard oil separator system. Occasionally monitored effluent from the yard oil separator system is discharged to Dry Cooling Tower Sump #1 (Internal Outfall 701) or Dry Cooling Tower Sump #2 (Internal Outfall 801) as a result of maintenance activities. Wastewater sources contributing to the flow monitored at Outfall 104 include auxiliary boiler blowdown, stormwater, and low volume wastewaters from various sources as defined by 40 CFR 423. Low volume sources contributing wastewater to this outfall include, but are not limited to, secondary water system drains, system leakage, auxiliary boiler sumps, turbine building equipment and floor drains, turbine building floor wash downs, and laboratory drains. The effluent limitations proposed for Internal Outfall 104 in the draft LPDES permit are as follows:

Parameter	Monthly Average mg/L	Daily Maximum mg/L
Flow, MGD	N/A	Report
Total Suspended Solids	N/A	100
Oil and Grease	N/A	20
pH	6.0 (min)	9.0 (max)

Flow

This draft permit requires the daily maximum flow to be reported at Internal Outfall 104 by estimating using best engineering judgement. This requirement is based on 40 CFR 122.44(i)(1)(iii) and the current permit.

Total Suspended Solids

This draft permit establishes a daily maximum discharge limit of 100 mg/l for total suspended solids at Internal Outfall 104. This limit is based on 40 CFR 423.12(b)(3)(BPT) and the current permit.

Oil and Grease

This draft permit establishes a daily maximum discharge limit of 20 mg/l for oil and grease at Internal Outfall 104. This limit is based on 40 CFR 423.12(b)(3)(BPT) and the current permit.

pH

This draft permit establishes a minimum discharge limit of 6.0 standard units and a maximum discharge limit of 9.0 standard units for pH at Outfall 004. These limits are based on 40 CFR 423.12(b)(1)(BPT) and the current permit.

Internal Outfall 204 (New Outfall) - Vehicle Wash Wastewater

This outfall is the intermittent internal discharge from the area where vehicles will be externally washed. The effluent limitations proposed for Internal Outfall 204 in the draft LPDES permit are as follows:

Parameter	Monthly Average mg/L	Daily Maximum mg/L
Flow, MGD	Report	Report
Chemical Oxygen Demand	200	300
Total Suspended Solids	N/A	45
Oil and Grease	N/A	15
pH	6.0 (min)	9.0 (max)

Flow

This draft permit requires the daily maximum flow to be reported at Internal Outfall 204 by estimating using best engineering judgement. This requirement is based on 40 CFR 122.44(i)(1)(iii).

Chemical Oxygen Demand

This draft permit establishes a monthly average discharge limit of 200 mg/l and a daily maximum discharge limit of 300 mg/l for chemical oxygen demand at Internal Outfall 204. This limit is based on LAG750000, the general permit for exterior vehicle wash wastewater, effective on July 1, 1998.

Total Suspended Solids

This draft permit establishes a daily maximum discharge limit of 45 mg/l for total suspended solids at Internal Outfall 204. This limit is based on LAG75000, the general permit for exterior vehicle wash wastewater, effective on July 1, 1998.

Oil and Grease

This draft permit establishes a daily maximum discharge limit of 15 mg/l for oil and grease at Internal Outfall 204. This limit is based on LAG750000, the general permit for exterior vehicle wash wastewater, effective on July 1, 1998.

pH

This draft permit establishes a minimum discharge limit of 6.0 standard units and a maximum discharge limit of 9.0 standard units for pH at Internal Outfall 204. This limit is based on LAG75000, the general permit for exterior vehicle wash wastewater, effective on July 1, 1998.

Soaps and/or Detergents

This draft permit specifies an inventory record of soaps and/or detergents following the provision in Part III.C.3. The quantity and types of all soaps and/or detergents used during the sampling month shall be recorded. Records of the quantity and types of soaps and/or detergents used shall be retained for three (3) years. Additionally, a Material Safety Data Sheet for each material used shall be retained. No DMR reporting shall be required.

Outfall 005 - Energy Education Center Sewage Treatment Plant

This outfall is currently permitted by LAG530192 It is the intermittent discharge from the Entergy Energy Education Center sewage treatment plant to 40 Arpent Canal. In addition to the sanitary wastewater, a de minimis discharge from the HVAC unit enters the sewage treatment plant. The effluent limitations proposed for Outfall 005 are transferred from the general permit to this draft LPDES permit. The limitations are as follows:

Parameter	Monthly Average mg/L	Weekly Average mg/L
Flow, MGD	N/A	Report
BOD_5	N/A	45
TSS	N/A	45
Fecal Coliform colonies/100 ml	N/A	400
pH, Std. Units	6.0 (min)	9.0 (max)

C. WATER QUALITY-BASED EFFLUENT LIMITATIONS

Technology-based effluent limitations were screened against state water quality numerical standard based limits by following guidance procedures established in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, October 30, 1995. Calculations, results, and documentation are given in Appendix B.

The following pollutants received water quality based effluent limits:

None

Minimum quantification levels (MQL's) for state water quality numerical standards-based effluent limitations are set at the values listed in the

Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, October 30, 1995. They are also listed in Part II of the permit.

The nearest drinking water intake, St. Charles Parish Number 2, is located on the east bank at 125.1 M.A.H.P., 4.4 miles downstream from the discharge point. According to a fax received on 9/26/96 from Leslie Lemon of the Department of Health and Hospitals, Office of Public Health, there have been no toxic exceedences of drinking water Maximum Contaminant Levels at this drinking water intake. Nearby potable water industrial intakes include Union Carbide Corporation.

D. Biomonitoring Requirements

It has been determined that there may be pollutants present in the effluent which may have the potential to cause toxic conditions in the receiving stream. The State of Louisiana has established a narrative criteria which states, "toxic substances shall not be present in quantities that alone or in combination will be toxic to plant or animal life." The Office of Water Resources requires the use of the most recent EPA biomonitoring protocols.

Whole effluent biomonitoring is the most direct measure of potential toxicity which incorporates both the effects of synergism of effluent components and receiving stream water quality characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity. See Appendix C for the permittee's biomonitoring history and biomonitoring frequency recommendation. The biomonitoring procedures stipulated as a condition of this permit for Outfall 001 are as follows:

TOXICITY TESTS	FREQUENCY
Acute static renewal 48-hour definitive toxicity test using Daphnia pulex	once per year
Acute static renewal 48-hour definitive toxicity test using fathead minnow (Pimephales promelas)	once per year

Toxicity tests shall be performed in accordance with protocols described in the latest revision of the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms." The stipulated test species are appropriate to measure the toxicity of the effluent consistent with the requirements of the State water quality standards. The biomonitoring frequency has been established to reflect the likelihood of ambient toxicity and to provide data representative of the toxic potential of the facility's discharge in accordance with regulations promulgated at LAC 33:IX.2369/40 CFR Part 122.48.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen, conductivity, and alkalinity shall be documented in a full report according to the test method publication mentioned in the previous paragraph. The permittee shall submit a copy of the first full report to this Office. The full report and subsequent reports are to be retained for three (3) years following the provisions of Part III.C.3 of this permit. The permit requires the submission of certain toxicity testing information as an attachment to the Discharge Monitoring Report.

This permit may be reopened to require effluent limits, additional testing, and/or other appropriate actions to address toxicity if biomonitoring data show actual or potential ambient toxicity to be the result of the permittee's discharge to the receiving stream or water body. Modification or revocation of the permit is subject to the provisions of LAC 33:IX.2407/40 CFR 124.5. Accelerated or intensified toxicity testing may be required in accordance with Section 308 of the Clean Water Act.

Dilution Series

The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. These additional effluent concentrations shall be 56%, 42%, 32%, 24%, and 18%. The low-flow effluent concentration (critical dilution) is defined as 42% effluent.

E. MONITORING FREQUENCIES

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity [LAC 33:IX.2369/40 CFR 122.48(b)] and to assure compliance with permit limitations [LAC 33:IX.2361.I./40 CFR 122.44(I)]. The following section(s) explain the rationale for the monitoring frequencies stated in the draft permit. See outfall information for associated outfalls concerning the type of wastewaters in Section VII.

Outfall 001

Monitoring frequencies for all effluent characteristics, except the biomonitoring which was discussed above in Section IX.D, are retained from the current permit. Flow, Temperature (0F), and Heat (BTU/hour) are continuous with a sample type of record. Boron is calculated daily. Total Residual Chlorine is measured once per week by grab sample, during periods of chlorination.

Internal Outfall 101 (Former 01A) - Liquid Waste Management System

Monitoring frequencies for all effluent characteristics are retained from the current permit. Flow, TSS, Oil and Grease, Boron, and pH are once per batch.

Flow is totalized by a flow meter not estimated as the current permit states. Therefore this permit proposes to change the sample type for flow to totalized. Sampling for TSS, Oil and Grease, Boron, and pH are by grab sampling.

Internal Outfall 201 (Former 01B) - Boron Management System

Monitoring frequencies for all effluent characteristics are retained from the current permit. Flow, TSS, Oil and Grease, Boron, and pH are once per batch.

Flow is totalized by a flow meter not estimated as the current permit states. Therefore this permit proposes to change the sample type for flow to totalized. Sampling for TSS, Oil and Grease, Boron, and pH are by grab sampling.

Internal Outfall 301 (Former 01C) - Filter Flush System

Flow is totalized weekly by a flow meter not estimated as the current permit states. Therefore this permit proposes to change the sample type for flow to totalized. The monthly recording based on an inventory calculation of the clarifying agents used is retained from the current permit. However, no DMR reporting is required. This permit proposes a requirement for the permittee to maintain these records onsite.

Internal Outfall 401 (Former 01D) - Low Volume Wastewaters

The measurement frequency and sample type for flow, TSS, Oil and Grease, and pH are retained from the current permit. Flow is daily by a totalized sample type. TSS, Oil and Grease, and pH are by a grab sample.

Internal Outfall 501 - Auxiliary Component Cooling Water Basin A

This permit proposes a monitoring frequency of once per week for all parameters, when discharging. The sample type for flow is estimate and the sample type for TOC, TSS, Oil and Grease, and pH are by a grab sample. During circulating water flow testing, sampling for TSS is not required (when Mississippi River water is used for the flow test).

Internal Outfall 601 - Auxiliary Component Cooling Water Basin B

This permit proposes a monitoring frequency of once per week for all parameters, when discharging. The sample type for flow is estimate and the sample type for TOC, TSS, Oil and Grease, and pH are by a grab sample.

During circulating water flow testing, sampling for TSS is not required (when Mississippi River water is used for the flow test).

Internal Outfall 701 - Dry Cooling Tower Sump #1

This outfall is comprised of greater than 85% stormwater, therefore this permit proposes a monitoring frequency of once per month for all parameters, when discharging. The sample type for flow is estimate and the sample type for TOC, TSS, Oil and Grease, Free Available Chlorine, Total Chromium, Total Zinc, and pH are by a grab sample. Free Available Chlorine, Total Chromium, and Total Zinc are analyzed when the discharge includes cooling tower blowdown.

Internal Outfall 801 - Dry Cooling Tower Sump #2

This outfall is comprised of greater than 85% stormwater, therefore this permit proposes a monitoring frequency of once per month for all parameters, when discharging. The sample type for flow is estimate and the sample type for TOC, TSS, Oil and Grease, Free Available Chlorine, Total Chromium, Total Zinc, and pH are by a grab sample. Free Available Chlorine, Total Chromium, and Total Zinc are analyzed when the discharge includes cooling tower blowdown.

Internal Outfall 901 - Metal Cleaning Wastewater

This permit proposes a monitoring frequency of once per week for all parameters, when discharging. The sample type for flow is estimate and the sample type for TSS, Oil and Grease, Total Copper, Total Iron, and pH are by a grab sample.

Outfall 004 - Stormwater

This permit proposes a monitoring frequency for all parameters of once per quarter, when discharging. The sample type for flow is estimate and the sample type for TOC, Oil and Grease, TSS, and pH are by a grab sample.

Internal Outfall 104 - Yard Oil Separator

This permit proposes a monitoring frequency of once per month for all parameters, when discharging. The sample type for flow is estimate and the sample type for TSS, Oil and Grease, and pH is by a grab sample.

Internal Outfall 204 - Vehicle Wash Wastewater

The monitoring frequency of vehicle wash wastewater follows LDEQ's vehicle wash wastewater general permit. The monitoring frequency is once per quarter for all parameters, when discharging. The sample type for flow is estimate and the sample type for COD, TSS, Oil and Grease, pH, and soaps and/or detergents is by grab sample.

Outfall 005 - Energy Education Center Sewage Treatment Plant

All parameters will be monitored once per six months based on monitoring frequencies established for similar discharges. The sample type for flow is estimate and the sample type for BOD_5, TSS, Fecal Coliform, and pH is by a grab sample.

X. Endangered Species:

The receiving waterbody, Subsegment 070301 of the Mississippi River Basin is not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U.S. Fish and Wildlife Service (FWS). This strategy was submitted with a letter dated September 26, 1997 from Fruge (FWS) to Aydell (LDEQ). Therefore, in accordance with the Memorandum of Understanding between the LDEQ and the FWS, no further informal (Section 7, Endangered Species Act) consultation is required. It was determined that the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.

XI. Historic Sites:

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

XII. Tentative Determination:

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to reissue a permit for the discharge described in the application.

XIII. Variances:

No requests for variances have been received by this Office.

XIV. Public Notices:

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the fact sheet. A

request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

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Appendix A

Appendix B

Appendix C