September 14, 1995

U. S. Environmental Protection Agency<br>Water Quality Protection Division<br>1445 Ross Avenue<br>Dallas, Texas 75202<br>Attn: Mr. William B Hathaway (6WQ)<br>Division Director

## Ref: Submittal of NPDES Permit Renewal Application NPDES Permit No. LA 0042731

File No.: G1.11.7
RBG-41958
RBF1-95-0220

## Dear Mr. Hathaway,

Entergy Operations, Inc (EOI) is submitting a National Pollutant Discharge Elimination System (NPDES) permit renewal application for NPDES Permit No. LA0042731, issued to the River Bend Station in St. Francisville, Louisiana. The permit has an expiration date of March 15, 1996, and in accordance with requirements at 40 CFR $\S 122.21(\mathrm{~d})(2)$, this NPDES permit renewal application is being submitted at least $: 80$ days prior to the expiration date of the currently effective permit (ie., by September 18, 1995).

The document, submitted in triplicate, consists of narrative text, U.S. EPA Application Forms $1,2 \mathrm{C}$, and 2 F , and the required figures

If you have any questions regarding this submittal, please contact Pamela Chapman at (504) 381-4389

Sincerely,

enclosure
Submittal of NPDES Permit Renewal ApplicationSeptember 14, 1995
RBG-41958
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cc: Mr. J.Dale GivensLouisiana Department of Environmental QualityOffice of Water Resources
P. O. Box 82215
Baton Rouge, LA 70884-2215
U.S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011
U.S. Nuclear Regulatory Commission
Document Control Desk.
M/C P1-37
Washington, DC 20555
NRC Sr. Resident Inspector
P.O. Box 1051
St. Francisville, LA 70775
Mike Sellman, Gen Mgr, Plant Operations, EOI

# ENTERGY OPERATIONS, INC. RIVER BEND STATION 

APPLICATION FOR RENEWAL OF NPDES PERMIT NO. LA0042731

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## APPLICATION FOR RENEWAL OF NPDES PERMIT NO. LA0042731

SEPTEMBER 1995

PREPARED BY:
C-K ASSOCIATES, INC.
17170 PERKINS ROAD
BATON ROUGE, LOUISIANA 70810
(504) 755-1000

C-K ASSOCIATES' PROJECT NO. 53-502

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### 1.0 INTRODUCTION

### 1.1 General

The Entergy Operations, Inc. (Entergy), River Bend Station currently discharges under authority of National Pollutant Discharge Elimination System (NPDES) Permit No. LA0042731 and Louisiana Water Discharge Permit System (LWDPS) Permit No. WP 0409. The NPDES and LWDPS permits were issued by the U.S. Environmental Protection Agency (U.S. EPA) and the Louisiana Department of Environmental Quality (LDEQ), respectively, and authorize discharge of facility wastewater/stormwater from nine final outfalls (001-009) and one internal outfall (102) to the Mississippi River.

The following information and U.S. EPA Application Form 1 (General Information), Form 2C (Wastewater Discharge Information), and Form 2F (Storm Water Discharges Associated with Industrial Activity) are being submitted in connection with the renewal of the site's existing NPDES permit.
U.S. EPA Forms 1, 2C, and 2F are included as Appendices A, B, and C, respectively. Section 2.0 provides a description of the site operations, location, and property boundaries. Effluent collection, treatment, and discharge are addressed in Section 3.0. Stormwater drainage, management, and discharge are discussed in Section 4.0. Section 5.0 includes pertinent information on wastewater and stormwater sampling and analyses conducted for this permit application. Section 6.0 addresses prior biomonitoring requirements and results.

### 1.2 Regulatory and Permitting Background

The operation of the Entergy River Bend Station and the discharge of treated wastewater and stormwater are regulated by the NPDES permit program administered by the U.S. EPA. The regulations for the NPDES program as they apply to the Entergy facility are set forth in Title 40 of the Code of Federal Regulations (CFR), specifically at 40 CFR Parts $122,124,125,129$, and 136. Additionally, the State of Louisiana Water Quality Regulations [Louisiana Administrative Code (LAC) at Title 33, Part IX, Chapters 1 through 15] as administered by the LDEQ apply to the Entergy facility. The establishment of effluent limitations in Entergy's NPDES and LWDPS permits is governed by the aforementioned regulations and is based upon the effluent guidelines and standards for the Steam Electric Power Generating point source category at 40 CFR Part 423.

Entergy currently operates and discharges treated wastewater and stormwater under the NPDES permit that was issued on February 15, 1991 (effective March 16, 1991 and expiring on March 15, 1996). In accordance with requirements at 40 CFR $\$ 122.21$ (d)(2), this NPDES permit renewal application is being submitted at least 180 days prior to the expiration date of the currently effective permit.

Entergy currently operates under the LWDPS permit issued on May 28, 1987 (effective on date of issuance), with an expiration date specified as five years from the date of issuance (May 27, 1992). The LWDPS permit was subsequently modified on May 23, 1991 as requested by Entergy. An LWDPS permit renewal application was submitted on January 27, 1992. Although the LWDPS permit does not presently include Outfall 009, Entergy did address this outfall in the 1992 permit renewal application. The LWDPS permit is currently in the process of being reissued by the LDEQ and will be updated to reflect current site conditions (i.e., outfalls).

### 2.0 SITE OPERATIONS AND PROPERTY DESCRIPTION

The Entergy River Bend site is a nuclear fuel steam generation facility, Standard Industrial Classification (SIC) Code Number 4911. The site received a full-power license from the U.S. Nuclear Regulatory Commission (NRC) on November 20, 1985 and achieved commercial operation on June 16, 1986. The facility's generating capacity is 934 megawatts (NET) electrical. The commercial generation of electricity is provided by a General Electric BWR-6 reactor with Mark III containment.

The Entergy facility is located at 5485 U.S. Highway 61 in St. Francisville (West Feliciana Parish), Louisiana. It is situated on approximately 3,800 acres in Section 48, Township 3 South, Range 3 West; Sections 41, 44, 45, 57, 58, 59, 60, 62, 63, and 65, Township 3 South, Range 2 West; and Sections 45 and 66, Township 4 South, Range 2 West. Figure 1 is a Site Location Map showing the setting of the River Bend Station and the location of the designated discharge outfalls. Approximately 132 a.cres of the property have been developed for steam electric power generating activities. The facility is located between U.S. Highway 61 (on the northeast) and the east bank (left descending bank) of the Mississippi River near River Mile 262. The northwest and southeast boundaries adjoin undeveloped land.

The developed portion of the plant site has a topography with an average elevation of approximately 100 feet National Geodetic Vertical Datum (NGVD). Rolling hills occupy a considerable area of the Entergy property surrounding the developed portion, and the elevations for the entire property range from approximately 35 to 130 feet NGVD.

The locations of permitted final Outfalls 001-009 and internal Outfall 102 are shown on Figure 1. Also shown on Figure 1 are the locations of active water wells in the near vicinity (one-mile radius) of the Entergy site that are registered with the Louisiana Department of Transportation and Development (LDOTD), Office of Public Works. Wells shown include those used for industrial, domestic, fire suppression, and power generation purposes. Plugged wells, monitor wells, test holes, piezometers, observation wells, and recovery wells are not included. Summarized in Table 1 is relevant information on each water well in the LDOTD inventory shown on Figure 1.

Figure 2 is a Site Plan and Stormwater Drainage Map depicting pertinent features of the Entergy River Bend Station.

### 3.0 EFFLUENT COLLECTION, TREATMENT, AND DISCHARGE

This section addresses water use and wastewater generation, zollection, treatment, and discharge (including stormwater management) at the Entergy River Bend Station. While overall stormwater management and discharge are discussed in this section, specific site information required by the NPDES stormwater permit application regulations (and U.S. EPA Form 2F) is addressed in Section 4.0.

### 3.1 Permitted Outfalls

Water used in the facility for cooling purposes is obtained from the Mississippi River via a single intake structure. It is clarified before use in the cooling towers. Water used in the facility for potable, sanitary, fire suppression, process, and auxiliary boiler feed purposes is obtained from four on-site wells, the locations of which are shown on Figure 1. Some well water is treated by a reverse osmosis process (ion exchange) for plant use. Figure 3 depicts Station Water Flows. Components of each outfall and wastewater treatment, as applicable, are described below.

## Outfall 001

This is the River Bend Station's main water discharge outfall to the Mississippi River (Water Quality Management Basin Segment Number 070201). It consists of cooling tower blowdown and other wastewater streams previously monitored at designated outfalls. These other outfalls include the metal cleaning wastewater discharge (Outfall 102), the low-volume chemical wastewater discharge (Outfall 002 ), and the treated sanitary wastewater discharge (Outfall 004). Entergy redirected the treated sanitary wastewater (Outfall 004 ) from discharge to Grant's Bayou to Outfall 001 during the refueling outage in March 1992.

Cooled water from cooling towers is pumped through the turbine condenser and service water heat exchangers, and the heated water is returned to the cooling towers. Four eight-cell induced draft cooling towers reject heat from the turbine condenser, and one five-cell induced draft cooling tower rejects heat from the service water heat exchangers. Water losses from drift and evaporation are replenished with clarified river water. Clarifier sludge is diluted with river water to approximately 4\% solids and returned to the Mississippi River (via a discharge line separate from Outfall 001) as shown on Figure 3. Cooling tower blowdown is accomplished by directing cooled water from the cooling tower flume via a portion of the condenser pumps' discharge to a common discharge header leading to Outfall 001. This diversion of pumpage is normally valved to provide a minimum of 2,200 gallons per minute or gpm ( 3.17 million gallons per day or MGD) blowdown rate. During full power, hot weather operation of River Bend Station, cooling water blowdown occurs at approximately $3,500 \mathrm{gpm}$ ( 5.04 MGD), but may occur at rates up to $7,000 \mathrm{gpm}$ ( 10 MGD ).

Cooling tower blowdown, metal cleaning wastewater (described in more detail for Outfall 102), low-volume chemical wastewater (described for Outfall 002), and sanitary wastewater treatment effluent (described for Outfall 004) merge into a common discharge header for conveyance to the Mississippi River via a 2.6 -mile long, buried pipeline (see Figure 1).

The discharge volume of Outfall 002 constitutes approximately $10 \%$ of the flow from Outfall 001 for about three hours per day and less than $2 \%$ of the flow for the remainder of the day during full power operation. The discharge volume of Outfall 004 constitutes less than $2 \%$ of the flow through Outfall 001 . Residual chlorine levels are reduced by treatment with ammonium (or sodium) bisulfite injection into the combined Outfall 001 effluent downstream of the common discharge header, prior to discharge to the Mississippi River. Permit compliance monitoring is performed at the exposed vacuum-break chamber of the 30 -inch diameter buried pipeline approximately 300 meters before the pipeline enters the floodplain. This pipeline emerges on the east bank of the river in the discharge control structure located at approximately River Mile 262. The 30-inch diameter submerged discharge is located 610 feet downstream of the plant's river water intake structure (see Figure 1).

## Outfall 002

This outfall is the power station low-volur.e chemical wastewater discharge to the cooling tower flume or to the commor discharge header leading to Outfall 001 which discharges to the Mississippi River. It consists of the treated water and wastewater from the following sources:
(1) intermittent ion-exchange resin backwash, regeneration, and reverse osmosis reject waters from makeup water polishing (demineralized water production);
(2) intermittent auxiliary boiler blowdown;
(3) intermittent metal cleaning wastewater discharge (monitored as Outfall 102);
(4) intermittent reverse osmosis wastewaters, filter backwash from service water polishing, and/or feed-and-bleed from the service water system and the standby cooling tower; and
(5) intermittent wastewaters from floor washdown, equipment washing, personnel decontamination, laboratory drains, and treated wastewaters from low-level, solid radioactive waste dewatering (Note: These treated wastewaters are discharged when recycling to condensate storage, demineralization, and reuse as boiler feed is not available).

There are two treatment systems associated with Outfall 002. The wastewaters described in Items (1) and (2) above are always pumped, and the wastewater described in Item (3) above is pumped on an intermittent, as-needed basis, to one of two 30,000-gallon capacity treatment tanks for neutralization before discharge. A process monitor controls the discharge from these tanks, recirculating the tank contents until the pH is within preset limits, then allowing the diversion of the treated water through disposable filter cartridges to the common discharge header (to Outfall 001). If the process monitor senses an unacceptable shift in pH during discharge, the wastewater is diverted back to the tanks for further treatment. Neutralization, filtration, and other treatments may be provided by a contracted service or with temporary equipment for special projects, with treated effluent discharged to the cooling tower flume or directly to the common discharge header. Solids removed during wastewater treatment are sent for approved offsite disposal.

With further regard to the wastewaters described in Items (1) and (2), polishing is necessary for well water used in the plant and the auxiliary boiler. Polishing is accomplished through reverse osmosis and ion-exchange systems. The auxiliary boiler is brought in by a contractor every 18 months or so when the reactor has been inactive and needs to be restarted. Boiler blowdown is routed to the non-radioactive, low-volume wastewater treatment system and Outfall 002. Approximately twice per year, the ion-exchange system is restored, and the resulting ion-exchange resin backwash and regeneration wastes are routed to the non-radioactive, low-volume wastewater treatment system and Outfall 002. During polishing of the makeup water, a reverse osmosis reject stream is produced. This wastewater is currently intermittently routed to the nonradioactive, low-volume wastewater treatment system and Outfall 002. By this application, Entergy is requesting authorization to reroute the reverse osmosis reject (ROR) from Outfall 002 to Outfall 006. The reverse osmosis reject water is intermittently produced, at 25 gpm during operation ( 24 -hour period for three days, every two weeks); this results in a long-term average flow rate of 7,714 gallons per day (gpd). In order to facilitate process operation, Entergy wishes to reroute this wastewater from Outfall 002 to Outfall 006. Entergy believes that routing this concentrated well water back into the environment without treatment will have no adverse effects on the environment. Effluent characterization data are presented on Form 2C (as Outfall ROR).

In a separate treatment system, low-level radioactive wastewater from the steam condenser system, reactor water cleanup system, and fuel pool system demineralizers' backwash, as well as solid radioactive waste dewatering, floor and lab drains, equipment washing/draining, and personnel decontamination [Item (5) above] is collected in one of nine 25,000 -gallon holding tanks for filtration and/or demineralization. Treated water collects in one of four 19,500-gallon recovery tanks for monitoring of boiler water quality and radioactivity. The station recycles this water whenever demineralization achieves boiler water quality and sufficient tankage exists. Otherwise, the treated wastewater is metered to the common discharge header (to Outfall 001) at a rate ensuring
compliance with 10 CFR Part 20 and 10 CFR Part 50 - Appendix I standards. When this treated wastewater must be discharged, the tank is sampled during recirculation to verify that all parameters are within permit limits. If the wastewater is not within permit limits, the tank is reprocessed for permit compliance prior to discharge. The ion-exchange resins used in these demineralization processes are replaced instead of regenerated. The station disposes of these resins and other solids removed during the treatment of these low-volume wastes in accordance with NRC, U.S. EPA, U.S. Department of Transportation (DOT), and applicable state requirements.

Permit compliance monitoring is performed on these two treated effluent streams before they are released to the river via the common discharge header (to Outfall 001 ). The results of each are combined (flow-weighted) for reporting as Outfall 002.

## Outfall 102

This outfall discharges the treated metal cleaning wastewater [listed also as Item (3) under Outfall 002 above]. This wastewater is discharged on an intermittent basis only. The cleaning and passivation stages use specialized chemicals designed to remove scale and corrosion products from iron, copper, zinc, and nickel surfaces. The cleaning/passivation stages are usually followed by a rinse with fresh or demineralized water. Treatment for this wash and rinse water typically consists of contracted services that may include biodegradation, precipitation of dissolved metals, filtration, and neutralization. If the quality of the treated water is suitable, it is chlorinated and recycled to the cooling tower makeup water system. Permit compliance monitoring is performed before the wastewater is recycled or discharged. If recycling is not available, compliance monitoring is performed as the treated water is conveyed to the non-radioactive, low-volume wastewater treatment system (Outfall 002 ) or pumped directly to the common discharge header (Outfall 001). This batch treatment may yield 100,000 gallons of treated water per day, discharged at up to 400 gpm . This discharge occurs very infrequently. This wastewater has only been discharged once since the River Bend Station became operational, and this was during a three-month period in 1992.

## Outfall 003

This outfall discharges the non-radioactive floor drain wastewater and transformer yard wastewater/stormwater. Three oil/water separators discharge through the storm drain system to Outfall 003, then to Outfall 006, then to the East Creek, and then to Grant's Bayou which ultimately discharges to the Mississippi River. Two of the oil/water separators receive intermittert fire suppression water (from sprinklers) and stormwater runoff from within the River Bend Station electric power distribution transformer yards. The third oil/water separator receives wastewater from floor drains within power plant buildings not associated with the nuclear reactor, and therefore having no potential for radioactive contamination.

These non-radioactive floor drain wastewaters consist of well water, fire suppression water, and domestic (potable) water.

During the refueling outage beginning in March 1992, the plant's cooling water system was modified to isolate the service water system from the condenser cooling system. To prevent this chemically treated service water from entering the storm drain system, these non-radiologically-contaminated floor drains have been isolated from the yard drain system. These floor drains were rerouted to the sanitary waste treatment system.

## Outfall 004

The wastewater discharged via this outfall is the treated sanitary wastewater from facilities throughout the River Bend Station. The existing sewage treatment plant and Outfall 004 currently discharge via Outfall 001 to the Mississippi River. A new sewage treatment plant is under construction. When it becomes operational, the location of Outfall 004 will change as shown on Figure 2. Construction is anticipated to be completed by late 1995. The following discussion addresses the design and operation of the new sewage treatment plant. Treatment consists of two parallel systems, one for the sanitary discharge from the power plant, and another system for all other sanitary discharges from the River Bend Station. No personnel decon water is allowed to the sanitary system from "radiologicallyactive" portions of the power plant. Both treatment systems are comprised of an aerated lagoon followed by a sedimentation pond and a rock filter basin. Influent wastewater passes through a bar screen prior to entering the aerated lagoons. Unciesirable microbial activity within the sedimentation pond will be removed by the rock filter basin. The design life for the sedimentation ponds and rock filter basins is 20 years. Effluent from both systems drains by gravity to lift stations, where it is pumped to a common sand filter. Treated effluent drains by gravity through the sand filter and through an ultraviolet disinfection unit immediately prior to monitoring for permit compliance. The treated effluent is pumped to a sump that is normally pumped to the common discharge header. There, the effluent is combined with cooling tower blowdown and other monitored outfalls for discharge via final Outfall 001 to the Mississippi River. During infrequent maintenance activities on the common discharge header, the treated sanitary effluent will temporarily be routed to Grant's Bayou via Outfall 005. Solids removed by sedimentation and tertiary filtration are sent for approved off-site disposal.

As described above, the plant's cooling water system was modified in March 1992 to isolate the service water system from the condenser cooling system. This isolated service water system contains a biocide as part of its chemical treatment. To prevent this chemically treated service water from entering the storm drain systems, these non-radiologically-contaminated floor drains, including one oil/water separator, were isolated from the yard drain system. These floor drains were rerouted to the sanitary waste treatment system (and will continue to be routed to the new sewage treatment plant), and as discussed above the effluent
from the sanitary waste treatment system was rerouted from Grant's Bayou to the Mississippi River via the cooling tower blowdown common header (and Outfall 001).

## Outfall 005

Outfall 005 discharges stormwater runoff from the industrial materials storage area and the Low Level Waste Storage Building area to Grant's Bayou as shown on Figure 2. As discussed above for Outfall 004, a new sewage treatment plant is under construction. Stormwater from the 3.3-acre area surrounding the new sewage treatment plant will be discharged through Outfall 005. Outfall 004, normally discharged to the Mississippi River, will be diverted to Outfall 005 during scheduled maintenance of the common discharge header/valves. Therefore, Entergy requests that Outfall 005 specifically be authorized by the renewal permit for (1) this additional source of stormwater and (2) the infrequent and temporary discharge of treated sanitary effluent.

## Outfall 006

Outfall 006 includes the discharge of the drainage conveyances from the east side of the River Bend Station to the East Creek and then to Grant's Bayou as shown on Figure 2. It consists of stormwater from a significant portion of the power station; de minimis quantities of cooling tower drift/mist; condensate from oilfree, electric-driven and backup diesel air compressors; reverse osmosis reject (requested in this permit application); discharge from Outfall 003; and a portion of the discharge from Outfall 008. The station building roof and yard drain systems direct drainage to a ditch called East Creek, which receives stormwater runoff from the site.

A relatively new source to Outfall 006 is condensate from recently installed air compressors associated with the Instrument Air/Service Air Systems. Six of the compressors are electric and oil-free and will operate continuously. There are two backup compressors which will operate only when the main units are out of service: one electric, oil-free compressor and one diesel-driven air compressor. The two backup compressors will also be tested weekly. It is estimated that flow from condensate drains for these systems will be approximately 16 gpm (to Outfall 006) when operating. Entergy notified the U.S. EPA and the LDEQ of this discharge in letters dated February 14, 1995 and May 16, 1995. The LDEQ responded with an August 10, 1995 letter of no objection regarding this discharge through Outfall 006. Entergy requests that the renewal permit specifically authorize the discharge of air compressor condensate through Outfall 006.

As discussed previously, Entergy requests specific authorization to reroute reverse osmosis reject water from Outfall 002 to Outfall 006. Effluent characterization data are presented on Form 2C (as Outfall ROR).

## Outfall 007

Outfall 007 includes the discharge of the drainage conveyances from the west and north sides of the plant to West Creek and then to Grant's Bayou as shown on Figure 2. It consists of stormwater from the west and north sides of the plant and a portion of the discharge from Outfall 008. A network of small ditches from office areas, warehouse areas, materials storage areas, and equipment and vehicle maintenance areas (including de minimis quantities of domestic water vehicle rinsate) connect to a drainage ditch called West Creek which receives stormwater runoff from these areas of the site.

## Outfall 008

The discharges designated and monitored as Outfall 008 result from the hydrostatic testing and flushing of piping systems and vessels, including periodic required flushing and testing of the Fire Protection Water Supply System and the Automatic Sprinkler System. Wastewater from hydrostatic testing and flushing activities is usually conveyed from the power plant and support areas by hoses or temporary piping to yard drains or ditches for discharge to either East Creek (via Outfall 006) or West Creek (via Outfall 007) and then to Grant's Bayou. Some of these activities may also direct wastewater to the sanitary waste treatment system (to Outfall 004) via non-radiologically-contaminated plant floor drains or to the cooling tower flume for discharge to the river (via Outfall 001). Flushing and hydrostatic testing is usually performed with well water. Occasionally, demineralized water may be used, which, upon standing in storage, absorbs carbon dioxide resulting in pH levels sometimes as low as 5.6 standard units.

## Outfall 009

While this stormwater outfall is currently addressed and authorized in NPDES permit number LA0042731 for the River Bend Station, it is a proposed new outfall for LWDPS permit number WP 0409. This outfall is the stormwater discharge from part of the cooling tower yard to Grant's Bayou on the extreme eastern side of the power station as shown on Figure 2. Stormwater runoff and de minimis quantities of cooling tower drift/mist drains by gravity from the cooling tower area eastward to Grant's Bayou via Outfall 009.

### 3.2 Ancillary Water Systems

The cooling water treatment program to minimize scaling, biofouling, and corrosion of plant metallurgy consists of the following:

## Cooling Tower Water

The following may be added to the river water intake pumps/piping and clarifiers providing cooling tower makeup for condenser cooling and service water cooling:

- Cationic coagulant, occasionally supplemented with anionic flocculent during periods of low river water turbidity, may be added to river water
clarifiers for silt and colloid removal. Control of pH may be undertaken subsequently to enhance this process.
- Clarifier clearwells may be shock chlorinated with sodium hypochlorite and possibly sodium bromide for control of algae and macrofouling agents such as the zebra mussel, Dreissena polymorpha.
- Clarifier sludge is diluted with river water to approximately $4 \%$ solids and returned to the Mississippi River.
- Sodium hypochlorite and possibly sodium bromide may be injected intermittently, or continuously at lower levels, into the river water intake at the river to control infestation of the intake pipeline by the zebra mussel. Alternatively, a non-oxidizing biocide, such as a quaternary amine, may be added occasionally to the river water intake at the river to control infestation by zebra mussels. This occasional use of the nonoxidizing biocide is planned to occur on a 3- or 4 -day per year basis, depending on the entrainment of the zebra mussel larvae. This infrequent use of non-oxidizing biocide in the river water intake system is strictly for the protection of the buried pipeline to the intake water clarifiers. Its use is not expected to produce a detectable biocide residual in the cooling tower water or in cooling tower blowdown that is ultimately discharged via Outfall 001.

The following may be added to the cooling towers/flumes:

- Zinc salts, and/or phosphate salts, blended with an anionic copolymer, and/or terpolymers may be added for mild corrosion control of steel structures (piping, vessels, etc.).
- Tolyltriazole salts may be added for copper and brass corrosion control.
- A polyacrylate polymer/hydroxyethylidene diphosphonate (HEDP) blend may be a'ded for scaling control.
- Sodium hypochlorite and possibly sodium bromide/surfactant blend may be added for biofouling control.
- Sulfuric acid may be added for pH control.
- The cooling tower system operation normally results in 4 to 6 cycles of concentration. The cooling tower blowdown is derhlorinated with ammonium (or sodium) bisulfite as needed before discharge to the river.


## Isolated Service and Standby Cooling Water

The isolated service water is made up with demineralized water to which may be added molybdate, nitrite, and tolyltriazole sodium salts for corrosion control, polyacrylate dispersant for scaling control, sodium hydroxide for pH control, very low levels of an antifoaming agent, and a broad spectrum biocide such as isothiazoline, glutaraldehyde, or dibromonitrilopropionamide.

The standby cooling water is a reservoir of 6.5 million gallons made up from fresh well water and a multicell induced draft cooling tower to which may be added sodium hypochlorite and possibly sodium bromide/surfactant, hydrogen peroxide, and/or a broad spectrum biocide such as isothiazoline, glutaraldehyde, or dibromonitrilopropionamide for biological control. This system provides backup emergency cooling of nuclear safety related systems in the event that normal cooling becomes unavailable. During refueling outages, at 18 -month intervals, this standby cooling tower is operated for several weeks with the isolated service water while the normal systems undergo maintenance. The water treatment chemicals listed above for the isolated service water system are added to the reservoir to maintain the corrosion and biological control attributes of the isolated service water. Cooling tower reservoir water level and water quality are controlled by feed-and-bleed with fresh well water, with the reject water discharged via Outfall 002.

## Auxiliary Boiler Water

The following may be used for auxiliary boiler makeup: zeolite softeners for demineralization, sodium sulfite or hydrazine for oxygen removal, phosphate salts for scaling control, and sodium hydroxide for pH control.

## Fire Suppression Water

The following may be used for protection of the fire suppression water system: sodium hypochlorite and possibly sodium bromide or a biodegradable biocide for biofouling control, sodium hydroxide for pH control, and phosphate or molybdate/nitrite salts for corrosion control.

With the exception of the zinc salts noted above, no chemicals which contain any of the priority pollutants listed in 40 CFR Part 423, Appendix A, are used for treatment of cooling water or service waters discharged to the environment.

### 4.0 STORMWATER DRAINAGE, MANAGEMENT, AND DISCHARGE

In accordance with the requirements of the revised NPDES stormwater discharge permit application regulations under 40 CFR 8122.26 , Entergy is presenting the following discussion on stormwater management at the River Bend Station. This discussion is presented in conjunction with the information required in connection with and provided on U.S. EPA Form 2F (Appendix C) as it relates to the currently permitted NPDES
stormwater Outfalls 003, 005, 006, 007, and 009 which discharge stormwater associated with industrial activity from the site. The drainage areas for these stormwater outfalls are described in Section 3.0. The quantitative analytical data characterizing the stormwater discharged through the stormwater outfalls are presented on Form 2 F . Other nonanalytical information required by Form 2 F is provided below for stormwater discharged through, and the drainage areas served by, the stormwater outfalls at the site.

Stormwater runoff at the Entergy site from all areas associated with industrial activity (as defined by 40 CFR 8122.26 ) is discharged through Outfalls 003, 005, 006, 007, and 009. Stormwater runoff at the site from areas which are not associated with industrial activity discharges from the site by either sheet flow or point sources which do not require permitting under 40 CFR $\$ 122.26$. Figure 2 depicts features at the Entergy site pertinent to stormwater. This figure illustrates the areas from which stormwater drains into the outfalls, direction of stormwater flow to these outfalls, intake and discharge structures, and structural control measures designed to reduce pollutants in stormwater. Also, Figure 4 shows surface types in the areas drained by the outfalls (i.e., impervious versus non-impervious). Hazardous waste storage units and areas where significant materials that are potentially exposed to stormwater are handled or stored are shown on Figure 2. Table 2 is an inventory of the significant materials storage/unloading areas and lists the containment associated with each area. Table 3 is an inventory of significant materials within oil storage areas; most of these areas are not shown on Figure 2 because they are located inside of buildings and thus have no potential to impact stormwater. The transformers listed in Table 3 are also not shown on Figure 2 because they are too numerous.

Structural controls used to minimize the potential for stormwater contamination include containment dikes/berms around the toxic or hazardous materials handling arees, tanks, and the hazardous/nonhazarous waste storage areas. Sloping and grading of roads and lands are used to direct stormwater runoff to a storm drain where appropriate. The storm drain system of pipes and ditches provides a mechanism to contain and control runoff, facilitating the effective use of countermeasure plans in spill control.

Nonstructural measures employed at the site which aid in the management of stormwater include:

- Stormwater Pollution Prevention Plan,
- Spill Prevention Control and Countermeasure Plan,
- Hazardous Waste Management Plan
- Environmental Inspections,
- Plant Emergency Response Plan,
- Employee Safety Training Programs, and
- Equipment Preventive Maintenance Programs.

These programs have definite schedules which encourage awareness of the importance of the program and require equipment operational tests and repairs which assist in minimizing the potential for contaminant releases.

Entergy has no hazardous waste treatment or disposal units. Hazardous waste storage units are shown on Figure 2 and include a Hazardous Waste Storage Building (with a concrete berm inside) which is utilized for the purpose of 90 -day or less accumulation of drums of hazardous wastes prior to their shipment for off-site disposal. Hazardous wastes stored in this area include paint waste, paint thinner, fuel operation waste, photographic waste, and waste varsol. The shop area has an outside, but under roof, hazardous waste satellite storage area for paints and solvents within concrete containment. Because the River Bend Station is a nuclear fuel electric power generation plant, very little process hazardous waste is generated. Most hazardous waste is generated from construction, maintenance, and other support activities. Radioactive hazardous waste is generated inside the power plant and is thus contained within the confines of the radiologically-controlled area.

The River Bend Station employs numerous operational practices to avoid and/or contain all potential releases of significant materials. Significant materials used in the process areas are stored or handled such that they will not impact stormwater runoff. All roads at the site are used for the transport of significant materials. Loading and unloading areas are shown on Figure 2.

Entergy uses herbicides such as Roundup ${ }^{*}$ at the River Bend Station in limestone areas, landscape areas, and parking lots. Previous typical usage of Roundup was approximately three gallons per year. Herbicides are only used in areas which, if exposed to stormwater, are within the drainage of permitted outfalls. De minimis quantities of fertilizers, snil conditioners, and insecticides may be used in plant areas which, if exposed to stormwater, are within the drainage of permitted outfalls.

Significant leaks or spills of toxic or hazardous substances at the site during the last three years are required to be reported in accordance with 40 CFR $\S 122.26$ (c)(1)(i)(D). "Significant spills" are defined as the release within a 24 -hour period of toxic or hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act and/or Section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Reportable Quantities are predefined amounts of substances as listed in 40 CFR Part 117 and 40 CFR Part 302. There have been two reportable spills/leaks at the Entergy River Bend Station in the last three years, and both had minimal potential to be exposed to precipitation or the potential to drain to a stormwater conveyance. On October 20, 1992, a spill involved 70 gallons of sodium hypochlorite ( $15.0 \%$ ), and on March 10, 1993, a spill involved 500 gallons of sodium hypochlorite $(12.0 \%)$. Both releases involved sodium hypochlorite which was spilled within the concrete berm of a tank in the Water Chemical Addition Area. The spilled material was recovered for normal usage.

### 5.0 WASTEWATER AND STORMWATER SAMPLING AND ANALYTICAL CONSIDERATIONS

In accordance with the requirements of U.S. EPA Application Forms 2 C and 2F, wastewater effluent analytical data were obtained for each outfall discharge. Representative wastewater and stormwater samples from all of the permitted outfalls were collected as required by NPDES regulations at 40 CFR $\S 122.21$ and 40 CFR $\S 122.26$.

Effluent characterization data are presented on Form 2C for non-stormwater outfalls or for non-stormwater components of an outfall (for those which discharge a combination of stormwater and non-stormwater sources). Flow rate data obtained from Discharge Monitoring Reports (DMRs) for the period February 1993 through January 1995 and analytical data for the period February 1994 through January 1995 for those parameters that are required to be monitored at the outfalls have been included on Form 2C, Part V. Because Outfall 102 has not discharged in recent years, it could not be sampled for this permit application. Instead, historical analytical data for Outfall 102 are summarized on Table 4. Sampling activities were conducted at the other non-stormwater outfalls for the permit application as follows.

For Outfall 001 (process wastewater), a 24 -hour sampling event was conducted on June 22 through 23, 1995 in order to obtain the required analytical data. Because this outfall discharges continuously, a 24 -hour flow-weighted composite sample was collected for all analyses, except for those pollutants (oil and grease, pH , temperature, fecal coliform, total phenols, cyanide, and total residual chlorine) which require grab samples as specified at 40 CFR $\$ 122.21(\mathrm{~g})(7)$. During the June 22 through 23,1995 sampling period, four discrete volatile organic compound (VOC) sample aliquots were manually collected; these aliquots were combined in equal volumes by the analyst in the laboratory immediately before analysis to prepare a single composite sample. A grab sample was collected at Outfall 001 on June 28, 1995 for fecal coliform analysis. A 24-hour composite flow-weighted sample was collected at Outfall 001 on August 28 through 29 , 1995 for polychlorinated biphenyls (PCBs) analyses.

Outfall 002 (process wastewater) was sampled by obtaining separate grab samples from the two low-volume wastewater treatment systems. Twenty-four-hour composite samples were not collected because both sources are intermittent, not continuous, discharges. The sample at the low-volume waste treatment system (no low-level radioactivity contribution sources) will be hereafter referred to as Outfall 002 A , and the other sample at the lowlevel radioactive, low-volume waste treatment system will be referred to as Outfall 002B. Grab samples were collected on June 21, 1995 at Outfall 002B and on June 22, 1995 at Outfall 002 A , and analyzed separately. The results of the two samples were flowweighted and combined to characterize the combined wastewater discharged through Outfall 002. Outfall 002A was resampled on August 29, 1995 for mercury analysis.

For Outfall 003 (nonprocess wastewater), the intermittent, dry-weather discharge from the oil/water separator which receives wastewater from non-radiologically contaminated power plant floor drains (consisting of well water, fire suppression water, and domestic potable water) was sampled on June 22, 1995. Only grab samples were collected
because this source to Outfall 003 is an intermittent, not continuous, discharge. A sample was collected on June 28, 1995 for fecal coliform analysis. Because this outfall consists of two other stormwater sources, DMR data were not included on the Form 2C (which represents only the non-stormwater component); instead, a DMR summary is presented on Table 5 (representing all three sources to the outfall).

For Outfall 004 (nonprocess and sanitary wastewater), a 24 -hour sampling event was conducted on June 21 through 22, 1995 in order to obtain the required analytical data. Because this outfall discharges continuously, a 24 -hour flow-weighted composite sample was collected for all analyses, except for those pollutants which require grab samples as specified at 40 CFR $\$ 122.21(\mathrm{~g})(7)$. During the June 21 through 22 , 1995 sampling period, four discrete VOC sample aliquots were manually collected; these aliquots were equally combined by the analyst in the laboratory immediately before analysis to prepare a single composite sample. A grab sample was collected on June 28, 1995 for fecal coliform analysis.

Outfall 008 (nonprocess wastewater) was sampled on June 22, 1995. Only grab samples were collected because this is an intermittent, not continuous, discharge.

The reverse osmosis reject source (referred to as Outfall ROR on the Form 2C) to Outfall 002 (which is being requested for rerouting to Outfall 006) was sampled on June 22, 1995. Only grab samples were collected because this is an intermittent, not continuous, discharge.

Effluent characterization data are presented on Form 2F for stormwater outfalls or for stormwater components of an outfall's discharge (for those which discharge a combination of stormwater and non-stormwater sources). Flow rate data obtained from DMRs for the period February 1993 through January 1995 and analytical data for the period February 1994 through January 1995 for those parameters that are required to be monitored at the outfalls are summarized in Tables 5 through 9. Sampling activities were conducted at the stormwater outfalls for the permit application as follows.

First-flush and compositc samples for Outfalls 003, 005, 006, 007, and 009 were collected during a storm event on July 5, 1995 which had a total rainfall of 0.32 inch and a duration of approximately four hours. The previous rainfall event with at least 0.1 inch of rainfall occurred on July 1, 1995. Form 2F includes flow data for the discharge of stormwater through the outfalls during the sampling event and the areas which contribute to the total drainage area of the outfalls.

Outfall 003 has two stormwater sources from oil/separators associated with the transformer yards (auxiliary and main). Stormwater samples were collected at only one of the stormwater oil/separators (the auxiliary), because it has been determined that the two oil/water separators discharge stormwater which is "substantially identical" [as allowed at 40 CFR $8122.21(\mathrm{~g})(7)]$.

### 6.0 SUMMARY OF FRIOR BIOMONITORING REQUIREMENTS AND RESULTS

As required by 40 CFR $\$ 122.21(\mathrm{~g})(11)$, information on biological toxicity tests conducted within the last three years on Entergy's discharges is included in this permit renewal application.

Entergy performed toxicity tests during three molluscicide treatments of the Mississippi River intake water during the previous three-year period. A chronic elutriate toxicity test using Ceriodaphnia dubia and a chronic 10 -day static, solid-phase, sediment toxicity test using Hyaleila azteca were conducted on samples of sediment from the intake water clarifier collected prior to and during the first two moliuscicide applications, January 6 and November 10, 1994. Acute 48-hour static-renewal toxicity tests using Daphnia pulex and Pimephales promelas was conducted on Outfall 001 effluent collected August 17, 1995. Each molluscicide application consisted of an approximate 8 -hour period in which the non-oxidizing Calgon molluscicide H130M or Betz molluscicide CT-2 was injected into the Mississippi River water intake system. In the first two applications, samples of clarifier sediment were collected one day prior to molluscicide application (untreated sample) and during application (treated sample). During the third molluscicide application only Outfall 001 effluent, containing clarifier blowdown, was collected for toxicity testing.

The chronic elutriate toxicity tests were conducted with three elutriate concentrations ( $25 \%, 50 \%$ and $100 \%$ ) and two control treatments (a sediment control and a water only control). Reconstituted moderately hard water was used as the dilution and control water. The chronic 10 -day static, solid-phase sediment toxicity tests consisted of one treatment and a control with the overlying water consisting of reconstituted moderately hard water. The 48 -hour acute static-renewal toxicity tests consisted of five effluent dilutions $(0.2 \%, 0.3 \%, 0.4 \%, 0.6 \%$ and $0.8 \%$ effluent) in addition to two control treatments (laboratory and dilution water control). Dilution water conisisted of Mississippi River water.

No Observed Effect Concentration (NOEC) values were calculated for the Ceriodaphnia dubia chronic elutriate toxicity tests and the Daphnia pulex and Pimephales promelas acute toxicity tests. NOEC values are the highest concentration of effluent or elutriate to which organisms are exposed which causes no statistically significant adverse effect on organism survival or reproduction in comparison with the control ( $0 \%$ effluent, $0 \%$ elutriate). In the Hyalella azteca solid-phase toxicity tests, percent survival and growth, as measured as average dry weight, were compared to the control for significant differences.

Test results from the clarifier sediment toxicity tests are presented in Table 10. Ceriodaphnia dubia survival in the January 6 and November 10, 1994 tests and reproduction in the November 10, 1994 tests were not significantly different from the control in either the untreated or treated clarifier sediment tests. Reproductive effects in the January 6, 1994 tests could not be determined due to the poor performance in the control treatment.

Hyalella azeca survival in the January 6 and November 10, 1994 tests and growth in the January 6, 1994 tests were not significantly different from the control in either the untreated or treated clarifier sedime it tests. Growth was significantly different from the control in the untreated and treated tests conducted November 10, 1994.

In a letter to Entergy dated May 23, 1995 (see Appendix D), the LDEQ stated that 48 -hour acute toxicity testing would be sufficient to monitor effluent quality during molluscicide application. A molluscicide application event was conducted on August 17, 1995, and acute toxicity test results are presented in Table 10. The acke 48-hour survival NOEC value for both the Daphnia pulex and Pimephales promelas test species was $0.8 \%$ effluent, which was the highest effluent dilution required to be tested.

TABLES

## TABLE 1

ENTERGY RIVER BEND STATION INVENTORY OF WATER WELLS IN THE VICINITY OF THE SITE

| Well Number ${ }^{(1)}$ | Owner | Latitude <br> Longitude | Well Depth ${ }^{(2)}$ | Well Use |
| :---: | :---: | :---: | :---: | :---: |
| 68 | Ed Daniels | $\begin{aligned} & 30^{\circ} 45^{\circ} 50^{\prime \prime} \\ & 91^{\circ} 18^{\prime} 58^{\prime \prime} \end{aligned}$ | 483 | Domestic |
| 69 | Ed Daniels | $\begin{aligned} & 30^{\circ} 45^{\prime} 50^{\prime \prime} \\ & 91^{\circ} 18^{\prime} 59^{\prime \prime} \end{aligned}$ | 168 | Domestic ${ }^{\text {a }}$ |
| 82 | J.E. Poche Jr. | $\begin{aligned} & 30^{\circ} 46^{\prime} 02^{\prime \prime} \\ & 91^{\circ} 19^{\prime} 17^{\prime \prime} \end{aligned}$ | 510 | Domestic |
| 84 | Ricks | $\begin{aligned} & 30^{\circ} 46^{\prime} 12^{\prime \prime} \\ & 91^{\circ} 20^{\prime} 34^{\prime \prime} \end{aligned}$ | 180 | Domestic |
| 85 | Adda Markie | $\begin{aligned} & 30^{\circ} 45^{\prime} 37^{\prime \prime} \\ & 91^{\circ} 20^{\prime} 40^{\circ} \end{aligned}$ | 103 | Domestic ${ }^{3}$ |
| 87 | Murphy Dreher | $\begin{aligned} & 30^{\circ} 46^{\prime} 14^{\prime \prime} \\ & 91^{\circ} 19^{\prime} 28^{\prime \prime} \end{aligned}$ | 497 | Industrial |
| 91 | H. Dariel | $\begin{aligned} & 30^{\circ} 46^{\prime} 08^{\prime \prime} \\ & 91^{\circ} 19^{\prime} 07^{\prime \prime} \end{aligned}$ | 485 | Domestic |
| 241 | J. Rogers | $\begin{aligned} & 30^{\circ} 46^{\prime} 13^{\prime \prime} \\ & 91^{\circ} 20^{\prime} 35^{\prime \prime} \end{aligned}$ | 161 | Domestic |
| 246 | Entergy River Bend Station | $\begin{aligned} & 30^{\circ} 45^{\prime} 18^{\prime \prime} \\ & 91^{\circ} 19^{\prime} 52^{\prime \prime} \end{aligned}$ | 1,821 | Power Generation |
| 256 | Entergy River Bend Station | $\begin{aligned} & 30^{\circ} 45^{\prime} 19^{\prime \prime} \\ & 91^{\circ} 19^{\prime} 50^{\prime \prime} \end{aligned}$ | 124 | Fire Protection |
| 257 | Entergy River Bend Station | $\begin{aligned} & 30^{\circ} 45^{\prime} 19^{\prime \prime} \\ & 91^{\circ} 19^{\prime} 46^{\prime \prime} \\ & \hline \end{aligned}$ | 1,815 | Power Generation |
| 266 | Entergy River Bend Station | $\begin{aligned} & 30^{\circ} 45^{\prime} 40^{\prime \prime} \\ & 91^{\circ} 20^{\prime} 11^{\prime \prime} \end{aligned}$ | 500 | Industrial |

(1) Well number assigned in LDOTD database.
2) Depth of the well, in feet, measured from the bottom of the screen to the ground surface.
a) Although this well is listed as abandoned, it is included herein because it was not listed as closed, and may therefore be used again in the future.

TABLE 2

## ENTERGY RIVER BEND STATION INVENTORY OF SIGNIFICANT MATERIALS IN STORAGE AND UNIGADING AREAS

| Item No. ${ }^{(1)}$ | Description | Volume | Containment |
| :---: | :---: | :---: | :---: |
| 1 | Standby Cooling Tower Hypochlorite Tank | $1,000 \mathrm{gal}$ | Concrete Curb, Drains to Cooling Tower |
| 1 | Standby Cooling Tower Hypochlorite Unloading | Unloading | Curbed Concrete Pad |
| $2^{(2)}$ | Emergency Diesel Generator Fuel Unloading | Unloading | Curbed Concrete Pad |
| 3 | CWS Treatment Chemicals Tanks <br> - TTA (Nalco 9237) <br> - HEDP (Nalco 1345) <br> - Zinc Chloride (Nalco 1360) <br> - Sodium Bromide (Nalco 1338) <br> - Sodium Hypochlorite | $\begin{aligned} & 3,000 \mathrm{gal} . \\ & 6,400 \mathrm{gal} . \\ & 6,400 \mathrm{gal} . \\ & 6,000 \mathrm{gal} . \\ & 6,000 \mathrm{gal} . \end{aligned}$ | Concrete Floor \& Walls Concrete Floor \& Walls Concrete Floor \& Walls Concrete Floor \& Walls Concrete Floor \& Walls |
| 3 | CWS Treatment Chemicals Unloading | Unloading | Curbed Concrete Pad |
| 4 | Hypochlorite Tank | 22,000 gal. | Concrete Floor \& Walls |
| 4 | Hypochloritc Unioading | Unloading | Curbed Concrete Pad |
| 5 | WTA Sulfuric Acid Tanks (Two) | $42,000 \mathrm{gal}$. ea. | Concrete Floor \& Walls |
| 5 | WTA Acid Unloading | Unloading | Curbed Concrete Pads |
| 6 | Ammonium Bisulfite | $4,000 \mathrm{gal}$. | Concrete Floor \& Walls |
| 6 | Ammonium Bisulfite Unloading | Unloading | Curbed Concrete Pad |
| 7 | Fire Pump Diesel Fuel Unloading | Unloading | Concrete Curbed with Earthen Floor |
| $8{ }^{(3)}$ | Diesel Fuel Trailer Parking | $\begin{gathered} 2,750 \mathrm{gal} . \\ \text { (Largest. } \\ \text { Compartment) } \end{gathered}$ | Concrete Curb \& Sump |
| 9 | Hazardous/Non-hazardous/Oil Waste Storage \& Unloading | Drums | Curbed Concrete Floor \& Walls |
| 10 | Paint Shop Drum Storage \& Unloading | Drums | Curbed Concrete Floor |
| $11^{\text {(4) }}$ | Main Warehouse Drum Storage \& Unloading | Drums | Concrete Floor, Walls \& Sump |
| $12{ }^{\text {(5) }}$ | Gasoline/Diesel Storage (Two) | 6,000 gal. each | Concrete Floor \& Walls |
| $12{ }^{\text {(5) }}$ | Gasoline and Diesel Storage Unloading | Unloading | Curbed Concrete Pad |
| 13 | Main Warehouse Hazardous Materials Storage Building \& Unloading | Drums | Curbed Concrete Floor, Walls \& Sump |
| 14 | Outside Oil Drum Storage Building \& Unloading | Drums | Curbed Concrete Floor, Walls \& Sump |

## TABLE 2

## ENTERGY RIVER BEND STATION INVENTORY OF SIGNIFICANT MATERIALS IN STORAGE AND UNLOADING AREAS <br> (Consinued)

| Item No. ${ }^{(1)}$ | Description | Volume | Containment |
| :---: | :---: | :---: | :---: |
| 15 | Turbine Building Oil Storage and Unloading | Drums | Curbed Concrete Floor \& Walls |
| 16 | Service Water Storage \& Unloading (Three) | $1,000,000 \mathrm{gal} \text {. }$ | Concrete floor, Wails \& Lined Earthen Berm |
| 17 | Main Warehouse Paint/Flammables Storage | Drums/Containers | Curbed Concrete Floor, Walls \& Sump |
| 18 | SWP Treatment Chemicals Tanks <br> - Sodium Molybdate (Nalco 7357)(Two) <br> - Sodium Hydroxide \& TTA (Nalco 1336) <br> - Glutaraldehyde (Nalco 7338) <br> - Isothiazoline (NALCO 7330)(Two) <br> - Sodium Hydroxide (NALCO 8073) <br> - Sodium Nitrite Solution <br> - Polyquarternary Amine (NALCO 8103) | $\begin{aligned} & 400 \mathrm{gal} . \text { each } \\ & 400 \mathrm{gal} . \\ & 1,000 \mathrm{gal} . \\ & 400 \mathrm{gal} . \text { each } \\ & 400 \mathrm{gal} . \\ & 400 \mathrm{gal} . \\ & 5,000 \mathrm{gal} . \end{aligned}$ | Concrete Floor \& Walls Concrete Floor \& Walls Concrete Floor \& Walls Concrete Floor \& Walls Concrete Floor \& Walls Concrete Floor \& Walls Concrete Fioor \& Walls |
| 19 (6) | Field Administrative Diesel Generator Fuel Tank | 200 gal . | None |
| 20 | Drummed Oil | 150 gal . (varies) | Secondary Containment |

(1) Item numbers correspond to those shown on Figure 2.
(2) Additional information is presented for this item on Table 3 (corresponds to Item 21 on Table 3).
a) Additional information is presented for this item on Table 3 (corresponds to Item 5 on Table 3).

Additional information is presented for this item on Table 3 (corresponds to Item 6 on Table 3).
Additional information is presented for this item on Table 3 (corresponds to Items 3 and 4 on Table 3).
Additional information is presented for this item on Table 3 (corresponds to Item 22 on Table 3).
Additional information is presented for this item on Table 3 (corresponds to Item 24 on Table 3).

TABLE 3

## ENTERGY RIVER BEND STATION INVENTORY OF SIGNIFICANT MATERIALS IN OIL STORAGE AREAS

| Description | Volume (Gallons) | Drainage | Containment |
| :---: | :---: | :---: | :---: |
| 1. Fire Protection Diesel Fuel Tank "1A" - Fire Protection Pump House | 300 | Through oil water separator \#2 into East Creek | Inside a building |
| 2. Fire Protection Diesel Fuel Tank "1B" - Fire Protection Pump House | 300 | Through oil water separator \#2 into East Creek | Inside a building |
| 3. ${ }^{\text {(1) }}$ Vehicle Gasoline Fuel Tank - Vehicle Maintenance Shop | 6,000 | On ground into West Creek | Covered by a roof |
| 4. ${ }^{(1)}$ Vehicle Diesel Fuel Tank - Vehicle Maintenance Shop | 6,000 | On ground into West Creek | Covered by a roof |
| 5. ${ }^{(2)}$ Auxiliary Diesel Fuel Tanker - Southwest of the Hazardous Waste Yard | 6,500 | On ground into West Creek | Yes |
| 6. ${ }^{(3)}$ Drummed Oil - Warehouse Oil Storage Building | 11,500 (varies) | On ground into West Creek | Covered by a roof |
| 7. Drummed Used Oil - Hazardous Waste Yard | Varies | On ground into West Creek | Inside a building |
| 8. Drummed EHC Fluid - Hazardous Waste Yard | Varies | On ground into West Creek | Inside a building |
| 9. Lube Oil Containers/Drums - Lube Oil Storage Facility | $\begin{gathered} 1,600 \\ \text { (varies) } \end{gathered}$ | Into a sump and then drummed for off-site disposal | Inside a building |
| 10. Lube Oil Containers - Turbine Lube Oil Storage Facility | $1,440$ <br> (varies) | Into a sump and then drummed for radwaste processing | Inside a building |
| 11. Drummed Used Oil - Turbine Lube Oil Storage Facility | 990 (varies) | Into a sump and then drummed for radwaste processing | Inside an underground vault |
| 12. Standby Diesel Generator Division I Fuel Tank - Diesel Generator Building | 50,000 | Through oil water separator \#1 into sewage treatment plant | Inside an underground vault |
| 13. Standby Diesel Generator Division II Fuel Tank - Diesel Generator Building | 50,000 | Through oil water separator \#1 into sewage treatment plant | Inside an underground vault |
| 14. HPCS Diesel Generator Division III Fuel Tank - Diesel Generator Building | 50,000 | Through oil water separator \#1 into sewage treatment plant | Inside an underground vault |

TABLE 3

## ENTERGY RIVER BEND STATION

## INVENTORY OF SIGNIFICANT MATERIALS IN OIL STORAGE AREAS

(page 2 of 4)

| Description | Volume (Gallons) | Drainage | Containment |
| :---: | :---: | :---: | :---: |
| 15. Standby Diesel Generator Division I Fuel Oil Day Tank - Diesel Generator Building | 535 | Through oil water separator \#1 into sewage treatment plant | Inside a building |
| 16. Standby Diesel Generator Division II Fuel Oil Day Tank - Diesel Generator Building | 535 | Through oil water separator \#1 into sewage treatment plant | Inside a building |
| 17. HPCS Diesel Generator Division III Fuel Oil Day Tank - Diesel Generator Building | 535 | Through oil water separator \#1 into sewage treatment plant | Inside a building |
| 18. Standby Diesel Generator Division I Lube Oil Sump Tank Diesel Generator Building | 514 | Through oil water separator \#1 into sewage treatment plant | Inside a building |
| 19. Standby Diesel Generator Division II Lube Oil Sump Tank Diesel Generator Building | 514 | Through oil water separator \#1 into sewage treatment plant | Inside a building |
| 20. HPCS Diesel Generator Division III Lube Oil Sump Tank Diesel Generator Building | 514 | Through oil water separator \#1 into sewage treatment plant | Inside a building |
| 21. (4) Station Blackout Diesel Generator Fuel Tank - North of the Diesel Generator Building | 180 | Through stormwater drain into East Creek | Yes |
| 22.9 Field Administration Diesel Generator Fuel Tank - East of the Field Administration Building | 200 | On ground into West Creek | No |
| 23. Backup Air Compressor Diesel Generator Fuel Tank "C4" Southwest of the Turbine Building | 200 | Through stormwater drain into East Creek | Inside a building |
| 24. ${ }^{(6)}$ Drummed Oil - East Side of Mechanical Maintenance Shop | $\begin{gathered} 150 \\ \text { (Varies) } \\ \hline \end{gathered}$ | Through stormwater drain into East Creek | Area covered by a roof |
| 25. Transformer 1STX-XNSIA - East Wall of Turbine Building | 3,951 | Through oil water separator \#3 into East Creek | Yes |
| 26. Transformer 1STX-XNS1B - East Wall of Turbine Building | 3,951 | Through oil water separator \#3 into Easi Creek | Yes |
| 27. Transformer 1STX-XNSIC - East Wall of Turbine Building | 3,405 | Through oil water separator \#3 into East Creek | Yes |
| 28. Transformer 1RTX-XSR1C - East Wall of Turbine Building | 7,900 | Through oil water separator \#3 into East Creek | Yes |
| 29. Transformer 1RTX-XSR1E - East Wall of Turbine Building | 15,300 | Through oil water sepa. ator \#3 into East Creek | Yes |

TABLE 3

## ENTERGY RIVER BEND STATION

## INVENTORY OF SIGNIFICANT MATERIALS IN OIL STORAGE AREAS <br> (page 3 of 4)

| Description | Volume (Gallons) | Drainage | Containment |
| :---: | :---: | :---: | :---: |
| 30. Transformer 1MTX-XM1 - East Wall of Turbine Building | 16,733 | Through oil water separator \#3 into East Creek | Yes |
| 31. Transformer 1MTX-XM2 - East Wall of Turbine Building | 16,733 | Through oil water separator \#3 into East Creek | Yes |
| 32. Transformer IRTX-XSRIF - Southwest of the Turbine Building | 15,300 | Through oil water separator \#4 into East Creek | Yes |
| 33. Transformer 1RTX-XSRID - Southwest of the Turbine Building | 7,900 | Through oil water separator \#4 into East Creek | Yes |
| 34. Transformer NJS-X2A - Cooling Tower A | 234 | Into a sump, and then on ground into East Creek | Yes |
| 35. Transformer NJS-X2B - Cooling Tower A | 234 | Into a sump, and then on ground into East Creek | Yes |
| 36. Transformer NJS-X2C - Cooling Tower C | 234 | Into a sump, and then on ground into East Creek | Yes |
| 37. Transformer NJS-X2D - Cooling Tower C | 234 | Into a sump, and then on ground into East Creek | Yes |
| 38. Transformer NJS-X2E - Cooling Tower B | 234 | Into a sump, and then on ground into East Creek | Yes |
| 39. Transformer NJS-X2F - Cooling Tower B | 234 | Into a sump, and then on ground into East Creek | Yes |
| 40. Transformer NJS-X2G - Cooling Tower D | 234 | Into a sump, and then on ground into East Creek | Yes |
| 41. Transformer NJS-X2H - Cooling Tower D | 234 | Into a sump, and then on ground into East Creek | Yes |
| 42. Transformer NJS-X3A - Clarifiers | 197 | Into a sump, and then on ground into East Creek | Yes |
| 43. Transformer NJS-X3B - Clarifiers | 197 | into a sump, and then on ground into East Creek | Yes |
| 44. Transformer NJS-X3C - Service Water Area (Hypochlorite System) | 200 | Into a sump, and then on ground into East Creek | Yes |
| 45. Transformer NJS-X3D - Service Water Area (Hypochlorite System) | 200 | Into a sump, and then on ground into East Creek | Yes |
| 46. Transformer NJS-X4A - Service Water Area (Closed Loop System) | 241 | Into a sump, and then through Outfall 009 into Grant Bayou | Yes |
| 47. Transformer NJS-X4B - Service Water Area (Closed Loop System) | 241 | Into a sump, and then through Outfall 009 into Grant Bayou | Yes |
| 48. Transformer RCS-X1A - West Wall of Fuel Building (Recirculating MG Set Room) | 1,260 | Into a sump, and then through a stormwater drain into East Creek | Yes |

## TABLE 3

## ENTERGY RIVER BEND STATION

 INVENTORY OF SIGNIFICANT MATERIALS IN OIL STORAGE AREAS (page 4 of 4)| Description | Volume (Gallons) | Drainage | Containment |
| :---: | :---: | :---: | :---: |
| 49. Transformer RCS-X1B - West Wall of Fuel Building (Recirculating MG Set Room) | 1,260 | Into a sump, and then through a stormwater drain into East Creek | Yes |
| 50. Transformer STX-XS2A - Circulating Water House | 1,490 | Into a sump, and then on ground into East Creek | Yes |
| 51. Transformer STX-XS2B - Circulating Water House | 1,490 | Into a sump, and then on ground into East Creek | Yes |
| 52. Transformer STX-XS3A - River Intake | 620 | On ground into Mississippi River | Yes |
| 53. Transformer STX-XS3B - River Intake | 620 | On ground into Mississippi River | Yes |
| 54. Transformer STX-XS5A - Service Water Area (Closed Loop System) | 1,270 | Into a sump, and then through Outfall 009 into Grant Bayou | Yes |
| 55. Transformer STX-XS5B - Service Water Area (Closed Loop System) | 1,270 | Into a sump, and then through Outfall 009 into Grant Bayou | Yes |
| 56. Transformer STX-XGN1A - Main Transformer Yard | 100 | Through oil water separator \#3 into East Creek | Yes |
| 57. Transformer STX-XGN1B - Main Transformer Yard | 100 | Through oil water separator \#3 into East Creek | Yes |
| 58. Transformer STX-XGN1C - Main Transformer Yard | 100 | Through oil water separator \#3 into East Creek | Yes |
| 59. Transformer STX-XGNiD - Auxiliary Transformer Yard | 100 | Through oil water separator \#4 into East Creek | Yes |

(1)

Corresponds to Item 12 on Table 2 and Figure 2.
(2) Corresponds to Item 8 on Table 2 and Figure 2.
a) Corresponds to Item 11 on Table 2 and Figure 2.
(6) Corresponds to Item 2 on Table 2 and Figure 2.
(9) Corresponds to Item 19 on Table 2 and Figure 2.
(6) Corresponds to Item 20 on Table 2 and Figure 2.

TABLE 4
ENTERGY RIVER BEND STATION ANALYTICAL DATA SUMMARY FOR OUTFALL 102

| POLLUTANT | EFFLUENT |  |  |  |  |  |  | UNTTS |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | MAXIMUM DAILY VALUE |  | MAXTMUM 30 DaY value |  | LONG TERM AVERAGE |  | $\begin{gathered} \text { NO. OF } \\ \text { ANALYSES } \end{gathered}$ | CONC. | MASS |
|  | CONC. | MASS | Conc. | MASS | CONC. | MASS |  |  |  |
| Flow ${ }^{\text {chen }}$ | VALUE 0.014 |  | VALUE 0.002 |  | Value | 0.0009 | 92 | MGD | NA |
| tron ${ }^{\text {a }}$ | 1.00 | 0.012 | 0.90 | 0.02 | 0.70 | 0.01 | 9 | mg/L. | lbs/dsy |
| Copper ${ }^{(18}$ | 0.90 | 0.11 | 0.80 | 0.01 | 0.30 | 0.002 | 9 | mg/L | Pos/day |
| Tempersture (Winter) | Ambient ${ }^{\text {+ }}$ | NA | Ambient ${ }^{\text {(t) }}$ | NA |  | 2.en | 0 | NA | NA |
| Temperature (Summer) | Ambient ${ }^{(6)}$ | NA | Ambient ${ }^{\text {(e) }}$ | NA |  | 5ipt | 0 | NA | NA |
|  | MINTMUM | MAXIMUM | MINIMUM | MAXIMUM |  |  |  |  |  |
| pH | $\mathrm{NA}^{(t)}$ | $N A^{(4)}$ | N/A | N/A |  |  |  | NA | NA |

NA $=$ Not Applicable
(1) There was no discharge at Outfall 102 during the period from February 1993 through January 1995 (the DMR summary period presented in this permit application for other outfalls at the site). Hence. all the data included in this table is incorporated from the Form 2C for Outfall 102 from Entergy's previous LWDPS permit application submitted to the LDEQ on Januery 24, 1992.
(2) All flow rate values are based on calculations from three consecutive months of intermittent discharge from this outfall during a reduced volume, process development trial period
on Masses calculated using flow values mentioned in footnote (2)
(4) No keat input to this discharge.

TABLE 5
ENTERGY RIVER BEND STATION
DMR SUMMARY FOR FEBRUARY 1993 - JANUARY 1995
OUTFALL 003

| POLLUTANT | EFFLUENT |  |  |  |  |  |  | UNITS |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | MAXIMUM DAILY VALUE |  | MAXIMUM 30 DAY VALUE |  | LONG TERM AVERAGE |  | $\begin{gathered} \text { NO. OF } \\ \text { ANALYSES } \end{gathered}$ | conc. | MASS |
|  | conc. | MASS | Conc. | MASS | CONC. | MASS |  |  |  |
| Total Suspended Solids (TSS) | 11.2 | 0.55 | 8.6 | 0.42 | 2.2 | 0.08 | 140 | mg/L | lbs/day |
| Oit \& Grease | 10.0 | 0.57 | 3.7 | 0.21 | 2.1 | 0.07 | 140 | $\mathrm{mg} / \mathrm{L}$ | $\mathrm{lbs} / \mathrm{day}$ |
| Flow ${ }^{\text {a }}$ | VALUE | 0.0707 | VALUE | 0.0082 | VALUE | 0.0033 | 482 | MGD | NA |
|  | MINTMUM | MAXIMUM |  |  | Fr |  |  |  |  |
| pH | 6.36 | 7.58 |  |  |  | -8 | 140 | S.U. | NA |

$\mathrm{NA}=$ Not Applicable
ti) The Maximum 30 Day Value and the Long Term Average Value for flow rates are calculated based on the days of discharge (days of zero discharge have not been included).

TABLE 6
ENTERGY RIVER BEND STATION
DMR SUMMARY FOR FEBRUARY 1993 - JANUARY 1995
OUTFALL 005

| POLlutant | EFFLUENT |  |  |  |  |  |  | UNITS |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | MAXIMUM DAlLY VALUE |  | MAXIMUM 30 DAY VALUE |  | LONG TERM AVERAGE |  | $\begin{gathered} \text { NO. OF } \\ \text { ANALYSES } \end{gathered}$ | CONC. | MASS |
|  | cove. | MASS | conc. | MASS | CONC. | MASS |  |  |  |
| Total Organic Carbon (TOC) | 14.9 | 5.3 | 11.8 | 4.1 | 8.6 | 2.5 | 40 | $\mathrm{mg} / \mathrm{L}$. | lbs/day |
| Oit e Grease | 4.9 | 1.19 | 2.4 | 1.04 | 1.5 | 0.45 | 40 | $\mathrm{mg} / \mathrm{L}$ | Pbs/day |
| Flow ${ }^{\text {a }}$ | Value | 0.465 | VALUE | 0.057 | value | 0.035 | 237 | MGD | NA |
|  | MINIMUM | MAXIMUM |  |  |  |  |  |  |  |
| pH | 7.23 | 8.48 | $\bullet$ |  |  | : | 40 | S.U. | NA |

NA = Not Applicable
(1) The Maximum 30 Day Value and the Long Term Average Vaiue for flow rates are calculated based on the days of discharge (days of zero discharge have not been included)

TABLE 7
ENTERGY RIVER BEND STATION DMR SUMMARY FOR FEBRUARY 1993 - JANUARY 1995 OUTFALL 006

| POLLUTANT | EFFLUENT |  |  |  |  |  |  | UNITS |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | MAXIMUM DAILY VALUE |  | MAXIMUM 30 DAY VALUE |  | LONG TERM AVERAGE |  | $\begin{aligned} & \text { NO. OF } \\ & \text { ANALYSES } \end{aligned}$ | CONC. | MASS |
|  | cove. | MASS | CONC. | MASS | CONC. | MASS |  |  |  |
| Total Organic Carton (TOC) | 13.8 | 58.7 | 10.8 | 49.7 | 6.4 | 14.4 | 43 | mg/L | $\mathrm{lb} / \mathrm{day}$ |
| Oil a Grease | 4.6 | 14.34 | 4.4 | 14.34 | 1.6 | 3.99 | 43 | $\mathrm{mg} / \mathrm{L}$ | tbs/day |
| Flow ${ }^{\text {c }}$ | VALUE | 8.055 | VALUE | 0.718 | VALUE | 0.180 | 444 | MGD | NA |
|  | MINIMUM | MAXIMUM |  |  |  |  |  |  |  |
| pH | 7.20 | 8.66 | 2\% |  |  | - | 43 | S.U. | NA |

[^0](1) The Maximum 30 Day Value and the Long Term Average Value for flow rates are calculated based on the days of discharge (days of zero discharge have not been included)

TABLE 8
ENTERGY RIVER BEND STATION DMR SUMMARY FOR FEBRUARY 1993 - JANUARY 1995 OUTFALL 007

| POLLUTANT | EFFLUENT |  |  |  |  |  |  | UNITS |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | MAXIMUM DAILY VALUE |  | MAXIMUM 30 DAY VALUE |  | LONG TERM AVERAGE |  | $\begin{gathered} \text { NO. OF } \\ \text { ANALYSES } \end{gathered}$ | CONC. | MAss |
|  | cone. | MASS | conc. | MASS | CONC. | MASS |  |  |  |
| Total Organic Carbon (TOC) | 14.5 | 94.2 | 12.5 | 76.7 | 8.6 | 25.8 | 46 | mg/L | Pbs/dey |
| Oit ${ }^{\text {a }}$ Grease | 13.6 | 83.7 | 2.2 | 12.9 | 1.3 | 3.9 | 46 | $\mathrm{mg} / \mathrm{L}$ | lbs/day |
| Flow ${ }^{\text {a }}$ | VALUE 8.625 |  | value | 0.862 | VALUE | 0.303 | 301 | MGD | NA |
|  | MINIMUM | MAXIMUM |  |  |  | * |  |  |  |
| pH | 7.84 | 8.99 | Remares |  | 8, 2 ers |  | 46 | S.U. | NA |

$\mathrm{NA}=$ Not Applicable
6) The Maximum 30 Day Value and the Long Term Average Value for flow rates are calculated based on the days of discharge (davs of zero discharge have not been included).

TABLE 9
ENTERGY RIVER BEND STATION DMR SUMMARY FOR FEBRUARY 1993 - JANUARY 1995 OUTFALL 009

$\mathrm{NA}=\mathrm{Not}$ Applicable
(t) The Maximum 30 Day Value and the Long Term Average Value for flow rates are calculated based on the days of discharge (days of zero discharge have not been included).

TABLE 10

## ENTERGY RIVER BEND STATION BIOMONITORING TEST RESULTS

| Toxicity Test Results from the January 6 and November 10, 1994 Molluscicide Applicrtions |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sample Dates | Ceriodaphnia dubia Chronic Toxicity Test |  |  |  | Hyalella azteca Solid-Phase Toxicity Test |  |  |  |  |  |
|  | Survival NOEC |  | Reproduction NOEC |  | Percent Survival (\%) |  |  | Growth (Avg Dry Weight in mg) |  |  |
|  | Untreated | Treated | Untreated | Treated | Control | Untreated | Treated | Control | Unireated | Treated |
| 01/06/94 | 100 | 100 | N/A ${ }^{1}$ | N/A ${ }^{1}$ | 84 | 75 | 68 | 0.065 | 0.072 | 0.053 |
| 11/10/94 | 100 | 100 | 100 | 100 | 98 | 80 | 98 | 0.223 | 0.190 | 0.166 |


| Toxicity Test Results from the August |  |  |
| :---: | :---: | :---: |
| 17, 1995 Molluscicide Application |  |  |
| Sample Date | Daphnia pulex Survival NOEC | Pimephales promelas Survival NOEC |
| $8 / 17 / 95$ | $0.8 \%$ | $0.8 \%$ |

NOEC $=$ No Observed Effect Concentration
1 Control did not meet acceptable performance criteria for the reproduction test endpoint.

FIGURES



NUMBER OF OVERSIZE PAGES FILMED ON APERTURE CARDS

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9509220081-01
$$

APERTURE CARD/HARD COPY AVAILABLE FROM
RECORDS AND REPORTS MANAGEMENT BRANCH


NUMBER OF OVERSIZE PAGES FILMED ON APERTURE CARDS


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RECORDS AND REPORTS MANAGEMENT BRANCH


NUMBER OF OVERSIZE PAGES FILMED ON APERTURE CARDS $\qquad$

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APPENDICES

5312R01.DP

APPENDIX A
U.S. EPA APPLICATION FORM 1


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

## 1

## SPECIFIC QUESTIONS

A. Is the fecility a pubticty owned treatment works which reaules in a diecharge to watern of the U.S.? (FORM 2A)
C. Is this a facility which currently resuits in diacharges to watern of the U.S. other than thoee deacribed in A or B sbove? (IORM 2C)
E. Does or will this facility treat, store, or dispose of hazandous wesies? (FORM 3)
G. Do you or will you inject at this faciity any producad water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, anject flude used for senhanced recovery of oil or natural gas. or inject fluinds for siorage of Liquid hydrocarbons? (FORM 4)
In this facility a proponed stationary source which is one of the 28 unduatrial categorics linted in the instructions and which will potentiality emit 100 tons per year of any air pollutant reguinted under the Ciean Aur Act and may sffect or be locsted in an sttainment ares? (FORM 5 )
III. NAME OF FACII.ITY

## c SKIP

$15 \operatorname{lig}_{16}-29$
II, FACIIITY CONTACT
-

\section*{| $\frac{c}{2}$ |
| :---: |
| 11 |}

ENTERGY OPERATIONS, INC. - RIVER BEND STATION


## SPECIFIC QUESTIONS

B. Does or will the fivility (either existing or proposed) mochade e concentrated animal feeding operation or squatuc asumal production facility which results in a diacherge to weters of the U.S.? (FORM 2B)
D. In this a proponed facility fother than thase described in $A$ or $B$ above) whicb will result is a diecharge to waters of the U.S.? above) whacb
(FORM 2D)
F. Do you or will you inject at this facility unduatral or municipal effluent below the lowermost stratum contsining, within one quarter mile of the well bore, ungerground sources of drinking water? (FORM 4)
H. Do you or will you inject at this facility fluids for apecial processes such as mining of sulfur by the Frasch procens, solution mining of minersls, in situ combuation of fossil fuel. or recovery of geothermal energy? (FORM 4)

Is thas facility e proposed sistionary source which is NOT one of the 28 industrial categories listed in the inntructions and which will potentielly emit 250 tons per year of any air pollutant regulatod under the Clean Air Act and may affect or be tocated in en athainment ares? (FORM 5)

| 1. EPA I.D. NUMBER |  |  |  |
| :---: | :---: | :---: | :---: |
| \% | LAD070664818 | TiA | c |
| F |  |  | D |
|  |  | 14 |  |

## GENERAL INSTRUCTIONS

If a preprinted label has been provided, aifix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in ares below. Also, if any of the preprinted data is sbsent ahe area to the left of the label space lists the information that should appear), please provide it in the proper fill-in area (s) below. If the label is complete end correct you need not complete liems $\mathrm{I}, \mathrm{II}, \mathrm{V}$, and VI (except VI-B which musi be compleved regandiess). Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal suthorizations under which this data is coliected.

## CONTINUED FROM THE FRONT



## ENTERGY OPERATIONS, INC.



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

COMMERCIAL GENERATION AND SALE OF ELECTRIC POWER.
XII. CERTIFICATION (see instructions
certify under penalty of lew that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based in my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there arr significant penalties for submitting false information, including the possibility of fine and imprisonment.
A. NAME \& OFFICIAL TITLE (type or print)

MiCHAEL B. BELLMAN
gENERAL MANAGER, PLANT OPERATIONS

C. DATE SIGNED

COMMENTS FOR OFFICIAL USE ONLY

## APPENDIX B

U.S. EPA APPLICATION FORM 2C

## U.S. ENVIRONMENTAL PROTECTEON AGENCY

## I. OUTFAIA. LOCATION

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

| A. OUTFALL. | B. LATTIUDE |  |  | C. LONGITUDE |  |  | D. RECEIVING WATER (name) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (list) | 1. Deg | 2. MIN | 3. SECC | 1. OEO | 2 NTN . | 3. SEC |  |
| 001 | 30 | 43 | 43 | 91 | 21 | 13 | Mississippi River |
| 002 | 30 | 45 | 21 | 91 | 19 | 46 | Mississippi River (vis Outfall 001) |
| 102 | 30 | 45 | 21 | 91 | 19 | 46 | Mississippi River (vie Outfall 002/001) |
| (0)3 | 30 | 45 | 20 | 91 | 19 | 49 | Grants Bayou (via East Creek and Outfall 006) then to Mississippi River |
| 004 | 30 | 44 | 52 | 91 | 19 | 50 | Mississippi River (via Outfall 001) |
| 005 | 30 | 45 | 06 | 91 | 19 | 38 | Grunts Bayouthen to Mississippi River |

## II. FIOWS, SOLKCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A Aftach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment unts iabeled to correspond to the more detailed descriptions in tem B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (e.g., for cenain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures. See Fiqure 3.
B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and stormwater runoff; (2) The average flow sontributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary

| $\begin{aligned} & \text { 1. OUT- } \\ & \text { FALL. NO } \\ & \text { (fam) } \end{aligned}$ | 2. OPFRATION(S) CONTKIBITTING.FLOW |  | 3. TRFATMFNT |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | a. OPEEATION (las) | b. AVERAGE FLOW (include unis) | 2. DESCRIPTION | $\text { b. } 1.157$ | FROM |
| 001 | Cooling Tower Blowdown (and | 2144 gpm | Dechlorination | 2E |  |
|  | monitored Cutfails 002.102, and 004) |  | Discharge to Surface Water | 4 A |  |
| 002 | Low volume Treated Wsstewater | 27.1 gpm | Multimedia Filtration: | $1 Q$ |  |
|  |  | (Intermittent) | Neutralization: lon-exchange: | IT | 2 K |
|  |  |  | Re-use/Recycle of Treated Effluent: | 21 | 4 C |
|  |  |  | Discharge to Surface Water | 4A |  |
| 102 | Chemical Metal-sleaning Wastewater | 0.6 gpm | Neutralization, Chemical Precipitation: | 2 K | 2 C |
|  |  | (Intermitient) | Carton Adsorption: | 2 A |  |
|  |  |  | Vacuum Filtration/Landfilling of sludge. | 5 U | 5 Q |
|  |  |  | Discharge to Surface Water | 4A |  |
| 003 | Non-radioactive Floor Drains | 2.3 gpm | Oil/Water Separation: | * |  |
|  | and Oi/Water Separators, Including | (Intermutten) | Discharge to surface water | 48 |  |
|  | Stormwater |  |  |  |  |
| 004 | Treated Sanitary Wastewater | 11.1 gpm | Screening: Pre-acration; | 1 T | 3 E |
|  |  |  | Activated Sludge: Slow Sand Filiration: | 3 A | 2 H |
|  |  |  | Disinfection (UV-light) | 1 V |  |
| 005 | Stormwater Runoff from Materials | 7.64 gpm | Discharge to Surface Water | 4A |  |
|  | Storage Area | (Intermittent) |  |  |  |
|  | Intermittent Treated Sanitary Wastewster Normality Routed through Outfall OOA | Normally 0 | See shove for Outfall 004 |  |  |

OFFCIAL USE ONLY (effluen gudeines sub-caiegones)

## Fokm <br> $2 C$ <br> NPDES

I. OUTFALL LOCATION

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

| A OUTFALL | B. LATITUDE |  |  | C. LONGITUDE |  |  | D. RECEIVING WATER (name) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (fist) | 1. DEG: | 2. M/V | 3. SEC | $1 . \mathrm{DEG}$ | 2. MIN. | 3. SEC |  |
| 006 | 30 | 45 | 12 | 91 | 19 | 29 | Grants Bayou (vie Esst Creek) then to Mississippi River |
| 007 | 30 | 45 | 02 | 91 | 19 | 50 | Grants Beyou (vie West Creek) then to Mississippi River |
| 008 | 30 | 45 | 21 | 91 | 19 | 46 | Grants Beyou (via East or West Creek) then to Mississippi River |
| 009 | 30 | 45 | 32 | 91 | 19 | 39 | Grants Bayou then to Mississippi River |

Note: Coordinates for Outfall 004 are for new location due to construction of new sewage treatment piant.

## II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECINOLOGIES

A Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operstions contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in liem B. Construet a water balance on the line drawing by showing average flows between intakes, operations, treaiment units, and outfalls. If a water balance cannot be determined (e. 8 ., for cernain mining activiies), provide a pictorial deacription of the nature and amount of any sources of water and any collection or ireatment measures. See Figure 3.
B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and stormwater runoff: (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.


[^1]
## CONTINUED FROM THE FRONT

| 1. OUTFAIL. NUMEER (aise) | 2. OPEZATION( ( ) CONTRIBUTING FLOW (aiaf) | 3. FREQUENCY |  | 4. How |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | a. Days PER WEEK (opecify averuge) | b. MONTHS PER YEAR (epecify average) | a. FLOW RATE (is mend) |  | b. TOTAL VOLUME (apecify with units) |  | c. DUR- <br> ATION <br> (in days) |
|  |  |  |  | 3. 10 NaC tran avmace | 2. maximim Dull | 1. Lowe tram AVEREGE | 2. muamima Daily |  |
| 002 | Low-volume Treated Wastewater | 7 | 12 | 0.052 | 0.497 | 52000 gais. | 497000 gais . | 365 |
| 102 | Metal Cleaning Waxtewater | (6) | $3^{(1)}$ | 0.0009 | 0.014 | 900 gals . | 14000 gais . | 92 |
| 006 | Reverse Ommosis Reject | 1.5 | 12 | 0.007714 | 0.036 | 7714 gals. | 36000 gals . | 78 |
| 008 | Hydrostatic Testing and Flushing of Piping Systems | 0.25 | 12 | 0.0074 | 0.0638 | 7400 gais . | 63800 gals . | 12 |
| (1) Outfall 102 has only discharged for three consecutive months out of 10 years of facility operation. |  |  |  |  |  |  |  |  |
| III. PRODUCTION |  |  |  |  |  |  |  |  |
| A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility? YES (compleie Item III-B) $\square$ NO (go so Section IV) |  |  |  |  |  |  |  |  |

8. Are the limitations in the applicable effluent guideline expressed in terms of production (or other neasure of operation)?
$\square$ YES (complete liem III-C)
[
NO (go to Section IV)
C. If you answered "yes" to Ites III-B, list the quantity which represents an actual measurexuent of your level of production, expressed in the ternus and units used in the applicable effluent guideline, and indicate the affected outfalls.

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


## CONTINUED FROM THE FRONT

## VII. BIOLOGICAL TOXICITY TESTING DATA

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

YES (Identify the lest(s) and describe their purposes below) $\square$ NO (go azo Section VIII)

See Section 6.0 of document and Table 10.

## VIII. CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported in hem $V$ performed by a contract laboratory or consulting firm?
$\mathrm{X}_{\text {YES }}$ (list the name, address, and telephone number of, and pollutants $\square_{\text {NO (go to Section } I X)}$ analyzed by, each such laboratory or firm below)


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

Michael B. Seliman, General Manager, Plant Operations

ENTERGY OPERATIONS, INC. - River Bend Station



Biochemical Oxygen Demand ( 800 )
b. Chemical Oxygen Demand (COD)

Total Organic Carbon (TOC)
Total Suspended Solids (TSS)
Totai Suspended Solids (TSS)
Flow
g. Temperature (summer)

Part B

## POLLUTANT

 and Cas no. a Bromice (24959-67 Color (True/Apparent) Fecal Coliform Fluoride (16984-48-8) Nitrogen. Total Organic (as N) Oil \& Grease Radioactivity - (1) aipha. Total Radioactivity - (2) beta, Total ${ }^{\text {(1) }}$ Radioactivity - (3) Radum. Total (1) Radioactivity - (4) Radium 226. Tota! ${ }^{(1)}$ Sulfate (as $\mathrm{SO}_{4}$ ) (14808-79-8) Sulfite (as $\left.\mathrm{SO}_{3}\right)(14265-45-3)$ Surfactants Barium, Total (7440-39-3) q. Boron Total $(7440-42-8)$ Iron, Total (7439-89-6) Magnesium, Total (7439-95-4) Molybdenum, Total (7439-98-7) Manganese, Total (7439-96-5)Tin, Total $\cdot 140-31-5)$ Titanium, Total ( $7440-32-6$ )
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NaI

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$\qquad$
3m Berflum Total ( $1440-41-7$
an Cadmium Total ( $7400-43-9$ )
(1000-47-3
6m Copper Total (7440-50-8)

IM Nockel Total $74400-28-9)$
TOM Selenium, Total (7782-49-2)
11 M Siver. Total $740-20-4$ )
1 IM. Sinel, Totar ( $740-22-4$ )
13M Znc. Total (Ts40-66-6) 15M Phenols Total Part C-Votatlle Compounds $\times \frac{1}{2}$ 1,1,22-Tetrachioroethane (79-34-5)


| OUTFALL NUMBEF |  |  |
| :---: | :---: | :---: |
| 5．NTTAEE（OPTIONEL） |  |  |
| 2．LTA | VALLE | b．No OF |
| （1）CONC． | （2）Mass | ANederes |
| NA | NA | NA |
| NA | NA | NA |
| NA | NA | NA |
| NA | NA | NA |
| NA | NA | NA |
| NA | NA | NA |
| NA | NA | NA |
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(1) CONC.


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(1) CONC

| $2 a$ | $2 b$ | $2 c$ |
| :---: | :---: | :---: |
| TESTING BELEVED | BEIEVEO |  |
| REOUTED PREENT | NBSENT |  |


Pet C-Penticites

| 19 | Aldrin（309－00－2） |
| :---: | :---: |
|  | alpha－BHC（319－84－6） |
| $3 P$ | beta－BHC（319－85－T） |
| 4 4 | gamma－BHC（58－89－9） |
| 5P | deita－BHC（319－86－8） |
| 6P | Chlordane（57－74－9） |
| 7 P | 4．4－DDT（50－29－3） |
| ${ }_{8 P}$ | 4．4－DDE（ $72-55-98$ |
| $9{ }^{\circ}$ | 4，4－DOD（72－54－8） |
| 10 P | Dieidrin（ $60-57-1$ ） |
| 11 P | aipha－Endosultan（ $115-29-7$ ） |
| 129 | beta－Endosultan（115－29－7） |
| 13 P | Endosultan Sultate（1031－07－8） |
| 14 P | Endrin（ $72-20-8$ ） |
| 15 P | Endrin Aldehyde（7421－93－4） |
| 16 P | Heptachlor（76－44－8） |
| 17 P | Heptachlor Epoxide（1024－57－3） |
| 18 P | PC8－1242（53469－21－9）${ }^{(2)}$ |
| 19 P | PC8－1254（11097－EC，－1）${ }^{(2)}$ |
| 20 P | PC8－1221（11104－28－2）${ }^{(2)}$ |

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| 1. POLIUTANT ANE CAS Munex: | $\begin{gathered} 2 \pi \\ \text { TESTING } \\ \text { RECUMED } \end{gathered}$ | 2b. BELEVED PTRESENT | $2 e$bellevednesent | EPAID. NUNGEA LADCTOES4818 |  |  |  |  |  |  |  |  | CUTFALL NUEBEA 001 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  | 4. Uwers |  | 5. ETTAEE (OPTONAC) |  |  |
|  |  |  |  | - matimum dall y vaile |  | - hancmile sodat valle |  | = LONG TERM AVERAGERTA) AT. NO. OF |  |  | conc. | b. Mass | - LTA VALLE |  | b. Mo OF ANal Yeses |
|  |  |  |  | (1) OOMC. | (2) mass | (9) CONC. | (2) suss | (1) CONC. | (a) Mass | NNALTEES |  |  | (1) Cowc. | (0) Mass |  |
| 5\%P. PCB-1248 (15872-29-6) ${ }^{(2)}$ |  |  | X | $<{ }^{1}$ | 0.03 | NA | NA | NA | NA | 1 | ugt | Pbs/day | NA | Na | NA |
| 23P. PCB-1250 $(11096-82-5)^{(2)}$ |  |  | x | $\ll 1$ | 003 | NA | NA | NA | NA | 1 | ugh | 1bs/day | NA | NA | NA |
| 24P. PCE -1016 (12674-11-2) ${ }^{(2)}$ |  |  | x |  | 0.03 | NA | NA | NA | NA | , | ugh | lbs/day | NA | NA | NA |
| Total PC8s ${ }^{(2)}$ |  |  | X | $<\quad 76$ | 0.18 | Na | NA | NA | NA | 1 | ugh | lbs/dey | NA | NA | NA |
| 25P. Toxaphene (8001-35-z) |  |  | $\times$ | NA | NA | NA | NA | NA | Na | 1 | ugh | Ibs/day | NA | NA | NA |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Free Avellable Chlonne ${ }^{(6)}$ |  |  | $x$ | < 0.05k | 180 | 0.05 | 180 | 0.05 | 1.80 | 53 | mgl | Ibs/day | NA | NA | NA |

${ }^{(1)}$ Totai beta, Total Redum, and Total Radium 225 are believed present within the anticipated background values for naturally oocuring radioactive materiai. However, there is one intermittert low-level radioactivity source to Outtall 001 which is montared at Outtall 002
(2) These parameters are net required to be tested at Entergy's Ouftall 001 due to provtsions at 40 CFA 122.21 (g)(7), however, they were tested for the purpose of screening for the potential for excseding the applicable numericai crtheria of the L culiliana Surfacs Water Quaily Standards
(3) These parameters are found an Tabie V of the U.S. Emmronmental Protoction Agency Form $2 C$; however, they are not required to be tested in accordance with 40 CFA 122 21 (gi)(7) and 40 CFR 122 Appenctr I Table II
${ }^{(6)} 2$-Chloroethyivnyl Ether was not detectect, it is known to hydrolyze in the presence of dilte acid.
(9) 1,2 - Diphenythydrazine as Azobenzene
${ }^{(6)}$ This pollutant is required to be analyzed at Outtall 001 by intergy's NPDES Permit No. LA0042731 and LWDPS Permit No. WP 0409
Notes: The dally average flow rate of 4320 MGD obtained dining the 24 - hour sampling perior from 06/22-23/1995 was used to calculate the mass for those parameters (except for PCBs) for which oniy one laborptory analysis was performed. For PCBs, composite samples were oltained during the 24 -hour sampling period from $08 / 28-29 / 1995$. A flow rate of 3.15 MGD obtained during this sampling event was used to calcuiate the mass for PC8s The monthly DMA forms for 24 months (Februa-y 1993 through January 1995 ) for How data and 12 months. (February 1994 - January 1995 ) for all other parameters were used to calculate the Maximum Dally Valive. Maximum 30 Day Value, and the Long Term Average Value for those parameters that are routinely monitored pursuart to Entergy s NPDES and LWDPS permits
The sample for Fecal Collorm analyses was collecter. $n 5 / 28 / 95$
All analytical resuits reported with a vess than" sign ( $<$ ) were either (1) not detected in the elfluent sample at or above the analytical method detection limit achieved by the applicatie latoratory analytical method or (2) not detected and quiantfiatle at the practical quanatitafon limit ache anaiyed by the applicable laboratory analytical method. NA $=$ Testing not required, no data available
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NA

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| Na |

(1) CONC.


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maximu (1) CONC

| 2 a | 2 b | 2 c |
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| XA |
| X |

$\grave{2}$

$\frac{8}{z}$ | 26 V | 1.2 -Trans-Dichloroethytene $(156-60-5)$ |
| :--- | :--- |
| 27 V | $1,1.1$-Trichioroethane $(71-55-6)$ |
| 28 V | $1,1.2$-Trichloroethane $(79-00-5)$ |
| 29 V | Trichioroethylene $(79-01-6)$ |
| 30 V | Trichlorofluoromethane $(75-69-4)$ (3) |
| 31 V | Vinyl Chloride $(75-01-4)$ |
| Pan C-Acdi Compourds |  |
| 1A | 2-Chilom | 1. POLLUTANT

AND CAS MUMEER 1A. 2-Chicrilerol (96-57-8) 2.4 -Dichlorophenol ( $120-83-2$ )
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|  |  |  |  |  | EPAID | NUMBEA LAD | 70664818 |  |  |  |  |  | OUTFALL | NUMEEEA | 002 (1) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2 a | 2b. |  |  |  |  | Fluent |  |  |  | 4. |  | 5. $\mathrm{m}_{1}$ | ASE POPTIO | Onel) |
| 1. POLIUTANT | TESTING | BEIEVED | 榢㳗ve0 | a maximim D | UTY value | b. muximum 30 | ary value | LONG TERM | ERage (TA) | 4. No. OF |  |  | c. LTA | VNuLE | b. NO. OF |
| 258 D-n-Butyl Pothalaie (94-74-7 | REOUMEE | Present | ABENT | (1) COWC. | (2) MASS | (1) CONC. | (2) uass | (1) CONC. | (7) MASS | ameres | conc. | mass | (1) CONC. | (2) Mass | Anal ves |
| 258 Di-n-Butyl Prithaile (8s-74-2) |  |  | $\frac{\mathrm{x}}{\mathrm{x}}$ | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | NA |
| 288.2 .6 -Dinitotoluene (1806-20-2) |  |  | x | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | NA |
| 298 BI (-n-Octyi Phthalate ( $1117-84-0)$ |  |  | - ${ }^{\text {x }}$ | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | NA |
| 308.12 -Oiphenylhydrazine ( $122-66-7$ ) |  |  | X | NA | NA | NA | NA | NA | NA | 0 | NA | NA | Na | NA | NA |
| 318. Flyorarthene (206-44-0) |  |  | x | NA | NA | NA | NA | NA | NA | - 0 | NA | NA | NA | Na | NA |
| 328. Fluprene (36-73-7) |  |  | $\times$ | NA | NA | NA | NA | NA | NA | - 0 | NA | NA | NA | NA | NA |
| 338. Hexachlorobervene (118-74-1) |  |  | $\times$ | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | NA |
| 34 B . Hexachiorobutaciene (87-65-3) |  |  | X | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | NA |
| 359 Hexachlorocyclopentadiene ( $77-47-4$ ) |  |  | - | NA | NA | NA | NA | NA | NA | $0 \cdot$ | NA | NA | NA | NA | NA |
| 368. |  |  | x | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | NA |
| 388.1 isophorone (78-59-1) |  |  | $x$ | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | NA |
| 398 Naphthalene ( $81-20-3$ ) |  |  | $\frac{x}{x}$ | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | NA |
| 408. Nitroberzene (96-95-3) |  |  | X | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | NA |
| 418. N -Nitrosodimethylamine (62-75-9) |  |  | - | NA | NA | NA | NA | NA | NA | 9 | NA | NA | NA | NA | NA |
| 428. N -Nitrosod - n -Propylamine (621-64-7) |  |  | X | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | Na | NA |
| 438. N -Nitrosodiphenylamine (36-30-6) |  |  | X | NA. | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | NA |
| 448. Phenarthrene (85-01-8) |  |  | X | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | NA |
| 458. Pyrene (129-00-0) ${ }^{468} .1 .2 .4$-Thichlorobenzene $(120-82-1)$ |  |  | $\times$ | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | NA |
| Pat C-Pentichios |  |  | X | Na | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | Na |
| 1P. Aldrin (309-00-2) |  |  | $x$ | NA | NA | NA | NA | NA | NA |  |  |  |  |  |  |
| 2P alpha-BHC (319-84-6) |  |  | X | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | HA | NA |
|  |  |  | X | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | NA |
| 4P gamma-BHC (58-89-9) 5P dilla-BHC (319-86-8) |  |  | $\times$ | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | NA |
| 5P dolta-BHC (319-86-8) |  |  | $x$ | NA | NA | NA | NA | NA | NA | 0 | NA | NA | Na | NA | NA |
| 6P. Chlordane ( 57 -74-9) |  |  | $\times$ | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | NA |
| 7P $4.4-$ DOT ( $50-29-3)$ <br> 8 P 4.4 -DOE $(72-55-9)$ |  |  | $x$ | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | NA |
| $\begin{array}{ll}\text { BP } & 4.4-\mathrm{DOE}(72-55-9) \\ \text { gP } & 4.4-\mathrm{DOD}(72-54-8)\end{array}$ |  |  | $\times$ | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | NA |
| 9P <br> $10 \mathrm{P} .4-\mathrm{Dieldrin}(600-57-1)$ |  |  | X | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | NA |
| 11P. alpha-Endosultan (115-29-7) |  |  | x | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | NA |
| 12P. beta-Endosultan ( $115-29-7$ ) |  |  | x | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | NA |
| 13P. Endosullan Sultate (1031-07-8) |  |  | - | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | NA |
| 14P. Endrin ( $72-20-9$ ) |  |  | X | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | VA |
| 15P Endrin Aldehyde (7421-93-4) |  |  | X | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | NA |
| 15P. Fieptachlor (76-44-8) |  |  | X | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | NA |
| 17P. Heptachlor Epoxide (1024-57-3) |  |  | $\times$ | NA. | NA | NA | NA | NA | NA | 0 | NA | NA |  |  | NA |
| 18P. PC8-1242 (53469-21-9) |  |  | X | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | NA |
| 19PPPC8-1254 (11097-69-1) |  |  | X | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | NA |
| 20P PC8-1221 $(11104-28-2)$ $21 P$ PC8-1232 $(11141-16-5)$ |  |  | $\times$ | NA | NA | NA | NA | NA | NA | 0 | NA | NA | NA | NA | NAA |
| 21P. PC8-1232 (11141-16-5) |  |  | X | NA. | NA | NA | NA. | NA | NA | 0 | NA | NA | NA | NA | NA |
| 22P. PC8-1248 (12672-29-6) |  |  | X | NA | NA | NA | Ne | NA | NA | O | NA | NA | NA | NA | NA |

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(9) Outtal 0 ce consists of waste streams which are intermittently routed to two low-yolume waste treatment systems [non-radioactive treatment system (Ocaa) and iow-ievel radioactive treatment system (OOAB)]. The
dscharges from each traatment system are separately sampled and analyzed. The separate results are combined (flow-wE , Hted) and characterized as tha final results for Outtall oce
(2) The inctidual anaiftcal resulte are shown for both Ouffalls oceA and ocas (in parentheses) because it is inappropriate to flow-weight the results for this perameter
(3) These parameters are found on Tabie V of the US. Environmental Protection Agency Form 2 C , however, they are not required to be tested in accordance with 40 CFA 122.21 (gi)(7) and 40 CFA 122 Appendix D Table il
(4) 2 -Chioroethi, inf Ether was not datected, it is known to hydrolyze in the presence of ditute acid.

Notes: The dally average combined flow rate of 0033 MGO 10018 MGD and 0.015 MGD at Outfalls 002 A and 0028 , respectively) obtained during the sampling period from $6 / 21 / 95$ (0028) and $6 / 22 / 95$ (0c2A) was used to calculate the mass for those parameters (except for mercury) for which only one laboratory analysis was performed.
A sample for meroury analysis was collected on $8 / 29 / 96$ at Outtall 002A. The flow rate corresponding to this sample was 0.022 MGD . For Mercury, the results from the twe separate sampling events fone at ooza on $8 / 29 / 35$. and the other at 0023 on $6 / 21 / 96$ ) are sombined (flow-weightect) to get the final results at Outfall 002
The montty DMR forms for 24 months (Febnuary 1993 through danuary 1995 ) for fow data and 12 months (February 1994 through January fogs) for all other parameters were used to colculate the Maximum Dally Value, Maximum 30 Day Vatue, and the Long Term Average Value for those parmeters that are routinely monitored pursuant to Entergy's NPDES and L WDPS permits
All analyscai results reported with a "less than" sign ( $<$ ) were either (1) not detected in the effiuent sample at or above the analytical method detection limit achieved Jy the applicabie laboraiory analytical methos or (2) not detected and quantifabie at the practical quanatitation limit achieved by the applicable laboratory analytical metiod. Also, il one of the results among the two samples (Ooza and coaz) was less than mathod detection imit, the combined result is reported with a "ess than'sign ( $<$ ). Further. If a parameter was detected ar ellther oopA or 00as, then the parameter is believed present.
NA = Testing not required. nu data avallable

* No analytical data were available for Total Padium for Ouftall copa due to a laboratory error
 1. POLLUTANT
AND CAS NO. Temperature (winter)







1. POHLUTANT
aND CAS MUMEER
Pert C-Metala, Cyeride, and Totel Phenots
Antimony. Total $(7440-36-0)$





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| MUM DALY YALLE |
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3．EFFLIENT
b．MAKMSUM 30 DAY VALUE

| （1）CONC． | （Z）MASS |
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（2）mass
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${ }^{(1)}$ ) Outal 003 consists of 3 separate sources: wo ollwater separators which receive stormwater from the plant elechic power distribution transformer yarcts, and a third oll/water seppator which receives wastewater from non-radologeviy coniaminated power plant floor drains (well water, fire suppression water, and domestic potabie water). It is the wastewater from the third separator (non-stormwater) that was sampled with ine analytical results presented on this Fori. 3 C. Table 5 in this document contains a summary of OMR cata for Outtall 003, representing all three sources to the outtall.

[^2]ENTERGY OPERATIONS, INC. - River Bend Station
OUTFALL NUMBEA 004

| 2 EFFLIENT |  |  |  |  |  |  | 3.0 mits |  | Q INTAEE (OPTIONN) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| - meximum dait valie |  | b. maximum so day velie |  | LONG TERM AM | ERACERTV: | d. NO OF | 2 | b. | - lta value |  | b. NO. OF molves |
| (1) CONC. | (2) mass | (1) CONC. | (2) mass | (1) CONC. | (2) Mass | nere res | cowc. | mass | (1) CONC. | (2) mass |  |
| 1688 | 239 | 430 | 059 | 1.60 | 023 | 54 | mgt | libs/day | Na | NA | Na |
| 393 | 49 | Na | NA | NA | NA | 1 | mgl | lbs/day | NA | NA | Na |
| 14. | 18 | NA. | NA | NA | NA | 1 | mgl | dos/day | Na | NA | NA |
| 409 | 58 | 96 | 1.50 k | 15 k | 025 | 54 | mgl | bos/day | NA | NA | NA |
| 212 | 034 | NA | NA | Na | Na | 1 | mg 这 | los/day | NA | NA | Na |
| VALlue | 0043 | VALUE | 0.025 | value | 0016 | 731 | MGD | NA | NA | NA | NA |
| Value | 276 | Value | Na | VALUE | Na | 1 | ${ }^{\circ}$ | NA | NA | NA | NA |
| Value | NA | value | NA | Value | NA | 0 | Na | NA | NA | NA | NA |
| MINMUM | maximum |  |  | 7atas |  |  |  |  |  |  |  |
| 5 65 | 872 |  |  |  |  | 55 | su. | NA | NA | Na | NA |










4. Units
CONC
3
$\frac{3}{3}$

$y$



お方

|  |  |
| :---: | :---: | :---: |

$\frac{5}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2}$
$\frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \sum \frac{\pi}{2}$

$\frac{s}{2} \frac{s}{2} \frac{5}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{s}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2}$





1. POLLUTANT
AND CAS MIMEER
Part C-Metals. Cymide and Total Phenote
1M Antimony. Total (7440-36-9)
Part C-Metricry. Total $(7440-36-0)$
1M Antimory.
2M Arsenic. Total ( $7440-38-2$ )

| 1M | Antimony. Total $(7440-36-9)$ |
| :--- | :--- |
| 2M | Arsenic, Total $(7440-36-2)$ |
| 3M | Beryllium, Total $(7440-41-7)$ |
| 4 Cl | Calm, Tola $(7440-43)$ |


| $x$ | $<$ |
| :--- | :--- |
| $x$ | $<$ |
| $x$ | $<$ |
| $x$ | $<$ |
| $x$ | $<$ |
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| $x$ | $<$ |
| $x$ |  |
| $x$ |  |

ENTERGY OPERATIONS，INC．－River Bend Station





 | $x$ | $x$ |
| :---: | :---: | :---: | $\qquad$ $\frac{\mathrm{NA}}{\mathrm{X}}$

$\$$
§ 1．POLLUTANT
ARD CAS MUNEER 26 V 12 －Trans－Dichloroethytene $(156-60-5)$
 Penc－natr Conpourds 2A 24 －Dictionephenol（ $120-83$－83－2） §おかちおすふぁぁす！

10A Phenol（108－95－2）
11A．2．4．6－Trichiorophenol（88－06－2）

Pet C－Aase／Neutad Compounds | Pet C－Aase／Neutral Compounds |
| :--- |
| 18 Acenaphthene（ $83-32-9$ ） |
| 7 Acenaphthtene $(208-98-8)$ | Acenaphthytene $(208-96-8)$ Anthracene $(120-12-7$ Benzidine（ $92-87-5$ ） Benzo（a）Pyrene（50－32－8） Benzo（gh．）Perytene（191－24－2） 108．Bis $(2$－Chioroethoxy）Methane（111－91－1 18 8 Bis（2－Ethyihexy）Phthalaie（117－81－7） 48 4－Bromophenyl Phenyt Ether（ $101-55-3$ ） Butyl Benzy！Phthalato（ $85-68-7$ ） 2－Chioronaphthaiene $(91-58-7)$ Chrysene（218－01－9） Dibenzo（a h）Anthracene（53－70－3） $\frac{1.2 \text {－Dichlorobenzene }(95-50-1)}{1.3 \text {－Dichloroberzene }(541-73-1)}$ ． 4 －Dichlorobenzene $(106-46-7)$ 3.3 －Dichforobenzidine $(91-94-1)$

Diethyl Phthalate（ $84-66-2)$ DiethyI Phthalate $(84-66-2)$
Dimethyl Phthalate $(131-11-3)$

EPA Form 3510－2C（Mev 2－85）

| 1．POLIUTRNT ARD CAS NUMEER | $\begin{gathered} 22 \\ \text { TESTING } \\ \text { HeOUNFD } \end{gathered}$ | $\begin{aligned} & \text { 2b } \\ & \text { BEIENED } \end{aligned}$PRESENT | $\begin{aligned} & 2 e \\ & \text { EVEVO } \end{aligned}$ABSENT | 3．EPFLEENT |  |  |  |  |  |  | 4．Unars |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | a maximum dait valie |  | b．Maximum 30 dat valle |  | C．LOng team averacer thia no．Of |  |  |  | b |
|  |  |  |  | （1）COMC． | （2）Mass | （1）CONC． | （\％）mass | （1）CONC | （2）mass | Amarses | cowc | mass |
| 20V 12－Trans－Oichloroethytene（ $156-60-5$ ） | $\times$ |  | $\times$ | 5. | 0001 | NA | NA | NA | NA |  | ugt | Bsictay |
| 2TV 1，1，1－Tichioroethane（71－55－6） | $\times$ |  | $\times$ | 5 | 0001 | NA | NA | NA | NA |  | ugt | Pss／day |
| 28 V 1，1，2－Trichioroethane（79－00－5） | $\times$ |  | $\times$ | 5 | 0001 | NA | NA | NA | NA |  | ugh | Ibs／day |
| zaV Trichloroethylene（79－01－6） | $\times$ |  | $\times$ | $5 \times$ | 0001 | Na | Na | NA | Na |  | ugt | Ibsiday |
| 30 V Tilchlorafuoromethane（ $75-69-4)^{(2)}$ | NA | NA | NA | NA | NA | NA | NA | NA | Na | NA | NA | NA |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1A 2－Chlorophenol（95－57－8） |  |  | $\times$ | Na | NA | NA | NA | NA | NA | 0 | NA |  |
| 24．2．4－Dichlorophenol（ 120 －83－2） |  |  | $\times$ | NA | NA | Na | NA | NA | NA | 0 | NA | NA |
| 3n． 24 －Cimethyphenol（105－67－9） |  |  | $\times$ | Na | NA | NA | NA | NA | Na | 0 | NA | NA |
| 4A．45－Uintro－0－Clesol（534－52－7） |  |  | $\times$ | NA | NA | NA | NA | NA | NA | 0 | Na | NA |
| 5A．2．4－Dinitrophenol（51－28－5） |  |  | $\times$ | NA | NA | Na | NA | NA | Na | 0 | NA | NA |
| 6A．2－Nitrophenol（88－75－5） |  |  | ＊ | NA | NA | NA | NA | NA | NA | 0 | NA | NA |
| 7A．4－Nitrophenol（100－02－T） | ＊ |  | $\times$ | $50<$ | 009 | NA | NA | NA | NA |  | ugat | ／be／day |
| 8A P－Chioro－m－Cresol（59－50－7） |  |  | － | NA | NA | Na | NA | NA | NA | 0 | NA | NA |
| 94．Pentiachiorophenol（87－86－5） |  |  | $\times$ | NA | NA | NA | NA | NA | NA |  |  |  |
| 18A．Phenol（t08－95－2） |  |  | $\times$ | NA | NA | NA | NA | NA | NA | $\bigcirc$ | NA | Na |
| 114．2．4．5－Trichiorophenol（88－06－2） |  |  | X | NA | Na | NA | NA | NA |  |  | NA | Na |
| Patc C －mesomeetisa Compounds |  |  |  |  |  |  |  |  |  |  |  |  |
| 18 Acenaphthene（83－32－9） |  |  | $\times$ | NA | NA | NA | NA | NA | NA | O） | NA | NA |
| 23．Acenaphthytene（208－96－8） |  |  | x | NA | Na | NA | Na | NA | NA | 0 | NA | NA |
| 38 Anthracene（120－12－7） |  |  | $\times$ | NA | NA | NA | NA | NA | NA | 0 | Na | NA |
| 48．Benzidine（32－87－5） | x |  | X | $10 \%$ | 001 | NA | NA | NA | Na |  | uga | Ibsidey |
| 58 Benzo（a）Anthracene（56－55－3） |  |  | $\times$ | NA | Na | NA | NA | NA | NA | － 0 | Na | NA |
| 68. Benzo（3）Pyrene（ $50-32-8$ ） |  |  | $\times$ | NA | NA | NA | NA | NA | NA | 0 | NA | NA |
| 78．3．4－Berzofucranthene（205－99－2） |  |  | $\times$ | NA | Na | NA | NA | NA | NA | 0 | Na | NA |
| 88 Benzo（gh．）．Perytene（191－24－2） |  |  | $\times$ | NA | NA | NA | NA | NA | NA | 0 | NA | NA |
| 98 Benzo（x）Fluorarthene（207－08－9） 108 Bis 2 －Chioroetton）Mathare（111－91－1） |  |  | － | NA | NA | NA | NA | NA | NA | 0 | NA | NA |
| 108 Bis（2－Chioroettoxy）Methare（111－91－1） |  |  | $\times$ | NA | NA | Na | NA | NA | NA | 0 | Na | NA |
| 118 Bis（2－Chioroetyy）Ether（111－44－4） |  |  | $\times$ | NA | NA | Na | NA | NA | Na | 0 | NA | NA |
| 128. Bis（2－CMiorisopropy）Ether（102－60－1） |  |  | $\times$ | NA． | NA | NA | NA | NA | NA | 0 | NA | NA |
| 138 Bis（2－Ethyihexy）Phtralaie（ $117-81-\pi$ ） | $x$ |  | $\times$ | $10 \cdot$ | 0001 | Na | NA | NA | Na |  | ughl | Ibs／day |
| 148 4－Bromophenyl Phenyl Ether（101－55－3） |  |  | $\times$ | NA | NA | NA | NA | NA | Na | 0 | NA | NA |
| 158．Butyl Benzy！Phthatato（85－68－7） | ＊ |  | x | 10－ | 0001 | NA | NA | NA | NA |  | ugh | bsiday |
| 168 2－Chioronaphthalene（91－56－7） |  |  | $x$ | NA | NA | Na | NA | NA | NA | 0 |  |  |
| 178．4－Chlorophenyl Phenyl Ether（7005－72－3） |  |  | $\times$ | NA | Na | NA | NA | NA | NA | 0 |  |  |
| 188 Chrysene（218－01－9） |  |  | x | NA | Na | Na | NA | Na | NA | 0 | NA | NA |
| 198 Dibenzo（a h）Anthracene（53－70－3） |  |  | $\times$ | NA | NA | NA | NA | NA | NA | 0 | NA | Na |
| 208．1，2－Dichioroberzene（95－50－1） |  |  | $x$ | NA | NA | NA | NA | NA | NA | 0 | NA | NA |
| 218，13－Dichloroberzene（541－73－1） |  |  | $\stackrel{\text { x }}{ } \times$ | Na | NA． | NA | NA | NA | NA | 0 | NA | NA |
| 238.3 .3 －Dichlorobervidide（91－94－1） |  |  | － | NA， | NA Na | NA | NA | NA | NA | 0 | NA | NA |
| 248 Diethyl Phtraiate（84－68－2） |  |  | $\times$ | NA | NA | Na， | NA | NA | NA | 0 | NA | NA |
| 258 Dimethyl Phthalate（ $131-11-3$ ） |  |  | $\times$ | NA | NA | NA ） | Na | NA | NA | 0 | NA | NA |
|  |  |  |  |  |  |  | NA | NA | NA | 0 | NA | NA |

ENTERGY OPERATIONS, INC. - River Bend Station
EPAID. NUMEBEH LADO70664818


ENTERGY OPERATIONS, INC. - River Bend Station

| 1. POUETIANT AME CAS Rumser | $2 \pi$ TESTING FEOUPED | $2 b$ $2 c$ <br> BEIEVED BEUEVED  <br> PRESENT NBSENT |  | EPA 1.D. NUMEAER LADOTOEst918 |  |  |  |  |  |  |  |  | OUTFAIL KUSBEA OO |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | 3. EFFLEEMT |  |  |  |  |  |  | 4. unirs |  | S. NTATE (TOPTION W) |  |  |
|  |  |  |  | - motimum darl value |  | b. MAXIMUM SODAY VALLE |  | 2. LONG TERM AVERACERTAN |  | d. NO. OF Ned Yess | conc. | b. 348s | a. LTA VALIE |  | b. NO. OF ARUL Yses |
|  |  |  |  | (1) CONC. | (2) Mass | (1) CONC. | (2) Mass | (1) COMC. | (a) Mass |  |  |  | (1) CONC. | (2) mase |  |
| 23P. PC8-1250 (11096-82-5) |  |  | $x$ | NA. | NA | NA] | NA | NA | NA | 0 | NA | NA | NA | NA | NA |
| 24P. PC8-1016 (12874-11-2) |  |  | $x$ | NA | NA | NA. | NA | NA | NA | of | NA | NA | NA | NA | NA |
| 25P. Toxaphene (8001-35-2) |  |  | $\times$ | NA | NA | NA | NA) | NA | NA | 0 0) | NA | NA | NA | NA | NA |

(1) Total beta is believed present within the anticipated background vaiues for naturally occuring radioactive material.

(3) 2-Chloroethylvinyl Ether was not detected, it is known to hydrolyze in the presence of diute acid.
(4) 1,2-Diphenylhycrazine as Arobenzene.

Notes: The dally average flow rate of 0.015 MGD obtained during the 24 -hour sampling period from $06 / 21$ - $22 / 1995$ was used to calculate the mass for those parameters for which only one laboratory analysis was performed. The monthly DMA forms for 24 months (February 1993 through January 1994) for flow data and 12 months (February 1994 through January 1995) for all other parameters were used to calculate the Maximum Dally Value. Maximum 30 Day Valve, and the Long Term Average Value for those parameters that are routinely monitored pursuant to Entargy's NPDES and LWDPS permits.
For the permit application, the sample for Fecal Coliform analyses was collected on $6 / 28 / 95$, and not on $5 / 21$ - $2 / 95$ which was the sample date for the other parameters.
All analytical results reported with a "ess than" sign ( $<$ ) were elther ( 1 ) not detected in the ettluent sample at or above the analytical method detection limit achieved by the applicable iaboratory analytical niethod or (2) not detected and quantifiabie at the practical quanatitation limit achieved by the applicabie laboratory anaiytical method. NA = Testing not required, no data avallable





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- EPAID N


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$\frac{5}{2}$
$\frac{5}{2}$

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$\frac{\pi}{2}<\frac{\pi}{2}$
$\frac{5}{2} \frac{\pi}{2}$


$\frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{5}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{5}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{5}{2} \frac{5}{2} \frac{\pi}{2} \frac{5}{2} \frac{5}{2}$

| A. POUUTANT |
| :---: | :---: |
| ANO CAS muneser |$\quad$ TE













| 2 e | 2 b |
| :---: | :---: |
| TESTING | BELEVE |


NANC.

|  | $x$ |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  | $x$ |  |  |
|  |  | $x$ |  |  |
|  |  | $x$ |  |  |
|  |  | $x$ |  |  |
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|  |  | $x$ |  |  |
|  |  | $x$ |  |  |
|  |  | $x$ |  |  |
|  |  |  | $x$ |  |
|  |  | $x$ | $x$ |  |
|  |  |  |  |  |

        2,3.78-Tetrachiorodiberzo-P-Dioxin(1764-01-6) |
    Part C-Votetile Compounts
IV Acrieln (107-08-9)


MAXIMUM 30 DAY VA.

| (1) CONC. | (2) MAS |
| :--- | :--- |

        Acroiein (107-02-8)
            Bis (Chtorometty) Ether(542-88-1)
                Bromoform (75-25-2)
                    Chloroberkene ( \(108-90-7\) )
    Chiorodibromomethane ( $124-45-1)$
Chioroethane (75-00-3)
Dichlorobromomethane $(75-27-4)$
Dichlorodifluoromethane (75-71-8)
1.1-Dichioroethane ( $75-34-3$ )
1,2 - Dichlorven
1,1 -Dichlorveth yiene $(75-35-4)$
$12-$ Dichlormpropane $(78-87-5)$
1.2 -Dichioropropane (78-87-5)
Ethylbenzene ( $100-41-4$ )
Melthyl Bromide ( $74-83-3$ )
Methyl Chioride (74-87-2
Methylene Chioride (75-09-2)


| Tetrachioroet ylene |
| :--- |
| Toiuene (108-88-3) |



| 8 |  |  |  | 2 |  |  |  | $\frac{5}{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\left\lvert\, \begin{gathered} \frac{1}{5} \\ \frac{5}{2} \\ \hline \end{gathered}\right.$ | है |  | 8 | K |  |  | 2 | \% |
| $\frac{\frac{2}{2}}{\frac{2}{8}}$ | ${ }_{6}$ | - | 告 | \% | 2 |  |  | \% |


ENTERGY OPERATIONS, INC. - Piver Bend Station
OUTFALL NUMEER 006

$\qquad$



ERACE(RTN) H. NO. OF
(2) MASS ANA. YESS


 000000000000000000000

$\frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{5}{2} \frac{\pi}{2} \frac{\pi}{2}$

.

$$
\begin{aligned}
& \text { s. MAXIMMM DAVY YALLE } \\
& \hline \text { (1) CONC. } \\
& \hline \begin{array}{l|l}
\text { NA } & \text { (2) MASS }
\end{array}
\end{aligned}
$$

(1) cowc.

$$
\frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{5}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{5}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{5}{2} \frac{5}{2}
$$


$\frac{\pi}{2} \frac{5}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{5}{2}$

$$
\frac{\pi}{2} \frac{\pi}{2} \frac{s}{2} \frac{s}{2} \frac{s}{2} \frac{s}{2} \frac{s}{2} \frac{\pi}{2} \frac{5}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2}
$$

$$
\frac{5}{2} \frac{5}{2}
$$

$$
\frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2} \frac{\pi}{2}
$$

ENTERGY OPERATIONS, INC. - River Bend Station EPAID NUMBER UADOTOE6AE18

| 1. POLEUTANT AND CAS Muntern | $\qquad$ | $2 b$. $2 c$ <br> REIEVED BEIEVED  <br> PRESENT ABSENT |  | EPAID MUMBEA LADOTUE64E18 |  |  |  |  |  |  |  |  | CUTFALL NUMEFG 008 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | 2. EFFUENT |  |  |  |  |  |  | 4. uners |  | 5. ITTACE POPTIONXI] |  |  |
|  |  |  |  | - Mavomeve dant value |  | b. MAKMAM 30 DAY VALUE |  | C. LONG TERM AVERACEESTA IS MO. OF |  |  | a. CONC. | b. MASS | 2. LTA value |  | b. NO. OF Avul vees |
| 23P. PCA - 1250 ( $11096-82-5$ ) |  |  |  | (1) CONC. | (2) mass | (1) CONC. | (m) MASS | (1) CONC. | (2) Mnss | WNatres |  |  | (1) Conc. | (2) Mass |  |
| 24P. PC8-1016 (12674-11-2) |  |  | x | NA | NA | Na | NA | NA | NA | 0 | NA | NA | NA | NA | NA |
| 25P. Toxaphene (8001-35-2) |  |  | $\times$ | NA | NA | NA | NA | NA | NA | 0 | Na | NA | NA | Na | NA |
|  |  |  |  |  |  | Na | NA | NA | NA | 0 [ | NA | NA | NA | NA | NA |

(1) TSS and Oif \& Grease were actually not detected on the permit application sampling event on $5 / 22 / 95$. But, due to a very high flow rate on this dey (0 c30 MGD), the caiculated maximum mass valives were signilicantly geeater
than the TSS and O" \& Grease mass values when they were detected during routine sampling events (which were reported in the DMPs)
(1) The Long Term Average Vatue for TSS (mass) was calculated to be greater than the Maximum 30 Day Value dre to a very high fow rate on s/2ars fpermit application sampling event)

क) Total aipha and Total beta are believed present within the anticipated background values for naturally occuring racioactive material
Notes: The daly average flow rate of 0.030 MaD obtained during the sampling event on $6 / 22 / 95$ was used to calculate the mass for thoss parameters for which onily one laboratory analysis was performed.
The monthly CMA forms for 24 months (February 1993 through January 1995 ) for flow data and 12 months (February 1994 through January 1995 ) for all other parameters were used to calculate the Meximum Dally Value, Maximum 30 Day Vaius, and the Long Term Average Value for those parameters that are routinely monitored pursuant to Entergy's NPDES and LWDPS permits. For parameters routinely montored at Outtall oos, analytical data collected for the permit appication ( $6 / 22 / 95$ ) were used to determine Maximum Daty Values and Long Term Average Values, but not Maximum 30 Day Values
Al analytical results reported with a "ess than' sign ( $\subset$ ) were either (1) not detected in the effluent sample at or above the anaiytical method detection limit achieved by the applicable laboratory analytical method or (i) not cetected and quantfiabie at the practical quanatitation limit achieved by the applicable laboratory analytical method.
NA = Testing not required, no data avallable.
ENTERGY OPERATIONS, INC. - River Bend Station

9 Temperature (summe)
드․





0000000000000000000000000000000000000000







$\qquad$


[^3]
Acenaphthytene (208-95-8) Anthracene ( $120-12-$
Benziding $(92-87-5)$
Benzo (a) Anthracene (56-55-3)
Benzo (a) Pyrene (50-32-8)


 18 Bis (2-Chioroethy) Ether ( $111-44-4$ ) 128 Bis (2-Chiorisopropy) Ether $(102-60-1)$ 148 4-Bramophenyl Phenyl Ether $(101-55-3)$ | 168 | 2-Chioronaphthaiene $(51-58-7)$ |
| :--- | :--- |
| 178 | 4-Chlorophenyi Phenyl Ether (7005-72-3) | 178. 4-Chlorophenyl Phenyl Ether(7005-72-3) 98. Dibenzo (a,h) Anthracene ( $53-70-3$ ) 208. 1.2-Dichlorobenzene $(95-50-1)$ 558 Dimethy! Phthalate ( $131-11-3$ )



APPENDIX C<br>U.S. EPA APPLICATION FORM 2 F

# United States Eaviroamental Protection Agency 

npdes

## Washingtoa, DC 20460 <br> Application for Permit To Discharge Stormwater Discharges Associated with Industrial Activity

## Paperwork Reduction Act Notice

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

## 1. Outfall Lacation

For each outfail, lint the iatitude and longitude of nts location to the neareat is scconds and the name of the receiving water.

| A. Outfall Number (isef) | B. Latitude |  |  | C. Lengitude |  |  | D. Receiving Witer (name) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 003 | $30^{\circ}$ | $45^{\circ}$ | $20^{\prime \prime}$ | $91^{\circ}$ | 19 | $49^{\prime \prime}$ | Grants Bayou (via East Creek) |
|  |  |  |  |  |  |  | to Mississippi River |
| 005 | $30^{\circ}$ | 45 | $06^{\prime \prime}$ | $91^{\circ}$ | 19 | $38^{\prime \prime}$ | Grants Bayou to Mississippi River |
| 006 | $30^{\circ}$ | $45^{\prime}$ | $12^{\prime \prime}$ | $91^{\circ}$ | $19^{\circ}$ | $29^{\prime \prime}$ | Grants Bayou (via East Creek) |
|  |  |  |  |  |  |  | to Mississippi River |
| 007 | $30^{\circ}$ | 45 | 02" | $91^{\circ}$ | $19^{\circ}$ | $50^{\prime \prime}$ | Grants Bayou (via West Creek) |
|  |  |  |  |  |  |  | to Mississippi River |
| 009 | $30^{\circ}$ | 45 | 32" | $91^{\circ}$ | $19^{\prime}$ | $39^{\prime \prime}$ | Grants Bayou to Mississippi River |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

II. improvements

A Are you bow required by any Federal, State, or focal authonty to meet any tmpiementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is aot limited to, permit conditions, administrative of enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.


[^4]
## III. Site Drainage Map

Attach a site map showing topography (or indicating the outline of drainage areas served by the outfall(s) covered in the application if a topographic map is unavailable) depicting the facility including; each of its intake and discharge structures; the drainage area of each storm water outfall; peved areas and buildings withis the drainage ares of each storm water outfall, ench known past or present areas used for outdoor storage or disposal of significant matenals, each existiag structural control measure to reduce pollutanta in storm water ruboff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are appliod; each of its hazardous waste treatment, storage or disposal units (including cach area not required to have a RCRA permit which is used for accumulating hazardous waste under 40 CFR 262.34); each well where fluids from the facility are injected underground; springs, and other surface water bodies which receive storm water discharges from the facility. See Fizures 1, 2, and 4.

## Continued from the Front

## IV. Narrative Description of Pollutant Sources

A. For each ouffall, provide an eatimate of the area (include units) of impervious surfaces (iacludiag paved areas and buikfing roofs) drained to the outfall, and an eatimate of the total surface arce dreined by the outfall.

| Outfall <br> Number | Arsa of Impervious Surface <br> (provide units) | Total Area Drained <br> (provide unius) | Outfall <br> Number | Aree of Impervious Surface <br> (previde units) | Total Ares Dreined <br> (provide units) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 003 | 0.2 Acres | 0.2 Acres | 007 | 30.9 Acres | 89.6 Acres |
| 005 | 5.3 Acres | 8.2 Acres | 009 | 2.7 Acres | 10.9 Acres |
| 006 | 23.0 Acres | 26.7 Acres |  |  |  |

B. Provide a narrative description of aignificaat materials that are curreatly or in the past three yoars heve been treated, stored or diapposed in a manaer to aliow exposure to storm water, method of trentment, storage, or disposal; pest and present materials menagement practices empioyed, in the last throe yrars, we minimize coninct by those materials with ator:a water ruboff; materials londing and access areas; and the location, maner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied.

See Section 4.0 of document.
C. For each outfall, provide the location and a description of existing structural and nonstructural control meanures to reduce pollutants in storm water runoff; and a description of the treatment the storm water receives, includisg the schedule and type of maintenance for controi and treatment measures and the ulimate disposal of any solid or fluid wastes other than by discharge.


## VII. Discharge Information

A, B, C, \& D: See instructions before proceeding. Complete one set of tables for each outfall. Annotate the outfall number in the space provided Tables VII-A, VII-B, and VII-C are included on separate sheets numbered VII-1 and VII-2.
E. Potential discharges not covered by analysis - is any pollutant listed in Table 2F-2, 2R-3 or 2F-4, e substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

Yes (list all such pollutants below)

## VIII. Biological Toxicity Testing Data

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

Yes (list all such pollutant below)
See Section 6.0 of document and Table 10 .

## IX. Contract Analysis Information

Were any of the analyses reported in lem VII performed by a contract laboratory or consulting firm?
X Yes list the name, address, and telephone number of, and pollutants
analyzed by, each such laboratory or firm below)


I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.
A. Name \& Official Title (type or print)
B. Area Code and Phone No.
Michael B. Sellman, General Manager, Plant Operations

D. Date Signed
(504) 381-4200

FORM-2F.REV Computer Reproduction ERA Form 3510-2F (Rev, 1-92) Page 3 of 3 5313 T03. DP
ENTERGY OPERATIONS, IMC. - River Bend Station



NA $=$ Not applicabie.
$<=$ parameters analyzed were below the analytical quanttation limit.

## NOTES:

The flow rate utilized to calculate mass for grab samples was an instantaneous estimate of 0.0005 MGD
The flow rate utilized to calcuiate mass for flow-weighted composite samples was 0.010 MGD . This flow rate was an arithmetic average of instentaneous measurements conducted once during first flush and once during composite sampling.

## FOOTNOTES:

${ }^{(1)}$ Ouffall 003 consists of 3 separate sources: two oil/water separators which receive stormwater from the plant electric power distribution transformer yards (main and auxiliary), and a third oil/water separetor which recelves wastewater from non-radiologically contaminated power plant floor drains (well water, fire suppression water, and domestic potable water). It is the stormwater from the plant electric power distribution auxiliery transformer yard that was sampled with the analytical resuts presented on this Form $2 F$. These data are considered representative of stormwater from the second stormwater source to Outfall 003 (main transtormer yard), which was not sampled as allowed at 40 CFR 122.21 (g)(7). The two stormwater sources to Outfall 003 are considered substantially identical.
(2) Contact with facility roads and properties.
(3) Background levels from stormwater
${ }^{(4)}$ Incidentai to industrial activity.
() This pollutant was analyzed for, not because it was believed present in stormwater discharges, but rather because this pollutant is required to be tested at all ouffalls in accordence with 40 CFR 122.21 (g) ( 7 ) 1 (A) (

ENTERGY OPERATIONS, INC. - River Bend Station



## NA = Not appliceble.

< = parameters analyzed were below the analytical cuantitation limit.

## NOTES:

The flow rate utilized to calculate mass for gab samples was an instantaneous estimate of 0.072 MGD
The flow rate ufilized to calculate mass for flow-weighted composite samples was 0.108 MGD . This flow rate was an arithmetic everage of instantaneous measurements condrcted once during first flush andonce duringcomposite samping.

## FOOTNOTES:

(2) Contact with facility roads and proper ties
${ }^{(2)}$ Beckground levels from stormweter.
a) Incidental to industriel activity.

This pollutant was analyzedfor, not because it was believed present in stormwater discharges, but rather because this pollutant is required to be tested at all outalls in accordance with 40 CFR 122.21 (g)(7)(A)(A).


$\mathrm{NA}=$ Not applicable.
$<=$ parameters analyzed were below the analytical quantiation limit.
NOTES:
The flow rate utilized to calculate mess for grab samples was an instantaneous estimate of 0.288 MGD
The flow raie utilized to calculete mass for flow-weighted composite samples was 0.504 MGD . This flow rate was an arithmetic average of instantensous measurements conducted once during first flush and once during composite sampling.

FOOTNOTES:
(2) Contact with facility roads and properties.
${ }^{(2)}$ Background ievels from stormwater.
${ }^{(3)}$ Incidental to industrial activity.
${ }^{(4)}$ This pollutant was analyzed for, not because it was believed present in stormwater discharges, but rather because this politutant is required to be tested at all outfalls in accordance with 40 CFR $122.21(\mathrm{~g})(7)(\mathrm{A})$



NA $=$ Not applicable
< = parameters analyzed wers below the analytical quantiation limit.
TNTC $=$ Too numerous to count

## NOTES:

The flow rate utilized to calculate mass for grab samples was an instantaneous estimate of 0.72 MGD .
The flow rate utilized to calculate mass for flow-weighted composite semples was 1.08 MGD . This flow rate was an arithmetic average of instantaneous measurements conducted once during first fush and once during cemposite sampling.

## FOOTNOTES

${ }^{(1)}$ Contact with facility roads and properies
${ }^{(2)}$ Background levels from stormwater.
${ }^{(3)}$ Incidental to industrial activity.
(4) This pollutant was analyzed for, not because it was believed present in stormwater discharges, but rather because this pollutant is required to be tested at all outfalls in accordence with 40 CFR 122.21 (g) (7) (i) (A).


| ENTERGY OPERATIONS, INC. - River Bend Station |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | PA ID NUMEER LAD070es 4818 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  | Maximum | m Velues |  |  | Aversge Values |  |  |  |  |
| Poikutant and CAS Number <br> Phenols, Total | Greb Sample Taken During First 30 Minutes ( $\mathrm{mg} / \mathrm{L}$ ) | Grab Sample Taken During First 30 Minutes (bs/day) | Flow-weighted Composite ( $\mathrm{mg} / \mathrm{L}$ ) | Flow-weighted Composite ( ${ }^{\text {bes/day) }}$ | Grab Sample Taken During First 30 Minutes ( $\mathrm{mg} / 4$ ) | Grab Sample Taken During First 30 asinutes (Ths/exay) | Flowweighted Compesite (mg/L) | Flowweighted Composite (lbs/day) | Number of Sterm Events Sampled | $\begin{gathered} \text { Sources } \\ \text { of } \\ \text { Pollutentes } \end{gathered}$ |
| Phenols, Total Aluminium, Total | < $\quad 0.005$ | 0.00003 | K 0.005 | $<\quad 0.00032$ | NA | NA | NA | NA | 1 | NA |
| Aluminium, Total | < 1.77 | 0.01 | 3.36 | 0.21 | NA | NA | HA | NA | 1 | (3) |
| Banum, Tota! | $<\quad 0.1$ | < 0.001 | < 0.1 | K 0.006 | NA | NA | NA | NA | 1 | NA |
| Color (True/Apparent) (APHA Units) | 249/468 | NA | 376/903 | 0.017 | NA | NA | NA | NA | 1 | (3) |
| Fluorike | 0.63 | 0.004 | 0.24 | 0.015 | NA | NA | NA | NA | 1 | (1) (2) |
| Magnesium, Total | 5.70 | 0.03 | 4.91 | 0.31 | NA | NA | NA | NA | 1 | (3) |
| Manganese, Total | 0.057 | 0.0003 | 0.053 | 0.0033 | NA | NA | NA | NA | 1 | (3) |
| Organic Nitrogan. Total | 1.1 | 0.01 | 1.22 | 0.08 | NA | NA | N | NA | 1 | (3) |
| Radioactivity - (1) alphe, Total (pCi/L) | $<\quad 0.1$ | NA- | < 0.1 | NA | NA | NA | NA | NA | 1 | (2) |
| Radioactivity - (2) beta, Total ( $\mathrm{pCl} / 2)$ | 4.25 | NA | 5.19 | NA | NA | NA | NA | NA | 1 | NA |
| Radionctivity - (3) Radium, Total (pCi/L) | 0.16 | NA | 0.15 | NA | NA | NA | NA | NA | 1 | (2) |
| Predioactivity - (4) Radium 226, Total (pCi/4) | $<\quad 0.1$ | NA | 0.15 | NA | NA | NA | NA | NA | 1 | (2) |
| Sultate | 66.3 | 0.4 | 46.6 | 2.9 | NA | NA |  | NA | 1 | (2) |
| Surfactants | 0.1 k | 0.001 k | < 0.1k | < 0.006 |  | NA | NA | NA | 1 | (3) |
| Titanium, Total | $<\quad 0.5$ | 0.003 k | 0.5 K | $k \quad 0.032$ | NA | NA | NA | NA | 1 | NA |
| PollutentandCAS Number | Maximum Values |  |  |  | Average Values |  |  |  | 1 | NA |
|  | Grab Sarmple Teken During First 30 Minutes ( $\mathrm{mg} / \mathrm{L}$ ) | Grab Sample Taken During First 30 Minutes (bs/day) | Flow-weighted Composite ( $\mathrm{mg} / \mathrm{l}$ ) | Flow-weighted Composite (bs/day) |  |  |  |  | Number of Storm Events Sampled | $\begin{gathered} \text { Sources } \\ \text { of } \\ \text { Pollutants } \end{gathered}$ |
|  |  |  |  |  |  | Grabo Sample Taken During Finst 30 Minutes ( m m : d day) | Flowweighted Composite ( mg /L) | Flowweighted Composite (lbs/day) |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Other Parameters: |  |  |  |  |  |  |  |  |  |  |
| Ammonia (as N ) ${ }^{(4)}$ | 0.20 | 0.001 | 0.18 | 0.011 | NA | NA | NA | NA | 1 | (3) |

$\mathrm{NA}=$ Not applicable
< = parameters analyzed were below the analytical quantitation limit

## NOTES

The flow rate utilized to calculate mass for grab samples was an instantaneous estimate of 0.0007 MGD .
The flow rate utilized to calculate mass for flow-weighted composite samples was 0.0076 MGD . This flow rate was an arithmetic average of instantaneous measurements conducted once during first flush and once during composite sampling

## FOOTNOTES:

${ }^{(1)}$ Contact with faciility roads and properties
${ }^{(2)}$ Background levels from stormwater.
(9) Incidental to industrial activity.
${ }^{(4)}$ This pollutant was analyzed for, not because it was believed present in stormwater discharges, but rather because this pollutant is required to be tested at all ouffalls in accordance with 40 CFR 122.21 (g)(7)(1)(A)

Part D - Provide date for the storsa event(a) which reoulted in $u$, maximum values for the flow weighted composite asmple.

| 1. <br> Dete of Sterm Event | 2. <br> Durstion of Sturnu Event (in minuler) | Total rainfall during storm event (in inches) | 4. <br> Number of hours between beginning of slorm measare' and and of previous measurable rain event | 5. <br> Maximum fiow rate during rain event (gallonsiminuie or specify units) | 6. <br> Total fow from rein event (gallone or specify units) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7/5/95 | 220 | 0.32 | 96 | 003 ( 1 gpm ) 005 ( 100 gpm ) 006 ( 500 gpm ) 007 (1000 gpm) 009 (10 gpm) | 003 (1000 gals.) 005 ( 19000 gals.) 006 ( 184000 gais.) 007 ( 318000 gais .) 009 ( 32000 gals.) |

For ltem 5, flow rates were estimated at Outfalls 003,005, and 009 by timing the filling of a container of known voiume. For Outfalls 006 and 007, flow rates were estimated by timing an object floating down the discharge pathway and multiplying by the cross-sectional area of the drainage feature (i.e. ditch).

For ltem 6, total flow (or volume) for each outfall was estimated using runoff calculations of the formula $\mathrm{Q}=\mathrm{c}$ cia where $\mathrm{Q}=$ flow, $\mathrm{c}=$ runoff coefficient, $i=$ rainfall intensity, and $a=$ area.

## APPENDIX D

## MAY 23, 1995 LETTER FROM LDEQ ON BIOMONITORING TESTING

William A. Kucharski Secretary

Serifed Mail */21090R

Entergy
River Bend Station
P.O. Box 220

St. Francisvillc, Louisiana 70775
Attention: Keith Stoma
Dear Mr. Stoma:
RE: Zebra Mussel Control Request.
The Office of Water Resources has received and reviewed Entergy's letter dated April 25, 1995, requesting permission to treat the Mississippi River water system with the non-oxidizing mulluscicide Calgon $\mathrm{H}-130$. This Office has no objection to the one time treatment with this

on Jisifre e 1000
The current Louisiana permit language for major facilities in Part II Section 3. d. ii; states that the permitee must collect a 24 -hour sample for biomonitoring representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharge. In accordance with this provision, Entergy must perform a 48 hour acute freshwater biomonitoring test on a flow proportioned composite sample of the discharge taken during the zebra mussel treatment. Toxicity test procedures and quality assurance requirements for tests using Ceriodaphnia dubia and Pimephales promelas are specified in the EPA manual "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms", EPA /600/4-90/027. Dilutions of $0.8 \%, 0.6 \%, 0.4 \%, 0.3 \%$, and $0.2 \%$ effluent must be tested.

Entergy must also verify, through appropriate testing, the discharge concentration of the molluscicide. Results of the biomonitoring, the testing for residual, and the detection limit of the residual test method used should be sent to the attention of Ronnie Bean of the Office of Water Resources.

## Entergy

Page 2 of 2

Should you have any questions concerning this matter, please feel free to coniact Ronnic Bean at (504) 765-0525.

## Sincerely

## JDG/RAB

c: Capital Regional Office
Phil Jennings, W6-PT U.S.EPA, Region 6


[^0]:    $\mathrm{NA}=\mathrm{Not}$ Applicsble

[^1]:    OFFICIAL USE ONLY (effluent gudelines nub-csiegorice

[^2]:    by the appicalie laboratory analytical method or (2) not detected and quantiliatse at the practical quanathation limit achieved by the applicable laboratory anaiytical method.
    NA $=$ Testing not required, no data avallabie.

[^3]:    1. POUUTANT
    ANO CAS Numeen

    26 V 1.2-Trans-Dichloroethytere ( $156-50-5$ ) 1.1.1-Trichioroethane (71-55-6)
     30 V Thichlorofluoromethane (7:
    31 V . Vinyl Chloride (75-01-4)
    Part C-Acke Compounds
    $\qquad$

[^4]:    B. You may atiach additional abeets deecribing any additional water pollution (or other environmental projects which may affect your discharges) you now have under way or which you plan. ladicate whether each program is arow under way or planned, and indicate your actual or planaed achedules for construction.

