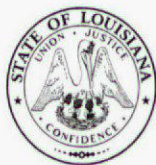


JOHN BEL EDWARDS
GOVERNOR



ROGER W. GINGLES
SECRETARY

State of Louisiana

DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL SERVICES

JAN 04 2024

CERTIFIED MAIL-7022 2410 0002 3553 5429-RETURN RECEIPT REQUEST

File No.: LA0005941

AI No.: 1250 Activity No.: PER20220002

Mr. Sterling Neblett, Vice President & General Manager, LCMC
CITGO Petroleum Corporation
Lake Charles Manufacturing Complex
Post Office Box 1562
Lake Charles, LA 70602

RE: Draft Louisiana Pollutant Discharge Elimination System (LPDES) permit to discharge treated process wastewater, process area stormwater, non-process area stormwater, utility wastewaters, treated sanitary wastewater, ballast water, hydrostatic test wastewater, and miscellaneous wastewaters to the Calcasieu River (Outfalls 003, 004, 006, 009, and 011), Calcasieu River via Indian Marais (Outfalls 103, 010, and 014), and Bayou D'Inde (Outfalls 001, 002, and 012) from an existing petroleum refinery located at 4401 Highway 108 in Westlake, Calcasieu Parish.

Dear Mr. Neblett:

The Department of Environmental Quality proposes to reissue an LPDES permit with the effluent limitations, monitoring requirements, and special conditions listed in the attached DRAFT PERMIT. Please note that this is a DRAFT PERMIT only and as such does not grant any authorization to discharge. Authorization to discharge in accordance with this permitting action will only be granted after all requirements described herein are satisfied and by the subsequent issuance of a FINAL PERMIT. Upon the effective date of the FINAL PERMIT, the FINAL PERMIT shall replace the previously effective LPDES permit.

In accordance with LAC 33:IX.3113.C.2.a, this Office will post a public notice on the LDEQ website (<http://www.deq.louisiana.gov/public-notices>) and in the Office of Environmental Services Public Notice Mailing List. A copy of the public notice containing the specific requirements for commenting to this draft permit action will be sent under separate cover at the time the public notice is arranged.

The invoice, fee rating worksheet, and a copy of the fee regulations will be sent under a separate cover letter as applicable. Please note that a copy of the fee rating worksheet is also attached to this draft permit. A copy of the entire Louisiana Water Quality Regulations may be obtained from the Regulation Development Section by calling (225) 219-3985.

Pursuant to LAC 33:IX.1309.I, LAC 33:IX.6509.A.1 and LAC 33:I.1701, you must pay any outstanding fees to the Department. Therefore, you are encouraged to verify the facility's fee status by contacting LDEQ's Office of Management and Finance, Financial Services Division (225) 219-3863. Failure to pay in the manner and time prescribed could result in applicable enforcement actions as prescribed in the Environmental Quality Act, including, but not limited to revocation or suspension of the applicable permit, and/or assessment of a civil penalty against you.

Please be advised that according to La. R.S. 48:385 any discharge to a highway ditch, cross ditch, or right-of-way shall require approval from the Louisiana Department of Transportation and Development, Road Design Section, Post Office Box 94245, Baton Rouge, Louisiana 70804-9245, (225) 379-1927 and from the Department of Health, Office of Public Health, P.O. Box 4489, Baton Rouge, LA 70821-4489, (225) 342-7499.

For sanitary treatment plants, the plans and specifications must be approved by the Department of Health, Office of Public Health, P.O. Box 4489, Baton Rouge, LA 70821-4489, (225) 342-7499.

Should you have any questions concerning any part of the DRAFT PERMIT, public notice requirements, or fee, please feel free to contact Amy Exnicios, Office of Environmental Services, at the address on the preceding page, or by telephone at (225) 219-3501. To ensure that all correspondence regarding this facility is properly filed into the Department's Electronic Document Management System, please reference your Agency Interest (AI) number 1250 and LPDES permit number LA0005941 on all future correspondence to this Department.

Sincerely,



Jenniffer Sheppard
Environmental Scientist Manager
Industrial Permits Section

ale

Attachment(s): draft permit, factsheet, general information sheet, and fee sheet

c: Amy Exnicios
Water Permits Division

IO-W File

ec: Chief Engineer
Department of Transportation and
Development

Laura Thompson
Melanie Connor
Water Permits Division

Ashley Broom
Office of Management & Finance

Permit Compliance Unit
Reports
Southwest Regional Office
Office of Environmental Compliance

For Public Notice
Public Participation Group
Office of Environmental Services

Michelle Bickham
Water Permits Division

General Information

AI ID: 1250 CITGO Petroleum Corp - Lake Charles Manufacturing Complex

Activity Number: PER20220002

Permit Number: LA0005941

Water - Indiv-Major-Industrial

<u>Alternate Identifiers</u>	<u>Name</u>	<u>User Group</u>	<u>Dates</u>
2201900016	AFS (EPA Air Facility System)	AFS (EPA Air Facility System)	01-01-2000
0520-00016	CDS Number	CDS Number	05-27-1993
7380411	EPA EIS Facility Site ID	EPA EIS Facility Site ID	01-01-2008
73-1173881	Federal Tax ID	Federal Tax ID	01-21-1998
LAD008080350	Citgo Petroleum Corporation LCMC	Haz Waste EPA ID Number	08-13-1980
PC/CA	GPRA Baselines	Hazardous Waste Permitting	10-01-1997
00212	Cities Service Oil & Gas	Inactive & Abandoned Sites	11-27-1979
LAD008080350	Citgo Petroleum Corp	Inactive & Abandoned Sites	11-27-1979
LA0005941	LPDES Permit #	LPDES Permit #	10-28-1991
LAR05N113	LPDES Permit #	LPDES Permit #	10-24-2001
LAR10N901	LPDES Permit #	LPDES Permit #	07-31-2020
52175	ORIS Code	ORIS Code	09-16-2008
	Priority 1 Emergency Site	Priority 1 Emergency Site	07-18-2006
LA-2312-L01	Radioactive Material License	Radiation License Number	10-02-2000
2312	X-Ray Registration Number	Radiation X-ray Registration Number	11-21-1999
55717	CITGO Petroleum Corporation-Refinery	Risk Management Plan EPA ID	01-01-2001
G-019-1516	SW Generator ID #	Solid Waste Facility No.	11-21-1999
GD-019-0494	SW Generator ID #	Solid Waste Facility No.	04-30-2001
OC-0091	Order to Close	Solid Waste Permitting	04-29-1988
OU-0120	Order to Upgrade	Solid Waste Permitting	11-21-1999
P-0275	Standard Permit	Solid Waste Permitting	03-09-1992
P-0276	Standard Permit	Solid Waste Permitting	03-09-1992
P-0277	Standard Permit	Solid Waste Permitting	03-09-1992
2098	Cities Service Co	TEMPO Merge	06-17-2003
27761	Citgo Petroleum Corp	TEMPO Merge	01-08-2001
38803	Citgo Petroleum Corp - Lake Charles Operations	TEMPO Merge	07-15-2001
41047	Citgo Petroleum Corp	TEMPO Merge	01-08-2001
47222	Citgo Petroleum Corp - Lake Charles Refinery	TEMPO Merge	09-12-2001
4723	Cities Service Co - Butyl Plant	TEMPO Merge	01-08-2001
4724	Cities Service Co - Lube Plant	TEMPO Merge	06-17-2003
70602CTGPTHIGHW	TRI #	Toxic Release Inventory	07-09-2004

General Information

Alternate Identifiers	Name	User Group	Dates
MVN-2014-00937 WKK	USACOE number	USACOE number	04-22-2014
MVN-2018-1134-WJJ	USACOE number	USACOE number	09-24-2018
011005-02	Water Quality Certification #	Water Certification	10-09-2001
020605-05	Water Quality Certification #	Water Certification	06-06-2002
030814-01	Water Quality Certification #	Water Certification	08-14-2003
050209-04	Water Quality Certification #	Water Certification	02-22-2005
070905-01	Water Quality Certification #	Water Certification	09-05-2007
110428-01	Water Quality Certification #	Water Certification	04-29-2011
140421-02	Water Quality Certification #	Water Certification	04-22-2014
180924-01	Water Certification	Water Certification	09-24-2018

Physical Location: 4401 Hwy 108 S
Sulphur, LA 70669

Facility Email: bhoffpa@citgo.com
Main Phone: 3377086079

Mailing Address: PO Box 1562
Lake Charles, LA 706021562

Location of Front Gate: -93.342835 Longitude, 30.184305 Latitude, Coordinate Method: Lat.\Long -
Decimal Degrees, Coordinate Datum: NAD83

Related People:	Mail Address	Work Phone	Email	Relationship
Bob Kent	PO Box 1562 Lake Charles, LA 706021562			Responsible Official for
Brooke Roncancio	PO Box 1562 Lake Charles, LA 706021562	3377086023	broncan@citgo.com	Emission Inventory Facility Contact for
Charles Jernigan	PO Box 1562 Lake Charles, LA 706021562	3377086164	CJernig@citgo.com	Accident Prevention Contact for Disaster/Emergency Contact for
Chris Menou	PO Box 1562 Lake Charles, LA 706021562	3377086400		Accident Prevention Billing Party for
Collin Castille	PO Box 1562 Lake Charles, LA 706021562	3377086925		Accident Prevention Billing Party for Accident Prevention Contact for
Dave Hollis	PO Box 1562 Lake Charles, LA 706021562	3377087008		Haz. Waste Billing Party for Solid Waste Billing Party for Accident Prevention Contact for
David Crow	PO Box 1562 Lake Charles, LA 70602	3377088124		Accident Prevention Contact for
Diana Leblanc	PO Box 1562 Lake Charles, LA 706021562	3377088266		Water Permit Contact For
Gretchen Pierce	PO Box 1562 Lake Charles, LA 706021562	3377086579	gpierce@citgo.com	Asbestos Contact for
Karl Schmidt	PO Box 1562 Lake Charles, LA 706021562	3377086248		Responsible Official for
Kenny Gary	PO Box 1562 Lake Charles, LA 706021562		Kgary@citgo.com	Radiation Contact For
Neal Thompson	PO Box 1562 Lake Charles, LA 706021562	3377087457	NTHOMS@citgo.com	Radiation Safety Officer for
Phyllis Holifield	PO Box 1562 Lake Charles, LA 706021562	3377088431	pholifi@citgo.com	Disaster/Emergency Contact for Emission Inventory Facility Contact for

General Information

Related People:	Mail Address	Work Phone	Email	Relationship
				HW-1 Notification Contact for Haz. Waste Billing Party for Solid Waste Billing Party for
Russ Willmon	PO Box 1562 Lake Charles, LA 706021562	3374782130	RUSSW@CALCASIEURE FINING.COM	Responsible Official for
Sterling Neblett	PO Box 1562 Lake Charles, LA 706021562	3377086800	sneblet@citgo.com	HW-1 Certifier for Responsible Official for
Steven Hays	PO Box 1562 Lake Charles, LA 706021562	3377086183		Responsible Official for
Tomeu Vadell	PO Box 1562 Lake Charles, LA 706021562	3377086818		Responsible Official for
Troyce Thompson	PO Box 1562 Lake Charles, LA 706021562			Responsible Official for
Vina Charles	PO Box 1562 Lake Charles, LA 706021562			Radiation Contact For

Related Organizations:	Mailing Address	Work Phone	Relationship
C-K Associates LLC	17170 Perkins Rd Baton Rouge, LA 70810	2257551000	Provides environmental services for
CITGO Petroleum Corp	PO Box 1562 Lake Charles, LA 706021562	3377086437	Accident Prevention Billing Party for Air Billing Party for Groundwater Billing Party for Haz. Waste Billing Party for Radiation License Billing Party for Water Billing Party for
	PO Box 4689 Houston, TX 772104689	8324864000	Operates Owns
Citgo Petroleum Corp	5615 Corporate Blvd Ste 400B Baton Rouge, LA 70808 PO Box 1562 Lake Charles, LA 70602	3377088431	Agent of Service for Emission Inventory Billing Party
Citgo Petroleum Corp-Lake Charles Manufacturing Complex	PO Box 600 Lake Charles, LA 706020600		Radiation License Billing Party for

SIC Codes: 2911, Petroleum refining
SIC Codes: 2869, Industrial organic chemicals, nec
SIC Codes: 2819, Industrial inorganic chemicals, nec

NAIC Codes: 324110, Petroleum Refineries
NAIC Codes: 325199, All Other Basic Organic Chemical Manufacturing

Note: This report entitled "General Information" contains a summary of facility-level information contained in LDEQ's TEMPO database for this facility and is not considered a part of the permit. Please review the information contained in this document for accuracy and completeness. If any changes are required, or if you have questions regarding this document, please email the Permit Support Services Division at facupdate@la.gov.

Renewal Application Permit - Inventories
AI No. 1250 - CITGO Petroleum Corp - Lake Charles Manufacturing Complex
Activity Number: PER20220002
Permit Number: LA0005941

Subject Item Inventory:

TEMPO ID	Outfall	Description
RLP 2	Outfall 001 (Phase I)	the continuous discharge of miscellaneous non-process wastewater; process area stormwater; recovery well water; sanitary wastewater; non-process area stormwater; rerouted wastewaters from the Main Refinery; and hydrostatic test wastewater
RLP 13	Outfall 001 (Phase II)	the continuous discharge of treated lube process wastewater; treated process area stormwater; utility wastewater; miscellaneous non-process wastewater; non-process area stormwater; sanitary wastewater; and hydrostatic test wastewater
RLP 3	Internal Outfall 101	the intermittent discharge of hydrostatic test wastewater
RLP 4	Outfall 002	the intermittent discharge of cooling tower blowdown; stormwater runoff; miscellaneous non-process wastewaters from the propylene fractionation unit (PFU); and previously monitored hydrostatic test wastewater from Internal Outfall 101
RLP 5	Outfall 003	the continuous discharge of treated process wastewater from the Main Refinery; ballast water; process area stormwater; treated sanitary wastewater; utility wastewater; miscellaneous non-process wastewaters; propylene fractionation unit (PFU) wastewater; non process area stormwater; and hydrostatic test wastewater
RLP 230	Outfall 103	the overflow of stormwater runoff and de minimis amounts of utility, process, and non-process wastewaters
RLP 6	Outfall 004	continuous discharge of utility wastewater, including but not limited to, boiler blowdown, softener blowdown water, cation regeneration and rinse water, anion regeneration and rinse water, reverse osmosis backwash/reject water, high/low pressure fan cooling water, oil pump cooling water for dryers, air dryer chiller water, zeolite regeneration rinse and backwash; stormwater runoff; miscellaneous non-process wastewaters; and previously monitored wastewater from Internal Outfall 101
RLP 7	Outfall 006	the intermittent discharge of non-process area stormwater runoff; miscellaneous non-process wastewaters; previously monitored hydrostatic test wastewater from Internal Outfall 101; previously monitored treated sanitary wastewater from Internal Outfall 106
RLP 8	Internal Outfall 106	the intermittent discharge of treated sanitary wastewater from the Security Operations Center
RLP 9	Outfall 009	the intermittent discharge of non-process stormwater, miscellaneous non-process wastewater, and previously monitored hydrostatic test wastewater from Internal Outfall 101
RLP 10	Outfall 010	the intermittent discharge of non-process stormwater, miscellaneous non-process wastewater, and previously monitored hydrostatic test wastewater from Internal Outfall 101
RLP 11	Outfall 011	the intermittent discharge of non-process stormwater, miscellaneous non-process wastewater, and previously monitored hydrostatic test wastewater from Internal Outfall 101
RLP 12	Outfall 012	the intermittent discharge of non-process stormwater, miscellaneous non-process wastewater, and previously monitored hydrostatic test wastewater from internal Outfall 101
RLP 14	Outfall 014	the intermittent discharge of treated sanitary wastewater from Citgo Park
EQT 569	IT-01	Cooling Water Intake Structure – Cooling Water Intake Requirements
FAC 1	LA0005941	Water Agency Interest

DRAFT

PERMIT NUMBER
LA0005941
AI No.: 1250



OFFICE OF ENVIRONMENTAL SERVICES
Water Discharge Permit

Pursuant to the Clean Water Act, as amended (33 U.S.C. 1251 et seq.), and the Louisiana Environmental Quality Act, as amended (La. R. S. 30:2001 et seq.), rules and regulations effective or promulgated under the authority of said Acts, and in reliance on statements and representations heretofore made in the application, a Louisiana Pollutant Discharge Elimination System permit is issued authorizing

CITGO Petroleum Corporation
Lake Charles Manufacturing Complex
Post Office Box 1562
Lake Charles, LA 70602

Type Facility: petroleum refinery

Location: 4401 Highway 108 South in Westlake
Calcasieu Parish

Receiving Waters: Calcasieu River Outfalls - 003, 004, 006, 009, 011 (Subsegment 030301)
Calcasieu River via Indian Marais Outfalls - 103, 010, 014 (Subsegment 030301)
Bayou D'Inde Outfalls - 001, 002, 012 (Subsegment 030901)

to discharge in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I, II, and III attached hereto.

This permit shall become effective on _____

This permit and the authorization to discharge shall expire five (5) years from the effective date of the permit.

DRAFT

Issued on _____

Bliss M. Higgins
Assistant Secretary _____

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning the effective date and lasting through until startup of Phase II or the expiration date of the permit, whichever comes first (*1) the permittee is authorized to discharge from:

Outfall 001 (Phase I), the continuous discharge of miscellaneous non-process wastewater(*2); process area stormwater; recovery well water; sanitary wastewater; non-process area stormwater; rerouted wastewaters from the Main Refinery; and hydrostatic test wastewater

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	STORET Code	Discharge Limitations				Monitoring Requirements	
		(lbs/day, UNLESS STATED)		Other Units (mg/L, UNLESS STATED)		Measurement Frequency	Sample Type
<u>CONVENTIONAL</u>		Monthly Average	Daily Maximum	Monthly Average	Daily Maximum		
Flow-MGD	50050	Report	Report	---	---	Continuous	Recorder
pH Range Excursions (Continuous Monitoring), Number of Events >60 Minutes	82581	---	0(*3)	---	---	Continuous	Recorder
pH Range Excursions (Continuous Monitoring), Monthly Total Accumulated Time in Minutes	82582	---	446(*3)	---	---	Continuous	Recorder
pH Minimum/Maximum Values (Standard Units)	00400	---	---	Report(*3) (Min)	Report(*3) (Max)	Continuous	Recorder
BOD ₅ (*4)(*5)	00310	1304	2455	---	---	2/month	24-hr. Composite
TSS	00530	(*5)	(*5)	---	---	1/week	24-hr. Composite
Oil & Grease	00556	(*5)	(*5)	---	---	2/month	Grab
TOC (*4)(*5)	00680	1620	2579	---	---	1/month	24-hr. Composite
Ammonia (as N) (*4)(*5)	00610	486	1061	---	---	1/week	24-hr. Composite
Sulfide (as S)	00745	(*5)	(*5)	---	---	1/month	Grab
Phenolic Compounds (*4)(*5)	32730	10.6	25.3	---	---	1/quarter	Grab
Total Nitrogen	00600	Report	Report	---	---	1/quarter	Grab
Total Phosphorous	00665	Report	Report	---	---	1/quarter	Grab
Fecal Coliform #/100 ml	74055	---	---	200(*6)	400	1/6 months	Grab
Enterococci #/100 ml	61211	---	---	35 (*6)	135	1/6 months	Grab
<u>METALS</u>							
Total Chromium	01034	(*5)	(*5)	---	---	1/quarter	24-hr. Composite
Chromium (6+) (*4)(*5)	01032	0.24	0.58	---	---	1/quarter	24-hr. Composite
<u>WHOLE EFFLUENT (CHRONIC)</u>							
<u>TOXICITY TESTING</u>							
	STORET Code	(Percent %, UNLESS STATED) Monthly Avg 7- Day				Measurement Frequency (*7)	Sample Type
		Minimum	Minimum	Maximum			
NOEC, Pass/Fail [0/1], Lethality, Static Renewal, 7-Day Chronic, <u>Menidia beryllina</u>	TLP6J	Report	Report	---		1/quarter	24-hr. Composite

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Outfall 001 Phase I continued)

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>	<u>Monitoring Requirements</u>				
		Other units (Percent %, UNLESS STATED)		Measurement Frequency (*7)	Sample Type	
<u>WHOLE EFFLUENT (CHRONIC)</u>		Monthly Avg Minimum	7- Day Minimum	Maximum		
<u>TOXICITY TESTING</u>	STORET Code					
NOEC, Value [%], Lethality, Static Renewal, 7-Day Chronic, <u>Menidia beryllina</u>	TOP6J	Report	Report	---	1/quarter	24-hr. Composite
NOEC, Value [%], Growth, Static Renewal, 7-Day Chronic, <u>Menidia beryllina</u>	TPP6J	Report	Report	---	1/quarter	24-hr. Composite
NOEC, Pass/Fail [0/1], Growth, Static Renewal, 7-Day Chronic, <u>Menidia beryllina</u>	TGP6J	Report	Report	---	1/quarter	24-hr. Composite
Coefficient of Variation, Static Renewal, 7-Day Chronic, <u>Menidia beryllina</u>	TQP6J	---	---	Report	1/quarter	24-hr. Composite
NOEC, Pass/Fail [0/1], Lethality, Static Renewal, 7-Day Chronic, <u>Mysidopsis bahia</u>	TLP3E	Report	Report	---	1/quarter	24-hr. Composite
NOEC, Value [%], Lethality, Static Renewal, 7-Day Chronic <u>Mysidopsis bahia</u>	TOP3E	Report	Report	---	1/quarter	24-hr. Composite
NOEC, Value [%], Growth, Static Renewal, 7-Day Chronic, <u>Mysidopsis bahia</u>	TPP3E	Report	Report	---	1/quarter	24-hr. Composite
NOEC, Pass/Fail [0/1], Growth, Static Renewal, 7-Day Chronic, <u>Mysidopsis bahia</u>	TGP3E	Report	Report	---	1/quarter	24-hr. Composite
Coefficient of Variation, Static Renewal, 7-Day Chronic, <u>Mysidopsis bahia</u>	TQP3E	---	---	Report	1/quarter	24-hr. Composite

There shall be no discharge of floating or settleable solids or visible foam in other than trace amounts, nor of free oil or other oil materials, nor of toxic materials in quantities such as to cause acute toxicity to aquatic organisms. Furthermore, there shall be no visible sheen or stains attributable to this discharge.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

Outfall 001, at the point of discharge from the clarifier, prior to mixing with other waters

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Outfall 001 Phase I continued)

FOOTNOTE(S):

- (*1) The permittee shall notify the Office of Environmental Services and the Office of Environmental Compliance in writing no less than 14 days prior to start up of Phase II operations.
- (*2) Miscellaneous non-process wastewaters include: emergency eyewash and shower stations testing and use; firewater system test wastewaters (without foam); equipment and building washdown and maintenance water (without soaps and detergents); pump seal/cooling water jackets; high/low pressure fan cooling water; oil pump cooling water (for dryers and other equipment); air dryer chiller water; freeze protection water; line flushing (potable water or the non-process lines); water well development/testing, maintenance/cleaning and overflow; well pump bypass water; moisture released from the instrument air traps; air conditioning condensate; condensate that may form on the outside of tanks, pipes, or other equipment; steam condensate; compressor condensate; uncontaminated groundwater; water used for dust suppression; cooling tower drift; and de minimis leaks from the potable, cooling water, utility, or fire water distribution system network pipelines
- (*3) The pH shall be within the range of 6.0 - 9.0 standard units at all times subject to the continuous monitoring pH range excursion provisions at Part II.I.
- (*4) In addition to complying with the loading summation of BOD₅, TOC, Ammonia, Phenolic Compounds and Chromium VI at Outfalls 001, 003, and 103 (See footnote *5 on Phase I on Part I, Page 4 of 23), the permittee shall comply with the limitations established for these parameters listed at Outfall 001 on Part I, Page 2 of 23 of the permit and report any exceedance as an excursion on a monthly DMR for Outfall 001
- (*5) For BOD₅, TSS, Oil & Grease, TOC, Ammonia, Phenolic Compounds, Sulfide, Total Chromium, and Chromium VI, the permittee shall conduct concurrent monitoring at Outfalls 001, 003, and 103. The arithmetic sum of the daily pollutant mass discharge for these parameters from Outfalls 001, 003, and 103 during the same 24-hour or grab sampling event shall not exceed the Monthly Average and Daily Maximum loadings specified for Outfall 003 Phase I , Page 10 of 23. Any exceedance from the summed results shall be reported as an excursion on a monthly DMR for Outfall "SUM".
- (*6) The monthly average for bacteria indicators (fecal coliform and enterococci) is the geometric mean of the values for all effluent samples collected in the calendar month.
- (*7) See Part II.Q.5, Monitoring Frequency Reduction.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

During the period beginning startup of Phase II (*1) and lasting through the expiration date the permittee is authorized to discharge from:

Outfall 001 (Phase II), the continuous discharge of treated lube process wastewater; treated process area stormwater; utility wastewater; miscellaneous non-process wastewater(*2); non-process area stormwater; sanitary wastewater; and hydrostatic test wastewater

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	STORET Code	Discharge Limitations				Monitoring Requirements	
		(lbs/day, UNLESS STATED)		Other Units (mg/L, UNLESS STATED)		Measurement Frequency	Sample Type
<u>CONVENTIONAL</u>	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum			
Flow-MGD	50050	Report	Report	---	---	Continuous	Recorder
pH Range Excursions (Continuous Monitoring), Number of Events >60 Minutes	82581	---	0(*3)	---	---	Continuous	Recorder
pH Range Excursions (Continuous Monitoring), Monthly Total Accumulated Time in Minutes	82582	---	446(*3)	---	---	Continuous	Recorder
pH Minimum/Maximum Values (Standard Units)	00400	---	---	Report(*3) (Min)	Report(*3) (Max)	Continuous	Recorder
BOD ₅	00310	1304	2455	---	---	1/month	24-hr. Composite
TSS	00530	3474	5427	---	---	1/month	24-hr. Composite
Oil & Grease	00556	1303	2478	---	---	1/month	Grab
TOC	00680	1620	2579	---	---	1/month	24-hr. Composite
Ammonia (as N)	00610	486	1061	---	---	1/month	24-hr. Composite
Sulfide (as S)	00745	21.6	48	---	---	1/month	Grab
Phenolic Compounds	32730	9.5	32.28	---	---	1/month	Grab
Total Nitrogen	00600	Report	Report	---	---	1/quarter	Grab
Total Phosphorous	00665	Report	Report	---	---	1/quarter	Grab
Fecal Coliform #/100 ml	74055	---	---	200 (*4)	400	1/6 months	Grab
Enterococci #/100 ml	61211	---	---	35 (*4)	135	1/6 months	Grab
<u>METALS</u>							
Total Chromium	01034	11.2	31.9	---	---	1/quarter	24-hr. Composite
Chromium (6+)	01032	0.31	0.74	---	---	1/quarter	24-hr. Composite
<u>WHOLE EFFLUENT (CHRONIC)</u>							
<u>TOXICITY TESTING</u>							
	STORET Code	(Percent %, UNLESS STATED)				Measurement Frequency (*5)	Sample Type
		Monthly Avg 7- Day		Minimum Maximum			
NOEC, Pass/Fail [0/1], Lethality, Static Renewal, 7-Day Chronic, <u>Menidia beryllina</u>	TLP6J	Report	Report	---	---	1/quarter	24-hr. Composite

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Outfall 001 Phase II continued)

Effluent Characteristic	Discharge Limitations	Monitoring Requirements				
		Other units (Percent %, UNLESS STATED)	Measurement Frequency (*5)	Sample Type		
WHOLE EFFLUENT (CHRONIC)		Monthly Avg 7- Day Minimum	Minimum	Maximum		
TOXICITY TESTING	STORET Code	Report	Report	---	1/quarter	24-hr. Composite
NOEC, Value [%], Lethality, Static Renewal, 7-Day Chronic, <u>Menidia beryllina</u>	TOP6J	Report	Report	---	1/quarter	24-hr. Composite
NOEC, Value [%], Growth, Static Renewal, 7-Day Chronic, <u>Menidia beryllina</u>	TPP6J	Report	Report	---	1/quarter	24-hr. Composite
NOEC, Pass/Fail [0/1], TGP6J Growth, Static Renewal, 7-Day Chronic, <u>Menidia beryllina</u>		Report	Report	---	1/quarter	24-hr. Composite
Coefficient of Variation, Static Renewal, 7-Day Chronic, <u>Menidia beryllina</u>	TQP6J	---	---	Report	1/quarter	24-hr. Composite
NOEC, Pass/Fail [0/1], TLP3E Lethality, Static Renewal, 7-Day Chronic, <u>Mysidopsis bahia</u>		Report	Report	---	1/quarter	24-hr. Composite
NOEC, Value [%], Lethality, Static Renewal, 7-Day Chronic <u>Mysidopsis bahia</u>	TOP3E	Report	Report	---	1/quarter	24-hr. Composite
NOEC, Value [%], Growth, Static Renewal, 7-Day Chronic, <u>Mysidopsis bahia</u>	TPP3E	Report	Report	---	1/quarter	24-hr. Composite
NOEC, Pass/Fail [0/1], TGP3E Growth, Static Renewal, 7-Day Chronic, <u>Mysidopsis bahia</u>		Report	Report	---	1/quarter	24-hr. Composite
Coefficient of Variation, Static Renewal, 7-Day Chronic, <u>Mysidopsis bahia</u>	TQP3E	---	---	Report	1/quarter	24-hr. Composite

There shall be no discharge of floating or settleable solids or visible foam in other than trace amounts, nor of free oil or other oil materials, nor of toxic materials in quantities such as to cause acute toxicity to aquatic organisms. Furthermore, there shall be no visible sheen or stains attributable to this discharge.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

Outfall 001, at the point of discharge from the clarifier, prior to mixing with other waters

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Outfall 001 Phase II continued)

FOOTNOTE(S):

- (*1) The permittee shall notify the Office of Environmental Services and the Office of Environmental Compliance in writing no less than 14 days prior to start up of Phase II operations.
- (*2) Miscellaneous non-process wastewaters include: emergency eyewash and shower stations testing and use; firewater system test wastewaters (without foam); equipment and building washdown and maintenance water (without soaps and detergents); pump seal/cooling water jackets; high/low pressure fan cooling water; oil pump cooling water (for dryers and other equipment); air dryer chiller water; freeze protection water; line flushing (potable water or the non-process lines); water well development/testing, maintenance/cleaning and overflow; well pump bypass water; moisture released from the instrument air traps; air conditioning condensate; condensate that may form on the outside of tanks, pipes, or other equipment; steam condensate; compressor condensate; uncontaminated groundwater; water used for dust suppression; cooling tower drift; and de minimis leaks from the potable, cooling water, utility, or fire water distribution system network pipelines
- (*3) The pH shall be within the range of 6.0 - 9.0 standard units at all times subject to the continuous monitoring pH range excursion provisions at Part II.I.
- (*4) The monthly average for bacteria indicators (fecal coliform and enterococci) is the geometric mean of the values for all effluent samples collected in the calendar month.
- (*5) See Part II.Q.5, Monitoring Frequency Reduction.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

During the period beginning the effective date and lasting through the expiration date the permittee is authorized to discharge from:

Internal Outfall 101, the intermittent discharge of hydrostatic test wastewater

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic(*1)	STORET Code	Discharge Limitations				Monitoring Requirements	
		(lbs/day, UNLESS STATED)		(mg/L, UNLESS STATED)		Measurement Frequency(*4)	Sample Type
		Monthly Average	Daily Maximum(*3)	Monthly Average	Daily Maximum(*3)		
Flow-MGD (*2)	50050	Report	Report	---	---	1/discharge	Estimate
TSS (*5)	00530	---	---	---	90	1/discharge	Grab
TSS (NET) (*5)	00530	---	---	---	90	1/discharge	Grab
TOC	00680	---	---	---	50	1/discharge	Grab
Oil & Grease	00556	---	---	---	15	1/discharge	Grab
Total BTEX (*6)	49491	---	---	---	250 ug/L	1/discharge	Grab
Lead	01051	---	---	---	50 ug/L	1/discharge	Grab
Benzene	34030	---	---	---	50 ug/L	1/discharge	Grab
pH min/maximum Values (Standard Units) (*7)	00400	---	---	6.0 (*7) (Min)	9.0 (*7) (Max)	1/discharge	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

Outfall 101, at the point of discharge of hydrostatic testing activity, prior to mixing with any other waters.

FOOTNOTE(S):

- (*1) Flow, TSS, Oil and Grease, and pH shall be measured on discharges from all new and existing pipelines, flowlines, vessels, or tanks. In addition, Total Organic Carbon (TOC) shall be measured on discharges from existing pipelines, flowlines, vessels, or tanks which have previously been in service; (i.e., those which are not new). Benzene, Total BTEX, and Total Lead shall be measured on discharges from existing pipelines, flow lines, vessels, or tanks which have been used for the storage or transportation of liquid or gaseous petroleum hydrocarbons. When reporting Discharge Monitoring Reports (DMRs) electronically and monitoring is not required during the reporting period, use a no data indicator (NODI) code of 9 for conditional/not required can be provided in the notes section of the DMRs.
- (*2) The flow for the month with the highest monthly average flow shall be reported.
- (*3) The highest result from any individual hydrostatic test must be reported.
- (*4) Monitoring is required once per discharge event.
- (*5) Report either a TSS effluent value or a TSS net value on the Discharge Monitoring Report (DMR). If a TSS effluent value is reported, then a no data indicator (NODI) code of 9 for conditional/not required should be used for the TSS net value. If a TSS net value is reported, then a no data indicator (NODI) code of 9 for conditional/not required should be used for the TSS effluent value. If the effluent is being returned to the same water source from which the intake water was obtained, a TSS net value may be calculated. In these cases, concurrent sampling of the influent and the effluent is required, and the net value shall not exceed 90 mg/L. If TSS net value is calculated, enter the effluent and intake values in the comment section of the DMR.
- (*6) BTEX shall be measured as the sum of benzene, toluene, ethylbenzene, ortho-xylene, and para-xylene as quantified using methods prescribed by the latest approved 40 CFR 136, Tables, A-G.
- (*7) The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units. The permittee shall report on the Discharge Monitoring Reports both the minimum and maximum instantaneous pH values measured during the sampling month.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

During the period beginning the effective date and lasting through the expiration date the permittee is authorized to discharge from:

Outfall 002, the intermittent discharge of cooling tower blowdown; stormwater runoff; miscellaneous non-process wastewaters (*1) from the propylene fractionation unit (PFU); and previously monitored hydrostatic test wastewater from Internal Outfall 101

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	STORET Code	Discharge Limitations		Other Units		Monitoring Requirements	
		(lbs/day, UNLESS STATED) Monthly Average	(lbs/day, UNLESS STATED) Daily Maximum	(mg/L, UNLESS STATED) Monthly Average	(mg/L, UNLESS STATED) Daily Maximum	Measurement Frequency(*2)	Sample Type
Flow-MGD	50050	Report	Report	---	---	1/day	Estimate
TOC	00680	---	---	---	50	1/month Grab	
Oil and Grease	00556	---	---	---	15	1/month	Grab
pH Minimum/Maximum Values (Standard Units)	00400	---	6.0 (*3)	9.0 (*3) (Min)	1/day (Max)	Grab	

There shall be no discharge of floating or settleable solids or visible foam in other than trace amounts, nor of free oil or other oil materials, nor of toxic materials in quantities such as to cause acute toxicity to aquatic organisms. Furthermore, there shall be no visible sheen or stains attributable to this discharge.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

Outfall 002, at the point of discharge from the operating unit prior to discharge to the west ditch, prior to mixing with other waters

FOOTNOTE(S):

- (*1) Miscellaneous non-process wastewaters include: emergency eyewash and shower stations testing and use; firewater system test wastewaters (without foam); equipment and building washdown and maintenance water (without soaps and detergents); pump seal/cooling water jackets; high/low pressure fan cooling water; oil pump cooling water (for dryers and other equipment); air dryer chiller water; freeze protection water; line flushing (potable water or the non-process lines); water well development/testing, maintenance/cleaning and overflow; well pump bypass water; moisture released from the instrument air traps; air conditioning condensate; condensate that may form on the outside of tanks, pipes, or other equipment; steam condensate; compressor condensate; uncontaminated groundwater; water used for dust suppression; cooling tower drift; and de minimis leaks from the potable, cooling water, utility, or fire water distribution system network pipelines
- (*2) When discharging
- (*3) The permittee shall report on the Discharge Monitoring Reports both the minimum and maximum instantaneous pH values measured.

During the period beginning the effective date and lasting through the startup of Phase II (*1) or expiration date of the permit, whichever comes first the permittee is authorized to discharge from:

Outfall 003 (Phase I), the continuous discharge of treated process wastewater from the Main Refinery; ballast water; process area stormwater; treated sanitary wastewater; utility wastewater; miscellaneous non-process wastewaters (*2); propylene fractionation unit (PFU) wastewater; non process area stormwater; and hydrostatic test wastewater

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>		<u>Discharge Limitations</u> (lbs/day, UNLESS STATED)		<u>Other Units</u> (mg/L, UNLESS STATED)		<u>Monitoring Requirements</u>	
					Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency
<u>CONVENTIONAL</u>	STORET Code	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	
Flow-MGD	50050	Report	Report	---	---	Continuous	Recorder	
pH Range Excursions (Continuous Monitoring), Number of Events >60 Minutes	82581	---	0(*3)	---	---	Continuous	Recorder	
pH Range Excursions (Continuous Monitoring), Monthly Total Accumulated Time in Minutes	82582	---	446(*3)	---	---	Continuous	Recorder	
pH Minimum/Maximum Values (Standard Units)	00400	---	---	Report(*3) (Min)	Report(*3) (Max)	Continuous	Recorder	
BOD ₅ (*4)	00310	4164	7501	---	---	2/month	24-hr. Composite	
TSS (*4)	00530	3336	5228	---	---	1/week	24-hr. Composite	
Oil & Grease (*4)	00556	1215	2283	---	---	2/month	Grab	
TOC (*4)	00680	9160	16503	---	---	1/month	24-hr. Composite	
Ammonia (as N)(*4)	00610	2126	4677	---	---	1/week	24-hr. Composite	
Sulfide (as S) (*4)	00745	20.5	46.1	---	---	1/month	Grab	
Phenolic Compounds (*4)	32730	27.1	55.7	---	---	1/quarter	Grab	
Total Nitrogen	00600	Report	Report	---	---	1/quarter	Grab	
Total Phosphorous	00665	Report	Report	---	---	1/quarter	Grab	
Fecal Coliform #/100 ml	74055	---	---	200 (*5)	400	1/6 months	Grab	
Enterococci #/100 ml	61211	---	---	35 (*5)	135	1/6 months	Grab	
<u>METALS</u>								
Total Chromium (*4)	01034	32.7	94.0	---	---	1/quarter	24-hr. Composite	
Chromium (6+) (*4)	01032	2.8	6.2	---	---	1/quarter	24-hr. Composite	
<u>BASE NEUTRAL COMPOUNDS</u>								
Benzo(a)anthracene (*6)	34526	0.762	---	---	---	1/quarter	24-hr. Composite	
Benzo(a)pyrene (*6)	34247	0.762	---	---	---	1/quarter	24-hr. Composite	

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Outfall 003 Phase I continued)

Effluent Characteristic	Discharge Limitations	Monitoring Requirements				
		Other units (Percent %, UNLESS STATED)	Measurement Frequency (*7)	Sample Type		
<u>WHOLE EFFLUENT (CHRONIC)</u>		Monthly Avg 7-day				
<u>TOXICITY TESTING</u>	STORET Code	Minimum	Minimum	Maximum		
NOEC, Pass/Fail [0/1], TLP6J Lethality, Static Renewal, 7-Day Chronic, <u>Menidia beryllina</u>		Report	Report	---	1/quarter	24-hr. Composite
NOEC, Value [%], TOP6J Lethality, Static Renewal, 7-Day Chronic, <u>Menidia beryllina</u>		Report	Report	---	1/quarter	24-hr. Composite
NOEC, Value [%], TPP6J Growth, Static Renewal, 7-Day Chronic, <u>Menidia beryllina</u>		Report	Report	---	1/quarter	24-hr. Composite
NOEC, Pass/Fail [0/1], TGP6J Growth, Static Renewal, 7-Day Chronic, <u>Menidia beryllina</u>		Report	Report	---	1/quarter	24-hr. Composite
Coefficient of Variation, TQP6J Static Renewal, 7-Day Chronic, <u>Menidia beryllina</u>		---	---	Report	1/quarter	24-hr. Composite
NOEC, Pass/Fail [0/1], TLP3E Lethality, Static Renewal, 7-Day Chronic, <u>Mysidopsis bahia</u>		Report	Report	---	1/quarter	24-hr. Composite
NOEC, Value [%], TOP3E Lethality, Static Renewal, 7-Day Chronic <u>Mysidopsis bahia</u>		Report	Report	---	1/quarter	24-hr. Composite
NOEC, Value [%], TPP3E Growth, Static Renewal, 7-Day Chronic, <u>Mysidopsis bahia</u>		Report	Report	---	1/quarter	24-hr. Composite
NOEC, Pass/Fail [0/1], TGP3E Growth, Static Renewal, 7-Day Chronic, <u>Mysidopsis bahia</u>		Report	Report	---	1/quarter	24-hr. Composite
Coefficient of Variation, TQP3E Static Renewal, 7-Day Chronic, <u>Mysidopsis bahia</u>		---	---	Report	1/quarter	24-hr. Composite

There shall be no discharge of floating or settleable solids or visible foam in other than trace amounts, nor of free oil or other oil materials, nor of toxic materials in quantities such as to cause acute toxicity to aquatic organisms. Furthermore, there shall be no visible sheen or stains attributable to this discharge.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

Outfall 003, at the point of discharge from the refinery secondary treatment plant polishing pond, prior to mixing with other waters

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Outfall 003 Phase I continued)

FOOTNOTE(S):

- (*1) The permittee shall notify the Office of Environmental Services and the Office of Environmental Compliance in writing no less than 14 days prior to the start up of Phase II operations.
- (*2) Miscellaneous non-process wastewaters include: emergency eyewash and shower stations testing and use; firewater system test wastewaters (without foam); equipment and building washdown and maintenance water (without soaps and detergents); pump seal/cooling water jackets; high/low pressure fan cooling water; oil pump cooling water (for dryers and other equipment); air dryer chiller water; freeze protection water; line flushing (potable water or the non-process lines); water well development/testing, maintenance/cleaning and overflow; well pump bypass water; moisture released from the instrument air traps; air conditioning condensate; condensate that may form on the outside of tanks, pipes, or other equipment; steam condensate; compressor condensate; uncontaminated groundwater; water used for dust suppression; cooling tower drift; and de minimis leaks from the potable, cooling water, utility, or fire water distribution system network pipelines
- (*3) The pH shall be within the range of 6.0 - 9.0 standard units at all times subject to the continuous monitoring pH range excursion provisions at Part II.I.
- (*4) BOD₅, TSS, Oil & Grease, TOC, Ammonia, Phenolic Compounds, Sulfide, Total Chromium, and Chromium VI, the permittee shall conduct concurrent monitoring at Outfalls 001, 003, and 103. The arithmetic sum of the daily pollutant mass discharge mass discharges for these parameters from Outfalls 001, 003, and 103 during the same 24-hour or grab sampling event shall not exceed the Monthly Average and Daily Maximum loadings specified for Outfall 003 in Part I, Page 10 of 23. Any exceedance from the summed results shall be reported as an excursion on a monthly DMR for Outfall "SUM".
- (*5) The monthly average for bacteria indicators (fecal coliform and enterococci) is the geometric mean of the values for all effluent samples collected in the calendar month.
- (*6) For Benzo(a)anthracene and Benzo(a)pyrene the permittee shall conduct concurrent monitoring at Outfalls 003 and 103. The arithmetic sum of the daily pollutant mass discharge for these parameters from Outfalls 003 and 103 during the same 24-hour or grab sampling event shall not exceed the Monthly Average and Daily Maximum loadings specified for Outfall 003 in Part I, Page 10 of 23 Any exceedance from the summed results shall be reported as an excursion on a monthly DMR for Outfall "SUM".
- (*7) See Part II.Q.5, Monitoring Frequency Reduction.

During the period beginning the startup of Phase II (*1) and lasting through the expiration date the permittee is authorized to discharge from:

Outfall 003 (Phase II), the continuous discharge of treated process wastewater from the Main Refinery; ballast water; process area stormwater; treated sanitary wastewater; utility wastewater; miscellaneous non-process wastewaters (*2); propylene fractionation unit (PFU) wastewater; non process area stormwater; and hydrostatic test wastewater

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations				Monitoring Requirements		
	STORET Code	Other Units (lbs/day, UNLESS STATED) (mg/L, UNLESS STATED)			Daily Maximum	Measurement Frequency	Sample Type
		Monthly Average	Daily Maximum	Monthly Average			
<u>CONVENTIONAL</u>							
Flow-MGD	50050	Report	Report	---	---	Continuous	Recorder
pH Range Excursions (Continuous Monitoring), Number of Events >60 Minutes	82581	---	0(*3)	---	---	Continuous	Recorder
pH Range Excursions (Continuous Monitoring), Monthly Total Accumulated Time in Minutes	82582	---	446(*3)	---	---	Continuous	Recorder
pH Minimum/Maximum Values (Standard Units)	00400	---	---	Report(*3) (Min)	Report(*3) (Max)	Continuous	Recorder
BOD ₅ (*4)	00310	4291	8402	---	---	2/month	24-hr. Composite
TSS (*4)	00530	3756	5867	---	---	1/week	24-hr. Composite
Oil & Grease (*4)	00556	1408	2678	---	---	2/month	Grab
TOC (*4)	00680	9440	18485	---	---	1/month	24-hr. Composite
Ammonia (as N)(*4)	00610	1680	3671	---	---	1/week	24-hr. Composite
Sulfide (as S) (*4)	00745	23.4	52.2	---	---	1/month	Grab
Phenolic Compounds (*4)	32730	27.9	62.1	---	---	1/quarter	Grab
Total Nitrogen	00600	Report	Report	---	---	1/quarter	Grab
Total Phosphorous	00665	Report	Report	---	---	1/quarter	Grab
Fecal Coliform #/100 ml	74055	---	---	200(*5)	400	1/6 months	Grab
Enterococci #/100 ml	61211	---	---	35 (*5)	135	1/6 months	Grab
<u>METALS</u>							
Total Chromium (*4)	01034	32.7	94.0	---	---	1/quarter	24-hr. Composite
Chromium (6+) (*4)	01032	2.8	6.2	---	---	1/quarter	24-hr. Composite
<u>BASE NEUTRAL COMPOUNDS</u>							
Benzo(a)anthracene (*6)	34526	0.762	---	---	---	1/quarter	24-hr. Composite
Benzo(a)pyrene (*6)	34247	0.762	---	---	---	1/quarter	24-hr. Composite

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Outfall 003 Phase II continued)

Effluent Characteristic	Discharge Limitations	Monitoring Requirements				
		(Percent %, UNLESS STATED)		Other units	Measurement	Sample
TOXICITY TESTING	STORET Code	Monthly Minimum	Minimum	Avg 7-day Maximum	Frequency (*7)	Type
NOEC, Pass/Fail [0/1], Lethality, Static Renewal, 7-Day Chronic, <u>Menidia beryllina</u>	TLP6J Report	Report		---	1/quarter	24-hr. Composite
NOEC, Value [%], Lethality, Static Renewal, 7-Day Chronic, <u>Menidia beryllina</u>	TOP6J Report	Report		---	1/quarter	24-hr. Composite
NOEC, Value [%], Growth, Static Renewal, 7-Day Chronic, <u>Menidia beryllina</u>	TPP6J Report	Report		---	1/quarter	24-hr. Composite
NOEC, Pass/Fail [0/1], Growth, Static Renewal, 7-Day Chronic, <u>Menidia beryllina</u>	TGP6J Report	Report	Report	---	1/quarter	24-hr. Composite
Coefficient of Variation, Static Renewal, 7-Day Chronic, <u>Menidia beryllina</u>	TQP6J	---		---	Report	1/quarter 24-hr. Composite
NOEC, Pass/Fail [0/1], Lethality, Static Renewal, 7-Day Chronic, <u>Mysidopsis bahia</u>	TLP3E Report	Report	Report	---	1/quarter	24-hr. Composite
NOEC, Value [%], Lethality, Static Renewal, 7-Day Chronic <u>Mysidopsis bahia</u>	TOP3E Report	Report		---	1/quarter	24-hr. Composite
NOEC, Value [%], Growth, Static Renewal, 7-Day Chronic, <u>Mysidopsis bahia</u>	TPP3E Report	Report		---	1/quarter	24-hr. Composite
NOEC, Pass/Fail [0/1], Growth, Static Renewal, 7-Day Chronic, <u>Mysidopsis bahia</u>	TGP3E Report	Report	Report	---	1/quarter	24-hr. Composite
Coefficient of Variation, Static Renewal, 7-Day Chronic, <u>Mysidopsis bahia</u>	TQP3E	---		---	Report	1/quarter 24-hr. Composite

There shall be no discharge of floating or settleable solids or visible foam in other than trace amounts, nor of free oil or other oil materials, nor of toxic materials in quantities such as to cause acute toxicity to aquatic organisms. Furthermore, there shall be no visible sheen or stains attributable to this discharge.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

Outfall 003, at the point of discharge from the refinery secondary treatment plant polishing pond, prior to mixing with other waters

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Outfall 003 Phase II continued)

FOOTNOTE(S):

- (*1) The permittee shall notify the Office of Environmental Services and the Office of Environmental Compliance in writing no less than 14 days prior to the start up of Phase II operations.
- (*2) Miscellaneous non-process wastewaters include: emergency eyewash and shower stations testing and use; firewater system test wastewaters (without foam); equipment and building washdown and maintenance water (without soaps and detergents); pump seal/cooling water jackets; high/low pressure fan cooling water; oil pump cooling water (for dryers and other equipment); air dryer chiller water; freeze protection water; line flushing (potable water or the non-process lines); water well development/testing, maintenance/cleaning and overflow; well pump bypass water; moisture released from the instrument air traps; air conditioning condensate; condensate that may form on the outside of tanks, pipes, or other equipment; steam condensate; compressor condensate; uncontaminated groundwater; water used for dust suppression; cooling tower drift; and de minimis leaks from the potable, cooling water, utility, or fire water distribution system network pipelines
- (*3) The pH shall be within the range of 6.0 - 9.0 standard units at all times subject to the continuous monitoring pH range excursion provisions at Part II.I.(*3)
- (*4) For BOD₅, TSS, Oil & Grease, TOC, Ammonia, Phenolic Compounds, Sulfide, Total Chromium, and Chromium VI, the permittee shall conduct concurrent monitoring at Outfalls 003 and 103. The arithmetic sum of the daily pollutant mass discharge for these parameters from Outfalls 003 and 103 during the same 24-hour or grab sampling event shall not exceed the Monthly Average and Daily Maximum loadings specified for Outfall 003 in Part I, Page 13 of 23 Any exceedance from the summed results shall be reported as an excursion on a monthly DMR for Outfall "SUM".
- (*5) The monthly average for bacteria indicators (fecal coliform and enterococci) is the geometric mean of the values for all effluent samples collected in the calendar month.
- (*6) For Benzo(a)anthracene and Benzo(a)pyrene the permittee shall conduct concurrent monitoring at Outfalls 003 and 103. The arithmetic sum of the daily pollutant mass discharge for these parameters from Outfalls 003 and 103 during the same 24-hour or grab sampling event shall not exceed the Monthly Average and Daily Maximum loadings specified for Outfall 003 in Part I, Page 13 of 23 Any exceedance from the summed results shall be reported as an excursion on a monthly DMR for Outfall "SUM".
- (*7) See Part II.Q.5, Monitoring Frequency Reduction.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

During the period beginning the effective date and lasting through the expiration date the permittee is authorized to discharge from:

Outfall 103 (Phases I & II), the overflow of stormwater runoff and *de minimis* amounts of utility, process, and non-process wastewaters

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	STORET Code	Discharge Limitations		Other Units		Monitoring Requirements	
		(lbs/day, UNLESS STATED) Monthly Average	(mg/L, UNLESS STATED) Daily Maximum	(mg/L, UNLESS STATED) Monthly Average	(mg/L, UNLESS STATED) Daily Maximum	Measurement Frequency	Sample Type
Flow-MGD	50050	Report	Report	---	---	1/day	Measurement
pH Minimum/Maximum Values (Standard Units)	00400	---	---	6.0(*1) (Min)	9.0(*1) (Max)	1/day	Grab
BOD ₅	00310	(*2)(*3)	(*2)(*3)	---	---	2/month	Grab
TSS	00530	(*2)(*3)	(*2)(*3)	---	---	1/week	Grab
Oil & Grease	00556	(*2)(*3)	(*2)(*3)	---	---	2/month	Grab
TOC	00680	(*2)(*3)	(*2)(*3)	---	---	1/month	Grab
Ammonia (as N)	00610	(*2)(*3)	(*2)(*3)	---	---	1/week	Grab
Sulfide (as S)	00745	(*2)(*3)	(*2)(*3)	---	---	1/month	Grab
Phenolic Compounds	32730	(*2)(*3)	(*2)(*3)	---	---	1/quarter	Grab
Total Nitrogen	00600	Report	Report	---	---	1/quarter	Grab
Total Phosphorous	00665	Report	Report	---	---	1/quarter	Grab
<u>METALS</u>							
Total Chromium	01034	(*2)(*3)	(*2)(*3)	---	---	1/quarter	Grab
Chromium (6+)	01032	(*2)(*3)	(*2)(*3)	---	---	1/quarter	Grab
<u>BASE NEUTRAL COMPOUNDS</u>							
Benzo(a)anthracene (*4)	34526	(*2)(*3)	---	---	---	1/quarter	Grab
Benzo(a)pyrene (*4)	34247	(*2)(*3)	---	---	---	1/quarter	Grab

There shall be no discharge of floating or settleable solids or visible foam in other than trace amounts, nor of free oil or other oil materials, nor of toxic materials in quantities such as to cause acute toxicity to aquatic organisms. Furthermore, there shall be no visible sheen or stains attributable to this discharge.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

Outfall 103, at the point of discharge from the West 54 inch Panama Canal discharge line, prior to mixing with other waters

Note: Discharges from this outfall shall be permitted during the following situations which include, but are not limited to, rain events that produce more water than can be processed through Outfall 003, such as hurricanes and tropical storms.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Outfall 103 continued)

FOOTNOTE(S):

- (*1) The permittee shall report on the Discharge Monitoring Reports both the minimum and maximum instantaneous pH values measured.
- (*2) During Phase I, for BOD₅, TSS, Oil & Grease, TOC, Ammonia, Phenolic Compounds, Sulfide, Total Chromium, and Chromium VI, the permittee shall conduct concurrent monitoring at Outfalls 001, 003, and 103. The arithmetic sum of the daily pollutant mass discharge for these parameters from Outfalls 001, 003, and 103 during the same 24-hour or grab sampling event shall not exceed the Monthly Average and Daily Maximum loadings specified for Outfall 003 in Part I, Page 10 of 23. Any exceedance from the summed results shall be reported as an excursion on a monthly DMR for Outfall "SUM".
- (*3) During Phase II, for BOD₅, TSS, Oil & Grease, TOC, Ammonia, Phenolic Compounds, Sulfide, Total Chromium, and Chromium VI, the permittee shall conduct concurrent monitoring at Outfalls 003 and 103. The arithmetic sum of the daily pollutant mass discharge mass discharges for these parameters from Outfalls 003 and 103 during the same 24-hour or grab sampling event shall not exceed the Monthly Average and Daily Maximum loadings specified for Outfall 003 in Part I, Page 13 of 23. Any exceedance from the summed results shall be reported as an excursion on a monthly DMR for Outfall "SUM".
- (*4) During Phase I and Phase II for Benzo(a)anthracene and Benzo(a)pyrene the permittee shall conduct concurrent monitoring at Outfalls 003 and 103. The arithmetic sum of the daily pollutant mass discharge for these parameters from Outfalls 003 and 103 during the same 24-hour or grab sampling event shall not exceed the Monthly Average loadings specified for Outfall 003 in Part I, Page 10 of 23 (Phase I) and Part I, Page 13 of 23 (Phase II). Any exceedance from the summed results shall be reported as an excursion on a monthly DMR for Outfall "SUM".

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

During the period beginning the effective date and lasting through the expiration date the permittee is authorized to discharge from:

Outfall 004, the continuous discharge of utility wastewater, including but not limited to, boiler blowdown, softener blowdown water, cation regeneration and rinse water, anion regeneration and rinse water, reverse osmosis backwash/reject water, high/low pressure fan cooling water, oil pump cooling water for dryers, air dryer chiller water, zeolite regeneration rinse and backwash; stormwater runoff; miscellaneous non-process wastewaters(*1); and previously monitored hydrostatic test wastewater from Internal Outfall 101

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	STORET Code	Discharge Limitations		Other Units		Monitoring Requirements	
		(lbs/day, UNLESS STATED)		(mg/L, UNLESS STATED)		Measurement Frequency(*2)	Sample Type
		Monthly Average	Daily Maximum	Monthly Average	Daily Maximum		
Flow-MGD	50050	Report	Report	---	---	Continuous	Recorder
pH Range Excursions (Continuous Monitoring), Number of Events >60 Minutes	82581	---	0(*3)	---	---	Continuous	Recorder
pH Range Excursions (Continuous Monitoring), Monthly Total Accumulated Time in Minutes	82582	---	446(*3)	---	---	Continuous	Recorder
pH Minimum/Maximum Values (Standard Units)	00400	---	---	Report(*3)	Report(*3)	Continuous (Min) (Max)	Recorder
TOC	00680	---	---	---	50	1/month	24-hr. Composite
Oil and Grease	00556	---	---	---	15	1/quarter	Grab

There shall be no discharge of floating or settleable solids or visible foam in other than trace amounts, nor of free oil or other oil materials, nor of toxic materials in quantities such as to cause acute toxicity to aquatic organisms. Furthermore, there shall be no visible sheen or stains attributable to this discharge.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

Outfall 004, at the point of discharge from the powerhouse after all sources are combined, prior to mixing with other waters

FOOTNOTE(S):

- (*1) Miscellaneous non-process wastewaters include: emergency eyewash and shower stations testing and use; firewater system test wastewaters (without foam); equipment and building washdown and maintenance water (without soaps and detergents); pump seal/cooling water jackets; high/low pressure fan cooling water; oil pump cooling water (for dryers and other equipment); air dryer chiller water; freeze protection water; line flushing (potable water or the non-process lines); water well development/testing, maintenance/cleaning and overflow; well pump bypass water; moisture released from the instrument air traps; air conditioning condensate; condensate that may form on the outside of tanks, pipes, or other equipment; steam condensate; compressor condensate; uncontaminated groundwater; water used for dust suppression; cooling tower drift; and de minimis leaks from the potable, cooling water, utility, or fire water distribution system network pipelines
- (*2) When discharging.
- (*3) The pH shall be within the range of 6.0 - 9.0 standard units at all times subject to the continuous monitoring pH range excursion provisions at Part II.I.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

During the period beginning the effective date and lasting through the expiration date the permittee is authorized to discharge from:

Outfall 006, the intermittent discharge of non-process area stormwater runoff; miscellaneous non-process wastewaters (*1); previously monitored hydrostatic test wastewater from Internal Outfall 101; previously monitored treated sanitary wastewater from Internal Outfall 106

Outfall 009, the intermittent discharge of non-process stormwater, miscellaneous non-process wastewater(*1), and previously monitored hydrostatic test wastewater from Internal Outfall 101

Outfall 010, the intermittent discharge of non-process stormwater, miscellaneous non-process wastewater(*1), and previously monitored hydrostatic test wastewater from Internal Outfall 101

Outfall 011, the intermittent discharge of non-process stormwater, miscellaneous non-process wastewater(*1), and previously monitored hydrostatic test wastewater from Internal Outfall 101

Outfall 012, the intermittent discharge of non-process stormwater, miscellaneous non-process wastewater(*1), and previously monitored hydrostatic test wastewater from Internal Outfall 101

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	STORET Code	Discharge Limitations		Other Units		Monitoring Requirements	
		Monthly	Daily	Monthly	Daily	Measurement Frequency(*2)	Sample Type
		Average	Maximum	Average	Maximum		
Flow-MGD	50050	Report	Report	---	---	1/quarter	Estimate
TOC	00680	---	---	---	50	1/quarter	Grab
Oil and Grease	00556	---	---	---	15	1/quarter	Grab
pH Minimum/Maximum Values (Standard Units)	00400	---	---	6.0 (*3) (Min)	9.0 (*3) (Max)	1/quarter	Grab

There shall be no discharge of floating or settleable solids or visible foam in other than trace amounts, nor of free oil or other oil materials, nor of toxic materials in quantities such as to cause acute toxicity to aquatic organisms. Furthermore, there shall be no visible sheen or stains attributable to this discharge.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

Outfall 006, at the point of discharge at the flume and V notch weir, prior to mixing with other waters

Outfall 009, at the point of discharge from a single drain pipe approximately 300 feet northwest of the Citgo Refinery D-dock at the northeast corner of the refinery, prior to mixing with other waters

Outfall 010, at the point of discharge near the center of the south refinery boundary, prior to mixing with other waters

Outfall 011, at the point of discharge from the South Tank farm sump, prior to mixing with other waters

Outfall 012, at the point of discharge prior to discharging into the interconnecting ditch to Bayou D'Inde

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Outfalls 006, 009, 010, 011, 012 continued)

FOOTNOTE(S):

- (*1) Miscellaneous non-process wastewaters include: emergency eyewash and shower stations testing and use; firewater system test wastewaters (without foam); equipment and building washdown and maintenance water (without soaps and detergents); pump seal/cooling water jackets; high/low pressure fan cooling water; oil pump cooling water (for dryers and other equipment); air dryer chiller water; freeze protection water; line flushing (potable water or the non-process lines); water well development/testing, maintenance/cleaning and overflow; well pump bypass water; moisture released from the instrument air traps; air conditioning condensate; condensate that may form on the outside of tanks, pipes, or other equipment; steam condensate; compressor condensate; uncontaminated groundwater; water used for dust suppression; cooling tower drift; and de minimis leaks from the potable, cooling water, utility, or fire water distribution system network pipelines
- (*2) When discharging.
- (*3) The permittee shall report on the Discharge Monitoring Reports both the minimum and maximum instantaneous pH values measured.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

During the period beginning the effective date and lasting through the expiration date the permittee is authorized to discharge from:

Internal Outfall 106, the intermittent discharge of treated sanitary wastewater from the Security Operations Center

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	STORET Code	Discharge Limitations				Monitoring Requirements	
		(lbs/day, UNLESS STATED)		Other Units (mg/L, UNLESS STATED)		Measurement Frequency	Sample Type
		Monthly Average	Daily Maximum	Monthly Average	Daily Maximum		
Flow-MGD	50050	Report	Report	---	---	1/quarter	Estimate
BOD ₅	00310	---	---	30	45	1/quarter	Grab
TSS	00530	---	---	30	45	1/2 months	Grab
Fecal Coliform #/100 ml (*1)	74055	---	---	200(*2)	400	1/2 months	Grab
Enterococci #/100 ml	61211	---	---	35(*2)	135	1/2 months	Grab
pH Minimum/Maximum Values (Standard Units)	00400	---	---	6.0 (*3) (Min)	9.0 (*3) (Max)	1/quarter	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

Outfall 106, at the point of discharge from the treatment facility, prior to mixing with other waters

FOOTNOTE(S):

- (*1) Future water quality studies may indicate potential toxicity from the presence of residual chlorine in the treatment facility's effluent. Therefore, the permittee is hereby advised that a future Total Residual Chlorine Limit may be required if chlorine is used as a method of disinfection. In many cases, this becomes a NO MEASURABLE Total Residual Chlorine Limit.
- (*2) The monthly average for bacteria indicators (fecal coliform and enterococci) is the geometric mean of the values for all effluent samples collected in the calendar month.
- (*3) The permittee shall report on the Discharge Monitoring Reports both the minimum and maximum instantaneous pH values measured.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

During the period beginning the effective date and lasting through the expiration date the permittee is authorized to discharge from:

Outfall 014, the intermittent discharge of treated sanitary wastewater from Citgo Park

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	STORET Code	Discharge Limitations				Monitoring Requirements	
		(lbs/day, UNLESS STATED)		Other Units (mg/L, UNLESS STATED)		Measurement Frequency	Sample Type
		Monthly Average	Daily Maximum	Monthly Average	Daily Maximum		
Flow-MGD	50050	Report	Report	---	---	1/quarter	Estimate
BOD ₅	00310	---	---	30	45	1/quarter	Grab
TSS	00530	---	---	30	45	1/quarter	Grab
Fecal Coliform #/100 ml(*1)	74055	---	---	200(*2)	400	1/quarter	Grab
Enterococci #/100 ml	61211	---	---	35 (*2)	135	1/quarter	Grab
pH Minimum/Maximum Values (Standard Units)	00400	---	---	6.0 (*3) (Min)	9.0 (*3) (Max)	1/quarter	Grab

There shall be no discharge of floating or settleable solids or visible foam in other than trace amounts, nor of free oil or other oil materials, nor of toxic materials in quantities such as to cause acute toxicity to aquatic organisms. Furthermore, there shall be no visible sheen or stains attributable to this discharge.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

Outfall 014, at the point of discharge from the treatment facility, prior to mixing with other waters

FOOTNOTE(S):

- (*1) Future water quality studies may indicate potential toxicity from the presence of residual chlorine in the treatment facility's effluent. Therefore, the permittee is hereby advised that a future Total Residual Chlorine Limit may be required if chlorine is used as a method of disinfection. In many cases, this becomes a NO MEASURABLE Total Residual Chlorine Limit.
- (*2) The monthly average for bacteria indicators (fecal coliform and enterococci) is the geometric mean of the values for all effluent samples collected in the calendar month.
- (*3) The permittee shall report on the Discharge Monitoring Reports both the minimum and maximum instantaneous pH values measured.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

During the period beginning the effective date and lasting through the expiration date the permittee is authorized to discharge from:

IT01 –Cooling Water Intake Structure – Cooling Water Intake Requirements (*1)(*2)

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	STORET Code	Discharge Limitations			Monitoring Requirements		
		Other Units (lbs/day, UNLESS STATED) (mg/L, UNLESS STATED)		Monthly Average	Daily Maximum	Monthly Average	Daily Maximum
Flow-MGD	50050	Report	Report	---	---	Daily (*4)	Estimate

FOOTNOTE(S):

- (*1) Clean Water Act 316(b) Cooling Water Intake Structure (CWIS) Requirements: Annual certification statement and report- The first annual reports required under this section shall be submitted to LDEQ headquarters one year from the effective date of the permit. Subsequently, all other reports shall be submitted one year from the date of the previous report.
- (*2) See Part II, Paragraph P, CLEAN WATER ACT 316(b) COOLING WATER INTAKE STRUCTURE (CWIS) REQUIREMENTS for additional requirements.
- (*3) If you have a no withdrawal event at the intake structure during the reporting period, use a No Data Indicator (NODI) Code of "7" for electronic DMRs or note in the comments section of the paper DMR. See Paragraph O for DMR submittal requirements.
- (*4) The Permittee shall monitor actual intake flows daily. The monitoring must be representative of normal operations, and must include monitoring cooling water withdrawals, make-up water, and blowdown volume (40 CFR 125.94(c)(1)). Monitoring shall be achieved by direct flow measurement, estimation based on pump operation curves, pump power input, heat and material balance, and/or other sound engineering methods. The average monthly and maximum daily intake flows shall be reported on the monthly DMR and in the annual report. The average monthly and maximum daily make up water flows and blowdown flows shall be reported in the comments section of the DMR and in the annual report. (40 CFR 125.97).

PART II

OTHER REQUIREMENTS

In addition to the standard conditions required in all permits and listed in Part III, the Office has established the following additional requirements in accordance with the Louisiana Water Quality Regulations.

- A. This permit does not in any way authorize the permittee to discharge a pollutant not listed or quantified in the application or limited or monitored for in the permit.
- B. Authorization to discharge pursuant to the conditions of this permit does not relieve the permittee of any liability for damages to state waters or private property. For discharges to private land, this permit does not relieve the permittee from obtaining proper approval from the landowner for appropriate easements and rights of way.
- C. For definitions of monitoring and sampling terminology see STANDARD CONDITIONS FOR LPDES PERMITS, Section F.

D. 24-HOUR ORAL REPORTING: DAILY MAXIMUM LIMITATION VIOLATIONS

Under the provisions of Part III.D.6.e.(3) of this permit, violations of daily maximum limitations for the following pollutants shall be reported orally to the Office of Environmental Compliance within 24 hours from the time the permittee became aware of the violation followed by a written report in five days.

METALS

Phenolic Compounds
Total Chromium
Chromium (6+)
Total BTEX
Benzene
Total Lead

E. COMPOSITE SAMPLING (24-HOUR)

1. STANDARD PROVISIONS

Unless otherwise specified in this permit, the term "24-hour composite sample" means a sample consisting of a minimum of four (4) aliquots of effluent collected at regular intervals over a normal 24-hour operating day and combined in proportion to flow or a sample continuously collected in proportion to flow over a normal 24-hour operating period.

2. VOLATILE COMPOUNDS

For the "24-hour composite" sampling of volatile compounds using EPA Methods 601, 602, 603, 624, 1624, or any other 40 CFR Part 136 (See LAC 33:IX.4901) method approved after the effective date of the permit, the permittee shall manually collect four (4) aliquots (grab samples) in clean zero head-space containers at regular intervals during the actual hours of discharge during the 24-hour sampling period using sample collection, preservation, and handling

OTHER REQUIREMENTS (continued)

techniques specified in the test method. These aliquots must be combined in the laboratory to represent the composite sample of the discharge. One of the following alternative methods shall be used to composite these aliquots.

- a. Each aliquot is poured into a syringe. The plunger is added, and the volume in the syringe is adjusted to 1-1/4 ml. Each aliquot (1-1/4 ml.) is injected into the purging chamber of the purge and trap system. After four (4) injections (total 5 ml.), the chamber is purged. Only one analysis or run is required since the aliquots are combined prior to analysis.
- b. Chill the four (4) aliquots to ≤ 6 Degrees Centigrade. These aliquots must be of equal volume. Carefully pour the contents of each of the four aliquots into a 250-500 ml. flask which is chilled in a wet ice bath. Stir the mixture gently with a clean glass rod while in the ice bath. Carefully fill two (2) or more clean 40 ml. zero head-space vials from the flask and dispose of the remainder of the mixture. Analyze one of the aliquots to determine the concentration of the composite sample. The remaining aliquot(s) are replicate composite samples that can be analyzed if desired or necessary.
- c. Alternative sample compositing methods may be used following written approval by this Office.

The individual samples resulting from the application of these compositing methods shall be analyzed following the procedures specified for the selected test method. The resulting analysis shall be reported as the daily composite concentration.

As an option to the above compositing methods, the permittee may manually collect four (4) aliquots (grab samples) in clean zero head-space containers at regular intervals during the actual hours of discharge during the 24-hour sampling period using sample collection, preservation, and handling techniques specified in the test method. A separate analysis shall be conducted for each discrete grab sample following the approved test methods. The determination of daily composite concentration shall be the arithmetic average (weighted by flow) of all grab samples collected during the 24-hour sampling period.

F. FLOW MEASUREMENT "CONTINUOUS" SAMPLE TYPE - ALTERNATIVE PROCEDURE

In the event of a flow monitoring device failure with equipment used for backup purposes, the permittee shall use the daily average flow prior to the upset event to estimate flow. Continuous monitoring must be restored as soon as possible, and in no event more than 72 hours from the time of the monitor failure. This exception to continuous flow monitoring can be used no more than once per month per outfall. During periods of interruption of instantaneous flow measurement, sample compositors will collect samples at regular intervals of time.

OTHER REQUIREMENTS (continued)

In the event of a flow monitoring device failure, the permittee shall provide the following information in the comment section of the DMR:

- a. The date and time of the flow monitoring device failure.
- b. The date and time that the flow monitoring device is restored.

G. 40 CFR PART 136 (See LAC 33:IX.4901) ANALYTICAL REQUIREMENTS

Unless otherwise specified in this permit, monitoring shall be conducted according to analytical, apparatus and materials, sample collection, preservation, handling, etc., procedures listed at 40 CFR Part 136, and in particular, Appendices A, B, and C (See LAC 33:IX.4901).

H. FLOW MEASUREMENT "ESTIMATE" SAMPLE TYPE

If the flow measurement sample type in Part I is specified as "estimate", flow measurements shall not be subject to the accuracy provisions established at Part III.C.6 of this permit. The daily flow value may be estimated using best engineering judgment.

I. pH RANGE EXCURSION PROVISIONS

Where a permittee continuously measures the pH of wastewater as a requirement or option in a Louisiana Pollutant Discharge Elimination System (LPDES) permit, the permittee shall maintain the pH of such wastewater within the range set forth in the permit, except that excursions from the range are permitted, provided:

- 1. The total time during which the pH values are outside the required range of pH values shall not exceed 446 minutes in any calendar month; and
- 2. No individual excursion from the range of pH values shall exceed 60 minutes.

For the purposes of this section, an "excursion" is an unintentional and temporary incident in which the pH value of discharge wastewater exceeds the range set forth in the permit.

J. MINIMUM QUANTIFICATION LEVEL (MQL)

<u>NONCONVENTIONAL</u>	<u>MQL (µg/L)</u>
Phenolics, Total Recoverable (4AAP)	5
Chlorine (Total Residual)	33
3-Chlorophenol	10
4-Chlorophenol	10
2,3-Dichlorophenol	10
2,5-Dichlorophenol	10
2,6-Dichlorophenol	10
3,4-Dichlorophenol	10
2,4-D	10
2,4,5-TP (Silvex)	4

OTHER REQUIREMENTS (continued)

<u>METALS AND CYANIDE</u>	<u>MOQ (µg/L)</u>
Aluminum (Total)	2.5
Antimony (Total)	60
Arsenic (Total)	5
Beryllium (Total)	0.5
Cadmium (Total)	1
Chromium (Total)	10
Chromium (3+)	10
Chromium (6+)	10
Copper (Total)	3
Lead (Total)	2
Mercury (Total)	0.005
Molybdenum (Total)	30
Nickel (Total) Freshwater	5
Nickel (Total) Marine	5
Selenium (Total)	5
Silver (Total)	0.5
Thallium (Total)	0.5
Zinc (Total)	20
Cyanide (Total)	10
<u>DIOXIN</u>	<u>MOQ (µg/L)</u>
2,3,7,8-TCDD	0.00001
<u>VOLATILE COMPOUNDS</u>	<u>MOQ (µg/L)</u>
Acrolein	50
Acrylonitrile	20
Benzene	10
Bromoform	10
Carbon Tetrachloride	2
Chlorobenzene	10
Chlorodibromomethane	10
Chloroethane	50
2-Chloroethylvinylether	10
Chloroform	10
1,2-Dichlorobenzene	10
1,3-Dichlorobenzene	10
1,4-Dichlorobenzene	10
Dichlorobromomethane	10
1,1-Dichloroethane	10
1,2-Dichloroethane	10
1,1-Dichloroethylene	10
1,2-Dichloropropane	10
1,3-Dichloropropylene	10
Ethylbenzene	10
Methyl Bromide [Bromomethane]	50
Methyl Chloride [Chloromethane]	50
Methylene Chloride	20
1,1,2,2-Tetrachloroethane	10
Tetrachloroethylene	10
Toluene	10
1,2-trans-Dichloroethylene	10
1,1,1-Trichloroethane	10

OTHER REQUIREMENTS (continued)

1,1,2-Trichloroethane	10
Trichloroethylene	10
Vinyl Chloride	10
<u>ACID COMPOUNDS</u>	<u>MQL (µg/L)</u>
2-Chlorophenol	10
2,4-Dichlorophenol	10
2,4-Dimethylphenol	10
4,6-Dinitro-o-Cresol [2-Methyl-4,6-Dinitrophenol]	50
2,4-Dinitrophenol	50
2-Nitrophenol	20
4-Nitrophenol	50
p-Chloro-m-Cresol [4-Chloro-3-Methylphenol]	10
Pentachlorophenol	5
Phenol	10
2,4,6-Trichlorophenol	10
<u>BASE/NEUTRAL COMPOUNDS</u>	<u>MQL (µg/L)</u>
Acenaphthene	10
Acenaphthylene	10
Anthracene	10
Benzidine	50
Benzo(a)anthracene	5
Benzo(a)pyrene	5
3,4-Benzofluoranthene	10
Benzo(ghi)perylene	20
Benzo(k)fluoranthene	5
Bis(2-chloroethoxy) Methane	10
Bis(2-chloroethyl) Ether	10
Bis(2-chloroisopropyl) Ether	10
Bis(2-ethylhexyl) Phthalate	10
4-Bromophenyl Phenyl Ether	10
Butylbenzyl Phthalate	10
2-Chloronaphthalene	10
4-Chlorophenyl Phenyl Ether	10
Chrysene	5
Dibenzo(a,h)anthracene	5
3,3'-Dichlorobenzidine	5
Diethyl Phthalate	10
Dimethyl Phthalate	10
Di-n-Butyl Phthalate	10
2,4-Dinitrotoluene	10
2,6-Dinitrotoluene	10
Di-n-octyl Phthalate	10
1,2-Diphenylhydrazine	20
Fluoranthene	10
Fluorene	10
Hexachlorobenzene	5
Hexachlorobutadiene	10
Hexachlorocyclopentadiene	10
Hexachloroethane	20
Indeno(1,2,3-cd)pyrene [2,3-o-Phenylene Pyrene]	5
Isophorone	10

OTHER REQUIREMENTS (continued)

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

<u>PESTICIDES</u>	<u>MQL (ug/L)</u>
Aldrin	0.01
Alpha-BHC	0.05
Beta-BHC	0.05
Gamma-BHC [Lindane]	0.05
Delta-BHC	0.05
Chlordane	0.2
4,4'-DDT	0.02
4,4'-DDE [p,p-DDX]	0.1
4,4'-DDD [p,p-TDE]	0.1
Dieldrin	0.02
Alpha-Endosulfan	0.01
Beta-Endosulfan	0.02
Endosulfan Sulfate	0.1
Endrin	0.02
Endrin Aldehyde	0.1
Heptachlor	0.01
Heptachlor Epoxide [BHC-Hexachlorocyclohexane]	0.01
PCB-1242	0.2
PCB-1254	0.2
PCB-1221	0.2
PCB-1232	0.2
PCB-1248	0.2
PCB-1260	0.2
PCB-1016	0.2
Toxaphene	0.3

The permittee may develop an effluent specific method detection limit (MDL) in accordance with Appendix B to 40 CFR Part 136 (See LAC 33:IX.4901). For any pollutant for which the permittee determines an effluent specific MDL, the permittee shall send to this Office a report containing QA/QC documentation, analytical results, and calculations necessary to demonstrate that the effluent specific MDL was correctly calculated. An effluent specific minimum quantification level (MQL) shall be determined in accordance with the following calculation:

$$\text{MQL} = 3.3 \times \text{MDL}$$

Upon written approval by this Office, the effluent specific MQL may be utilized by the permittee for all future Discharge Monitoring Report (DMR) calculations and reporting requirements.

All effluent testing shall be conducted utilizing EPA-approved methods from laboratories accredited to conduct the required analyses.

OTHER REQUIREMENTS (continued)

For Limited Parameters:

In accordance with 40 CFR 122.44(i)(1)(iv), the permittee is required to use the most sufficiently sensitive method necessary to prove compliance with the effluent limitations. For a given parameter, if the MQL prescribed by the permit is less than the permit limitation, any EPA-approved method with a method detection level (MDL) which is equal to or less than this MQL may be utilized. In this scenario, if an individual analytical result is below the MQL, the permittee may report "0" on a discharge monitoring report (DMR).

When the MQL prescribed by the permit is greater than the permit limitation, the permittee shall use a sufficiently sensitive EPA-approved method capable of yielding a quantifiable result which proves compliance with the limitation. If a sufficiently sensitive method is available with an MDL equal to or less than the permit limit, and the individual analytical result is less than the MDL, the permittee may report "0" on a DMR. However, some instances may occur when there is no sufficiently sensitive EPA-approved method which will yield a quantifiable result equal to or less than the permit limitation. In these cases, the permittee must submit supporting documentation indicating that they used the most sensitive method available. In this scenario, if an individual analytical result is not detectable at the MDL of the method used, the permittee must report "non-detect" on the DMR. Please note that ANY quantifiable result above the permit limitation shall be reported as an excursion.

For Report Only Parameters:

In accordance with 40 CFR 122.44(i)(1)(iv)(2), the permittee is required to use the most sufficiently sensitive method to quantify the presence of a pollutant. Therefore, the permittee must select a method with an MDL that is at or below the water quality criterion (if applicable) or the MQL, whichever is less. Please be advised that should a sufficiently sensitive method not be available, the permittee must submit supporting documentation stating this.

For reporting purposes, if the most sensitive method is greater than the more stringent of the MQL or the water quality criteria, and the analytical result is less than the MDL, "non-detect" shall be reported on the DMR. If the method is less than or equal to the more stringent of the MQL or water quality criteria and the analytical result is less than that value, zero (0) shall be reported on the DMR.

K. LIMIT OF QUANTITATION FOR OTHER PARAMETERS

If any individual analytical test result for BOD₅, TOC, Oil & Grease, TSS, or Sulfide is less than the limit of quantitation listed below, a value of zero (0) may be used for that individual result for the Discharge Monitoring Report (DMR) calculations and reporting requirements:

<u>Parameter</u>	<u>LOQ (mg/L)</u>
BOD ₅	2.0
TOC	1.0
Oil & Grease	5.0

OTHER REQUIREMENTS (continued)

Sulfide	0.05
TSS	4.0

L. The permittee shall achieve compliance with the effluent limitations and monitoring requirements specified for discharges in accordance with the following schedule:

316(b) REQUIREMENTS	
ACTIVITY	SCHEDULE
Submit Annual Certification Statement and Report (Part II, Paragraph P.4)	The first annual reports required under this section shall be submitted to the Office of Environmental Compliance and the Office of Environmental Services one year from the effective date of the permit. Subsequently, all other reports shall be submitted one year from the date of the previous annual reports. See Part II, Paragraph P- Record Keeping and Reporting for additional submittal instructions.
Submit request to reduce the 316(b) application information required in permit renewal application (Part II, Paragraph P.5)	A request for reduced application material requirements must be submitted to the Department of Environmental Quality, Office of Environmental Services - Water Permits Division at least 2 years and 6 months prior to permit expiration. The request must identify each element of the 40 CFR 122.21(r) application studies that has not substantially changed since the previous permit application and the basis for the determination. This Office has the discretion to accept or reject any part of the request.
ALL OTHER PERMIT REQUIREMENTS	
ACTIVITY	SCHEDULE
Outfall 001, Phase I Outfall 003, Phase I	From the effective date of the permit and last to the Start up of Phase II or the expiration date of the permit.
Outfall 001, Phase II Outfall 003, Phase II	From the start up of Phase II and lasting to the expiration date of the permit.

OTHER REQUIREMENTS (continued)

<p>Part II, Paragraph M.5</p>	<p>A review of the analytical data provided in the permit renewal application for Outfalls 002, 006, 009, and 010 showed results above the MQL for Total Copper; Outfall 002, 006, and 009 showed results above the MQL for Total Lead; Outfalls 002, 006, 009, and 010 showed results above the MQL for Mercury; and Outfalls 002, 006, 009, 010, and 011 showed results above the MQL for Total Zinc. An investigation of possible sources of Total Copper at Outfalls 002, 006, 009, and 010; Total Lead at 002, 006, and 009; Mercury at Outfalls 002, 006, 009, and 010; and Total Zinc at Outfalls 002, 006, 009, 010, and 011 must be conducted by the permittee and submitted within two years from the effective date of the permit. Information gathered during the investigation may be used to reopen the existing permit or develop permit conditions/requirements for future permit (if needed).</p>
<p>All other outfalls and permit requirements</p>	<p>Effective date of the permit</p>

M. PERMIT REOPENER CLAUSE

This permit may be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitations issued or approved under sections 301(b)(2)(C) and (D); 304(b)(2); and 307(a)(2) of the Clean Water Act, or more stringent discharge limitations and/or additional restrictions in the future to maintain the water quality integrity and the designated uses of the receiving water bodies based upon additional water quality studies and/or TMDLs, if the effluent standard, limitations, water quality studies or TMDLs so issued or approved:

1. Contain different conditions or is otherwise more stringent than any effluent limitation in the permit; or
2. Control any pollutant not limited in the permit; or
3. Require reassessment due to change in 303(d) status of waterbody; or
4. Incorporate the results of any total maximum daily load allocation, which may be approved for the receiving water body.
5. A review of the analytical data provided in the permit renewal application for Outfalls 002, 006, 009, and 010 showed results above the MQL for Total Copper; Outfall 002, 006, and 009 showed results above the MQL for Total Lead; Outfalls 002, 006, 009, and 010 showed results above the MQL for Mercury; and Outfalls 002, 006, 009, 010, and 011 showed results above the MQL for Total Zinc. An investigation of possible sources of Total Copper at Outfalls 002, 006, 009, and 010; Total Lead

OTHER REQUIREMENTS (continued)

at 002, 006, and 009; Mercury at Outfalls 002, 006, 009, and 010; and Total Zinc at Outfalls 002, 006, 009, 010, and 011 must be conducted by the permittee and submitted within two years from the effective date of the permit. Information gathered during the investigation may be used to reopen the existing permit or develop permit conditions/requirements for future permit (if needed).

N. STORMWATER DISCHARGES

1. This section applies to all stormwater discharges from the facility, either through permitted outfalls or through outfalls which are not listed in the permit or as sheet flow. The purpose of the pollution prevention plan is to identify potential sources of pollution that would reasonably be expected to affect the quality of stormwater and identify the practices that will be used to prevent or reduce the pollutants in stormwater discharges.
2. Any runoff leaving the developed areas of the facility, other than the permitted outfall(s), exceeding 50 mg/L TOC, 15 mg/L Oil and Grease, or having a pH less than 6.0 or greater than 9.0 standard units shall be a violation of this permit. Any discharge in excess of these limitations, which is attributable to offsite contamination shall not be considered a violation of this permit. A visual inspection of the facility shall be conducted and a report made annually as described in Paragraph 4 below.
3. **For first time permit issuance**, the permittee shall prepare, implement, and maintain a Storm Water Pollution Prevention Plan (SWP3) within six (6) months of the effective date of the final permit. **For renewal permit issuance**, the permittee shall review and update, if necessary, a Storm Water Pollution Prevention Plan (SWP3) within six (6) months of the effective date of the final permit. The terms and conditions of the SWP3 shall be an enforceable Part of the permit. If the permittee maintains other plans that contain duplicative information, those plans could be incorporated by reference into the SWP3. Examples of these type plans include, but are not limited to: Spill Prevention Control and Countermeasure Plan (SPCC), Best Management Plan (BMP), Response Plans, etc. EPA document 833-B-09-002 (Storm Water Management for Industrial Activities) may be used as a guidance and may be obtained at the following website: https://www.epa.gov/sites/production/files/2015-11/documents/swppp_guide_industrial_2015.pdf
4. The following conditions are applicable to all facilities and shall be included in the SWP3 for the facility.
 - a. The permittee shall conduct an annual inspection of the facility site to identify areas contributing to the storm water discharge from developed areas of the facility and evaluate whether measures to reduce pollutant loadings identified in the SWP3 are adequate and have been properly implemented in accordance with the terms of the permit or whether additional control measures are needed.
 - b. The permittee shall develop a site map which includes all areas

OTHER REQUIREMENTS (continued)

where stormwater may contact potential pollutants or substances which can cause pollution. Any location where reportable quantities leaks or spills have previously occurred are to be documented in the SWP3. The SWP3 shall contain a description of the potential pollutant sources, including, the type and quantity of material present and what action has been taken to assure stormwater precipitation will not directly contact the substances and result in contaminated runoff.

- c. Where experience indicates a reasonable potential for equipment failure (e.g. a tank overflow or leakage), natural condition of (e.g. precipitation), or other circumstances which result in significant amounts of pollutants reaching surface waters, the SWP3 should include a prediction of the direction, rate of flow and total quantity of pollutants which could be discharged from the facility as a result of each condition or circumstance.
- d. The permittee shall maintain for a period of three years a record summarizing the results of the inspection and a certification that the facility is in compliance with the SWP3, and identifying any incidents of noncompliance. The summary report should contain, at a minimum, the date and time of inspection, name of inspector(s), conditions found, and changes to be made to the SWP3.
- e. The summary report and the following certification shall be signed in accordance with LAC 33:IX.2503. The summary report is to be attached to the SWP3 and provided to the Department upon request.

"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."

Signatory requirements for the certification may be found in Part III, Section D.10 of this permit.

- f. The permittee shall make available to the Department, upon request, a copy of the SWP3 and any supporting documentation.
5. The following shall be included in the SWP3, if applicable.
- a. The permittee shall utilize all reasonable methods to minimize any adverse impact on the drainage system including but not limited to:
 - i. maintaining adequate roads and driveway surfaces;
 - ii. removing debris and accumulated solids from the drainage system; and

OTHER REQUIREMENTS (continued)

- iii. cleaning up immediately any spill by sweeping, absorbent pads, or other appropriate methods.

- b. All spilled product and other spilled wastes shall be immediately cleaned up and disposed of according to all applicable regulations, Spill Prevention and Control (SPC) plans or Spill Prevention Control and Countermeasures (SPCC) plans. Use of detergents, emulsifiers, or dispersants to clean up spilled product is prohibited except where necessary to comply with State or Federal safety regulations (i.e., requirement for non-slippery work surface) except where the cleanup practice does not result in a discharge and does not leave residues exposed to future storm events. In all such cases, initial cleanup shall be done by physical removal and chemical usage shall be minimized.

- c. All equipment, parts, dumpsters, trash bins, petroleum products, chemical solvents, detergents, or other materials exposed to stormwater shall be maintained in a manner which prevents contamination of stormwater by pollutants.

- d. All waste fuel, lubricants, coolants, solvents, or other fluids used in the repair or maintenance of vehicles or equipment shall be recycled or contained for proper disposal. Spills of these materials are to be cleaned up by dry means whenever possible.

- e. If applicable, all storage tank installations (with a capacity greater than 660 gallons for an individual container, or 1,320 gallons for two or more containers in aggregate within a common storage area) shall be constructed so that a secondary means of containment is provided for the entire contents of the largest tank plus sufficient freeboard to allow for precipitation. Diked areas should be sufficiently impervious to contain spills.

- f. All diked areas surrounding storage tanks or stormwater collection basins shall be free of residual oil or other contaminants so as to prevent the accidental discharge of these materials in the event of flooding, dike failure, or improper draining of the diked area. All drains from diked areas shall be equipped with valves which shall be kept in the closed condition except during periods of supervised discharge.

- g. All check valves, tanks, drains, or other potential sources of pollutant releases shall be inspected and maintained on a regular basis to assure their proper operation and to prevent the discharge of pollutants.

- h. The permittee shall assure compliance with all applicable regulations promulgated under the Louisiana Solid Waste and Resource Recovery Law and the Hazardous Waste Management Law (L.R.S. 30:2151, etc.). Management practices required under above regulations shall be referenced in the SWP3.

- i. The permittee shall amend the SWP3 whenever there is a change in the

OTHER REQUIREMENTS (continued)

facility or change in the operation of the facility which materially increases the potential for the ancillary activities to result in a discharge of significant amounts of pollutants.

- j. If the SWP3 proves to be ineffective in achieving the general objectives of preventing the release of significant amounts of pollutants to water of the state, then the specific objectives and requirements of the SWP3 shall be subject to modification to incorporate revised SWP3 requirements.

6. Facility Specific SWP3 Conditions:

None

O. DISCHARGE MONITORING REPORTS

As per the regulations established at LAC 33:IX.2701.L.4.a, monitoring results shall be reported at the intervals specified elsewhere in this permit and shall be submitted through a department-approved electronic document receiving system (NetDMR) in accordance with LAC 33:I.Chapter 21 unless the state administrative authority gives written authorization to the permittee to submit monitoring results in an alternative format such as paper DMRs.

If authorized to use an alternative format such as paper DMRs, then monitoring results must be reported on a Discharge Monitoring Report (DMR) form (EPA No. 3320-1 or an approved substitute). All monitoring reports must be retained for a period of at least three (3) years from the date of the sample measurement.

If you have a No Discharge Event at any of the monitoring outfall(s) during the reporting period, use a No Data Discharge Indicator (NODI) Code of "C" for electronic DMRs or mark an "X" in the No Discharge box located in the upper right corner of the paper DMR.

Monitoring results for each reporting period shall be summarized on a Discharge Monitoring Report (DMR) Form (one DMR form per monitoring period per outfall) and submitted to the Office of Environmental Compliance either hand delivered, postmarked, or electronically submitted in accordance with LAC 33:I.2101.A and B no later than the 15th day of the month following each reporting period. The permittee shall make available to this Office, upon request, copies of all monitoring data (such as lab reports) required by this permit.

1. For parameter(s) with monitoring frequencies of 1/month or more frequent (i.e. continuous, 1/batch, 1/discharge event, 1/day, 5/week, 3/week, 2/week, 1/week, 2/month, etc.), DMRs shall be submitted in accordance with the following schedule:

Submit DMR by the 15th day of the following month.

2. For parameter(s) that require a monitoring frequency of 1/2 months, DMRs shall be submitted in accordance with the following schedule:

OTHER REQUIREMENTS (continued)

<u>Monitoring Period</u>	<u>DMR Submittal Date</u>
Jan-Feb, Mar-Apr, & May-Jun	July 15th
Jul-Aug, Sept-Oct, & Nov-Dec	January 15th

3. For parameter(s) that require a monitoring frequency of quarterly, DMRs shall be submitted in accordance with the following schedule:

<u>Monitoring Period</u>	<u>DMR Submittal Date</u>
January, February, March	April 15th
April, May, June	July 15th
July, August, September	October 15th
October, November, December	January 15th

4. For parameter(s) that require a semiannual monitoring frequency, DMRs shall be submitted in accordance with the following schedule:

<u>Monitoring Period</u>	<u>DMR Submittal Date</u>
January - June	July 15th
July - December	January 15th

5. For parameter(s) that require an annual monitoring frequency, DMRs shall be submitted in accordance with the following schedule:

<u>Monitoring Period</u>	<u>DMR Submittal Date</u>
January-December	January 15 th

For facilities with individually permitted hydrostatic test water discharges (Internal Outfall 101), the monitoring results for all hydrostatic tests performed during each quarter shall be summarized and reported electronically on a Discharge Monitoring Report (DMR) form or an approved substitute, and submitted to the Office of Environmental Compliance on a quarterly basis (in accordance with the quarterly submittal schedule above). If you have a No Discharge Event at any of the monitoring outfall(s) during the reporting period, use a No Data Discharge Indicator (NODI) Code of "C" for electronic DMRs or mark an "X" in the No Discharge box located in the upper right hand corner of the paper DMR.

If not submitting electronically, duplicate sets of DMR's (one set of originals and one set of copies) signed and certified as required by LAC 33:IX.2503, and all other reports (one set of originals) required by this permit shall be submitted to the Permit Compliance Unit at the following address:

Department of Environmental Quality
Office of Environmental Compliance
Permit Compliance Unit
Post Office Box 4312
Baton Rouge, Louisiana 70821-4312

OTHER REQUIREMENTS (continued)

P. CLEAN WATER ACT 316(b) COOLING WATER INTAKE STRUCTURE (CWIS) REQUIREMENTS

1. Flow Monitoring

The permittee shall monitor the actual intake flows daily. The monitoring must be representative of normal operations, and must include monitoring cooling water withdrawals, make-up water, and blowdown volume (40 CFR 125.94(c)(1)). Monitoring shall be achieved by direct flow measurement, estimation based on pump operation curves, pump power input, heat and material balance, and/or other sound engineering methods. The average monthly and maximum daily intake flows shall be reported with the monthly DMR and in the annual report. The average monthly and maximum daily make-up water flows and blowdown flows shall be reported in the comments section of the DMR and in the annual report (40 CFR 125.97).

2. Visual and Remote Inspections

The permittee shall either conduct visual inspections or employ remote monitoring devices during the period the cooling water intake structure is in operation. Alternative procedures may be established for use during periods of inclement weather, if weather interferes with the inspection method. The inspection frequency shall be weekly to ensure that any technologies operated to comply with 40 CFR 125.94 are maintained and operated to function as designed, including those installed to protect Federally-listed threatened or endangered species or designated critical habitat (40 CFR 125.96(e)). A summary of the monitoring results shall be included in the annual report (40 CFR 125.97).

CITGO has selected to comply with the impingement mortality standard in 40 CFR 125.94(c)(1) by operating a closed-cycle recirculating system for cooling water collected from the SRA Canal intake. This intake structure feeds into a cooling system that meets the definition of a closed-cycle recirculating system in 40 CFR 125.92©. CITGO does not own the intake and does not have access to the intake to conduct inspections. Additionally, the water quality of the SRA is such that the visibility is limited making inspections difficult. Therefore, CITGO will monitor and report intake flows daily to ensure that the chosen technology is maintained and operated to function as designed. The monitoring must be representative of normal operations, and must include monitoring cooling water withdrawals, make-up water, and blowdown volume.

3. Record Keeping and Reporting

a. The permittee shall keep records of all the data used to complete the permit application and show compliance with the requirements, any supplemental information developed during the application process, and any compliance monitoring data until the subsequent permit is issued. If a request for reduced permit application studies is approved, the permittee must keep records of all submissions that are part of the previous permit application until the subsequent permit is issued (40 CFR 125.95(e) and 125.97(d)).

b. All records supporting the BTA determination for entrainment under

OTHER REQUIREMENTS (continued)

40 CFR 125.98(f) or (g) must be retained until such time as the Administrative Authority revises the determination of BTA for entrainment in the permit.

- c. The permittee shall provide the below information to the LDEQ in an annual certification statement and report signed by the responsible corporate officer:
- i. Intake flow monitoring records. Including cooling water withdrawals, make-up water, and blowdown volume. See Paragraph P.1 above;
 - ii. Records of visual or remote inspections (if applicable);
 - iii. Certification that water intake structure technologies are being maintained and operated as set forth in this permit, or a justification to allow a modification of practices.
 - iv. If there are substantial modifications to the operation of any unit that impacts the cooling water withdrawals or operation of the water intake structure(s), provide a summary of those changes. In addition, you must submit revisions to the information required at 40 CFR 122.21(r) of this chapter in your next permit application.
 - v. If the information contained in the previous year's annual certification is still applicable, the certification may simply state as such. The statement, along with any applicable data submission requirements specified in this section shall constitute the annual certification.
- d. The first annual reports required under this section shall be submitted to the LDEQ Headquarters **one year from the effective date of the permit**. Subsequently, all other reports shall be submitted **one year from the date of the previous annual reports**.

The permittee shall submit the annual report to the following address or electronically as services become available to accept these reports:

Department of Environmental Quality
Office of Environmental Compliance
P.O. Box 4312
Baton Rouge, Louisiana 70821-4312
Attn: Permit Compliance Unit

A copy of the annual report shall also be submitted to the following address:

OTHER REQUIREMENTS (continued)

Department of Environmental Quality
Office of Environmental Services
Water Permits Division
P.O. Box 4313
Baton Rouge, Louisiana 70821-4313
Attn: Industrial Permits Section

4. Performance Standards

The permittee must design and operate the cooling water intake structure in compliance with the following:

- a. The facility's CWIS existing cooling water intake system described in the permit 316(b) application information submitted with the renewal application and 316(b) application requirements both dated April 19, 2022; additional information received via email on May 19, 2022, and on June 9, 2022, must be operated and maintained as designed and in accordance with best management practices (BMPs) that will minimize any adverse environmental impacts (AEI). In addition, the permittee must comply with the requirements set forth in Section 316(b) of the CWA, 40 CFR Part 125, Subpart J and 40 CFR Part 401.14. If it is later determined that the cooling water intake system for this facility does not represent BTA for minimizing adverse environmental impacts, the permit may be reopened to incorporate additional requirements.
- b. The permittee must operate the cooling water intake structure based on the current design, location, and utilization rate to minimize impingement mortality and entrainment of aquatic organisms. This will meet the site-specific BTA Standards for Impingement Mortality and Entrainment as required by 40 CFR 125.94(c) and (d), respectively.
- c. The maximum design capacity of the cooling water intake structure must be no greater than 28.08 MGD with exception to temporary changes due to environmental factors outside of the control of the company (e.g. flooding conditions). Notification of factors outside company control shall be made to the Office of Environmental Services within 30 days and must include supporting documentation for the temporary change in the DIF. Examples of acceptable documentation may include waterbody gauge readings and information regarding facility pump operation for that waterbody gauge reading. These occurrences shall also be discussed in the annual report.
- d. All performance and design standards established in the information submitted with the permittee's application shall be achieved. The permittee shall notify the Office of Environmental Services of any changes in the facility design or performance. At that time, the Office of Environmental

OTHER REQUIREMENTS (continued)

Services may determine that a permit modification is necessary.

5. Future BTA Determinations

The water intake BTA determination is reviewed in each permit reissuance. In subsequent permit reissuance applications, the permittee shall provide all the information required in 40 CFR 122.21(r) and any other additional information required by this Office.

The permittee may, in subsequent permit applications, request to reduce the information required if conditions at the facility and in the waterbody remain substantially unchanged since the previous application. Exemptions from some permit application requirements are possible in accordance with 40 CFR 125.95(c), where information already submitted is sufficient. Past submittals and previously conducted studies may satisfy some or all of the application material requirements. **If an exemption is desired, a request for reduced application material requirements must be submitted to the Department of Environmental Quality, Office of Environmental Services - Water Permits Division at least 2 years and 6 months prior to permit expiration. The request must identify each element of the 40 CFR 122.21(r) application studies that has not substantially changed since the previous permit application and the basis for the determination. This Office has the discretion to accept or reject any part of the request.**

6. Endangered Species Act

Nothing in this permit authorizes take for the purposes of a facility's compliance with the Endangered Species Act. Refer to 40 CFR 125.98(b)(1) and (2) and 125.98(j). Contact the state Natural Heritage Program staff, (337) 491-2575, with inquiries regarding incidental take of state-listed threatened and endangered species; and the US Fish and Wildlife Service, (337) 291-3126, with inquiries regarding the incidental take of federally-listed threatened and endangered species.

Q. WHOLE EFFLUENT TOXICITY TESTING (7-DAY CHRONIC NOEC MARINE)

It is unlawful and a violation of this permit for a permittee or the designated agent to manipulate test samples in any manner, to delay shipment, or to terminate a toxicity test. Once initiated, all toxicity tests must be completed unless specific authority has been granted by the Louisiana Department of Environmental Quality.

1. SCOPE AND METHODOLOGY

- a. The permittee shall test the effluent for toxicity in accordance with the provisions in this section.

OTHER REQUIREMENTS (continued)

APPLICABLE TO OUTFALL(S): 001(Phase I)
CRITICAL DILUTION: 6%
EFFLUENT DILUTION SERIES: 2.5%, 3.4%, 4.5%, 6%, and 8%
COMPOSITE SAMPLE TYPE: Defined in Part I
TEST SPECIES/METHODS: 40 CFR Part 136 (See LAC 33:IX.4901)
APPLICABLE TO OUTFALL(S): 001(Phase II)
CRITICAL DILUTION: 10%
EFFLUENT DILUTION SERIES: 4%, 6%, 7%, 10%, and 13%
COMPOSITE SAMPLE TYPE: Defined in Part I
TEST SPECIES/METHODS: 40 CFR Part 136 (See LAC 33:IX.4901)
APPLICABLE TO OUTFALL(S): 003(Phase I and II)
CRITICAL DILUTION: 1.4%
EFFLUENT DILUTION SERIES: 0.6%, 0.81%, 1.1%, 1.4%, and 1.9%
COMPOSITE SAMPLE TYPE: Defined in Part I
TEST SPECIES/METHODS: 40 CFR Part 136 (See LAC 33:IX.4901)

Mysidopsis bahia (Mysid shrimp) chronic static renewal 7-day survival and growth test using Method 1007.0, EPA 821-R-02-014, or the most recent update thereof. A minimum of eight (8) replicates with five (5) organisms per replicate must be used in the control and in each effluent dilution of this test.

Menidia beryllina (Inland Silverside minnow) chronic static renewal 7-day larval survival and growth test, Method 1006.0, EPA 821-R-02-014, or the most recent update thereof. A minimum of five (5) replicates with ten (10) organisms per replicate must be used in the control and in each effluent dilution of this test.

- b. The survival NOEC (No Observed Effect Concentration) is defined as the greatest effluent dilution at and below which lethality that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. The NOEC for growth is defined as the greatest effluent dilution at and below which sub-lethality that is statistically different from the control (0% effluent) at the 95% confidence level does not occur.

OTHER REQUIREMENTS (continued)

- c. This permit may be reopened to require whole effluent toxicity limits, chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity.
- d. Lethal test failure is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution. Sub-lethal test failure is defined as a demonstration of a statistically significant sub-lethal effect (i.e., growth) at test completion to a test species at or below the critical dilution.

2. PERSISTENT LETHALITY

The requirements of this section apply only when a toxicity test demonstrates significant lethal and/or sub-lethal effects at or below the critical dilution.

If any valid test demonstrates significant lethal or sub-lethal effects to a test species at or below the critical dilution, the frequency of testing for that species is automatically increased to once per quarter for the term of the permit.

- a. The permittee shall conduct a total of three (3) additional tests for any species that demonstrates statistically significant lethal or sub-lethal toxic effects at the critical dilution or lower effluent dilutions. The additional tests shall be conducted monthly during the next three consecutive months in which discharge occurs to determine if toxicity is persistent or occurs on a periodic basis. The purpose of this testing is to determine whether toxicity is present at a level and frequency that will provide toxic sample results to use in performing a Toxicity Reduction Evaluation (TRE). If no additional test failures occur during the retest monitoring period, the testing frequency will be once per quarter for the term of the permit or until another test failure occurs. The permittee may substitute one of the additional tests in lieu of one routine toxicity test. A full report shall be prepared for each test required by this section in accordance with procedures outlined in Item 4 of this section and submitted with the period discharge monitoring report (DMR) to the permitting authority for review.
- b. IF LETHAL EFFECTS HAVE BEEN DEMONSTRATED: If any of the valid additional tests demonstrates significant lethal effects at or below the critical dilution, the permittee shall initiate Toxicity Reduction Evaluation (TRE) requirements as specified in Item 6 of this section. The permittee shall notify the Department of Environmental Quality, Office of Environmental Compliance - Permit Compliance Unit in writing within 5 days of the failure of any retest, and the TRE initiation date will be the test completion date of the first failed retest. A TRE may also be required due to a demonstration of intermittent lethal

OTHER REQUIREMENTS (continued)

effects at or below the critical dilution, or for failure to perform the required retests.

- c. IF ONLY SUB-LETHAL EFFECTS HAVE BEEN DEMONSTRATED: If any two of the three valid additional tests demonstrate significant sub-lethal effects at 75% effluent dilution or lower, the permittee shall initiate the Toxicity Reduction Evaluation (TRE) requirements (emphasizing investigations pertaining to sub-lethal toxicity) as specified in Item 6 of this section. The permittee shall notify the Department of Environmental Quality, Office of Environmental Compliance - Permit Compliance Unit in writing within 5 days of the failure of any retest, and the TRE initiation date will be the test completion date of the second failed retest. A TRE concentrating on sub-lethal effects may also be required for failure to perform the required tests.
- d. The provisions of Item 2.a. are suspended upon completion of the two additional tests and submittal of the TRE Action Plan.

3. REQUIRED TOXICITY TESTING CONDITIONS

a. Test Acceptance

The permittee shall repeat a test, including the control and all effluent dilutions, if the procedures and quality assurance requirements defined in the test methods or in this permit are not satisfied, including the following additional criteria:

- i. The toxicity test control (0% effluent) must have survival equal to or greater than 80%.
- ii. The mean dry weight of surviving Mysid shrimp at the end of the 7 days in the control (0% effluent) must be 0.20 mg per mysid or greater. Should the mean dry weight in the control be less than 0.20 mg per mysid, the toxicity test, including the control and all effluent dilutions shall be repeated.
- iii. The mean dry weight of surviving unpreserved Inland Silverside minnow larvae at the end of the 7 days in the control (0% effluent) must be 0.50 mg per larva or greater. The mean dry weight of surviving preserved Inland Silverside minnow larvae at the end of the 7 days in the control (0% effluent) must be 0.43 mg per larva or greater.
- iv. The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for: the growth and survival endpoints in the Mysid shrimp test; and the growth and survival endpoints of the Inland Silverside minnow test.

OTHER REQUIREMENTS (continued)

- v. The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal or nonlethal effects are exhibited for: the growth and survival endpoints in the Mysid shrimp test; and the growth and survival endpoints of the Inland Silverside minnow test.

Test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%. A repeat test shall be conducted within the required reporting period of any test determined to be invalid.

- b. Statistical Interpretation

For the Mysid shrimp and the Inland Silverside minnow larval survival and growth test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be in accordance with the methods for determining the No Observed Effect Concentration (NOEC) as described in EPA 821-R-02-014, or the most recent update thereof.

If the conditions of Test Acceptability are met in Item 3.a above and the percent survival of the test organism is equal to or greater than 80% in the critical dilution concentration and all lower dilution concentrations, the test shall be considered to be a passing test regardless of the NOEC, and the permittee shall report a survival NOEC of not less than the critical dilution for the DMR reporting requirements found in Item 4 below.

- c. Dilution Water

- i. Dilution water used in the toxicity tests will be receiving water collected as close to the point of discharge as possible but unaffected by the discharge. The permittee shall substitute synthetic dilution water of similar pH, hardness and salinity to the closest downstream perennial water for;

- (A) toxicity tests conducted on effluent discharges to receiving water classified as intermittent streams; and
- (B) toxicity tests conducted on effluent discharges where no receiving water is available due to zero flow conditions.

- ii. If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria of Item 3.a), the permittee may substitute synthetic dilution water for the receiving water in all

OTHER REQUIREMENTS (continued)

subsequent tests provided the unacceptable receiving water test met the following stipulations:

- (A) a synthetic dilution water control which fulfills the test acceptance requirements of Item 3.a was run concurrently with the receiving water control;
- (B) the test indicating receiving water toxicity has been carried out to completion (i.e., 7 days);
- (C) the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item 4 below; and
- (D) the synthetic dilution water shall have a pH, hardness and salinity similar to that of the receiving water or closest downstream perennial water not adversely affected by the discharge, provided the magnitude of these parameters will not cause toxicity in the synthetic dilution water.

d. Samples and Composites

- i. The permittee shall collect a minimum of three flow-weighted 24-hour composite samples from the outfall(s) listed at Item 1.a above. A 24-hour composite sample consists of a minimum of 4 effluent portions collected at equal time intervals representative of a 24-hour operating day and combined proportional to flow or a sample continuously collected proportional to flow over a 24-hour operating day.
- ii. The permittee shall collect second and third 24-hour composite samples for use during 24-hour renewals of each dilution concentration for each test. The permittee must collect the 24-hour composite samples such that the effluent samples are representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on an intermittent basis.
- iii. The permittee must collect the 24-hour composite samples so that the maximum holding time for any effluent sample shall not exceed 72 hours. The permittee must have initiated the toxicity test within 36 hours after the collection of the last portion of the first 24-hour composite sample. Samples shall be chilled to 0-6 degrees Centigrade during collection, shipping and/or storage.
- iv. If the flow from the outfall(s) being tested ceases during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions and the sample

OTHER REQUIREMENTS (continued)

holding time are waived during that sampling period. However, the permittee must collect an effluent composite sample volume during the period of discharge that is sufficient to complete the required toxicity tests with daily renewal of effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The effluent composite sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Item 4 of this section.

- v. MULTIPLE OUTFALLS: If the provisions of this section are applicable to multiple outfalls, the permittee shall combine the composite effluent samples in proportion to the average flow from the outfalls listed in Item 1.a. above for the day the sample was collected. The permittee shall perform the toxicity test on the flow-weighted composite of the outfall samples.

4. REPORTING

- a. A valid test must be completed and test results must be submitted for each species during each Monitoring Period. The permittee shall prepare a full report of the results of all tests conducted pursuant to this section in accordance with the Report Preparation Section of EPA 821-R-02-014, or the most current publication, for every valid or invalid toxicity test initiated whether carried to completion or not. The permittee shall retain each full report pursuant to the provisions of Part III.C of this permit. For any test which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for agency review. Any available information relevant to the test failure (e.g., faulty equipment, severe weather conditions) should be included in this report to assist the agency in assessing proper controls to prevent future toxic discharges. The permittee shall submit the first full report to the following address or electronically as services become available:

Department of Environmental Quality
Office of Environmental Compliance
Enforcement Division
P.O. Box 4312
Baton Rouge, Louisiana 70821-4312
Attn: Permit Compliance Unit

- b. The permittee shall submit the results of each valid toxicity test on the DMR for that Monitoring Period in accordance with Part III.D and the DMR Monitoring Period schedule contained in Part II of this permit. Submit retest information clearly marked as such on the DMR for the Monitoring Period in which the retest occurred. Only results of valid tests are to be reported

OTHER REQUIREMENTS (continued)

on the NetDMR submittal. The permittee shall attach the Table 1 Summary Sheet to the NetDMR submittal with each valid test.

i. Menidia beryllina (Inland Silverside minnow)

- (A) If the No Observed Effect Concentration (NOEC) for survival is less than the critical dilution, enter a "1"; otherwise, enter a "0". Parameter No. TLP6J.
- (B) Report the NOEC value for survival, Parameter No. TOP6J.
- (C) Report the NOEC value for growth, Parameter No. TPP6J.
- (D) If the No Observed Effect Concentration (NOEC) for growth is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TGP6J.
- (E) Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQP6J.

ii. Mysidopsis bahia (Mysid shrimp)

- (A) If the NOEC for survival is less than the critical dilution, enter a "1"; otherwise, enter a "0". Parameter No. TLP3E.
- (B) Report the NOEC value for survival, Parameter No. TOP3E.
- (C) Report the NOEC value for growth, Parameter No. TPP3E.
- (D) If the No Observed Effect Concentration (NOEC) for reproduction is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TGP3E.
- (E) Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQP3E.

iii. The permittee shall report the following results for all VALID toxicity retests on the DMR for that Monitoring Period.

(A) Mysidopsis bahia

- (1) Retest #1 (STORET MY22415): If the first monthly retest following failure of a routine test for either test species results in an NOEC for survival less than the critical dilution, report a "1"; otherwise, report a "0."

Retest #1 (STORET MY22418): If the first monthly retest following failure of a routine test for either test species results in an NOEC for growth that is less than the critical dilution, report a "1"; otherwise report a "0".

OTHER REQUIREMENTS (continued)

- (2) Retest #2 (STORET MY22416): If the second monthly retest following failure of a routine test for either test species results in an NOEC for survival less than the critical dilution, report a "1"; otherwise, report a "0."

Retest #2 (STORET MY22419): If the second monthly retest following failure of a routine test for either test species results in an NOEC for growth that is less than the critical dilution, report a "1"; otherwise report a "0".

- (3) Retest #3 (STORET MY51443): If the third monthly retest following failure of a routine test for either test species results in an NOEC for survival less than the critical dilution, report a "1"; otherwise, report a "0".

Retest #3 (STORET MY51444): If the third monthly retest following failure of a routine test for either test species results in an NOEC for growth that is less than the critical dilution, report a "1"; otherwise report a "0".

(B) Menidia beryllina

- (1) Retest #1 (STORET ME22415): If the first monthly retest following failure of a routine test for either test species results in an NOEC for survival less than the critical dilution, report a "1"; otherwise, report a "0."

Retest #1 (STORET ME22418): If the first monthly retest following failure of a routine test for either test species results in an NOEC for growth that is less than the critical dilution, report a "1"; otherwise report a "0".

- (2) Retest #2 (STORET ME22416): If the second monthly retest following failure of a routine test for either test species results in an NOEC for survival less than the critical dilution, report a "1"; otherwise, report a "0."

Retest #2 (STORET ME22419): If the second monthly retest following failure of a routine test for either test species results in an NOEC for growth that is less than the critical dilution, report a "1"; otherwise report a "0".

- (3) Retest #3 (STORET ME51443): If the third monthly retest following failure of a routine test for either test species results in an NOEC for survival

OTHER REQUIREMENTS (continued)

less than the critical dilution, report a "1"; otherwise, report a "0".

Retest #3 (STORET ME51444): If the third monthly retest following failure of a routine test for either test species results in an NOEC for growth that is less than the critical dilution, report a "1"; otherwise report a "0".

If, for any reason, a retest cannot be performed during the Monitoring Period in which the triggering routine test failure is experienced, the permittee shall attach a report on the following Monitoring Period's NetDMR submittal denoting the attachment as a retest. If retesting is not required during a given Monitoring Period, the permittee shall use the appropriate No Data Discharge Indicator (NODI) Code on corresponding electronic submittals.

The permittee shall attach the toxicity testing information contained in Table 1 of this permit with the NetDMR submittal subsequent to each and every toxicity test Monitoring Period.

5. MONITORING FREQUENCY REDUCTION

- a. Upon successfully passing the first four quarters of WET testing after permit issuance/reissuance and in the absence of subsequent lethal and/or sublethal toxicity for one or both test species at or below the critical dilution, the permittee may apply for a testing frequency reduction. This request must be submitted to the Water Permits Division-General and Municipal Permits Section at Department of Environmental Quality, Office of Environmental Services, P.O. Box 4313, Baton Rouge, Louisiana 70821-4313. If granted, the monitoring frequency for that test species may be reduced to not less than once per year for the less sensitive species (usually the Inland Silverside minnow) and not less than twice per year for the more sensitive test species (usually the Mysid Shrimp).
- b. CERTIFICATION - The permittee must certify in writing that no test failures have occurred and that all tests meet all test acceptability criteria in Item 3.a. above. In addition, the permittee must provide a list with each test performed including test initiation date, species, NOEC's for lethal and sub-lethal effects and the maximum coefficient of variation for the controls. Upon review and acceptance of this information the agency will issue a letter of confirmation of the monitoring frequency reduction. A copy of the letter will be forwarded to the agency's Permit Compliance Unit to update the permit reporting requirements.

OTHER REQUIREMENTS (continued)

- c. This monitoring frequency reduction applies only until the expiration date of this permit, at which time the Monitoring Frequency/Monitoring Period for both test species reverts to once per quarter until the permit is re-issued.
- d. LETHAL AND/OR SUB-LETHAL FAILURES - If any test fails the lethal and/or sub-lethal endpoint at any time during the term of this permit, three monthly retests are required and the monitoring frequency for the affected test species shall be increased to once per quarter until the permit is reissued. Monthly retesting is not required if the permittee is performing a TRE.

6. TOXICITY REDUCTION EVALUATION (TRE)

- a. The permittee shall submit a Toxicity Reduction Evaluation (TRE) Action Plan and Schedule for conducting a TRE for the following:
 - i. If lethal effects have been demonstrated within (90) days of confirming lethality in any retest; or
 - ii. If only sub-lethal effect have been demonstrated within (90) days of confirming sub-lethality at 75% effluent dilution or lower in any two out of three retests.

The TRE Action Plan shall specify the approach and methodology to be used in performing the TRE. A Toxicity Reduction Evaluation is an investigation intended to determine those actions necessary to achieve compliance with water quality-based effluent requirements and/or chemical specific limits by reducing an effluent's toxicity (includes sub-lethal toxicity, if applicable) to an acceptable level. A TRE is defined as a step-wise process which combines toxicity testing and analyses of the physical and chemical characteristics of a toxic effluent to identify the constituents causing effluent lethal and/or sub-lethal toxicity and/or treatment methods which will reduce the effluent toxicity. The TRE Action Plan shall lead to the successful elimination of effluent lethal and/or sub-lethal toxicity at the critical dilution and include the following:

- i. Specific Activities. The plan shall detail the specific approach the permittee intends to utilize in conducting the TRE. The approach may include toxicity characterizations, identifications and confirmation activities, source evaluation, treatability studies, or alternative approaches. When the permittee conducts Toxicity Characterization Procedures the permittee shall perform multiple characterizations and follow the procedures specified in the documents "Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures" (EPA-600/6-91/003)

OTHER REQUIREMENTS (continued)

and "Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I" (EPA-600/6-91/005F), or alternate procedures. When the permittee conducts Toxicity Identification Evaluations and Confirmations, the permittee shall perform multiple identifications and follow the methods specified in the documents "Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/080) and "Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/081), as appropriate.

The documents referenced above may be obtained through the National Technical Information Service (NTIS) by phone at 1-800-553-6847, or by writing:

U.S. Department of Commerce
National Technical Information Service
5285 Port Royal Road
Springfield, Va. 22161

- ii. Sampling Plan (e.g., locations, methods, holding times, chain of custody, preservation, etc.). The effluent sample volume collected for all tests shall be adequate to perform the toxicity test, toxicity characterization, identification and confirmation procedures, and conduct chemical specific analyses when a probable toxicant has been identified;

Where the permittee has identified or suspects specific pollutant(s) and/or source(s) of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical specific analyses for the identified and/or suspected pollutant(s) and/or source(s) of effluent toxicity. Where lethality was demonstrated within 48 hours of test initiation, each 24-hour composite sample shall be analyzed independently. Otherwise the permittee may substitute a 24-hour composite sample, comprised of equal portions of the individual composite samples, for the chemical specific analysis;

- iii. Quality Assurance Plan (e.g., QA/QC implementation, corrective actions, etc.); and
 - iv. Project Organization (e.g., project staff, project manager, consulting services, etc.).
- b. The permittee shall initiate the TRE Action Plan within thirty (30) days of plan and schedule submittal. The permittee shall

OTHER REQUIREMENTS (continued)

assume all risks for failure to achieve the required toxicity reduction.

- c. The permittee shall submit a quarterly TRE Activities Report, with the Discharge Monitoring Report in the months of January, April, July and October, containing information on toxicity reduction evaluation activities including:
 - i. any data and/or substantiating documentation which identify the pollutant(s) and/or source(s) of effluent lethal and/or sub-lethal toxicity;
 - ii. any studies/evaluations and results on the treatability of the facility's effluent lethal and/or sub-lethal toxicity; and
 - iii. any data which identify effluent toxicity control mechanisms that will reduce effluent toxicity to active compliance with permit biomonitoring requirements and/or chemical-specific limits.

The TRE Activities Report shall be submitted to the following addresses or electronically as services become available:

Department of Environmental Quality
Office of Environmental Compliance
Enforcement Division
P.O. Box 4312
Baton Rouge, Louisiana 70821-4312
Attn: Permit Compliance Unit

- d. The permittee shall submit a Final Report on Toxicity Reduction Evaluation Activities no later than twenty-eight (28) months from confirming lethality and/or sub-lethality (if applicable) in the retests, which provides information pertaining to the specific control mechanism selected that will, when implemented, result in the permittee achieving compliance with permit biomonitoring requirements and/or chemical-specific limits. The report will also provide a specific corrective action schedule for implementing the selected control mechanism.

A copy of the Final Report on Toxicity Reduction Evaluation Activities shall also be submitted to the above addresses.

- e. Quarterly testing during the TRE is a minimum monitoring requirement. LDEQ recommends that permittees required to perform a TRE not rely on quarterly testing alone to ensure success in the TRE, and that additional screening tests be performed to capture toxic samples for identification of toxicants. At the end of the TRE, LDEQ will consider all information submitted and establish appropriate controls to prevent future toxic discharges, including WET and/or

OTHER REQUIREMENTS (continued)

chemical-specific limits per state regulations at LAC
33:IX.2707.D.1.e.

TABLE 1
SUMMARY SHEET

Mysidopsis bahia SURVIVAL AND GROWTH RESULTS TEST

PERMITTEE: Citgo Petroleum Corporation
 FACILITY SITE: Lake Charles Manufacturing Complex
 LPDES PERMIT NUMBER: LA0005941, 1250
 OUTFALL IDENTIFICATION: 001 (Phase I)
 OUTFALL SAMPLE IS FROM _____ SINGLE _____ MULTIPLE DISCHARGES
 BIOMONITORING LABORATORY: _____
 DILUTION WATER USED: _____ RECEIVING WATER _____ LAB WATER _____
 CRITICAL DILUTION 6% DATE TEST INITIATED _____

1. LOW-FLOW LETHALITY:

Is the mean survival at 7 days significantly less (p=0.05) than the control survival at the low-flow or critical dilution? yes no

PERCENT SURVIVAL-MYSIDOPSIS

TIME OF READING	P E R C E N T					E F F L U E N T	
	0%	2.5%	3.4%	4.5%	6%	8%	
24-HOUR							
48-HOUR							
7-DAY							

2. LOW-FLOW SUB-LETHALITY:

Is the mean dry weight (growth) at 7 days significantly less (p=0.05) than the control's dry weight (growth) for the low-flow or critical dilution? yes no

DATA TABLE FOR GROWTH-MYSIDOPSIS

PERCENT EFFLUENT	AVERAGE DRY WEIGHT IN MILLIGRAMS IN REPLICATE CHAMBERS					MEAN DRY WEIGHT	CV%*
	A	B	C	D	E		
0%							
2.5%							
3.4%							
4.5%							
6%							
8%							

* Coefficient of variation = standard deviation x 100/mean

TABLE 1
SUMMARY SHEET

Mysidopsis bahia SURVIVAL AND GROWTH RESULTS TEST continued

3. Are the test results to be considered valid? yes no
If no (test invalid), what are the reasons for invalidity?
4. Is this a retest of a previous invalid test? yes no
Is this a retest of a previous test failure? yes no
5. Enter percent effluent corresponding to each NOEC (No Observed Effect Concentration) for Mysidopsis:
- a.NOEC SURVIVAL = % effluent
b.NOEC GROWTH = % effluent

TABLE 1
SUMMARY SHEET

Menidia beryllina SURVIVAL AND GROWTH RESULTS TEST
PERMITTEE: Citgo Petroleum Corporation

FACILITY SITE: Lake Charles Manufacturing Complex
 LPDES PERMIT NUMBER: LA0005941, 1250
 OUTFALL IDENTIFICATION: 001 (Phase I)
 OUTFALL SAMPLE IS FROM _____ SINGLE _____ MULTIPLE DISCHARGES
 BIOMONITORING LABORATORY: _____
 DILUTION WATER USED: _____ RECEIVING WATER _____ LAB WATER _____
 CRITICAL DILUTION 6% DATE TEST INITIATED _____

1. LOW-FLOW LETHALITY:

Is the mean survival at 7 days significantly less (p=0.05) than the control survival at the low-flow or critical dilution? yes no

PERCENT SURVIVAL-MENIDIA

PERCENT EFFLUENT	% SURVIVAL / REPLICATES					MEAN % SURVIVAL			CV%*
	A	B	C	D	E	24-HR	48-HR	7DAY	
0%									
2.5%									
3.4%									
4.5%									
6%									
8%									

2. LOW-FLOW SUB-LETHALITY:

Is the mean dry weight (growth) at 7 days significantly less (p=0.05) than the control's dry weight (growth) for the low-flow or critical dilution? yes no

DATA TABLE FOR GROWTH-MENIDIA

PERCENT EFFLUENT	AVERAGE DRY WEIGHT IN MILLIGRAMS IN REPLICATE CHAMBERS					MEAN DRY WEIGHT	CV%*
	A	B	C	D	E		
0%							
2.5%							
3.4%							
4.5%							
6%							
8%							

* Coefficient of variation = standard deviation x 100/mean

TABLE 1
SUMMARY SHEET

Menidia beryllina SURVIVAL AND GROWTH RESULTS TEST continued

3. Are the test results to be considered valid? ___yes ___no
If X no (test invalid), what reasons for invalidity?

4. Is this a retest of a previous invalid test? ___yes ___no
Is this a retest of a previous test failure? ___yes ___no

5. Enter percent effluent corresponding to each NOEC (No Observed Effect Concentration) for Menidia:

a.NOEC SURVIVAL = ___% effluent
b.NOEC GROWTH = ___% effluent

TABLE 1
SUMMARY SHEET

Mysidopsis bahia SURVIVAL AND GROWTH RESULTS TEST

PERMITTEE: Citgo Petroleum Corporation
 FACILITY SITE: Lake Charles Manufacturing Complex
 LPDES PERMIT NUMBER: LA0005941, 1250
 OUTFALL IDENTIFICATION: 001 (Phase II)
 OUTFALL SAMPLE IS FROM _____ SINGLE _____ MULTIPLE DISCHARGES
 BIOMONITORING LABORATORY: _____
 DILUTION WATER USED: _____ RECEIVING WATER _____ LAB WATER
 CRITICAL DILUTION 10% DATE TEST INITIATED _____

1. LOW-FLOW LETHALITY:

Is the mean survival at 7 days significantly less (p=0.05) than the control survival at the low-flow or critical dilution? ___yes ___no

PERCENT SURVIVAL-MYSIDOPSIS

TIME OF READING	PERCENT EFFLUENT					
	0%	4%	6%	7%	10%	13%
24-HOUR						
48-HOUR						
7-DAY						

2. LOW-FLOW SUB-LETHALITY:

Is the mean dry weight (growth) at 7 days significantly less (p=0.05) than the control's dry weight (growth) for the low-flow or critical dilution? ___yes ___no

DATA TABLE FOR GROWTH-MYSIDOPSIS

PERCENT EFFLUENT	AVERAGE DRY WEIGHT IN MILLIGRAMS IN REPLICATE CHAMBERS					MEAN DRY WEIGHT	CV%*
	A	B	C	D	E		
0%							
4%							
6%							
7%							
10%							
13%							

* Coefficient of variation = standard deviation x 100/mean

TABLE 1
SUMMARY SHEET

Mysidopsis bahia SURVIVAL AND GROWTH RESULTS TEST continued

3. Are the test results to be considered valid? yes no
If no (test invalid), what are the reasons for invalidity?
4. Is this a retest of a previous invalid test? yes no
Is this a retest of a previous test failure? yes no
5. Enter percent effluent corresponding to each NOEC (No Observed Effect Concentration) for Mysidopsis:
- a.NOEC SURVIVAL = _____ % effluent
b.NOEC GROWTH = _____ % effluent

TABLE 1
SUMMARY SHEET

Menidia beryllina SURVIVAL AND GROWTH RESULTS TEST
PERMITTEE: Citgo Petroleum Corporation

FACILITY SITE: Lake Charles Manufacturing Complex

LPDES PERMIT NUMBER: LA0005941, 1250

OUTFALL IDENTIFICATION: 001 (Phase II)

OUTFALL SAMPLE IS FROM _____ SINGLE _____ MULTIPLE DISCHARGES

BIOMONITORING LABORATORY: _____

DILUTION WATER USED: _____ RECEIVING WATER _____ LAB WATER

CRITICAL DILUTION 10% DATE TEST INITIATED _____

1. LOW-FLOW LETHALITY:

Is the mean survival at 7 days significantly less (p=0.05) than the control survival at the low-flow or critical dilution? yes no

PERCENT SURVIVAL-MENIDIA

PERCENT EFFLUENT	% SURVIVAL / REPLICATES					MEAN % SURVIVAL			CV%*
	A	B	C	D	E	24-HR	48-HR	7DAY	
0%									
4%									
6%									
7%									
10%									
13%									

2. LOW-FLOW SUB-LETHALITY:

Is the mean dry weight (growth) at 7 days significantly less (p=0.05) than the control's dry weight (growth) for the low-flow or critical dilution? yes
no

DATA TABLE FOR GROWTH-MENIDIA

PERCENT EFFLUENT	AVERAGE DRY WEIGHT IN MILLIGRAMS IN REPLICATE CHAMBERS					MEAN DRY WEIGHT	CV%*
	A	B	C	D	E		
0%							
4%							
6%							
7%							
10%							
13%							

* Coefficient of variation = standard deviation x 100/mean

TABLE 1
SUMMARY SHEET

Menidia beryllina SURVIVAL AND GROWTH RESULTS TEST continued

3. Are the test results to be considered valid? ___yes ___no
If Xno (test invalid), what reasons for invalidity?
4. Is this a retest of a previous invalid test? ___yes ___no
Is this a retest of a previous test failure? ___yes ___no
5. Enter percent effluent corresponding to each NOEC (No Observed Effect Concentration) for Menidia:
- a.NOEC SURVIVAL = ___% effluent
b.NOEC GROWTH = ___% effluent

TABLE 1
SUMMARY SHEET

Mysidopsis bahia SURVIVAL AND GROWTH RESULTS TEST
PERMITTEE: Citgo Petroleum Corporation

FACILITY SITE: Lake Charles Manufacturing Complex

LPDES PERMIT NUMBER: LA0005941, 1250

OUTFALL IDENTIFICATION: 003 (Phase I & II)

OUTFALL SAMPLE IS FROM _____ SINGLE _____ MULTIPLE DISCHARGES
BIOMONITORING LABORATORY: _____

DILUTION WATER USED: _____ RECEIVING WATER _____ LAB WATER _____

CRITICAL DILUTION 1.4% DATE TEST INITIATED _____

1. LOW-FLOW LETHALITY:

Is the mean survival at 7 days significantly less (p=0.05) than the control survival at the low-flow or critical dilution? ___yes ___no

PERCENT SURVIVAL-MYSIDOPSIS

TIME OF READING	PERCENT EFFLUENT					
	0%	0.6%	0.81%	1.1%	1.4%	1.9%
24-HOUR						
48-HOUR						
7-DAY						

2. LOW-FLOW SUB-LETHALITY:

Is the mean dry weight (growth) at 7 days significantly less (p=0.05) than the control's dry weight (growth) for the low-flow or critical dilution? ___yes ___no

DATA TABLE FOR GROWTH-MYSIDOPSIS

PERCENT EFFLUENT	AVERAGE DRY WEIGHT IN MILLIGRAMS IN REPLICATE CHAMBERS					MEAN DRY WEIGHT	CV%*
	A	B	C	D	E		
0%							
0.6%							
0.81%							
1.1%							
1.4%							
1.9%							

* Coefficient of variation = standard deviation x 100/mean

TABLE 1
SUMMARY SHEET

Mysidopsis bahia SURVIVAL AND GROWTH RESULTS TEST continued

3. Are the test results to be considered valid? yes no
If no (test invalid), what are the reasons for invalidity?

4. Is this a retest of a previous invalid test? yes no
Is this a retest of a previous test failure? yes no

5. Enter percent effluent corresponding to each NOEC (No Observed Effect Concentration) for Mysidopsis:

a.NOEC SURVIVAL = % effluent
b.NOEC GROWTH = % effluent

TABLE 1
SUMMARY SHEET

Menidia beryllina SURVIVAL AND GROWTH RESULTS TEST
PERMITTEE: Citgo Petroleum Corporation

FACILITY SITE: Lake Charles Manufacturing Complex

LPDES PERMIT NUMBER: LA0005941, 1250
OUTFALL IDENTIFICATION: 003 (Phase I & II)

OUTFALL SAMPLE IS FROM _____ SINGLE _____ MULTIPLE DISCHARGES
BIOMONITORING LABORATORY: _____
DILUTION WATER USED: _____ RECEIVING WATER _____ LAB WATER
CRITICAL DILUTION 1.4% DATE TEST INITIATED _____

1. LOW-FLOW LETHALITY:

Is the mean survival at 7 days significantly less (p=0.05) than the control survival at the low-flow or critical dilution? yes no

PERCENT SURVIVAL-MENIDIA

PERCENT EFFLUENT	% SURVIVAL / REPLICATES					MEAN % SURVIVAL			CV%*
	A	B	C	D	E	24-HR	48-HR	7DAY	
0%									
0.6%									
0.81%									
1.1%									
1.4%									
1.9%									

2. LOW-FLOW SUB-LETHALITY:

Is the mean dry weight (growth) at 7 days significantly less (p=0.05) than the control's dry weight (growth) for the low-flow or critical dilution? yes
no

DATA TABLE FOR GROWTH-MENIDIA

PERCENT EFFLUENT	AVERAGE DRY WEIGHT IN MILLIGRAMS IN REPLICATE CHAMBERS					MEAN DRY WEIGHT	CV%*
	A	B	C	D	E		
0%							
0.6%							
0.81%							
1.1%							
1.4%							
1.9%							

* Coefficient of variation = standard deviation x 100/mean

PART III
STANDARD CONDITIONS FOR LPDES PERMITS

SECTION A. GENERAL CONDITIONS

1. Introduction

In accordance with the provisions of LAC 33:IX.2701, et seq., this permit incorporates either expressly or by reference ALL conditions and requirements applicable to the Louisiana Pollutant Discharge Elimination System Permits (LPDES) set forth in the Louisiana Environmental Quality Act (LEQA), as amended, as well as ALL applicable regulations.

2. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and the Louisiana Environmental Quality Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

3. Penalties for Violation of Permit Conditions

a. R.S. 30:2025 provides for civil penalties for violations of these regulations and the Louisiana Environmental Quality Act. R.S. 30:2076.2 provides for criminal penalties for violation of any provisions of the LPDES or any order or any permit condition or limitation issued under or implementing any provisions of the LPDES program. (See Section E. Penalties for Violation of Permit Conditions for additional details.)

b. Any person may be assessed an administrative penalty by the state administrative authority under R.S. 30:2025 for violating a permit condition or limitation implementing any of the requirements of the LPDES program in a permit issued under the regulations or the Louisiana Environmental Quality Act.

4. Toxic Pollutants

a. Other effluent limitations and standards under Sections 301, 302, 303, 307, 318, and 405 of the Clean Water Act. If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the Clean Water Act for a toxic pollutant, and that standard or prohibition is more stringent than any limitation on the pollutant in this permit, the state administrative authority shall institute proceedings under these regulations to modify or revoke and reissue the permit to conform to the toxic effluent standard or prohibition.

b. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act within the time provided in the regulations that establish these standards or prohibitions, or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

5. Duty to Reapply

a. Individual Permits. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The new application shall be submitted at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the state administrative authority. (The state administrative authority shall not grant permission for applications to be submitted later than the expiration date of the existing permit.) Continuation of expiring permits shall be governed by regulations promulgated at LAC 33:IX.2321 and any subsequent amendments.

b. General Permits. General permits expire five years after the effective date. The 180-day reapplication period as defined above is not applicable to general permit authorizations. Reissued general permits may provide automatic coverage for permittees authorized under the previous version of the permit, and no new application is required. Requirements for obtaining authorization under the reissued general

permit will be outlined in Part I of the new permit. Permittees authorized to discharge under an expiring general permit should follow the requirements for obtaining coverage under the new general permit to maintain discharge authorization.

6. Permit Action

This permit may be modified, revoked and reissued, or terminated for cause in accordance with LAC 33:IX.2903, 2905, 2907, 3105, and 6509. The causes may include, but are not limited to, the following:

- a. Noncompliance by the permittee with any condition of the permit;
- b. The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time;
- c. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination;
- d. A change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge;
- e. Failure to pay applicable fees under the provisions of LAC 33:IX.Chapter 13; or
- f. Change of ownership or operational control.

The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

7. Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege, nor does it authorize any injury to private or public property, nor any infringement of federal, state, or local laws or regulations.

8. Duty to Provide Information

The permittee shall furnish to the state administrative authority, within a reasonable time, any information which the state administrative authority may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the state administrative authority, upon request, copies of records required to be kept by this permit.

9. Criminal and Civil Liability

Except as provided in permit conditions on "Bypassing" and "Upsets," nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Any false or materially misleading representation or concealment of information required to be reported by the provisions of the permit, the Act, or applicable regulations, which avoids or effectively defeats the regulatory purpose of the Permit may subject the permittee to criminal enforcement pursuant to R.S. 30:2025.

10. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act.

11. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Clean Water Act.

12. Severability

If any provision of these rules and regulations, or the application thereof, is held to be invalid, the remaining provisions of these rules and regulations shall not be affected, so long as they can be given effect without the invalid provision. To this end, the provisions of these rules and regulations are declared to be severable.

13. Dilution

A permittee shall not achieve any effluent concentration by dilution unless specifically authorized in the permit. A permittee shall not increase the use of process water or cooling water or otherwise attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve permit limitations or water quality.

14. Facilities Requiring Approval from Other State Agencies

In accordance with R.S. 40:4(A)(6) the plans and specifications of all sewerage works, both public and private, must be approved by the Louisiana Department of Health state health officer or his designee. It is unlawful for any person, firm, or corporation, both municipal and private, to operate a sanitary sewage treatment facility without proper authorization from the state health officer.

In accordance with R.S. 40:1281.9, it is unlawful for any person, firm or corporation, both municipal and private, operating a sewerage system to operate that system unless the competency of the operator is duly certified by the Louisiana Department of Health state health officer. Furthermore, it is unlawful for any person to perform the duties of an operator without being duly certified.

In accordance with R.S. 48:385, it is unlawful for any industrial wastes, sewage, septic tanks effluent, or any noxious or harmful matter, solid, liquid, or gaseous to be discharged into the side or cross ditches or placed upon the rights-of-ways of state highways without the prior written consent of the Department of Transportation and Development chief engineer or his duly authorized representative and of the secretary of the Louisiana Department of Health.

15. The standards provided in Chapter 11 – Surface Water Quality Standards are official regulations of the state, and any person who discharges pollutants to the waters of the state in such quantities as to cause these standards to be violated shall be subject to the enforcement procedures of the state as specified in R.S. 30:2025.

16. Preproduction Plastics

In accordance with the House Concurrent Resolution No. 37 from the 2021 Regular Session, there shall be zero discharge or release of preproduction plastic into waters of the state from facilities which manufacture or manage such material. Additionally, facilities which manufacture or manage preproduction plastic must maintain a spill prevention plan onsite or at the nearest manned facility (made available to LDEQ upon request) addressing procedures to prevent and abate any release or discharge of preproduction plastic into the waters of the state.

SECTION B. PROPER OPERATION AND MAINTENANCE

1. Need to Halt or Reduce not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

2. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. The permittee shall also take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with the permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

3. Proper Operation and Maintenance

- a. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.
- b. The permittee shall provide an adequate operating staff which is duly qualified to carry out operation, maintenance, and other functions necessary to ensure compliance with the conditions of this permit.

4. Bypass of Treatment Facilities

- a. Bypass. The intentional diversion of waste streams from any portion of a treatment facility.
- b. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Section B.4.c. and d of these standard conditions.
- c. Notice
 - (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice to the Office of Environmental Services, Water Permits Division, if possible at least 10 days before the date of the bypass.
 - (2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in LAC 33:IX.2701.L.6 (24-hour notice) and Section D 6.e of these standard conditions.
- d. Prohibition of bypass
 - (1) Bypass is prohibited, and the state administrative authority may take enforcement action against a permittee for bypass, unless:
 - (a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - (c) The permittee submitted notices as required by Section B.4.c of these standard conditions.
 - (2) The state administrative authority may approve an anticipated bypass after considering its adverse effects, if the state administrative authority determines that it will meet the three conditions listed in Section B.4.d(1) of these standard conditions.

5. Upset Conditions

- a. Upset. An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Section B.5.c are met. No

determination made during administrative review of claims that noncompliance was caused by an upset, and before an action for noncompliance, constitutes final administrative action subject to judicial review.

- c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
- (1) An upset occurred and that the permittee can identify the cause(s) of the upset;
 - (2) The permitted facility was at the time being properly operated;
 - (3) The permittee submitted notice of the upset as required by LAC 33:IX.2701.L.6.b.ii and Section D.6.e(2) of these standard conditions; and
 - (4) The permittee complied with any remedial measures required by Section B.2 of these standard conditions.
- d. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

6. Removed Substances

Solids, sewage sludges, filter backwash, or other pollutants removed in the course of treatment or wastewater control shall be properly disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the state and in accordance with environmental regulations.

7. Percent Removal

For Publicly Owned Treatment Works (POTWs), the 30-day average percent removal for Biochemical Oxygen Demand and Total Suspended Solids shall not be less than 85 percent in accordance with LAC 33:IX.5905.A.3 and B.3. POTWs utilizing waste stabilization ponds/oxidation ponds are not subject to the 85 percent removal rate for Total Suspended Solids.

SECTION C. MONITORING AND RECORDS

1. Inspection and Entry

The permittee shall allow the state administrative authority or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon the presentation of credentials and other documents as may be required by the law to:

- a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit.

Enter upon the permittee's premises where a discharge source is or might be located or in which monitoring equipment or records required by a permit are kept for inspection or sampling purposes. Most inspections will be unannounced and should be allowed to begin immediately, but in no case shall begin more than 30 minutes after the time the inspector presents his/her credentials and announces the purpose(s) of the inspection. Delay in excess of 30 minutes shall constitute a violation of this permit. However, additional time can be granted if the inspector or the administrative authority determines that the circumstances warrant such action;

- b. Have access to and copy, at reasonable times, any records that the department or its authorized representative determines are necessary for the enforcement of this permit. For records maintained in either a central or private office that is open only during normal office hours and is closed at the time of inspection, the records shall be made available as soon as the office is open, but in no case later than the close of business the next working day;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

- d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act or the Louisiana Environmental Quality Act, any substances or parameters at any location.
- e. Sample Collection
- (1) When the inspector announces that samples will be collected, the permittee may be given an additional 30 minutes to prepare containers in order to collect duplicates. If the permittee cannot obtain and prepare sample containers within this time, he is considered to have waived his right to collect duplicate samples and the sampling will proceed immediately. Further delay on the part of the permittee in allowing initiation of the sampling will constitute a violation of this permit.
 - (2) At the discretion of the administrative authority, sample collection shall proceed immediately (without the additional 30 minutes described in Section C.1.a above), and the inspector shall supply the permittee with a duplicate sample.
- f. It shall be the responsibility of the permittee to ensure that a facility representative familiar with provisions of its wastewater discharge permit, including any other conditions or limitations, be available either by phone or in person at the facility during all hours of operation. The absence of such personnel on-site who are familiar with the permit shall not be grounds for delaying the initiation of an inspection except in situations as described in Section C.1.b of these standard conditions. The permittee shall be responsible for providing witnesses/escorts during inspections. Inspectors shall abide by all company safety rules and shall be equipped with standard safety equipment (hard hat, safety shoes, safety glasses) normally required by industrial facilities.
- g. Upon written request, copies of field notes, drawings, etc., taken by department personnel during an inspection shall be provided to the permittee after the final inspection report has been completed.
2. Representative Sampling
Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. All samples shall be taken at the outfall location(s) indicated in the permit. The state administrative authority shall be notified prior to any changes in the outfall location(s). Any changes in the outfall location(s) may be subject to modification, revocation, and reissuance in accordance with LAC 33:IX.2903.
3. Retention of Records
Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer, as required by 40 CFR 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the state administrative authority at any time.
4. Record Contents
Records of monitoring information shall include:
- a. The date, exact place, and time of sampling or measurements;
 - b. The individual(s) who performed the sampling or measurements;
 - c. The date(s) analyses were performed;
 - d. The time(s) analyses were begun;
 - e. The individual(s) who performed the analyses;
 - f. The analytical techniques or methods used;
 - g. The results of such analyses; and
 - h. The results of all quality control procedures.

5. Monitoring Procedures

- a. Measurements and analyses must be conducted according to test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, unless other test procedures have been specified in this permit.
- b. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instruments at intervals frequent enough to ensure accuracy of measurements and shall maintain appropriate records of such activities.
- c. The permittee or designated laboratory shall have an adequate analytical quality assurance/quality control program to produce defensible data of known precision and accuracy. All quality control measures shall be assessed and evaluated on an ongoing basis, and quality control acceptance criteria shall be used to determine the validity of the data. All method-specific quality controls as prescribed in the method shall be followed. If quality control requirements are not included in the method, the permittee or designated laboratory shall follow the quality control requirements as prescribed in the Approved Edition (40 CFR Part 136) *Standard Methods for the Examination of Water and Wastewater*, Sections 1020A and 1020B. General sampling protocol shall follow guidelines established in the *Handbook for Sampling and Sample Preservation of Water and Wastewater*, 1982 U.S. Environmental Protection Agency. This publication is available from the National Service Center for Environmental Publications

<https://nepis.epa.gov/Exe/ZyNET.exe/30000QSA.TXT?ZyActionD=ZyDocument&Client=EPA&Index=1981+Thru+1985&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IrtQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C81thru85%5CTxt%5C00000001%5C30000QSA.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyURL>

6. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than 10 percent from true discharge rates throughout the range of expected discharge volumes and shall be calibrated by a qualified source at least once a year to ensure their accuracy. A qualified source is a person that has received formal training and/or has practical field experience in the calibration of the flow measurement device used at the facility. Guidance in selection, installation, calibration, and operation of acceptable flow measurement devices can be obtained from the following references:

- a. *A Guide to Methods and Standards for the Measurement of Water Flow*, 1975, U.S. Department of Commerce, National Bureau of Standards. This publication is available from the National Technical Information Service (NTIS), Springfield, VA 22161, and telephone number (800) 553-6847. Order by NTIS publication number COM-75-10683.
<https://www.govinfo.gov/content/pkg/GOVPUB-C13-a301a5f6bf6ec378b4fabc9c626c03e2/pdf/GOVPUB-C13-a301a5f6bf6ec378b4fabc9c626c03e2.pdf>
- b. *Flow Measurement in Open Channels and Closed Conduits*, Volumes 1 and 2 U.S. Department of Commerce, National Bureau of Standards. This publication is available from the National Technical Service (NTIS), Springfield, VA, 22161, and telephone number (800) 553-6847. Order by NTIS publication number PB-273 535.
Volume 1:
<https://www.govinfo.gov/content/pkg/GOVPUB-C13-c0f8a094b9fcc5c32be685edbd48f942/pdf/GOVPUB-C13-c0f8a094b9fcc5c32be685edbd48f942.pdf>

Volume 2:

<https://www.govinfo.gov/content/pkg/GOVPUB-C13-b3daf36f1cc0f770bc04d66da5cdc937/pdf/GOVPUB-C13-b3daf36f1cc0f770bc04d66da5cdc937.pdf>

- c. *NPDES Compliance Flow Measurement Manual*, U.S. Environmental Protection Agency, Office of Water Enforcement. This publication is available from the National Technical Information Service (NTIS), Springfield, VA 22161, and telephone number (800) 553-6847. Order by NTIS publication number PB-82-131178.
<https://nepis.epa.gov/Exe/ZyNET.exe/9101TZLK.TXT?ZyActionD=ZyDocument&Client=EPA&Index=1981+Thru+1985&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&lrQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C81thru85%5Ctxt%5C00000026%5C9101TZLK.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL>
7. Prohibition for Tampering: Penalties
- a. R.S. 30:2025 provides for punishment of any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit.
- b. R.S. 30:2076.2 provides for penalties for any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance.
8. Additional Monitoring by the Permittee
 If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136 (see LAC 33:IX.4901), or in the case of sludge use and disposal, approved under 40 CFR Part 136 (see LAC 33:IX.4901) unless otherwise specified in 40 CFR Part 503, or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the state administrative authority.
9. Averaging of Measurements
 Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the state administrative authority in the permit.
10. Laboratory Accreditation
- a. LAC 33:I.Subpart 3, Chapters 45–59 provide requirements for an accreditation program specifically applicable to commercial laboratories, wherever located, that provide chemical analyses, analytical results, or other test data to the department, by contract or by agreement, and the data is:
- (1) Submitted on behalf of any facility, as defined in R.S. 30:2004;
 - (2) Required as part of any permit application;
 - (3) Required by order of the department;
 - (4) Required to be included on any monitoring reports submitted to the department;
 - (5) Required to be submitted by contractor; and/or
 - (6) Otherwise required by department regulations.
- b. The department laboratory accreditation program, Louisiana Environmental Laboratory Accreditation Program (LELAP) is designed to ensure the accuracy, precision, and reliability of the data generated, as well as the use of department-approved methodologies in generation of that data. Laboratory data generated by commercial environmental laboratories that are not LELAP-accredited will not be accepted by the department. Retesting of analysis by an accredited commercial laboratory will be required.

Where retesting of effluent is not possible (for example, data reported on DMRs for prior month's sampling), the data generated will be considered invalid and in violation of the LPDES permit.

- c. Regulations on the Louisiana Environmental Laboratory Accreditation Program and a list of labs that have applied for accreditation are available on the department website located under LDEQ → About LDEQ → Public Participation and Permit Support → LA Lab Accreditation at the following link:

<http://deq.louisiana.gov/page/la-lab-accreditation>

Questions concerning the program may be directed to (225) 219-3247.

SECTION D. REPORTING REQUIREMENTS

1. Facility Changes

The permittee shall give notice to the state administrative authority as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

- a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
- b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit nor to notification requirements under LAC 33:IX.2703.A.1.
- c. For Municipal Permits. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to Section 301 or 306 of the CWA if it were directly discharging those pollutants, and any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit. In no case are any new connections, increased flows, or significant changes in influent quality permitted that will cause violation of the effluent limitations specified herein.

2. Anticipated Noncompliance

The permittee shall give advance notice to the state administrative authority of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. Transfers

This permit is not transferable to any person except after notice to the state administrative authority. The state administrative authority may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act or the Louisiana Environmental Quality Act. (See LAC 33:IX.2901; in some cases, modification or revocation and reissuance is mandatory.)

A permit may be transferred by the permittee to a new owner or operator only if: (1) the permit has been modified or revoked and reissued (under LAC 33:IX.2903.A.2.b) by the permittee and new owner submitting a Name/Ownership/Operator Change Form (NOC-1 Form) and approved by LDEQ (LAC 33:I.Chapter 19); or (2) a minor modification made (under LAC 33:IX.2905) to identify the new permittee and incorporate such other requirements as may be necessary under the Clean Water Act and the Louisiana Environmental Quality Act.

The NOC-1 form can be found using the pathway LDEQ → Water → LPDES Application Forms at the following link: <http://deq.louisiana.gov/page/lpdes-water-permits>

4. Monitoring Reports

Monitoring results shall be reported at the intervals specified elsewhere in this permit and shall be submitted through a department-approved electronic document receiving system (NetDMR) in accordance with LAC 33:I.Chapter 21 unless the state administrative authority gives written authorization to the permittee to submit monitoring results in an alternative format such as paper DMRs.

Information about NetDMR and gaining access can be viewed using the pathway LDEQ → Water → Enforcement → NETDMR on the department's website at: <http://deq.louisiana.gov/page/netdmr>

The permittee shall submit properly completed Discharge Monitoring Reports (DMRs) using the format specified in the permit.

If authorized to report using an alternative format such as paper DMRs, then preprinted DMRs will be provided to majors and other designated facilities. Please contact the Permit Compliance Unit concerning preprints. Self-generated DMRs must be pre-approved by the Permit Compliance Unit prior to submittal. Self-generated DMRs are approved on an individual basis. Requests for approval of self-generated DMRs should be submitted to the following address:

Supervisor, Permit Compliance Unit
Office of Environmental Compliance
Post Office Box 4312
Baton Rouge, LA 70821-4312

5. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

6. Requirements for Notification

a. Emergency Notification

As required by LAC 33:I.3915, in the event of an unauthorized discharge that causes an emergency condition, the discharger shall notify the hotline (Department of Public Safety (DPS) 24-hour Louisiana Emergency Hazardous Materials Hotline) by telephone at (225) 925-6595 (collect calls accepted 24 hours a day) immediately (a reasonable period of time after taking prompt measures to determine the nature, quantity, and potential off-site impact of a release, considering the exigency of the circumstances), but in no case later than one hour after learning of the discharge. (An emergency condition is any condition which could reasonably be expected to endanger the health and safety of the public, cause significant adverse impact to the land, water, or air environment, or cause severe damage to property.) Notification required by this section will be made regardless of the amount of discharge. Prompt Notification Procedures are listed in Section D.6.c of these standard conditions.

A written report shall be provided within seven calendar days after the notification. The report shall contain the information listed in Section D.6.d of these standard conditions and any additional information in LAC 33:I.3925.B.

b. Prompt Notification

As required by LAC 33:I.3917, in the event of an unauthorized discharge that exceeds a reportable quantity specified in LAC 33:I.Chapter 39.Subchapter E, but does not cause an emergency condition, the discharger shall promptly notify DPS by telephone at (225) 925-6595 (collect calls accepted 24 hours a day) within 24 hours after learning of the discharge.

In the event of an unauthorized discharge that requires notification, the DPS 24-hour Louisiana Emergency Hazardous Materials Hotline will notify the Department of Environmental Quality.

In accordance with LAC 33:I.3923, notifications not required by LAC 33:I.3915 or 3917 shall be provided to the department within a time frame not to exceed 24 hours, or as specified by the specific regulation or permit provision requiring the notification, and shall be given to Single Point of Contact (SPOC), as follows:

- (1) by the Online Incident Reporting screens found at <http://deq.louisiana.gov/page/file-a-complaint-report-an-incident>; or

- (2) by email utilizing the Incident Report Form and instructions found at <https://www.deq.louisiana.gov/index.cfm?md=pagetbuilder&tmp=home&pid=single-point-of-contact>; or
 - (3) by telephone at (225) 219-3640 during office hours, or (225) 342-1234 after hours and on weekends and holidays.
- c. Content of Prompt Notifications The following guidelines will be utilized as appropriate, based on the conditions and circumstances surrounding any unauthorized discharge, to provide relevant information regarding the nature of the discharge:
- (1) the name of the person making the notification and the telephone number where any return calls from response agencies can be placed;
 - (2) the name and location of the facility or site where the unauthorized discharge is imminent or has occurred, using common landmarks. In the event of an incident involving transport, include the name and address of the transporter and generator;
 - (3) the date and time the incident began and ended, or the estimated time of continuation if the discharge is continuing;
 - (4) the extent of any injuries and identification of any known personnel hazards that response agencies may face;
 - (5) the common or scientific chemical name, the U.S. Department of Transportation hazard classification, and the best estimate of amounts of any and all discharged pollutants; and
 - (6) a brief description of the incident sufficient to allow response agencies to formulate their level and extent of response activity.
- d. Written Notification Procedures Written reports for any unauthorized discharge that requires notification under Section D.6.a or b, shall be submitted by the discharger to the Office of Environmental Compliance, Emergency and Radiological Services Division - SPOC in accordance with LAC 33:I.3925 within seven calendar days after the notification required by D.6.a or 6.b, unless otherwise provided for in a valid permit or other department regulation. Written notification reports shall include, but not be limited to, the following information:
- (1) the name, address, telephone number, Agency Interest (AI) number (number assigned by the department) if applicable, and any other applicable identification numbers of the person, company, or other party who is filing the written report, and specific identification that the report is the written follow-up report required by this section;
 - (2) the time and date of prompt notification, the state official contacted when reporting, the name of person making that notification, identification of the site or facility, vessel, transport vehicle, or storage area from which the unauthorized discharge occurred, and the location where the incident occurred;
 - (3) date(s), time(s), and duration of the unauthorized discharge and, if not corrected, the anticipated time it is expected to continue;
 - (4) details of the circumstances (unauthorized discharge description and root cause) and events leading to any unauthorized discharge, including incidents of loss of sources of radiation, and if the release point is subject to a permit:
 - (a) the current permitted limit for the pollutant(s) released; and
 - (b) the permitted release point/outfall ID
 - (5) the common or scientific chemical name of each specific pollutant that was released as the result of an unauthorized discharge, including the CAS number and U.S. Department of Transportation hazard classification, and the best estimate of amounts of any and all released pollutants (total amount of each compound expressed in pounds, including calculations);
 - (6) a statement of the actual or probable fate or disposition of the pollutant or source of radiation and what off-site impact resulted; and
 - (7) remedial actions taken, or to be taken, to stop unauthorized discharges or to recover pollutants or sources of radiation.

Written notification reports shall be submitted to the Office of Environmental Compliance, SPOC by mail or e-mail. The transmittal envelope and report or e-mail subject line and report should be clearly marked "**UNAUTHORIZED DISCHARGE NOTIFICATION REPORT.**"

Written reports (LAC 33:I.3925) should be mailed to:

Louisiana Department of Environmental Quality
Post Office Box 4312
Baton Rouge, LA 70821-4312
ATTENTION: OFFICE OF ENVIRONMENTAL COMPLIANCE – SPOC "UNAUTHORIZED
DISCHARGE NOTIFICATION REPORT"

The Written Notification Report may be emailed to the Louisiana Department of Environmental Quality, Office of Environmental Compliance, Single Point of Contact at: writtnnotificationLDEQ@la.gov.

Please see LAC 33:I.3925.B for additional written notification procedures.

- e. Twenty-four Hour Reporting The permittee shall report any noncompliance which may endanger human health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The following shall be included as information which must be reported within 24 hours:
- (1) Any unanticipated bypass which exceeds any effluent limitation in the permit (see LAC 33:IX.2701.M.3.b);
 - (2) Any upset which exceeds any effluent limitation in the permit; and/or
 - (3) Violation of a maximum daily discharge limitation for any of the pollutants listed by the state administrative authority in Part II of the permit to be reported within 24 hours (LAC 33:IX.2707.G).
7. Other Noncompliance
The permittee shall report all instances of noncompliance not reported under Section D.4, 5, and 6, at the time monitoring reports are submitted. The reports shall contain the information listed in Section D.6.e.
8. Other Information
Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the state administrative authority, it shall promptly submit such facts or information.
9. Discharges of Toxic Substances
In addition to the reporting requirements under Section D.1–8, all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Office of Environmental Services, Water Permits Division as soon as they know or have reason to believe:
- a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant:
 - (1) listed at LAC 33:IX.7107, Tables II and III (excluding Total Phenols) which is not limited in the permit, if that discharge will exceed the highest of the following notification levels:
 - (a) One hundred micrograms per liter (100 µg/L);
 - (b) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - (c) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with LAC 33:IX.2501.G.7; or
 - (d) The level established by the state administrative authority in accordance with LAC 33:IX.2707.F; or

- (2) which exceeds the reportable quantity levels for pollutants at LAC 33:I.Chapter 39.Subchapter E.
- b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant:
 - (1) listed at LAC 33:IX.7107, Tables II and III (excluding Total Phenols) which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - (a) Five hundred micrograms per liter (500 µg/L);
 - (b) One milligram per liter (1 mg/L) for antimony;
 - (c) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with LAC 33:IX.2501.G.7; or
 - (d) The level established by the state administrative authority in accordance with LAC 33:IX.2707.F; or
 - (2) which exceeds the reportable quantity levels for pollutants at LAC 33:I.Chapter 39.Subchapter E.

10. Signatory Requirements

All applications, reports, or information submitted to the state administrative authority shall be signed and certified.

a. All permit applications shall be signed as follows:

- (1) For a corporation—by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
 - (a) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation; or,
 - (b) The manager of one or more manufacturing, production, or operating facilities, provided: the manager is authorized to make management decisions that govern the operation of the regulated facility, including having the explicit or implicit duty of making major capital investment recommendations and initiating and directing other comprehensive measures to ensure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and the authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

NOTE: The department does not require specific assignments or delegations of authority to responsible corporate officers identified in Section D.10.a(1)(a). The agency will presume that these responsible corporate officers have the requisite authority to sign permit applications unless the corporation has notified the state administrative authority to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions under Section D.10.a(1)(b) rather than to specific individuals.

- (2) For a partnership or sole proprietorship—by a general partner or the proprietor, respectively; or
 - (3) For a municipality, state, federal, or other public agency—by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a federal agency includes:
 - (a) The chief executive officer of the agency, or
 - (b) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (for example, Regional Administrators of EPA).
- b. All reports required by permits and other information requested by the state administrative authority shall be signed by a person described in Section D.10.a, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
- (1) The authorization is made in writing by a person described in Section D.10.a of these standard conditions;

- (2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company, (a duly authorized representative may thus be either a named individual or an individual occupying a named position); and,
- (3) The written authorization is submitted to the state administrative authority.
- c. Changes to authorization. If an authorization under Section D.10.b is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Section D.10.b must be submitted to the state administrative authority prior to or together with any reports, information, or applications to be signed by an authorized representative.
- d. Certification. Any person signing a document under Section D.10.a or b above, shall make the following certification:

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

11. Availability of Reports

All recorded information (completed permit application forms, fact sheets, draft permits, or any public document) not classified as confidential information under R.S. 30:2030(A) and 30:2074(D) and designated as such in accordance with these regulations (LAC 33:IX.2323 and LAC 33:IX.6503) shall be made available to the public for inspection and copying during normal working hours in accordance with the Public Records Act, R.S. 44:1 et seq.

Claims of confidentiality for the following will be denied:

- a. The name and address of any permit applicant or permittee; or
- b. Permit applications, permits, and effluent data.

Information required by LPDES application forms provided by the state administrative authority under LAC 33:IX.2501 may not be claimed confidential. This includes information submitted on the forms themselves and any attachments used to supply information required by the forms.

SECTION E. PENALTIES FOR VIOLATIONS OF PERMIT CONDITIONS

1. Criminal

a. Negligent Violations

R.S. 30:2076.2 provides that any person who negligently violates any provision of the LPDES, or any order issued by the secretary under the LPDES, or any permit condition or limitation implementing any such provision in a permit issued under the LPDES by the secretary, or any requirement imposed in a pretreatment program approved under the LPDES is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than one year, or both. If a conviction of a person is for a violation committed after a first conviction of such person, he shall be subject to a fine of not more than \$50,000 per day of violation, or imprisonment of not more than two years, or both.

b. Knowing Violations

R.S. 30:2076.2 provides that any person who knowingly violates any provision of the LPDES, or any permit condition or limitation implementing any such provisions in a permit issued under the LPDES, or

any requirement imposed in a pretreatment program approved under the LPDES is subject to a fine of not less than \$5,000 nor more than \$50,000 per day of violation, or imprisonment for not more than three years, or both. If a conviction of a person is for a violation committed after a first conviction of such person, he shall be subject to a fine of not more than \$100,000 per day of violation, or imprisonment of not more than six years, or both.

c. Knowing Endangerment

R.S. 30:2076.2 provides that any person who knowingly violates any provision of the LPDES, or any order issued by the secretary under the LPDES, or any permit condition or limitation implementing any of such provisions in a permit issued under the LPDES by the secretary, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000, or by imprisonment for not more than 15 years, or both. A person which is an organization shall, upon conviction of violating this Paragraph, be subject to a fine of not more than one million dollars. If a conviction of a person is for a violation committed after a first conviction of such person under this Paragraph, the maximum punishment shall be doubled with respect to both fine and imprisonment.

d. False Statements

R.S. 30:2076.2 provides that any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the LPDES or who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained under the LPDES, shall, upon conviction, be subject to a fine of not more than \$10,000, or imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this Subsection, he shall be subject to a fine of not more than \$20,000 per day of violation, or imprisonment of not more than four years, or both.

2. Civil Penalties

R.S. 30:2025 provides that any person found to be in violation of any requirement of this Subtitle may be liable for a civil penalty, to be assessed by the secretary, an assistant secretary, or the court, of not more than the cost to the state of any response action made necessary by such violation which is not voluntarily paid by the violator, and a penalty of not more than \$32,500 for each day of violation. However, when any such violation is done intentionally, willfully, or knowingly, or results in a discharge or disposal which causes irreparable or severe damage to the environment or if the substance discharged is one which endangers human life or health, such person may be liable for an additional penalty of not more than one million dollars.

(PLEASE NOTE: These penalties are listed in their entirety in Subtitle II of Title 30 of the Louisiana Revised Statutes.)

SECTION F. DEFINITIONS

All definitions contained in Section 502 of the Clean Water Act shall apply to this permit and are incorporated herein by reference. Additional definitions of words or phrases used in this permit are as follows:

1. Clean Water Act (CWA) means the Public Law 92-500 as amended by Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483 and Pub. L. 97-117, 33 U.S.C. 1251 et seq. The CWA was formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972.
2. Accreditation means the formal recognition by the department of a laboratory's competence wherein specific tests or types of tests can be accurately and successfully performed in compliance with all minimum requirements set forth in the regulations regarding laboratory accreditation.
3. Administrator means the Administrator of the U.S. Environmental Protection Agency, or an authorized representative.

4. Applicable Standards and Limitations means all state, interstate and federal standards and limitations to which a discharge is subject under the Clean Water Act, including effluent limitations, water quality standards of performance, toxic effluent standards or prohibitions, best management practices, and pretreatment standards under Sections 301, 302, 303, 304, 306, 307, 308, and 403.
5. Applicable water quality standards means all water quality standards to which a discharge is subject under the Clean Water Act.
6. Commercial Laboratory means any laboratory, wherever located, that performs analyses or tests for third parties for a fee or other compensation and provides chemical analyses, analytical results, or other test data to the department. The term commercial laboratory does not include laboratories accredited by the Louisiana Department of Health in accordance with R.S. 49:1001 et seq.
7. Daily Discharge means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in terms of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the sampling day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the average measurement of the pollutant over the sampling day. Daily discharge determination of concentration made using a composite sample shall be the concentration of the composite sample.
8. Daily Maximum discharge limitation means the highest allowable "daily discharge."
9. Director means the U.S. Environmental Protection Agency Regional Administrator, or the state administrative authority, or an authorized representative.
10. Domestic septage means either liquid or solid material removed from a septic tank, cesspool, portable toilet, Type III marine sanitation device, or similar treatment works that receives only domestic sewage. Domestic septage does not include liquid or solid material removed from a septic tank, cesspool, or similar treatment works that receives either commercial wastewater or industrial wastewater and does not include grease removed from grease trap at a restaurant.
11. Domestic sewage means waste and wastewater from humans or household operations that is discharged to or otherwise enters a treatment works.
12. Environmental Protection Agency (or EPA) means the U.S. Environmental Protection Agency.
13. Grab sample means an individual sample collected over a period of time not exceeding 15 minutes, unless more time is needed to collect an adequate sample, and is representative of the discharge.
14. Industrial user means a nondomestic discharger, as identified in 40 CFR 403, introducing pollutants to a Publicly Owned Treatment Works.
15. LEQA means the Louisiana Environmental Quality Act.
16. Loading is presented in the permit and reported in the DMR as the total amount of a pollutant entering the facility or discharged in the effluent. It is calculated by knowing the amount of flow, the concentration, and the density of water. Results should be rounded off and expressed with the same number of significant figures as the permit limit. If the permit does not explicitly state how many significant figures are associated with the permit limit, the permittee shall use two.

$$\text{Loading (lbs/day)} = \text{Flow (in MGD)} \times \text{Concentration (mg/L)} \times 8.34^*$$

*8.34 is the unit conversion for the weight of water

17. Louisiana Pollutant Discharge Elimination System (LPDES) means those portions of the Louisiana Environmental Quality Act and the Louisiana Water Control Law and all regulations promulgated under their authority which are deemed equivalent to the National Pollutant Discharge Elimination System (NPDES) under the Clean Water Act in accordance with Section 402 of the Clean Water Act and all applicable federal regulations.
18. Monthly Average discharge limitations (other than for bacteria indicators, such as fecal coliform and enterococci) are calculated as the sum of all "daily discharge(s)" measured during a calendar month divided by the number of "daily discharge(s)" measured during that month. When the permit establishes monthly average concentration effluent limitations or conditions, and flow is measured as continuous record or with a totalizer, the monthly average concentration means the arithmetic average (weighted by flow) of all "daily discharge(s)" of concentration determined during the calendar month where C = daily discharge concentration, F = daily flow and n = number of daily samples; monthly average discharge =

$$\frac{C_1F_1 + C_2F_2 + \dots + C_nF_n}{F_1 + F_2 + \dots + F_n}$$

When the permit establishes monthly average concentration effluent limitations or conditions, and the flow is not measured as a continuous record, then the monthly average concentration means the arithmetic average of all "daily discharge(s)" of concentration determined during the calendar month.

The monthly average for bacteria indicators is the geometric mean of the values for all effluent samples collected during a calendar month.

19. National Pollutant Discharge Elimination System (NPDES) means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 318, 402, and 405 of the Clean Water Act.
20. POTW means Publicly Owned Treatment Works.
21. Sanitary Wastewater Term(s):
- a. 3-hour composite sample consists of three effluent portions collected no closer together than one hour (with the first portion collected no earlier than 10:00 a.m.) over the 3-hour period and composited according to flow, or a sample continuously collected in proportion to flow over the 3-hour period.
 - b. 6-hour composite sample consists of six effluent portions collected no closer together than one hour (with the first portion collected no earlier than 10:00 a.m.) over the 6-hour period and composited according to flow, or a sample continuously collected in proportion to flow over the 6-hour period.
 - c. 12-hour composite sample consists of 12 effluent portions collected no closer together than one hour over the 12-hour period and composited according to flow, or a sample continuously collected in proportion to flow over the 12-hour period. The daily sampling intervals shall include the highest flow periods.
 - d. 24-hour composite sample consists of a minimum of 12 effluent portions collected at equal time intervals over the 24-hour period and combined proportional to flow or a sample continuously collected in proportion to flow over the 24-hour period.
22. Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

23. Sewage sludge means any solid, semisolid, or liquid residue removed during the treatment of municipal wastewater or domestic sewage. *Sewage sludge* includes, but is not limited to, solids removed during primary, secondary, or advanced wastewater treatment, scum, domestic septage, portable toilet pumpings, Type III marine sanitation device pumpings (33 CFR Part 159), and sewage sludge products. *Sewage sludge* does not include grit or screenings, or ash generated during the incineration of sewage sludge.
24. Stormwater Runoff means aqueous surface runoff including any soluble or suspended material mobilized by naturally occurring precipitation events.
25. Surface Water means all lakes, bays, rivers, streams, springs, ponds, impounding reservoirs, wetlands, swamps, marshes, water sources, drainage systems and other surface water, natural or artificial, public or private within the state or under its jurisdiction that are not part of a treatment system allowed by state law, regulation, or permit.
26. Treatment works means any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage and industrial wastes of a liquid nature to implement Section 201 of the Clean Water Act, or necessary to recycle or reuse water at the most economical cost over the estimated life of the works, including intercepting sewers, sewage collection systems, pumping, power and other equipment, and their appurtenances, extension, improvement, remodeling, additions, and alterations thereof. (See Part 212 of the Clean Water Act.)
27. For fecal coliform bacteria, a sample consists of one effluent grab portion collected during a 24-hour period at peak loads.
28. The term MGD shall mean million gallons per day.
29. The term GPD shall mean gallons per day.
30. The term mg/L shall mean milligrams per liter or parts per million (ppm).
31. The term SPC shall mean Spill Prevention and Control. Plan covering the release of pollutants as defined by the Louisiana Administrative Code (LAC 33:IX.Chapter 9).
32. The term SPCC shall mean Spill Prevention Control and Countermeasures Plan. Plan covering the release of pollutants as defined in 40 CFR Part 112.
33. The term µg/L shall mean micrograms per liter or parts per billion (ppb).
34. The term ng/L shall mean nanograms per liter or parts per trillion (ppt).
35. Visible Sheen means a silvery or metallic sheen, gloss, or increased reflectivity; visual color; or iridescence on the water surface.
36. Wastewater means liquid waste resulting from commercial, municipal, private, or industrial processes. Wastewater includes, but is not limited to, cooling and condensing waters, sanitary sewage, industrial waste, and contaminated rainwater runoff.
37. Waters of the State means for the purposes of the Louisiana Pollutant Discharge Elimination system, all surface waters within the state of Louisiana and, on the coastline of Louisiana and the Gulf of Mexico, all surface waters extending therefrom three miles into the Gulf of Mexico. For purposes of the Louisiana Pollutant Discharge Elimination System, this includes all surface waters which are subject to the ebb and flow of the tide, lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, natural ponds, impoundments of waters within the state of Louisiana otherwise defined as "waters of the United States" in 40 CFR 122.2, and tributaries of all such waters. "Waters of the state" does not include waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act, 33 U.S.C. 1251 et seq.

38. Weekly average, other than for fecal coliform bacteria, is the highest allowable arithmetic mean of the daily discharges over a calendar week, calculated as the sum of all "daily discharge(s)" measured during a calendar week divided by the number of "daily discharge(s)" measured during that week. When the permit establishes weekly average concentration effluent limitations or conditions, and flow is measured as continuous record or with a totalizer, the weekly average concentration means the arithmetic average (weighted by flow) of all "daily discharge(s)" of concentration determined during the calendar week where C = daily discharge concentration, F = daily flow and n = number of daily samples; weekly average discharge

$$= \frac{C_1F_1 + C_2F_2 + \dots + C_nF_n}{F_1 + F_2 + \dots + F_n}$$

When the permit establishes weekly average concentration effluent limitations or conditions, and the flow is not measured as a continuous record, then the weekly average concentration means the arithmetic average of all "daily discharge(s)" of concentration determined during the calendar week.

The weekly average for fecal coliform bacteria is the geometric mean of the values for all effluent samples collected during a calendar week.

LPDES PERMIT NO. LA0005941, AI No. 1250

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

- I. **Company/Facility Name:** CITGO Petroleum Corporation
Lake Charles Manufacturing Complex
Post Office Box 1562
Lake Charles, LA 70602
- II. **Issuing Office:** Louisiana Department of Environmental Quality
(LDEQ)
Office of Environmental Services
Post Office Box 4313
Baton Rouge, Louisiana 70821-4313
- III. **Prepared By:** Amy Exnicios
Industrial Permits Section
Water Permits Division
Phone #: 225-219-3501
E-mail: amy.exnicios@la.gov

Date Prepared: May 30, 2023

IV. **Permit Action/Status:**

A. Reason For Permit Action:

Proposed reissuance of a Louisiana Pollutant Discharge Elimination System (LPDES) permit for a 5-year term following regulations promulgated at LAC 33:IX.2711/40 CFR 122.46.

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

40 CFR Citations: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations in accordance with the dates specified at LAC 33:IX.2301, 4901, and 4903.

B. LPDES permit - LPDES permit effective date: November 1, 2017
LPDES permit expiration date: October 31, 2022

C. Application received on April 25, 2022; Additional information submitted April 26, 2022; May 19, 2022; June 9, 2022; September 14, 2022; September 26, 2022; September 30, 2022; April 12, 2023; November 7, 2023

D. This permit application was submitted in a timely manner in accordance with LAC 33:IX.2501.D.2. Therefore, in accordance with LAC 33:IX.2321, the existing permit remains in effect and enforceable beyond the expiration date of the permit.

V. Facility Information:

- A. Location - 4401 Highway 108 South in Westlake, Calcasieu Parish
- B. Applicant Activity -According to the application, CITGO Petroleum Corporation, Lake Charles Manufacturing Complex, is a petroleum refinery that is comprised of seven operating units that include the Thermal Area; Catalytic Cracking Area; Reformer Area; Acid, Alkylation, Treating Area; Logistics Area; Site Services; and CLAW Plant. Citgo processes both domestic and foreign crude oils into gasoline, distillate, kerosene, diesel, sulfur, residual oil, coke, propylene, benzene, propane, ethane and other miscellaneous petrochemical products.

The LPDES permit for Citgo includes two process outfalls (Outfalls 001 & 003). The wastewaters from the Main Refinery are discharged through Outfall 003 to the Calcasieu River. The wastewaters from the Lube Plant are discharged through Outfall 001 to Bayou D'Inde. The Lube Plant has been shutdown since 2008; however, the facility operates the wastewater treatment system for the Lube Plant by running stormwater and miscellaneous utility wastewaters through the system. Additionally, Citgo reroutes a portion of Main Refinery wastewaters back to the Lube Plant wastewater treatment system in order to keep the treatment system operational. Should operations at the Lube Plant start up again (start of Phase II), Citgo plans to reroute the Main Refinery wastewaters back to the Main Refinery treatment system and discharge Main Refinery wastewater through Outfall 003 and Lube Plant wastewaters will be discharged through Outfall 001. The facility has provided current production information for the Main Refinery as well as projected production rates for future operations at the Lube Plant, The refinery production rates are listed below:

Main Refinery

<u>Process</u>	<u>Production (BBL/day)</u>
Crude Topping (Atmospheric)	422,300
Crude Desalting	422,300
Vacuum Distillation	202,008
Catalytic Cracking	146,866
Delayed Coking	102,905
Hydrotreating	230,060
Catalytic Reforming	105,106
Sulfuric Acid Production	450 (tons/day)
Hydrocracking	47,300
Alkylation	26,660
Isomerization	29,600

Mixed Xylene	16,136
Propylene Fractionation Unit	14,380

Lube Plant (data based upon the last two years of Lube Plant operations)

<u>Process</u>	<u>Production (BBL/day)</u>
Duo Sol, Solvent Treating, Solvent Extraction	12,500
Lube Vacuum Tower	40,000
Dewaxing	16,000
Furfural	18,000
Wax Sweating	1,200

- C. Technology Basis - (40 CFR Chapter 1, Subchapter N/Parts 401 and 405-471 have been adopted by reference at LAC 33:IX.4903)

<u>Guideline</u>	<u>Reference</u>
Outfall 001	
Refinery Guidelines	40 CFR 419 (Subpart B)-Phase I
Refinery Guidelines	40 CFR 419 (Subpart D)-Phase II
Outfall 003	
Refinery Guidelines	40 CFR 419 (Subpart B)-Phase I & II

Feedstock rate, 1000 bbl/day - 422.30
 Ballast water flow, 100 gal/day - 0.086

Other sources of technology based limits:

LDEQ Stormwater Guidance, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6)
 LDEQ Sanitary General Permits
 Multi-Sector General Stormwater Permit (LAR050000)
 Best Professional Judgment (BPJ)
 Previously effective LPDES permit

- D. Fee Rate -
 1. Fee Rating Facility Type: major
 2. Complexity Type: V
 3. Wastewater Type: II
 4. SIC code: 2911, 2819, and 2869
- E. Continuous Facility Effluent Flow - 12.62 MGD (Phase I)
 13.82 MGD (Phase II)

VI. Receiving Waters:

Calcasieu River (Outfalls 003, 004, 006, 009, and 011)
Calcasieu River via Indian Marais (Outfalls 010 and 014)

1. TSS (15%), mg/L: 14
2. Average Hardness, mg/L CaCO₃: 400*
3. Critical Flow, cfs: 2,898
4. Mixing Zone Fraction: 0.33
5. Harmonic Mean Flow, cfs: 8,694
6. River Basin: Calcasieu River, Subsegment No. 030301
7. Designated Uses:

The designated uses are primary contact recreation, secondary contact recreation, and fish and wildlife propagation.

Bayou D'Inde (Outfalls 001, 002, and 012)

1. TSS (15%), mg/L: 10
2. Average Hardness, mg/L CaCO₃: 400*
3. Critical Flow, cfs: 41.1
4. Mixing Zone Fraction: 1
5. Harmonic Mean Flow, cfs: 123.3
6. River Basin: Calcasieu River, Subsegment No. 030901
7. Designated Uses:

The designated uses are primary contact recreation, secondary contact recreation, and fish and wildlife propagation.

Information based on the following: LAC 33:IX Chapter 11. Hardness and 15% TSS data for Bayou D'Inde come from monitoring station 0848 (at Sate Hwy. 108 bridge). Hardness and 15% TSS data for Calcasieu River come from monitoring station 0094 (Bayou D'Inde and Calcasieu Ship Channel confluence Lake Charles, LA). This information was presented in a memorandum from Binh Dao; Chuck Berger; and Scott Templet to Amy Exnicios dated August 3, 2022 (see Appendix B).

*The average hardness of the Calcasieu River and Bayou D'Inde were calculated to be 595.5 mg/l and 956.8 mg/l respectively; however, according to the permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, Water Quality Management Plan, Volume 3, "the maximum hardness shall be 400.0 mg/l used in hardness dependent metal criteria calculations in accordance with 40CFR 131.36 (4)(I)."

VII. Outfall Information:

Outfall 001 - Phase I

- A. Type of wastewater - the continuous discharge of miscellaneous non-process wastewater*; process area stormwater; recovery well water; sanitary wastewater; non-process area stormwater; rerouted wastewaters from the Main Refinery; and hydrostatic test wastewater

- B. Location - at the point of discharge from the clarifier, prior to mixing with other waters at Latitude 30°12'2", Longitude -93°20'12"
- C. Treatment - treatment of process and non-process wastewaters consists of:
- oil/water separation
 - flocculation
 - dissolved air flotation
 - stabilization
 - neutralization
 - activated sludge
 - clarification/sedimentation
- Sanitary wastewater
- oxidation pond
 - activation sludge
 - clarification/sedimentation
- D. Flow - Continuous, (30 day max) 1.70 MGD
- E. Receiving waters - Bayou D'Inde
- F. Basin and segment - Calcasieu River Basin, Subsegment 030901

Outfall 001 - Phase II

- A. Type of wastewater - the continuous discharge of treated lube process wastewater; treated process area stormwater; utility wastewater; miscellaneous non-process wastewater*; non-process area stormwater; sanitary wastewater; and hydrostatic test wastewater
- B. Location - at the point of discharge from the clarifier, prior to mixing with other waters at Latitude 30°12'2", Longitude -93°20'12".
- C. Treatment - treatment of process and non-process wastewaters consists of:
- oil/water separation
 - flocculation
 - dissolved air flotation
 - stabilization
 - activated sludge
 - clarification/sedimentation
 - neutralization

Sanitary wastewater

- oxidation pond
- activation sludge

- clarification/sedimentation

- D. Flow - Continuous, (30 day max) 2.90 MGD
- E. Receiving waters - Bayou D'Inde
- F. Basin and segment - Calcasieu River Basin, Subsegment 030901

Internal Outfall 101

- A. Type of wastewater - the intermittent discharge of hydrostatic test wastewater
- B. Location - at the point of discharge of hydrostatic testing activity, prior to mixing with other waters
- C. Treatment - none
- D. Flow - Intermittent and variable
- E. Receiving waters - Calcasieu River via Outfalls 004, 006, 009, 011; Bayou D'Inde via Outfalls 002 and 012; or Indian Marais via Outfalls 010 and 014
- F. Basin and segment - Calcasieu River Basin, Subsegment 030301 or 030901

Outfall 002

- A. Type of wastewater - the intermittent discharge of cooling tower blowdown; stormwater runoff; miscellaneous non-process wastewaters* from the propylene fractionation unit (PFU); and previously monitored hydrostatic test wastewater from Internal Outfall 101
- B. Location - at the point of discharge from the operating unit prior to discharge to the west ditch, prior to mixing with other waters at Latitude 30°13'6", Longitude -93°19'40"
- C. Treatment - treatment of process wastewaters consists of: oil/water separator
- D. Flow - Intermittent Flow, (LTA) 0.01 MGD
- E. Receiving waters - Bayou D'Inde
- F. Basin and segment - Calcasieu River Basin, Subsegment 030901

Outfall 003 - Phase I and II

- A. Type of wastewater - the continuous discharge of treated process wastewater from the Main Refinery; ballast water; process area stormwater; treated sanitary wastewater; utility wastewater; miscellaneous non-process wastewaters*; propylene fractionation unit (PFU) wastewater; non process area stormwater; and hydrostatic test wastewater
- B. Location - at the point of discharge from the refinery secondary treatment plant polishing pond, prior to mixing with other waters at Latitude 30°10'11", Longitude -93°19'36"
- C. Treatment - treatment of process and non-process wastewater wastewaters consists of:
- oil/water separation
 - dissolved air floatation
 - evaporative cooler
 - equalization
 - activated sludge
 - clarification/sedimentation
 - neutralization
 - settling basin/polishing pond
- Sanitary wastewater
- oxidation pond
 - activation sludge
 - clarification/sedimentation
- D. Flow - Continuous, (30 day max) 9.08 MGD
- E. Receiving waters - Calcasieu River
- F. Basin and segment - Calcasieu River Basin, Subsegment 030301

Outfall 103 - Phase I and II

- A. Type of wastewater - The overflow of stormwater runoff and de minimis amounts of utility, process, and non-process wastewaters
- B. Location - at the point of discharge from the West 54 inch Panama Canal discharge line, prior to mixing with other waters at Latitude 30°10'18", Longitude -93°19'42"
- C. Treatment - none
- D. Flow - Intermittent
- E. Receiving waters - Calcasieu River via Indian Marais

F. Basin and segment - Calcasieu River Basin, Subsegment 030301

NOTE: Discharges from this outfall shall be permitted during the following situations which include, but are not limited to, rain events that produce more water than can be processed through Outfall 003, such as hurricanes and tropical storms.

Outfall 004

- A. Type of wastewater - the continuous discharge of utility wastewater, including but not limited to, boiler blowdown, softener blowdown water, cation regeneration and rinse water, anion regeneration and rinse water, reverse osmosis backwash/reject water, high/low pressure fan cooling water, oil pump cooling water for dryers, air dryer chiller water, zeolite regeneration rinse and backwash; stormwater runoff; miscellaneous non-process wastewaters*; and previously monitored hydrostatic test wastewater from Internal Outfall 101
- B. Location - at the point of discharge from the powerhouse after all sources are combined, prior to mixing with other waters at Latitude 30°10'37", Longitude -93°19'5"
- C. Treatment - treatment of wastewaters consists of: disinfection and neutralization
- D. Flow - Continuous, (30 day max) 1.84 MGD
- E. Receiving waters - Calcasieu River
- F. Basin and segment - Calcasieu River Basin, Subsegment 030301

Outfall 006

- A. Type of wastewater - the intermittent discharge of non-process area stormwater runoff; miscellaneous non-process wastewaters*; previously monitored hydrostatic test wastewater from Internal Outfall 101; previously monitored treated sanitary wastewater from Internal Outfall 106
- B. Location - at the point of discharge at the flume and V notch weir, prior to mixing with other waters at Latitude 30°10'46", Longitude -93°19'01"
- C. Treatment - None
- D. Flow - Intermittent Flow, (LTA) 0.06 MGD
- E. Receiving waters - Calcasieu River

- F. Basin and segment - Calcasieu River Basin, Subsegment 030301

Internal Outfall 106

- A. Type of wastewater - the intermittent discharge of treated sanitary wastewater from the Security Operations Center
- B. Location - at the point of discharge from the treatment facility, prior to mixing with other waters Latitude 30°11'15", Longitude -93°19'01"
- C. Treatment - treatment of sanitary wastewaters consists of: activated sludge treatment plant, disinfection
- D. Flow - Intermittent, unit has not discharged in the past 2 years
- E. Receiving waters - Calcasieu River via Outfall 006
- F. Basin and segment - Calcasieu River Basin, Subsegment 030301

Outfall 009

- A. Type of wastewater - the intermittent discharge of non-process stormwater, miscellaneous non-process wastewater*, and previously monitored hydrostatic test wastewater from Internal Outfall 101
- B. Location - at the point of discharge from a single drain pipe approximately 300 feet northwest of the Citgo Refinery D-dock at the northeast corner of the refinery, prior to mixing with other waters at Latitude 30°11'04", Longitude -93°18'38"
- C. Treatment - none
- D. Flow - Intermittent Flow, (LTA) 0.0004 MGD
- E. Receiving waters - Calcasieu River
- F. Basin and segment - Calcasieu River Basin, Subsegment 030301

Outfall 010

- A. Type of wastewater - the intermittent discharge of non-process stormwater, miscellaneous non-process wastewater*, and previously monitored hydrostatic test wastewater from Internal Outfall 101
- B. Location - at the point of discharge near the center of the south refinery boundary, prior to mixing with other waters at Latitude 30°10'23", Longitude -93°19'7"

- C. Treatment - none
- D. Flow - Intermittent Flow, (LTA) 0.51 MGD
- E. Receiving waters - Calcasieu River via Indian Marais
- F. Basin and segment - Calcasieu River Basin, Subsegment 030301

Outfall 011

- A. Type of wastewater - the intermittent discharge of non-process stormwater, miscellaneous non-process wastewater*, and previously monitored hydrostatic test wastewater from Internal Outfall 101
- B. Location - at the point of discharge from the South Tank farm sump, prior to mixing with other waters at Latitude 30°10'22", Longitude -93°19'10"
- C. Treatment - none
- D. Flow - Intermittent Flow, (LTA) 0.0004 MGD
- E. Receiving waters - Calcasieu River
- F. Basin and segment - Calcasieu River Basin, Subsegment 030301

Outfall 012

- A. Type of wastewater - the intermittent discharge of non-process stormwater, miscellaneous non-process wastewater*, and previously monitored hydrostatic test wastewater from Internal Outfall 101
- B. Location - at the point of discharge prior to discharging into the interconnecting ditch to Bayou D'Inde, at Latitude 30°10'33", Longitude -93°19'21"
- C. Treatment - none
- D. Flow - Intermittent Flow, (LTA) 0.36 MGD
- E. Receiving waters - Bayou D'Inde
- F. Basin and segment - Calcasieu River Basin, Subsegment 030901

Outfall 014

- A. Type of wastewater - the intermittent discharge of treated sanitary wastewater from Citgo Park
- B. Location - at the point of discharge from the treatment facility, prior to mixing with other waters at Latitude 30°10'32", Longitude -93°20'56"
- C. Treatment - treatment of sanitary wastewaters consists of: activated sludge treatment plant, disinfection
- D. Flow - Intermittent, (30 day max) 0.005 MGD
- E. Receiving waters - Calcasieu River via Indian Marais
- F. Basin and segment - Calcasieu River Basin, Subsegment 030301

* Miscellaneous non-process wastewaters include: emergency eyewash and shower stations testing and use; firewater system test wastewaters (without foam); equipment and building washdown and maintenance water (without soaps and detergents); pump seal/cooling water jackets; high/low pressure fan cooling water; oil pump cooling water (for dryers and other equipment); air dryer chiller water; freeze protection water; line flushing (potable water or the non-process lines); water well development/testing, maintenance/cleaning and overflow; well pump bypass water; moisture released from the instrument air traps; air conditioning condensate; condensate that may form on the outside of tanks, pipes, or other equipment; steam condensate; compressor condensate; uncontaminated groundwater; water used for dust suppression; cooling tower drift; and de minimis leaks from the potable, cooling water, utility, or fire water distribution system network pipelines

VIII. Proposed Permit Limits:

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

Summary of Proposed Changes From the Current LPDES Permit:

- A. Incidental and minor changes reflective of current Office guidance, including (as applicable) but not limited to, changes in the biomonitoring language, changes in the statistical basis for sampling sanitary wastewater from weekly average to daily maximum, changes in STORET codes, changes in MQLs, etc. These types of systematic minor changes shall not be detailed in this section.
- B. 316(b) requirements have been added to the Permit Requirements (See Part I, Page 23 of 23) and Part II, Paragraph P.

- C. The company requested removal of Total Nitrogen and Total Phosphorus at Outfalls 001 and 003. However, the monitoring requirements for Total Nitrogen and Total Phosphorous at Outfalls 001 and 003 will remain in the permit due to the Nutrient Management Strategy.
- D. Due to an increase in some areas production contributing to Outfalls 001 and 003, some limitations have increased. LDEQ has determined that the increase in contributing production as presented in the application received April 19, 2022, is new information. In accordance with LAC 33:IX.2707.L.2.a.ii.(a), the increase in limitations is appropriate and not considered backsliding.
- E. Monthly average and daily maximum Enterococci limitations have been included at Internal Outfall 106 due to the impairment of the receiving stream. The limitations are consistent with LAC 33:IX.1113C.5.a and LAC 33:IX1123.Table 3.
- F. Monthly average and daily maximum Enterococci and Fecal Coliform limitations have been included at Outfall 001, 003, and Outfall 014 because these outfalls discharge sanitary wastewater and due to the impairment of the receiving stream. The limitations are consistent with LAC 33:IX.1113C.5.a and LAC 33:IX1123.Table 3.
- G. The sample type for Flow at Outfall 103 has been changed to measurement.
- H. A condition has been established in Part II, Paragraphs M.5, and L, as a result of a review of the analytical data provided in the permit renewal application. Outfalls 002, 006, 009, and 010 showed results above the MQL for Total Copper; Outfalls 002, 006, and 009 showed results above the MQL for Total Lead; Outfalls 002, 006, 009, and 010 showed results above the MQL for Mercury; and Outfalls 002, 006, 009, 010, and 011 showed results above the MQL for Total Zinc. An investigation of possible sources of Total Copper at Outfalls 002, 006, 009, and 010; Total Lead at 002, 006, and 009; Mercury at Outfalls 002, 006, 009, and 010; and Total Zinc at Outfalls 002, 006, 009, 010, and 011 must be conducted by the permittee and submitted within two years from the effective date of the permit. Information gathered during the investigation may be used to reopen the existing permit or develop permit conditions/requirements for future permit (if needed). See Part II, Paragraphs M.5 and L.
- I. DMR data from November 2017 through March 2023, for Total Residual Chlorine was reviewed for Outfall 004 (22 data points). The geometric mean was calculated and the result was 20 µg/l. Because this value is lower than the MQL for TRC (33 µg/l), monthly average and daily maximum reporting requirements for Total Residual Chlorine (TRC) have been removed from Outfall 004. This is new information.

In accordance with LAC 33:IX.2707.L.2.a.ii.(a), the increase in limitations is appropriate and not considered backsliding.

- J. Citgo requested monitoring frequency reductions for the following parameters based on the facility's compliance record. Two years of data were reviewed, and the composite average of this data was compared to the permit limit to determine the potential monitoring frequency reduction. The proposed monitoring frequencies are listed below.

Outfall	Parameter	Current Monitoring Frequency	Requested Monitoring Frequency	Proposed Monitoring Frequency
001 (Phase I)	BOD	2/month	1/month	2/month (*1)
001 (Phase I)	TSS	2/week	1/month	1/week (*1)
001 (Phase I)	Ammonia	2/week	1/ month	1/week(*2)
001 (Phase I)	Oil & Grease	2/month	1/month	2/month(*1)
001 (Phase II)	Phenolic Compounds	1/month	1/quarter	1/month (*3)
003	BOD	2/month	1/month	2/month (*1)
003	TSS	2/week	1/month	1/week (*1)
003	Ammonia	2/week	---	1/week(*4)
103	TSS	2/week	---	1/week (*4)
103	Ammonia	2/week	1/ month	1/week(*2)
003	Oil & Grease	2/month	1/month	2/month(*1)
004	TOC	2/month	1/quarter	1/month(*5)

(*1) Current Office guidance for the monitoring frequency of BOD, TSS, and Oil & Grease at major facilities is at least weekly; therefore, the monitoring frequency for BOD, and Oil & Grease at Outfalls 001 and 003 will remain 2/month. The monitoring frequency for TSS at Outfalls 001 and 003 will be reduced from 2/week to 1/week. Please note that LDEQ reserves the right to increase the monitoring frequency on these parameters should compliance issues arise.

- (*2) The monitoring frequencies for Ammonia at Outfall 001 and 003 will be reduced from 2/week to 1/week to ensure compliance with the limitations.
- (*3) The monitoring frequency for Phenolic Compounds for Outfall 001, Phase II will remain 1/month as the Lube Plant has not been in operation since 2008.
- (*4) The monitoring frequencies for TSS and Ammonia at Outfall 103 will be reduced from 2/week to 1/week to be consistent with Outfall 003.
- (*5) The monitoring frequencies for TOC at Outfall 004 will be reduced from 2/month to 1/month to ensure compliance with the limitations.

IX. Permit Limit Rationale:

The following section sets forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit. Also set forth are any calculations or other explanations of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guideline or performance standard provisions as required under LAC 33:IX.2707/40 CFR Part 122.44 and reasons why they are applicable or an explanation of how the alternate effluent limitations were developed.

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

Following regulations promulgated at LAC 33:IX.2707/40 CFR Part 122.44, the draft permit limits are based on either technology-based effluent limits pursuant to LAC 33:IX.2707.A/40 CFR Part 122.44(a) or on State water quality standards and requirements pursuant to LAC 33:IX.2707.D/40 CFR Part 122.44(d), whichever are more stringent.

B. TECHNOLOGY-BASED EFFLUENT LIMITATIONS, CONDITIONS, AND MONITORING REQUIREMENTS

Regulations promulgated at LAC 33:IX.2707.A/40 CFR Part 122.44(a) require technology-based effluent limitations to be placed in LPDES permits based on effluent limitations guidelines where applicable, on BPJ (best professional judgement) in the absence of guidelines, or on a combination of the two. The following is a rationale for types of wastewaters. See outfall information descriptions for associated outfall(s) in Section VII. Regulations also require permits to establish monitoring requirements to yield data representative of the monitored activity [LAC 33:IX.2715/40 CFR 122.48(b)] and to assure compliance with permit limitations [LAC 33:IX.2707.I./40 CFR 122.44(i)].

Citgo Petroleum Corporation, Lake Charles Manufacturing Complex is subject to Best Practicable Control Technology Currently Available (BPT) and Best Available Technology Economically Achievable (BAT) effluent limitation guidelines listed below:

Manufacturing Operation

Guideline

Outfall 001

Refinery Guidelines 40 CFR 419 (Subpart B)-Phase I
 Refinery Guidelines 40 CFR 419 (Subpart D)-Phase II

Outfall 003

Refinery Guidelines 40 CFR 419 (Subpart B)-Phases I
 Refinery Guidelines 40 CFR 419 (Subpart D)-Phase II

Outfall 001 (Phase I)- the continuous discharge of miscellaneous non-process wastewater*; process area stormwater; recovery well water; sanitary wastewater; non-process area stormwater; rerouted wastewaters from the Main Refinery; and hydrostatic test wastewater

PARAMETER (S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report	---	---	Continuous
pH Range Excursions No. of Events >60 minutes	---	0 (*1)	---	---	Continuous
pH Range Excursions Monthly Total Accumulated Time in Minutes	---	446 (*1)	---	---	Continuous
pH (Standard Units)	---	---	Report (*1) (Min)	Report (*1) (Max)	Continuous
BOD ₅ (*2) (*3)	1304	2455	---	---	2/month
TSS	(*3)	(*3)	---	---	1/week
Oil & Grease	(*3)	(*3)	---	---	2/month
TOC (*2) (*3)	1620	2579	---	---	1/month
Ammonia (as N) (*2) (*3)	486	1061	---	---	1/week
Sulfide (as S)	(*3)	(*3)	---	---	1/month

PARAMETER (S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Phenolic Compounds (*2) (*3)	10.6	25.3	---	---	1/quarter
Total Chromium	(*3)	(*3)	---	---	1/quarter
Chromium VI (*2) (*3)	0.24	0.58	---	---	1/quarter
Fecal Coliform #/100ml	---	---	200 (*4)	400	1/6 months
Enterococci #/100ml	---	---	35 (*4)	135	1/6 months
Total Nitrogen	Report	Report	---	---	1/quarter
Total Phosphorus	Report	Report	---	---	1/quarter
Biomonitoring	---	---	---	---	1/quarter

* Miscellaneous non-process wastewaters include: emergency eyewash and shower stations testing and use; firewater system test wastewaters (without foam); equipment and building washdown and maintenance water (without soaps and detergents); pump seal/cooling water jackets; high/low pressure fan cooling water; oil pump cooling water (for dryers and other equipment); air dryer chiller water; freeze protection water; line flushing (potable water or the non-process lines); water well development/testing, maintenance/cleaning and overflow; well pump bypass water; moisture released from the instrument air traps; air conditioning condensate; condensate that may form on the outside of tanks, pipes, or other equipment; steam condensate; compressor condensate; uncontaminated groundwater; water used for dust suppression; cooling tower drift; and de minimis leaks from the potable, cooling water, utility, or fire water distribution system network pipelines

(*1) The pH shall be within a range of 6.0 - 9.0 Standard Units at all times subject to the continuous monitoring pH range excursion provision in Part II, Paragraph I.

(*2) In addition to complying with the loading summation of BOD₅, TOC, Ammonia, Phenolic Compounds and Chromium VI at Outfalls 001, 003, and 103 (See footnote *3 below and the limitations listed below for Outfall 003), the permittee shall comply with the limitations established for these parameters listed above (and Outfall 001 on Part I, Page 2 of 23 of the permit) and report any exceedance as an excursion on a monthly DMR for Outfall 001.

(*3) For BOD₅, TSS, Oil & Grease, TOC, Ammonia, Phenolic Compounds, Sulfide, Total Chromium, and Chromium VI, the permittee shall conduct concurrent monitoring at Outfalls 001, 003, and 103. The arithmetic sum of the daily pollutant mass discharge for these parameters from Outfalls 001, 003, and 103 during the same 24-hour or grab sampling event shall not exceed the Monthly Average and Daily Maximum loadings specified for Outfall 003 Phase I below (and Outfall 003 Part I, Page 10 of 23 of the permit). Any exceedance from the summed results shall be reported as an excursion on a monthly DMR for Outfall "SUM".

(*4) The monthly average for bacteria indicators (fecal coliform and enterococci) is the geometric mean of the values for all effluent samples collected in the calendar month

EFFLUENT LIMITATIONS BASIS for Outfall 001 (Phase I)

Flow: Monthly average and daily maximum reporting requirement for flow have been retained from the previous permit and are based on LAC 33:IX.2707.I.1.b. Flow shall be monitored continuously by recorder.

pH: Monthly average and daily maximum limitations have been retained from the previous permit and are based on 40 CFR 419, Subpart B. pH shall be monitored continuously by continuous recorder.

TSS, Oil & Grease, Sulfide, and Total Chromium: Summed monthly average and daily maximum limitations are based upon 40 CFR 419 Subpart B. See Outfall 001 (Phase I) and Appendix A-1 for more information on calculations of the limitations. TSS shall be monitored 1/week by 24-hour composite. Oil & Grease shall be monitored 2/month by grab sample. Sulfide shall be monitored 1/month by grab sample. Total Chromium shall be monitored 1/quarter by 24-hour composite.

Phenolic Compounds and Chromium VI: Monthly average and daily maximum limitations are based on water quality. See Appendix E-1. Phenolic compounds shall be monitored 1/quarter by grab sample. Chromium VI shall be monitored 1/quarter by 24-hour composite sample. This is new information. In accordance with LAC 33:IX.2707.L.2.a.ii.(a), the increase in limitations is appropriate and not considered backsliding.

BOD₅, TOC, Ammonia: Monthly average and daily maximum limitations have been established based upon previous permits. A TMDL for the receiving waterbody was completed July 1, 2002 for a DO impairment. No waste load allocations were assigned; however, since BOD₅, TOC, and nitrogenous oxygen demand (from ammonia nitrogen) are parameters that could cause or contribute to further impairment of the waterbody, the effluent limitations proposed are based on existing loads without increment. BOD₅ shall be monitored 2/month, TOC shall be monitored 1/month, and Ammonia shall be monitored 1/week. All will be monitored by 24-hour composite sample.

Enterococci and Fecal Coliform - Monthly average and daily maximum Enterococci and Fecal Coliform limitations have been established in the permit. Enterococci

criteria apply to Subsegment 030901 to protect primary contact recreation (LAC 33:IX.1123, Table 3) and are in accordance with the Class II Sanitary Discharge General Permit LAG540000. Enterococci and Fecal Coliform shall be monitored 1/6 months by grab sample.

Total Nitrogen and Total Phosphorus: Monthly average and daily maximum reporting requirement for have been retained from the previous permit and are in accordance with the Louisiana Nutrient Management Strategy.

Whole Effluent Toxicity Testing: See Section E below for justification of requirements.

SITE SPECIFIC REQUIREMENTS:

The permittee shall conduct concurrent monitoring at Outfall 001, 003, and 103. The arithmetic sum of the daily pollutant mass discharges for BOD₅, TSS, Oil & Grease, TOC, Ammonia, Sulfide, Phenolic Compounds, Total Chromium and Chromium VI at Outfalls 001, 003, and 103 during the same 24-hour or grab sampling event shall not exceed the Monthly Average and Daily Maximum loadings specified in the permit for Outfall 003. Any exceedance of the summed limitations shall be reported as an excursion on a monthly DMR for Outfall "SUM". A separate DMR for "Outfall SUM" will be provided to the permittee for the summed parameters only.

In addition to complying with the loadings summation described above, the permittee shall comply with the water quality based and antibacksliding limitations established for BOD₅, TOC, Ammonia, Phenolic Compounds, and Chromium VI at Outfall 001 and report any exceedance as an excursion on a monthly DMR for Outfall 001. The permittee must notify the Office of Environmental Services and the Office of Environmental Compliance 14 days prior to start-up of Phase II.

Outfall 001 (Phase II)- the continuous discharge of treated lube process wastewater; treated process area stormwater; utility wastewater; miscellaneous non-process wastewater*; non-process area stormwater; sanitary wastewater; and hydrostatic test wastewater

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report	---	---	Continuous
pH Range Excursions No. of Events >60 minutes	---	0 (*1)	---	---	Continuous

PARAMETER (S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
pH Range Excursions Monthly Total Accumulated Time in Minutes	---	446 (*1)	---	---	Continuous
pH (Standard Units)	---	---	Report (*1) (Min)	Report (*1) (Max)	Continuous
BOD ₅	1304	2455	---	---	1/month
TSS	3474	5427	---	---	1/month
Oil & Grease	1303	2478	---	---	1/month
TOC	1620	2579	---	---	1/month
Ammonia (as N)	486	1061	---	---	1/month
Sulfide (as S)	21.6	48	---	---	1/month
Phenolic Compounds	9.5	32.28	---	---	1/month
Total Chromium	11.2	31.9	---	---	1/quarter
Chromium VI	0.31	0.74	---	---	1/quarter
Fecal Coliform #/100ml	---	---	200 (*2)	400	1/6 months
Enterococci #/100ml	---	---	35 (*2)	135	1/6 months
Total Nitrogen	Report	Report	---	---	1/quarter
Total Phosphorus	Report	Report	---	---	1/quarter
Biomonitoring	---	---	---	---	1/quarter

* Miscellaneous non-process wastewaters include: emergency eyewash and shower stations testing and use; firewater system test wastewaters (without foam); equipment and building washdown and maintenance water (without soaps and detergents); pump seal/cooling water jackets; high/low pressure fan cooling water; oil pump cooling water (for dryers and other equipment); air dryer chiller

water; freeze protection water; line flushing (potable water or the non-process lines); water well development/testing, maintenance/cleaning and overflow; well pump bypass water; moisture released from the instrument air traps; air conditioning condensate; condensate that may form on the outside of tanks, pipes, or other equipment; steam condensate; compressor condensate; uncontaminated groundwater; water used for dust suppression; cooling tower drift; and de minimis leaks from the potable, cooling water, utility, or fire water distribution system network pipelines

(*1) The pH shall be within a range of 6.0 - 9.0 Standard Units at all times subject to the continuous monitoring pH range excursion provision in Part II, Paragraph I

(*2) The monthly average for bacteria indicators (fecal coliform and enterococci) is the geometric mean of the values for all effluent samples collected in the calendar month

EFFLUENT LIMITATIONS BASIS for Outfall 001 (Phase II)

Flow: Monthly average and daily maximum reporting requirement for flow have been retained from the previous permit and are based on LAC 33:IX.2707.I.1.b. Flow shall be monitored continuously by recorder.

pH: Monthly average and daily maximum limitations have been retained from the previous permit and are based on 40 CFR 419, Subpart D. pH shall be monitored continuous by continuous recorder.

TSS, Oil & Grease, Sulfide, and Total Chromium: Limitations are based upon 40 CFR 419 Subpart D. See Appendix A-2 for more information on calculations of the limitations. TSS shall be monitored 1/month by 24-hour composite. Oil & Grease and Sulfides shall be monitored 1/month by grab sample. Total Chromium shall be monitored 1/quarter by 24-hour composite. This is new information. In accordance with LAC 33:IX.2707.L.2.a.ii.(a), the increase in limitations for TSS, Oil & Grease, and Total Chromium is appropriate and not considered backsliding.

Phenolic Compounds: Daily maximum limitations are based on water quality. See Appendix B-2. Monthly average limitations are based on 40 CFR 419 Subpart D. See Appendix A-2 for more information on calculations of the monthly average limitations. Phenolic compounds shall be monitored 1/month by grab sample. This is new information. In accordance with LAC 33:IX.2707.L.2.a.ii.(a), the increase in limitations is appropriate and not considered backsliding.

Chromium VI: Monthly average and daily maximum limitations are based on water quality. See Appendix B-2. Chromium VI shall be monitored 1/quarter by 24-hour composite sample. This is new information. In accordance with LAC 33:IX.2707.L.2.a.ii.(a), the increase in limitations is appropriate and not considered backsliding.

BOD₅, TOC, Ammonia: Monthly average and daily maximum limitations have been retained from the previous permit. A TMDL for the receiving waterbody was completed July 1, 2002 for a DO impairment. No waste load allocations were assigned; however, since BOD₅, TOC, and nitrogenous oxygen demand (from ammonia nitrogen) are parameters that could cause or contribute to further impairment of the waterbody, the effluent limitations proposed are based on existing loads without increment. BOD₅, TOC, and Ammonia shall be monitored 1/month, by 24 hour-composite sample.

Enterococci and Fecal Coliform - Monthly average and daily maximum Enterococci and Fecal Coliform limitations have been established in the permit. Enterococci criteria apply to Subsegment 030901 to protect primary contact recreation (LAC 33:IX.1123, Table 3) and are in accordance with the Class II Sanitary Discharge General Permit LAG540000. Enterococci and Fecal Coliform shall be monitored 1/6 months by grab sample.

Total Nitrogen and Total Phosphorus: Monthly average and daily maximum reporting requirement for have been retained from the previous permit and are in accordance with the Louisiana Nutrient Management Strategy. Total Nitrogen and Total Phosphorous should be monitored 1/quarter by grab sample.

Whole Effluent Toxicity Testing: See Section E below for justification of requirements.

Internal Outfall 101-the intermittent discharge of hydrostatic test wastewater

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report	---	---	1/discharge
TSS	---	---	---	90	1/discharge
TSS (NET)	---	---	---	90	1/discharge
Oil & Grease	---	---	---	15	1/discharge
TOC	---	---	---	50	1/discharge
Benzene	---	---	---	50 µg/L	1/discharge
Total BTEX	---	---	---	250 µg/L	1/discharge
Total Lead	---	---	---	50 µg/L	1/discharge
pH Standard Units	---	---	6.0 (min)	9.0 (max)	1/discharge

Flow, TSS, Oil and Grease, and pH shall be measured on discharges from all new and existing pipelines, flowlines, vessels, or tanks. In addition, Total Organic Carbon (TOC) shall be measured on discharges from existing pipelines, flowlines, vessels, or tanks which have previously been in service; (i.e., those which are not new). Benzene, Total BTEX, and Total Lead shall be measured on discharges from existing pipelines, flowlines, vessels, or tanks which have been used for the storage or transportation of liquid or gaseous petroleum hydrocarbons.

Report either a TSS effluent value or a TSS net value on the Discharge Monitoring Report (DMR). If a TSS effluent value is reported, then a no data indicator (NODI) code of 9 for conditional/not required should be used for the TSS net value. If a TSS net value is reported, then a no data indicator (NODI) code of 9 for conditional/not required should be used for the TSS effluent value.

If the effluent is being returned to the same water source from which the intake water was obtained, a TSS net value may be calculated. In these cases, concurrent sampling of the influent and the effluent is required, and the net value shall not exceed 90 mg/L. If TSS net value is calculated, enter the effluent and intake values in the comment section of the DMR.

EFFLUENT LIMITATIONS BASIS for Outfall 101

Flow - Monthly average and daily maximum reporting requirement for flow have been retained from the previous permit and are based on LAC 33:IX.2707.I.1.b. Flow shall be estimated once per discharge event.

TSS - Daily maximum limitations have been retained from the previous permit and are in accordance with LPDES General Permit for Hydrostatic Test Wastewater, LAG670000. TSS shall be monitored once per discharge event by grab sample.

Oil & Grease - Daily maximum limitations have been retained from the previous permit and are in accordance with LPDES General Permit for Hydrostatic Test Wastewater, LAG670000. Oil & Grease shall be monitored once per discharge event by grab sample.

Total Organic Carbon (TOC) - Daily maximum limitations have been retained from the previous permit and are in accordance with LPDES General Permit for Hydrostatic Test Wastewater, LAG670000. TOC shall be monitored once per discharge event by grab sample.

Benzene, Total BTEX, and Lead - Daily maximum limitations have been retained from the previous permit and are in accordance with LPDES General Permit for Hydrostatic Test Wastewater, LAG670000. Benzene, Total BTEX, and Lead shall be monitored once per discharge event by grab sample.

pH - Daily maximum and monthly average limitations have been retained from the previous permit and are in accordance with LPDES General Permit for Hydrostatic Test Wastewater, LAG670000. pH shall be monitored once per discharge event by grab sample.

Outfall 002-the intermittent discharge of cooling tower blowdown; stormwater runoff; miscellaneous non-process wastewaters* from the propylene fractionation unit (PFU); and previously monitored hydrostatic test wastewater from Internal Outfall 101

PARAMETER (S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report	---	---	1/day
TOC	---	---	---	50	1/month
Oil & Grease	---	---	---	15	1/month
pH Standard Units	---	---	6.0 (min)	9.0 (max)	1/day

* Miscellaneous non-process wastewaters include: emergency eyewash and shower stations testing and use; firewater system test wastewaters (without foam); equipment and building washdown and maintenance water (without soaps and detergents); pump seal/cooling water jackets; high/low pressure fan cooling water; oil pump cooling water (for dryers and other equipment); air dryer chiller water; freeze protection water; line flushing (potable water or the non-process lines); water well development/testing, maintenance/cleaning and overflow; well pump bypass water; moisture released from the instrument air traps; air conditioning condensate; condensate that may form on the outside of tanks, pipes, or other equipment; steam condensate; compressor condensate; uncontaminated groundwater; water used for dust suppression; cooling tower drift; and de minimis leaks from the potable, cooling water, utility, or fire water distribution system network pipelines

EFFLUENT LIMITATIONS BASIS for Outfall 002

Flow: Monthly average and daily maximum reporting requirement for flow have been retained from the previous permit and are based on LAC 33:IX.2707.I.1.b. Flow should be estimated 1/day.

TOC and Oil & Grease: Daily maximum limitations have been retained from the previous permit and are in accordance with LDEQ's stormwater guidance, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6), the Multi-Sector General Permit, LAR050000, and the Light Commercial General Permit, LAG480000. TOC and Oil & Grease shall be monitored 1/month by grab sample.

pH - Daily maximum and monthly average limitations have been retained from the previous permit and are in accordance with LDEQ's stormwater guidance, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6), the

Multi-Sector General Permit, LAR050000, and the Light Commercial General Permit, LAG480000. pH shall be monitored 1/day by grab sample.

Outfall 003 (Phase I)- the continuous discharge of treated process wastewater from the Main Refinery; ballast water; process area stormwater; treated sanitary wastewater; utility wastewater; miscellaneous non-process wastewaters*; propylene fractionation unit (PFU) wastewater; non process area stormwater; and hydrostatic test wastewater

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report	---	---	Continuous
pH Range Excursions No. of Events >60 minutes	---	0 (*1)	---	---	Continuous
pH Range Excursions Monthly Total Accumulated Time in Minutes	---	446 (*1)	---	---	Continuous
pH (Standard Units)	---	---	Report (*1) (Min)	Report (*1) (Max)	Continuous
BOD ₅ (*2)	4164	7501	---	---	2/month
TSS (*2)	3336	5228	---	---	1/week
Oil & Grease (*2)	1215	2283	---	---	2/month
TOC (*2)	9160	16503	---	---	1/month
Ammonia (as N) (*2)	2126	4677	---	---	1/week
Sulfide (as S) (*2)	20.5	46.1	---	---	1/month
Phenolic Compounds (*2)	27.1	55.7	---	---	1/quarter
Total Chromium (*2)	32.7	94.0	---	---	1/quarter

PARAMETER (S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Chromium VI (*2)	2.8	6.2	---	---	1/quarter
Benzo(a)anthracene (*3)	0.762	---	---	---	1/quarter
Benzo(a)pyrene (*3)	0.762	---	---	---	1/quarter
Fecal Coliform #/100ml	---	---	200(*4)	400	1/6 months
Enterococci #/100ml	---	---	35(*4)	135	1/6 months
Total Nitrogen	Report	Report	---	---	1/quarter
Total Phosphorus	Report	Report	---	---	1/quarter
Biomonitoring	---	---	---	---	1/quarter

* Miscellaneous non-process wastewaters include: emergency eyewash and shower stations testing and use; firewater system test wastewaters (without foam); equipment and building washdown and maintenance water (without soaps and detergents); pump seal/cooling water jackets; high/low pressure fan cooling water; oil pump cooling water (for dryers and other equipment); air dryer chiller water; freeze protection water; line flushing (potable water or the non-process lines); water well development/testing, maintenance/cleaning and overflow; well pump bypass water; moisture released from the instrument air traps; air conditioning condensate; condensate that may form on the outside of tanks, pipes, or other equipment; steam condensate; compressor condensate; uncontaminated groundwater; water used for dust suppression; cooling tower drift; and de minimis leaks from the potable, cooling water, utility, or fire water distribution system network pipelines

(*1) The pH shall be within a range of 6.0 - 9.0 Standard Units at all times subject to the continuous monitoring pH range excursion provision in Part II, Paragraph I.

(*2) Summed limitations for Outfalls 001, 003, and 103 (See Site Specific Requirements Below)

(*3) Summed limitations for Outfalls 003 and 103 (See Site Specific Requirements Below)

(*4)The monthly average for bacteria indicators (fecal coliform and enterococci) is the geometric mean of the values for all effluent samples collected in the calendar month

EFFLUENT LIMITATIONS BASIS for Outfall 003 (Phase I)

Flow: Monthly average and daily maximum reporting requirement for flow have been retained from the previous permit and are based on LAC 33:IX.2707.I.1.b. Flow shall be monitored continuously by recorder.

pH: Monthly average and daily maximum limitations have been retained from the previous permit and are based on 40 CFR 419, Subpart B. pH shall be monitored continuous by continuous recorder.

BOD₅ and TOC: Monthly average and daily maximum imitations are based upon 40 CFR 419 Subpart B. See Appendix A-3 for more information on calculations of the limitations. BOD₅ shall be monitored 2/month by 24-hour composite sample, and TOC shall be monitored 1/month by 24 hour-composite sample. This is new information. In accordance with LAC 33:IX.2707.L.2.a.ii.(a), the increase in limitations is appropriate and not considered backsliding.

TSS, Oil & Grease, Sulfide, Ammonia, Phenolic Compounds and Chromium VI, and Total Chromium: Monthly average and daily maximum imitations are based upon 40 CFR 419 Subpart B. See Appendix A-3 for more information on calculations of the limitations. TSS shall be monitored 1/week by 24-hour composite. Phenolic Compounds shall be monitored 1/quarter by grab sample. Oil & Grease shall be monitored 2/month by grab sample. Sulfide shall be monitored 1/month by grab sample. Ammonia shall be monitored 1/week by 24 hour composite. Total Chromium and Chromium IV shall be monitored 1/quarter by 24-hour composite. This is new information. In accordance with LAC 33:IX.2707.L.2.a.ii.(a), the increase in limitations is appropriate and not considered backsliding.

Benzo(a)anthracene and Benzo(a)pyrene: Monthly average imitations are based upon the *Total Maximum Daily Load for Toxics for the Calcasieu Estuary, July 1, 2002*, have been retained from the previous permit. Benzo(a)anthracene and Benzo(a)pyrene shall be monitored 1/quarter by 24-hour composite.

Enterococci and Fecal Coliform - Monthly average and daily maximum Enterococci and Fecal Coliform limitations have been established in the permit. Enterococci criteria apply to Subsegment 030901 to protect primary contact recreation (LAC 33:IX.1123, Table 3) and are in accordance with the Class II Sanitary Discharge General Permit LAG540000. Enterococci and Fecal Coliform shall be monitored 1/6 months by grab sample.

Total Nitrogen and Total Phosphorus: Monthly average and daily maximum reporting requirement for have been retained from the previous permit and are in accordance with the Louisiana Nutrient Management Strategy. Total Nitrogen and Total Phosphorous should be monitored 1/quarter by grab sample.

Whole Effluent Toxicity Testing: See Section D below for justification of requirements.

SITE SPECIFIC REQUIREMENTS:

The permittee shall conduct concurrent monitoring at Outfall 001, 003, and 103. The arithmetic sum of the daily pollutant mass discharges from BOD₅, TSS, Oil & Grease, TOC, Ammonia, Sulfide, Phenolic Compounds, Total Chromium, and Chromium IV at Outfalls 001, 003, and 103 during the same 24-hour or grab sampling event shall not exceed the Monthly Average and Daily Maximum loadings specified in the permit for Outfall 003 (Phase I) (Outfall 003 Part I, Page 10 of 23 of the permit). Any exceedance of the summed limitations shall be reported as an excursion on a monthly DMR for Outfall 003.

The permittee shall conduct concurrent monitoring at Outfall 003 and 103. The arithmetic sum of the daily pollutant mass discharges from Benzo(a)anthracene, and Benzo(a)pyrene at Outfalls 003 and 103 during the same 24-hour or grab sampling event shall not exceed the Monthly Average and Daily Maximum loadings specified in the permit for Outfall 003 (Phase I) (Outfall 003 Part I, Page 10 of 23 of the permit). Any exceedance of the summed limitations shall be reported as an excursion on a monthly DMR for Outfall "SUM". A separate DMR for "Outfall SUM" will be provided to the permittee for the summed parameters only.

The permittee must notify the Office of Environmental Services and the Office of Environmental Compliance 14 days prior to start-up of Phase II.

Outfall 003 (Phase II)- the continuous discharge of treated process wastewater from the Main Refinery; ballast water; process area stormwater; treated sanitary wastewater; utility wastewater; miscellaneous non-process wastewaters*; propylene fractionation unit (PFU) wastewater; non process area stormwater; and hydrostatic test wastewater

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report	---	---	Continuous
pH Range Excursions No. of Events >60 minutes	---	0 (*1)	---	---	Continuous

PARAMETER (S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
pH Range Excursions Monthly Total Accumulated Time in Minutes	---	446 (*1)	---	---	Continuous
pH (Standard Units)	---	---	Report (*1) (Min)	Report (*1) (Max)	Continuous
BOD ₅ (*2)	4291	8402	---	---	2/month
TSS (*2)	3756	5867	---	---	1/week
Oil & Grease (*2)	1408	2678	---	---	2/month
TOC (*2)	9440	18485	---	---	1/month
Ammonia (as N) (*2)	1680	3671	---	---	1/week
Sulfide (as S) (*2)	23.4	52.2	---	---	1/month
Phenolic Compounds (*2)	27.9	62.1	---	---	1/quarter
Total Chromium (*2)	32.7	94.0	---	---	1/quarter
Chromium VI (*2)	2.8	6.2	---	---	1/quarter
Benzo(a)anthracene (*2)	0.762	---	---	---	1/quarter
Benzo(a)pyrene (*2)	0.762	---	---	---	1/quarter
Fecal Coliform #/100ml	---	---	200(*3)	400	1/6 months
Enterococci #/100ml	---	---	35(*3)	135	1/6 months
Total Nitrogen	Report	Report	---	---	1/quarter
Total Phosphorus	Report	Report	---	---	1/quarter

PARAMETER (S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Biomonitoring	---	---	---	---	1/quarter

* Miscellaneous non-process wastewaters include: emergency eyewash and shower stations testing and use; firewater system test wastewaters (without foam); equipment and building washdown and maintenance water (without soaps and detergents); pump seal/cooling water jackets; high/low pressure fan cooling water; oil pump cooling water (for dryers and other equipment); air dryer chiller water; freeze protection water; line flushing (potable water or the non-process lines); water well development/testing, maintenance/cleaning and overflow; well pump bypass water; moisture released from the instrument air traps; air conditioning condensate; condensate that may form on the outside of tanks, pipes, or other equipment; steam condensate; compressor condensate; uncontaminated groundwater; water used for dust suppression; cooling tower drift; and de minimis leaks from the potable, cooling water, utility, or fire water distribution system network pipelines

(*1) The pH shall be within a range of 6.0 - 9.0 Standard Units at all times subject to the continuous monitoring pH range excursion provision in Part II, Paragraph I.

(*2) Summed limitations for Outfalls 003 and 103 (See Site Specific Requirements Below)

(*3) The monthly average for bacteria indicators (fecal coliform and enterococci) is the geometric mean of the values for all effluent samples collected in the calendar month

EFFLUENT LIMITATIONS BASIS for Outfall 003 Phase II

Flow: Monthly average and daily maximum reporting requirement for flow have been retained from the previous permit and are based on LAC 33:IX.2707.I.1.b. Flow shall be monitored continuously by recorder.

pH: Monthly average and daily maximum limitations have been retained from the previous permit and are based on 40 CFR 419, Subpart D. pH shall be monitored continuous by continuous recorder.

BOD₅ and TOC: Monthly average and daily maximum imitations are based upon 40 CFR 419 Subpart D. See Appendix A-4 for more information on calculations of the limitations. BOD₅ shall be monitored 2/month by 24-hour composite sample and TOC shall be monitored 1/month by 24 hour-composite sample.

TSS, Oil & Grease, Sulfide, Ammonia, Phenolic Compounds and Chromium VI, and Total Chromium: Monthly average and daily maximum limitations are based upon 40 CFR 419 Subpart D. See Appendix A-4 for more information on calculations of the limitations. TSS shall be monitored 1/week by 24-hour composite. Phenolic Compounds shall be monitored 1/quarter by grab sample. Oil & Grease shall be monitored 2/month by grab sample. Sulfide shall be monitored 1/month by grab sample. Ammonia shall be monitored 1/week by 24 hour composite. Total Chromium and Chromium IV shall be monitored 1/quarter by 24-hour composite. This is new information. In accordance with LAC 33:IX.2707.L.2.a.ii.(a), the increase in limitations is appropriate and not considered backsliding.

Benzo(a)anthracene and Benzo(a)pyrene: Monthly average limitations are based upon the *Total Maximum Daily Load for Toxics for the Calcasieu Estuary, July 1, 2002*, have been retained from the previous permit. Benzo(a)anthracene and Benzo(a)pyrene shall be monitored 1/quarter by grab sample.

Enterococci and Fecal Coliform - Monthly average and daily maximum Enterococci and Fecal Coliform limitations have been established in the permit. Enterococci criteria apply to Subsegment 030901 to protect primary contact recreation (LAC 33:IX.1123, Table 3) and are in accordance with the Class II Sanitary Discharge General Permit LAG540000. Enterococci and Fecal Coliform shall be monitored 1/6 months by grab sample.

Total Nitrogen and Total Phosphorus: Monthly average and daily maximum reporting requirement for have been retained from the previous permit and are in accordance with the Louisiana Nutrient Management Strategy. Total Nitrogen and Total Phosphorous shall be monitored 1/quarter by grab sample.

Whole Effluent Toxicity Testing: See Section E below for justification of requirements.

SITE SPECIFIC REQUIREMENTS:

The permittee shall conduct concurrent monitoring at Outfall 003 and 103. The arithmetic sum of the daily pollutant mass discharges from BOD₅, TOC, TSS, Ammonia, Sulfide, Phenolic Compounds, Total Chromium, Chromium VI, Benzo(a)anthracene, and Benzo(a)pyrene at Outfalls 003 and 103 during the same 24-hour or grab sampling event shall not exceed the Monthly Average and Daily Maximum loadings specified in the permit for Outfall 003 (Phase II). Any exceedance of the summed limitations shall be reported as an excursion on a monthly DMR for Outfall "SUM". A separate DMR for "Outfall SUM" will be provided to the permittee for the summed parameters only.

Outfall 103 (Phase I & II)- the overflow of stormwater runoff and *de minimis* amounts of utility, process, and non-process wastewaters

Note: Discharges from this outfall shall be permitted during the following situations which include, but are not limited to, rain events that produce more

water than can be processed through Outfall 003, such as hurricanes and tropical storms.

PARAMETER (S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report	---	---	1/day
pH (Standard Units)	---	---	6.0 (Min)	9.0 (Max)	1/day
BOD ₅	(*1) (*2)	(*1) (*2)	---	---	2/month
TSS	(*1) (*2)	(*1) (*2)	---	---	1/week
Oil & Grease	(*1) (*2)	(*1) (*2)	---	---	2/month
TOC	(*1) (*2)	(*1) (*2)	---	---	1/month
Ammonia (as N)	(*1) (*2)	(*1) (*2)	---	---	1/week
Sulfide (as S)	(*1) (*2)	(*1) (*2)	---	---	1/month
Phenolic Compounds	(*1) (*2)	(*1) (*2)	---	---	1/quarter
Total Chromium	(*1) (*2)	(*1) (*2)	---	---	1/quarter
Chromium VI	(*1) (*2)	(*1) (*2)	---	---	1/quarter
Benzo(a)anthracene	(*1) (*2)	---	---	---	1/quarter
Benzo(a)pyrene	(*1) (*2)	---	---	---	1/quarter
Total Nitrogen	Report	Report	---	---	1/quarter
Total Phosphorus	Report	Report	---	---	1/quarter

* Miscellaneous non-process wastewaters include: emergency eyewash and shower stations testing and use; firewater system test wastewaters (without foam); equipment and building washdown and maintenance water (without soaps and detergents); pump seal/cooling water jackets; high/low pressure fan cooling water; oil pump cooling water (for dryers and other equipment); air dryer chiller water; freeze protection water; line flushing (potable water or the non-process lines); water well development/testing, maintenance/cleaning and overflow; well pump bypass water; moisture released from the instrument air traps; air conditioning condensate; condensate that may form on the outside of tanks, pipes, or other equipment; steam condensate; compressor condensate; uncontaminated

groundwater; water used for dust suppression; cooling tower drift; and de minimis leaks from the potable, cooling water, utility, or fire water distribution system network pipelines

(*1) During Phase I for BOD₅, TOC, TSS, Ammonia, Sulfide, Phenolic Compounds, Total Chromium, Chromium VI, Benzo(a)anthracene, and Benzo(a)pyrene, the permittee shall conduct concurrent monitoring at Outfalls 001, 003, and 103. The arithmetic sum of the daily pollutant mass discharge mass discharges for these parameters from Outfalls 001, 003, and 103 during the same 24-hour or grab sampling event shall not exceed the Monthly Average and Daily Maximum loadings specified for Outfall 003 Phase I above (and Outfall 003 in Part I, Page 10 of 23 of the permit). Any exceedance from the summed results shall be reported as an excursion on a monthly DMR for Outfall "SUM".

(*2) During Phase II for BOD₅, TOC, TSS, Ammonia, Sulfide, Phenolic Compounds, Total Chromium, Chromium VI, Benzo(a)anthracene, and Benzo(a)pyrene, the permittee shall conduct concurrent monitoring at Outfalls 003 and 103. The arithmetic sum of the daily pollutant mass discharge mass discharges for these parameters from Outfalls 003 and 103 during the same 24-hour or grab sampling event shall not exceed the Monthly Average and Daily Maximum loadings specified for Outfall 003 Phase II above (and Outfall 003 in Part I, Page 13 of 23 of the permit). Any exceedance from the summed results shall be reported as an excursion on a monthly DMR for Outfall "SUM".

EFFLUENT LIMITATIONS BASIS for Outfall 103

Flow: Monthly average and daily maximum reporting requirement for flow have been retained from the previous permit and are based on LAC 33:IX.2707.I.1.b. Flow shall be measured 1/day.

pH: Monthly average and daily maximum limitations have been retained from the previous permit and are based on 40 CFR 419, Subpart D. pH shall be monitored 1/day by grab sample.

TSS, Oil & Grease, Sulfide, BOD₅, TOC, Ammonia, Phenolic Compounds and Chromium VI, and Total Chromium: Monthly average and daily maximum limitations are based upon 40 CFR 419 Subpart B (Phase I) and Subpart D (Phase II). See Appendix A-3 and A-4 for more information on calculations of the limitations. TSS and Ammonia shall be monitored 1/week by grab sample. BOD₅ and Oil and Grease shall be monitored 2/month by grab sample. TOC and Sulfide shall be monitored 1/month by grab sample. Phenolic Compounds, Total Chromium, and Chromium IV shall be monitored 1/quarter by grab sample.

Benzo(a)anthracene and Benzo(a)pyrene: Monthly average limitations are based upon the *Total Maximum Daily Load for Toxics for the Calcasieu Estuary, July 1, 2002*, have been retained from the previous permit. Benzo(a)anthracene and Benzo(a)pyrene shall be monitored 1/quarter by grab sample.

Total Nitrogen and Total Phosphorus: Monthly average and daily maximum reporting requirement for have been retained from the previous permit and are in accordance with the Louisiana Nutrient Management Strategy. Total Nitrogen and Total Phosphorous should be monitored 1/quarter by grab sample.

Whole Effluent Toxicity Testing:

According to the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards (Implementation Procedures, July 2022) whole effluent toxicity (WET) requirements are established for all LDEQ discharges classified as majors and significant minors. Citgo Petroleum Corporation is classified as a major facility and has been assigned WET monitoring requirements, for both process outfalls with continuous flows (Outfalls 001 and 003); the requirements do not include WET limits. Based on a review of facility records at these outfalls, there have been no reported WET failures during the previous 5 years.

Outfall 103 was established as an outfall for the intermittent overflow of stormwater runoff and *de minimis* amounts of utility, process, and non-process wastewaters. This outfall is proposed to discharge only during, or as a result of, a heavy rain event. For the reasons detailed below, this Office has determined that WET requirements are not appropriate for Outfall 103 at this time.

- Biomonitoring testing was designed for continuous discharges such as those at Outfalls 001 and 003. Sampling for biomonitoring testing requires the permittee collect a minimum of three flow-weighted 24-hour composite samples. The samples are needed for renewals of dilution concentration, and the maximum holding time for any effluent sample cannot exceed 72 hours. When possible, the effluent samples used for toxicity tests should be collected on separate days if the discharge occurs over multiple days. Because of the intermittent nature of the flow from Outfall 103, the discharge event may not last for 72 hours. This could result in the permittee not being able to collect effluent for the required retest if the effluent fails the initial test for Outfall 103.
- Because the discharge from Outfall 103 will only occur as a result of excessive rainfall, the facility will never discharge under critical conditions. Critical conditions are characterized as periods of low stream flow typically during dry conditions. The designated uses of a waterbody are ensured protection through water quality based limits that are derived using low flow estimates under these critical conditions. For example, the biomonitoring dilution series for Outfalls 001 and 003 are based on critical flows of 32.1 cfs (001) and 2898 cfs (003). This is not representative of what is happening in the receiving stream or at the facility at the time of any discharge from Outfall 103. The excessive rainfall through Outfall 103 results in increased flow and helps with assimilation in the receiving waterbody.

- Section 303 (d) of the Clean Water Act as amended by the Water Quality Act of 1987, and EPA's regulations at 40 CFR 130 require that each state identify those waters within its boundaries not meeting water quality standards. The Clean Water Act further requires states to implement plans to address impairments. LDEQ has addressed water quality impairments for Subsegment 030301. Subsegment 030301 is impaired for Dissolved Oxygen, therefore increased loadings were not granted for BOD5 and TOC. For further information, see TMDL Waterbodies Section in the Fact Sheet and Rationale.
- There have been no failures in the previous 5 years at either of the process outfalls (See Table 5 of the LPDES permit application, EDMS ID 13269139).

Please be advised that LDEQ reserves the right to modify the permit, or alternatively, revoke and reissue the permit to incorporate WET requirements at this outfall in the event it is utilized for routine discharges, not meeting the criteria listed above (See Part II, Paragraph Q).

Outfall 004 - the continuous discharge of utility wastewater, including but not limited to, boiler blowdown, softener blowdown water, cation regeneration and rinse water, anion regeneration and rinse water, reverse osmosis backwash/reject water, high/low pressure fan cooling water, oil pump cooling water for dryers, air dryer chiller water, zeolite regeneration rinse and backwash; stormwater runoff; miscellaneous non-process wastewaters*; and previously monitored hydrostatic test wastewater from Internal Outfall 101

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report	---	---	Continuous
pH Range Excursions No. of Events >60 minutes	---	0 (*1)	---	---	Continuous
pH Range Excursions Monthly Total Accumulated Time in Minutes	---	446 (*1)	---	---	Continuous
pH (Standard Units)	---	---	Report (*1) (Min)	Report (*1) (Max)	Continuous

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Oil & Grease	---	---	---	15	1/quarter
TOC	---	---	---	50	1/month

* Miscellaneous non-process wastewaters include: emergency eyewash and shower stations testing and use; firewater system test wastewaters (without foam); equipment and building washdown and maintenance water (without soaps and detergents); pump seal/cooling water jackets; high/low pressure fan cooling water; oil pump cooling water (for dryers and other equipment); air dryer chiller water; freeze protection water; line flushing (potable water or the non-process lines); water well development/testing, maintenance/cleaning and overflow; well pump bypass water; moisture released from the instrument air traps; air conditioning condensate; condensate that may form on the outside of tanks, pipes, or other equipment; steam condensate; compressor condensate; uncontaminated groundwater; water used for dust suppression; cooling tower drift; and de minimis leaks from the potable, cooling water, utility, or fire water distribution system network pipelines

(*1) The pH shall be within a range of 6.0 - 9.0 Standard Units at all times subject to the continuous monitoring pH range excursion provision in Part II, Paragraph I.

EFFLUENT LIMITATIONS BASIS for Outfall 004

Flow: Monthly average and daily maximum reporting requirement for flow have been retained from the previous permit and are based on LAC 33:IX.2707.I.1.b. Flow shall be monitored continuously by recorder.

TOC, Oil & Grease, and pH: Daily maximum limitations have been retained from the previous permit and are in accordance with LDEQ's stormwater guidance, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6), the Multi-Sector General Permit, LAR050000, and the Light Commercial General Permit, LAG480000. pH shall be monitored continuously by recorder. TOC shall be monitored 1/month by 24-hour composite sample. Oil & Grease shall be monitored 1/quarter by grab sample.

Outfall 006 - the intermittent discharge of non-process area stormwater runoff; miscellaneous non-process wastewaters*; previously monitored hydrostatic test wastewater from Internal Outfall 101; previously monitored treated sanitary wastewater from Internal Outfall 106

PARAMETER (S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report	---	---	1/quarter
TOC	---	---	---	50	1/quarter
Oil & Grease	---	---	---	15	1/quarter
pH Standard Units	---	---	6.0 (min)	9.0 (max)	1/quarter

* Miscellaneous non-process wastewaters include: emergency eyewash and shower stations testing and use; firewater system test wastewaters (without foam); equipment and building washdown and maintenance water (without soaps and detergents); pump seal/cooling water jackets; high/low pressure fan cooling water; oil pump cooling water (for dryers and other equipment); air dryer chiller water; freeze protection water; line flushing (potable water or the non-process lines); water well development/testing, maintenance/cleaning and overflow; well pump bypass water; moisture released from the instrument air traps; air conditioning condensate; condensate that may form on the outside of tanks, pipes, or other equipment; steam condensate; compressor condensate; uncontaminated groundwater; water used for dust suppression; cooling tower drift; and de minimis leaks from the potable, cooling water, utility, or fire water distribution system network pipelines

EFFLUENT LIMITATIONS BASIS for Outfall 006

Flow: Monthly average and daily maximum reporting requirement for flow have been retained from the previous permit and are based on LAC 33:IX.2707.I.1.b. Flow shall be estimated 1/quarter.

TOC, Oil & Grease, and pH: Daily maximum limitations have been retained from the previous permit and are in accordance with LDEQ's stormwater guidance, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6), the Multi-Sector General Permit, LAR050000, and the Light Commercial General Permit, LAG480000. pH, TOC, and Oil & Grease shall be monitored 1/quarter by grab sample.

Internal Outfall 106 - the intermittent discharge of treated sanitary wastewater from the Security Operations Center

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report	---	---	1/quarter
BOD ₅	---	---	30	45	1/quarter
TSS	---	---	30	45	1/2 months
Fecal Coliform #/100ml	---	---	200(*1)	400	1/2 months
Enterococci #/100ml	---	---	35(*1)	135	1/2 months
pH Standard Units	---	---	6.0 (min)	9.0 (max)	1/quarter

(*1)The monthly average for bacteria indicators (fecal coliform and enterococci) is the geometric mean of the values for all effluent samples collected in the calendar month.

EFFLUENT LIMITATIONS BASIS for Outfall 106

Flow: Monthly average and daily maximum reporting requirement for flow have been retained from the previous permit and are based on LAC 33:IX.2707.I.1.b. Flow shall be estimated 1/quarter.

TSS, BOD₅, pH, and Fecal Coliform: Monthly average and daily maximum limitations have been retained from the previous permit and are in accordance with the LPDES Class II Sanitary Discharge General Permit (LAG540000). BOD₅ and pH shall be monitored 1/quarter by grab sample. All other parameters shall be monitored 1/2 months by grab sample.

Enterococci - Monthly average and daily maximum Enterococci limitations have been established in the permit. Enterococci criteria apply to Subsegment 030301 to protect primary contact recreation (LAC 33:IX.1123, Table 3) and are in accordance with the Class II Sanitary Discharge General Permit LAG540000. Enterococci shall be monitored 1/2 months by grab sample.

Outfall 009 - the intermittent discharge of non-process stormwater, miscellaneous non-process wastewater*, and previously monitored hydrostatic test wastewater from Internal Outfall 101

Outfall 010 - the intermittent discharge of non-process stormwater, miscellaneous non-process wastewater*, and previously monitored hydrostatic test wastewater from Internal Outfall 101

Outfall 011 - the intermittent discharge of non-process stormwater, miscellaneous non-process wastewater*, and previously monitored hydrostatic test wastewater from Internal Outfall 101

Outfall 012 - the intermittent discharge of non-process stormwater, miscellaneous non-process wastewater*, and previously monitored hydrostatic test wastewater from Internal Outfall 101

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report	---	---	1/quarter
TOC	---	---	---	50	1/quarter
Oil & Grease	---	---	---	15	1/quarter
pH Standard Units	---	---	6.0 (min)	9.0 (max)	1/quarter

* Miscellaneous non-process wastewaters include: emergency eyewash and shower stations testing and use; firewater system test wastewaters (without foam); equipment and building washdown and maintenance water (without soaps and detergents); pump seal/cooling water jackets; high/low pressure fan cooling water; oil pump cooling water (for dryers and other equipment); air dryer chiller water; freeze protection water; line flushing (potable water or the non-process lines); water well development/testing, maintenance/cleaning and overflow; well pump bypass water; moisture released from the instrument air traps; air conditioning condensate; condensate that may form on the outside of tanks, pipes, or other equipment; steam condensate; compressor condensate; uncontaminated groundwater; water used for dust suppression; cooling tower drift; and de minimis leaks from the potable, cooling water, utility, or fire water distribution system network pipelines

EFFLUENT LIMITATIONS BASIS for Outfall 009, 010, 011, and 012

Flow: Monthly average and daily maximum reporting requirements have been retained from the previous permit and are based on LAC 33:IX.2707.I.1.b. Flow shall be estimated 1/quarter.

TOC, Oil & Grease, and pH: Daily maximum limitations have been retained from the previous permit and are in accordance with LDEQ's stormwater guidance, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6), the Multi-Sector General Permit, LAR050000, and the Light Commercial General Permit, LG4800000. pH, TOC, and Oil & Grease shall be monitored 1/quarter by grab sample.

Outfall 014 - the intermittent discharge of treated sanitary wastewater from the Citgo Park

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report	---	---	1/quarter
BOD ₅	---	---	30	45	1/quarter
TSS	---	---	30	45	1/quarter
Fecal Coliform #/100ml	---	---	200(*1)	400	1/quarter
Enterococci #/100ml	---	---	35(*1)	135	1/quarter
pH Standard Units	---	---	6.0 (min)	9.0 (max)	1/quarter

(*1) The monthly average for bacteria indicators (fecal coliform and enterococci) is the geometric mean of the values for all effluent samples collected in the calendar month.

EFFLUENT LIMITATIONS BASIS for Outfall 014

Flow: Monthly average and daily maximum reporting requirements have been retained from the previous permit and are based on LAC 33:IX.2707.I.1.b. Flow shall be estimated 1/quarter.

TSS, BOD₅, pH, and Fecal Coliform: Monthly average and daily maximum limitations have been retained from the previous permit and are in accordance with the LPDES Class II Sanitary Discharge General Permit (LAG540000). BOD₅ and pH shall be monitored 1/quarter by grab sample. All other parameters shall be monitored 1/2 months by grab sample.

Enterococci - Monthly average and daily maximum Enterococci limitations have been established in the permit. Enterococci criteria apply to Subsegment 030301 to protect primary contact recreation (LAC 33:IX.1123, Table 3) and are in

accordance with the Class II Sanitary Discharge General Permit LAG540000. Enterococci shall be monitored 1/quarter by grab sample.

C. WATER QUALITY-BASED EFFLUENT LIMITATIONS

Technology-based effluent limitations and/or specific analytical results from the permittee's application were screened against state water quality numerical standard based limits by following guidance procedures established in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, July 5, 2022. Calculations, results, and documentation are given in Appendix B.

In accordance with LAC 33:IX.2707.D.1/40 CFR § 122.44(d)(1), the existing (or potential) discharge (s) was evaluated in accordance with the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, July 5, 2022, to determine whether pollutants would be discharged "at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard." Calculations, results, and documentation are given in Appendix B.

The following pollutants received water quality based effluent limits:

<u>POLLUTANT (S)</u>	Outfall
	001
Total Phenolic (Phase I daily maximum and monthly average; Phase II daily maximum only)	
Chromium IV	

Minimum quantification levels (MQLs) for state water quality numerical standards-based effluent limitations are set at the values listed in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, July 5, 2022. They are also listed in Part II of the permit.

D. TMDL Waterbodies

Section 303 (d) of the Clean Water Act, as amended by the Water Quality Act of 1987 and EPA's regulations at 40 CFR 130, require that each state identify those waters within its boundaries for which controls are not stringent enough to meet applicable water quality standards. Section 305(b) of the Clean Water Act requires states to prepare and submit a biennial report, describing the status of the water quality and support of the designated uses. The documents that address these two requirements

are referred to as the "Integrated Report." The water body-pollutant combinations for which a TMDL or other control strategy has not been developed constitutes LDEQ's 303(d) List. The Clean Water Act further requires states to implement plans to address listings. Total Maximum Daily Loads (TMDLs) or other appropriate management strategy(ies) will be developed and/or revised to address waterbodies not supporting standards.

Outfalls 003, 004, 006, 009, 010, 011, and 014

Outfalls 003, 004, 006, 009, 010, 011, and 014 discharge to the Calcasieu River in Subsegment 030301. Subsegment 030301, is listed in LDEQ's Final 2022 Integrated Report as not supporting one or more of its designated uses; suspected causes are Dioxins, Furan, and Enterococcus. A reopener clause will be established in the permit to allow for the requirement of more stringent effluent limitations and requirements as imposed by a future TMDL or management strategy. Dioxin and Furans are not expected to be in the discharge; therefore, no limitations have been included in the permit. Enterococcus limitations have been added at Internal Outfall 106 and Outfall 014 because these outfalls discharge sanitary wastewater and due to the impairment of the receiving stream.

In addition, subsegment 030301 is listed on LDEQ's Final 2022 Integrated Report as not supporting one or more of its designated uses; the suspected cause is PCBs, for which the below TMDLs have been developed. Additionally, 030301 was listed on previous 303(d) lists for PAHs for which the below TMDLs have been developed. The Department of Environmental Quality reserves the right to impose more stringent discharge limitations and/or additional restrictions in the future to maintain the water quality integrity and the designated uses of the receiving water bodies based upon additional TMDLs and/or other water quality studies. The DEQ also reserves the right to modify or revoke and reissue this permit based upon any changes to established TMDLs for this discharge, or to accommodate for pollutant trading provisions in approved TMDL or management strategy watersheds as necessary to achieve compliance with water quality standards.

*Total Maximum Daily Load for Toxics for the Calcasieu Estuary
(effective June 13, 2002)*

This TMDL established monthly average limitations for benzo(a)anthracene and benzo(a)pyrene. These limitations were established in the previous permit and have been retained.

Outfalls 001, 002, and 012

Outfalls 001, 002, and 012 discharge to the Bayou D'Inde in Subsegment 030901. Subsegment 030901, is listed in LDEQ's Final 2022 Integrated Report as not supporting one or more of its designated uses; suspected causes are Dioxins, Furan, Fecal Coliform, and Enterococcus. A reopener

clause will be established in the permit to allow for the requirement of more stringent effluent limitations and requirements as imposed by a future TMDL or management strategy. Dioxin and Furans are not expected to be in the discharge; therefore, no limitations have been included in the permit. Sanitary wastewater is not discharged to Subsegment 030901 via Outfalls 001, 002, and 012; therefore, Enterococcus and Fecal Coliform limitations have not been included at Outfalls 001, 002, or 012.

Subsegment 030901, Bayou D'Inde-From Headwaters to Calcasieu River (Estuarine), is listed in LDEQ's Final 2022 Integrated Report as not meeting Dissolved Oxygen, PCBs, Nitrate/Nitrite, and Phosphorous criteria, for which the below TMDL's have been developed. Additionally, 030901 was listed on previous 303(d) lists for Hexachlorobenzene for which the below TMDLs have been developed. The Department of Environmental Quality reserves the right to impose more stringent discharge limitations and/or additional restrictions in the future to maintain the water quality integrity and the designated uses of the receiving water bodies based upon additional TMDLs and/or water quality studies. The DEQ also reserves the right to modify or revoke and reissue this permit based upon any changes to established TMDLs for this discharge, or to accommodate for pollutant trading provisions in approved TMDL or management strategy watersheds as necessary to achieve compliance with water quality standards.

TMDLs for Dissolved Oxygen for the Calcasieu Estuary (July 1, 2002)

No reductions were required for Subsegment 030901 in the TMDL; Therefore, no wasteload allocations were assigned. However, since BOD₅, TOC, and nitrogenous oxygen demand (from ammonia nitrogen) are parameters that could cause or contribute to further impairment of the waterbody, the effluent limitations proposed in the permit are based on existing loads without increment. The limitations for BOD₅, TOC, and Ammonia from the previous three permits have been retained.

Total Maximum Daily Load For Toxics for the Calcasieu Estuary (June 13, 2002)

Total Copper and Total Mercury: The TMDL, initially effective on June 13, 2002, assigned wasteload allocations for Copper and Mercury to Citgo Petroleum Corporation. On July 17, 2012, the US District Court, Western District of Louisiana, Lake Charles Division granted a motion by EPA Region VI to vacate and remand the Copper and Mercury TMDLs and associated allocations for Bayou D'Inde (Subsegment 030901) and the Upper Calcasieu Estuary and Ship Channel (Subsegment 030301). The TMDL was then revised on May 28, 2013, to remove Copper and Mercury from these subsegments. During the development of the current LPDES Permit (effective November 1, 2017) a water quality screen was performed using the calculated geometric mean for both Total Copper and Total Mercury (calculated from DMR data). The analysis indicated that neither parameter has the reasonable potential to violate water quality. As a result, the mercury and copper mass

limitations previously established at Outfall 001 and Outfall 003 as a result of the TMDL were removed in the previous permit, effective November 1, 2017.

Louisiana Nutrient Management Strategy

The Louisiana Nutrient Management Strategy (Strategy), originally released in 2014, is a collaborative approach among stakeholders for making progress toward managing nutrients within the state's waterbodies. As part of the Strategy, specifically Strategic Action 9.d, the LPDES Permit Program aims to gather and evaluate information on nutrients through monitoring in permitted dischargers that may have the potential to cause or contribute to an impairment of Louisiana waterbodies. In support of Strategic Action 9.d the Point Source Implementation Strategy for Nutrients in the Louisiana Pollutant Discharge Elimination System (LPDES) Program (Point Source Strategy), LDEQ, May 30, 2017, was created to outline the processes used to determine whether nutrient monitoring should be included as part of the permit. In accordance with the Point Source Strategy, each application must be reviewed to determine if a potential to cause or contribute to impairment of the receiving waterbody exists. Results of the review of the application and facility type indicate this discharge may have the potential to cause or contribute to impairment; therefore, monitoring for Total Nitrogen (TN) and Total Phosphorus (TP) have been included in this permit at Outfalls 001 and 003.

E. Biomonitoring Requirements

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

Whole effluent biomonitoring is the most direct measure of potential toxicity which incorporates both the effects of synergism of effluent components and receiving stream water quality characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity. The biomonitoring procedures stipulated as a condition of this permit for Outfall(s) 001 and 003 are as follows:

TOXICITY TESTS

Chronic static renewal 7-day
survival and growth test
using Mysidopsis bahia
[Method 1007.0]

FREQUENCY

1/quarter

Chronic static renewal 7-day
larval survival and growth test
using inland silverside minnow
(Menidia beryllina) [Method 1006.0] 1/quarter

Toxicity tests shall be performed in accordance with protocols described in the latest revision of the "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms." The stipulated test species are appropriate to measure the toxicity of the effluent consistent with the requirements of the State water quality standards. The biomonitoring frequency has been established to reflect the likelihood of ambient toxicity and to provide data representative of the toxic potential of the facility's discharge in accordance with regulations promulgated at LAC 33:IX.2715/40 CFR Part 122.48.

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

This permit may be reopened to require effluent limits, additional testing, and/or other appropriate actions to address toxicity if biomonitoring data show actual or potential ambient toxicity to be the result of the permittee's discharge to the receiving stream or water body. Modification or revocation of the permit is subject to the provisions of LAC 33:IX.3105/40 CFR 124.5. Accelerated or intensified toxicity testing may be required in accordance with Section 308 of the Clean Water Act.

Dilution Series (See Appendix C)

Outfall 001 (Phase I)

The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. These additional effluent concentrations shall be 2.5%, 3.4%, 4.5%, 6%, and 8%. The low-flow effluent concentration (critical dilution) is defined as 6% effluent.

Outfall 001 (Phase II)

The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. These additional effluent concentrations shall be 4%, 6%, 7%, 10%, and 13%. The low-flow effluent concentration (critical dilution) is defined as 10% effluent.

Outfall 003 (Phase I and Phase II)

The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. These additional effluent concentrations shall be 0.6%, 0.81%, 1.1%, 1.4%, and 1.9%. The low-flow effluent concentration (critical dilution) is defined as 1.4% effluent.

X. Compliance History/DMR Review:

- A. Inspections: A compliance inspection was conducted on March 10, 2022 (EDMS DOC ID 13470176). A pH excursion was noted.
- B. Enforcement Actions (COs, NOVs, Warning Letters, etc.): A Consolidated Compliance Order and Notice of Potential Penalty (AE-CN-21-00378) was issued on October 20, 2021 (EDMS DOC ID 12946155).
- C. A DMR review of the monitoring reports covering the monitoring period of January 2020 through September 2023 revealed the following effluent excursions:

<u>DATE</u>	<u>PARAMETER</u>	<u>OUTFALL</u>	<u>REPORTED VALUE</u>		<u>PERMIT LIMITS</u>	
			<u>MONTHLY AVERAGE</u>	<u>DAILY MAXIMUM</u>	<u>MONTHLY AVERAGE</u>	<u>DAILY MAXIMUM</u>
10/2022	Sulfide	SUM (003 and 103)	<116 lb/day	<116 lb/day	20.5 lb/day	41.6 lb/day
2 nd quarter 2023	Fecal Coliform	014	470 #/100 ml	470 #/100 ml	200 #/100 ml	400 #/100 ml

Additionally, Oil and Grease was not tested at Outfall 002 in the 4th Quarter of 2021. pH was out of compliance for more the 60 minutes at Outfall 001 in May of 2021 three times for a total of 552 minutes.

- D. Company Compliance History - An Expedited Penalty and Notice of Potential Penalty (AE-XP-23-00383) was issued to AI 3766 on September 21, 2023 (EDMS DOC ID 13999331).
- E. Permit Actions Taken:
 - 1. Referrals to Surveillance
N/A
 - 2. Referrals to Enforcement
N/A
 - 3. Referrals to Small Business/Small Community

N/A

4. Increased monitoring frequency

N/A

Please be aware that the Department has the authority to reduce monitoring frequencies when a permittee demonstrates two or more consecutive years of permit compliance. Monitoring frequencies established in LPDES permits are based on a number of different factors, including but not limited to, the size of the discharge, the type of wastewater being discharged, the specific operations at the facility, past compliance history, similar facilities and best professional judgment of the reviewer. We encourage and invite each permittee to institute positive measures to ensure continued compliance with the LPDES permit, thereby qualifying for reduced monitoring frequencies upon permit reissuance. As a reminder, the Department will also consider an increase in monitoring frequency upon permit reissuance when the permittee demonstrates continued non-compliance.

XI. Clean Water Act 316(b) Cooling Water Intake Structure (CWIS) Requirements:

CITGO Petroleum Corporation's Lake Charles Manufacturing Complex (CITGO) is an petroleum refinery which has been in operation for over 30 years. CITGO uses a cooling water intake structure (CWIS) that withdraws water by water transfer from the Sabine River Authority Diversion Canal (SRA). The CWIS is located directly north of CITGO's CLAW plant on the SRA and is considered to be a freshwater river system. Water is withdrawn from the SRA by three pumps (one is operational and the second and third pumps are utilized for backup purposes only) with a combined design intake flow (DIF) of 28.08 million gallons per day (MGD) for one pump operating. More than 25% of the water is used for cooling water purposes. Only 75% of the water withdrawn from the intake is provided to CITGO. The remaining 25% of the water from the intake is sent to Louisiana Pigment (20%) and to Equistar (5%). Therefore, the Lake Charles Manufacturing Complex is subject to categorical requirements for the 316(b) regulations at 40 CFR Part 125 Subpart J. CITGO Petroleum Corporation submitted application requirements in accordance with 40 CFR 122.21(r) (EDMS Document No. 13269139) and 316(b) application requirements (EDMS Document No. 13269242) both dated April 19, 2022. Additional information was received via email on May 19, 2022 (EDMS Document No. 13760596) and on June 9, 2022 (EDMS Document No. 13760597).

The Lake Charles Manufacturing Complex is located in Westlake, in Calcasieu Parish. The facility is divided into seven main operating areas: Thermal Area; Catalytic Cracking Area; Reformer Area; Acid, Alkylation, Treating Area; Logistics Area; Site Services; and CLAW Plant. The CLAW plant was idled in 2008 and is currently used as a heavy production tank farm. The facility and its cooling water system are intended for year-

round, 24 hours/day operation, with the exception of down-time for maintenance outages.

The facility's CWIS is located at latitude 30° 11' 41.3" N, and longitude -93° 20' 6.2" W, and each pump has a maximum design flow intake of 19,500 gallons per minute or 28.08 MGD with one pump operating.

The intake is located on the SRA. The diversion canal was constructed in the 1970s to transport and deliver raw freshwater from the Sabine River to various industries located in the Lake Charles area, in addition to furnishing water for municipal and irrigation uses. The SRA consists of approximately 35.2 miles of unlined, open channel canals, 4.4 miles of underground cement coated pipelines, five constant level downstream control gates, and four pumping stations.

The intake is aligned parallel to and is approximately 30 feet from the shore line and angles downward to a depth of approximately 5.9 ft below the surface of the water. The intake is constructed with 3/8-inch by 3 inch grating. The grating is located below the surface of the water and at least 3 feet above the bottom of the channel. The intake is fully submerged at all times.

Pump station No. 4 consists of three reinforced concrete intake pipes that are approximately 32 feet long and 48 inches in diameter. These pipes are preceded by a trash rack to block large debris and flow into a common sump which includes three pumps. Water is conveyed via underground piping from Pump Station No. 4 to CITGO and to two other industrial users. The DIF of 28.08 MGD is based on the operation of one pump only. The zone of influence (ZOI) is influenced by the SRA's velocity of 0.58 feet per second. The circular ZOI for each active pump was calculated to have a radius of 1.6 feet.

CITGO receives 75% of the water withdrawn from Pump Station No. 4. Louisiana Pigment receives 20% and Equistar receives 5%. Cooling tower make-up is the primary use of water drawn from the SRA by the Lake Charles Manufacturing Complex. Other water uses at the facility go to the process units (24% of the water from the intake flow) and the refinery powerhouse boilers (34% of the water from the intake flow). Cooling tower make-up constitutes approximately 42% of the water from the intake flow. The makeup water is recirculated through the eleven cooling towers between 3 and 10 cycles of concentration, on average. Cooling tower blowdown is discharged through permitted Outfalls 001 and 002 to Bayou D'Inde.

According to the application information, CIGO utilizes a closed-cycle cooling system consistent with the definition found at 40 CFR 125.92(c). The flow reduction achieved relative to once-through cooling is estimated to be greater than 97% by comparing the volume of cooling tower makeup water used to the volume of cooling water circulated through once-through cooling to achieve the same production at each unit. The amount of water

that would be required for once-through cooling would be 992 MGD; therefore, the DIF of 28.08 MGD at Westlake represents a 97.2% reduction in the potential volume of water that would be needed to achieve the same production using a once-through cooling. Note, this is only for CITGO and does not include Louisiana Pigment or Equistar.

The DIF of the CWIS at the SRA is 28.08 MGD (15.60 cfs) based on operation of one pump. According to the application, because water is only drawn from the CWIS as needed, the AIF over the past five years is 14.05 MGD. The design flow of the CWIS is 0.34% of the Sabine River's mean flow.

According to the application, CITGO has determined that the potential for entrainment of fish eggs and larvae is low for most species found in the vicinity of the intake due to habitat preferences and spawning habits. Additionally, there are no critical habitat for federally listed endangered aquatic species that are expected to occur within the vicinity of the CWIS. CITGO utilizes a closed-cycle cooling system which greatly reduces the flow into the CWIS as compared to a once-through cooling system thereby reducing impingement and entrainment.

There are no plans for any new units at the Lake Charles Manufacturing Complex in the next five years.

Best Technology Available (BTA) Determination

BTA for Impingement Mortality

In accordance with 125.94 (c), the owner or operator of an existing facility must comply with one of the seven alternatives established in 125.94 (c) (1) through (7) of the rule which include the following:

- (1) Closed-cycle recirculating system;
- (2) CWIS with maximum through-screen design intake velocity of 0.5 feet per second;
- (3) CWIS with maximum through-screen actual intake velocity of 0.5 feet per second;
- (4) Existing offshore velocity cap;
- (5) Modified traveling screens;
- (6) System of technologies, management practices, and operational measures; or
- (7) Achieve specified impingement mortality standard of $\leq 24\%$.

The permittee has selected to comply with the impingement mortality standard in 40 CFR 125.94(c) (1) by operating a closed-cycle recirculating system. This intake structure feeds into a cooling system that meets the definition of a closed-cycle recirculating system in 40 CFR 125.92(c), as demonstrated by the following: The facility is divided into seven main operating areas: Thermal Area; Catalytic Cracking Area; Reformer Area; Acid, Alkylation, Treating Area; Logistics Area; Site Services; and CLAW

Plant. The CLAW plant was idled in 2003 and is currently used as a heavy production tank farm. The CWIS is equipped with three pumps of which only one runs at any given time, with the second and third are utilized for backup. All pumps cannot be run simultaneously. This closed-cycle cooling system minimizes the demand for source cooling water from the SRA. Makeup water is recirculated through the 11 cooling towers between 3.0 and 10.0 cycles of concentration, on average.

Based upon LDEQ's review of the permit application (EDMS Document No. 13269139) and 316(b) application requirements (EDMS Document No. 13269242) both dated April 19, 2022; additional information received via email on May 19, 2022 (EDMS Document No. 13760596) and on June 9, 2022 (EDMS Document No. 13760597), the facility complies with requirements established in 125.94 (c) (1) for BTA standards for impingement mortality at 40 CFR Part 125, Subpart J - 316(b) requirements for existing facilities.

BTA for Entrainment

After review of the information submitted in the application, operation of the existing closed-cycle recirculating system has been identified by LDEQ as the best technology available (BTA) for minimizing entrainment at this intake structure.

CITGO Petroleum Corporation's Lake Charles Manufacturing Complex is an existing facility that has been withdrawing cooling water from the SRA without any identified problems. Based on information evaluated, there have been no past or current impacts associated with the withdrawal of the applicable cooling water. Since the current facility employs recirculating cooling water tower technology, LDEQ has made the determination that this CWIS, when operated and maintained in accordance with best management practices (BMPs), meets the requirements of Section 316(b) of the Clean Water Act (CWA) and 40 CFR Part 125 - Subpart J and 401.14, in that it represents the best technology available (BTA) for minimizing AEI at this time. Additionally, the USEPA has identified closed-cycle recirculating systems as defined in 40 CFR 125.92(c) (that are properly maintained and operated) as a high performing technology for entrainment. If it is later determined that the cooling water intake system for this facility does not represent BTA for minimizing adverse environmental impacts, the permit may be reopened to incorporate additional requirements.

The information submitted by CITGO Petroleum Corporation for the Lake Charles Manufacturing Complex was found to be in compliance with the requirements of the CWIS regulations. Because the actual intake flow is less than 125 MGD, the facility is not required to do an entrainment characterization study unless one is requested by LDEQ.

Endangered Species

The CWIS is located in Subsegment 030901 of the Calcasieu River Basin. There are federally listed endangered species found in this subsegment. This Office consulted with the U. S. Fish and Wildlife Service (FWS) regarding the CWIS's potential impact on endangered species. LDEQ submitted the renewal permit application and 316(b) application information to the FWS for review on May 18, 2022, and no comments were received. LDEQ will also submit the draft permit package to the FWS for review.

Intake Structure Requirements

Future BTA

This is a final BTA determination made in accordance with the requirements of the federal regulations found in 40 CFR 125.90-98, based upon materials submitted by the permittee through 40 CFR 122.21(r). Future BTA determinations will be made under the same regulations, but the permittee may request that some application materials be waived under 40 CFR 125.95(c).

Monitoring Requirements

In accordance with the requirements established in 40 CFR 125.94, 125.96, and 125.98(b)(3), a monitoring schedule shall be initiated for cooling water intake structures.

IT01 - Cooling Water Intake Structure - Cooling Water Intake Requirements

PARAMETER(S)	MONTHLY AVERAGE	DAILY MAXIMUM	MEASUREMENT FREQUENCY
Intake Flow, MGD	Report	Report	Daily (see Flow Monitoring below)

Flow Monitoring

The permittee shall monitor the actual intake flows daily. The monitoring must be representative of normal operations, and must include monitoring cooling water withdrawals, make-up water, and blowdown volume (40 CFR 125.94(c)(1)). Monitoring shall be achieved by direct flow measurement, estimation based on pump operation curves, pump power input, heat and material balance, and/or other sound engineering methods. The average monthly and maximum daily intake flows shall be reported with the monthly DMR and in the annual report. The average monthly and daily maximum make-up water flows and blowdown flows shall be reported in the comments section of the DMR and in the annual report (40 CFR 125.97).

Visual or Remote Inspections

The 316(b) rule requires the permittee to either conduct visual inspections or employ remote monitoring devices during the period the cooling water intake structure is in operation. The permittee must conduct such inspections at least weekly to ensure that any technologies operated to comply with 40 CFR 125.94 are maintained and operated to function as designed including those installed to protect Federally-listed threatened or endangered species or designated critical habitat. In accordance with 40 CFR 125.96 (e), the permitting authority may establish alternative procedures if this requirement is not feasible.

CITGO has selected to comply with the impingement mortality standard in 40 CFR 125.94(c)(1) by operating a closed-cycle recirculating system for cooling water collected from the SRA Canal intake. This intake structure feeds into a cooling system that meets the definition of a closed-cycle recirculating system in 40 CFR 125.92(c). CITGO does not own the intake and does not have access to the intake to conduct inspections. Additionally, the water quality of the SRA is such that the visibility is limited making inspections difficult. Therefore, CITGO will monitor and report intake flows daily to ensure that the chosen technology is maintained and operated to function as designed. The monitoring must be representative of normal operations, and must include monitoring cooling water withdrawals, make-up water, and blowdown volume.

Annual Certification Statement and Report

The permittee is required to submit an annual certification statement and report signed by the responsible corporate officer in accordance with 40 CFR 125.97(c). See Part II, Paragraph P of the permit.

Endangered Species Act

In accordance with 40 CFR 125.98(b)(1), the following provision is included in the permit, "Nothing in this permit authorizes take for the purpose of a facility's compliance with the Endangered Species Act." Contact the state Natural Heritage Program staff, (337) 491-2575, with inquiries regarding incidental take of state-listed threatened and endangered species; and the US Fish and Wildlife Service, (337) 291-3126, with inquiries regarding the incidental take of federally-listed threatened and endangered species.

XII. Endangered Species:

The receiving waterbodies, Subsegments 030301 and 030901 of the Calcasieu River Basin are not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U.S. Fish and Wildlife Service (FWS). This strategy was submitted with a letter dated May 18, 2016 from Clark (FWS) to Vega (LDEQ). Therefore, in accordance with the Memorandum of

Understanding between the LDEQ and the FWS, no further informal (Section 7, Endangered Species Act) consultation is required. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat. Therefore, the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat.

XIII. Historic Sites:

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

XIV. Tentative Determination:

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

XV. Variances:

No requests for variances have been received by this Office.

XVI. Public Notices:

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

Public notice published in/on:

LDEQ Website - <http://www.deq.louisiana.gov/public-notices>

the Office of Environmental Services Public Notice Mailing List

Appendix A

TABLE 1

Spreadsheet: REFINERY_OCKP.xls
 Developer: Bruce Fielding
 Software: Lotus 4.0/Excel 2010
 Revision date: 09/07/00
 Calculation Date: 04/26

DATA INPUT:

(*1)
FACILITY INFORMATION

Permittee:
 Permit Number:
 Appendix:
 Concentration flow, (MGD):
 Anti-backsliding, GL vs Old, 0=n, 1=y, 2=GL+Old
 Outfall number:
 40 CFR 419 Subpart, , (A, B, C, D, or E):
 Refinery Type:
 (Topping, Cracking, Petrochemical,
 Lube, or Integrated)

Citgo Petroleum Corp.; Lake Charles Manufacturing	
LA0005941; AI 1250	
Appendix A-1	
0	
Out. 001; Phase I	
B	
Cracking	

(*6)
ANTI-BACKSLIDING INFORMATION:

	(*A)	(*B)	(*C)
	Tech Old	Tech Old	Antiback
	Avg		Max 0=no scr.
PARAMETER	lb/day	lb/day	1=OldvsGL 2=Old+GL

Conventional:

BOD5	1304	2455	1
TSS			---
Oil and Grease			---

Nonconventional:

COD			---
TOC	1620	2579	1
Ammonia	486	1061	1
Sulfide			---
Total Phenolics			---

Metals:

Chromium (Total)			---
Chromium (6+)			---

(*2)
THROUGHPUT RATES

Feedstock (Crude Oil and NGL) Rate to Topping Unit(s):
 Process Unit Rates:

K bbl/day

422.3

Input in Table 2

(*3)
FLOW RATES

Ballast Flow:

K gal/day gpm

86

Stormwater Calculations

Process area, sq. ft. (or acres):
 Number of Days (Default is 365):
 Annual rainfall, inches:

sq. feet acres

---	---
365	
inches	% runoff

Contaminated Stormwater to Treatment System

K gal/day

1130

(*4)
RATIOS:

TOC:BOD5 (Default is 2.2, if needed):

Ratio:

2.2

(*5)
 Discharge fraction, default =1

Fraction:

1

(*7)
Conversion Utilities:

mg/L-->lbs/day	8.34
gpm-->MGD	0.00144
gpm-->K gal/day	1.44
ft3-->gal	7.4805192
inches-->feet	0.0833333
acres-->sq. ft.	43560

Calculation of Technology Based Limits for Citgo Petroleum Corp.; Lake Charles Manufacturing
Out. 001; Phase I

Calculation of Unit Process Rates and Unit Configuration Factors

TABLE 2

(*1)

(*2)

(*3)

(*4)

(*5)

(*6)

(*7)

Unit Process Rate

Unit

to

Unit

EPA Process Total Feedstock Process Process
Process Rate Feedstock Rate Weighting Config.

Number	K bbl/day	Rate	Ratio *	Factor -	Factor
1	422.3	422.3	1	1	1
2	422.3	422.3	1	1	1
3	202	422.3	0.4783329	1	0.4783329

CRUDE PROCESSES:

Atmospheric Crude Distillation
Crude Desalting
Vacuum Crude Distillation

TOTAL CRUDE PROCESSES FEEDSTOCK RATE=

1046.6

CRACKING AND COKING PROCESSES:

Visbreaking
Thermal Cracking
Fluid Catalytic Cracking
Moving Bed Catalytic Cracking
Hydrocracking
Delayed Coking
Fluid Coking
Hydrotreating

4	0	422.3	0	6	0
5	0	422.3	0	6	0
6	147	422.3	0.3480938	6	2.0885626
7	0	422.3	0	6	0
10	47	422.3	0.1112953	6	0.6677717
15	103	422.3	0.2439024	6	1.4634146
16	0	422.3	0	6	0
54	230	Not Applicable to Refinery Process Config. Factor			

TOTAL CRACKING AND COKING PROCESSES FEEDSTOCK RATE=

527

LUBE PROCESSES:

Hydrofining, Hydrofinishing, Lube Hydrofinishing
White Oil Manufacture
Propane: Dewaxing, Deasphalting,
Fractioning, Deresining
Duo Sol, Solvent Treating, Solvent Extraction,
Duotreating, Solvent Dewaxing,
Solvent Deasphalt
Lube Vacuum Tower, Oil Fractionation, Batch
Still (Naphtha Strip), Bright
Stock Treating
Centrifuge and Chilling
Dewaxing: MEK, Ketone, MEK-Toluene
Deoiling (Wax)
Naphthenic Lube Production
SO2 Extraction
Wax Pressing
Wax Plant (with Neutral Separation)
Furfural Extracting
Clay Contacting - Percolation
Wax Sweating
Acid Treating
Phenol Extraction

21	0	422.3	0	13	0
22	0	422.3	0	13	0
23	0	422.3	0	13	0
24	0	422.3	0	13	0
25	0	422.3	0	13	0
26	0	422.3	0	13	0
27	0	422.3	0	13	0
28	0	422.3	0	13	0
29	0	422.3	0	13	0
30	0	422.3	0	13	0
34	0	422.3	0	13	0
35	0	422.3	0	13	0
36	0	422.3	0	13	0
37	0	422.3	0	13	0
38	0	422.3	0	13	0
39	0	422.3	0	13	0
40	0	422.3	0	13	0

TOTAL LUBE PROCESS FEEDSTOCK RATE=

0

Calculation of Technology Based Limits for Citgo Petroleum Corp.; Lake Charles Manufacturing
Out. 001; Phase I

Calculation of Unit Process Rates, Unit Configuration, Process and Size Factors

TABLE 2 (continued)

(*1)	(*2)	(*3)	(*4)	(*5)	(*6)	(*7)	Unit Process Rate		
							Unit	Unit	
		EPA Process	Total Feedstock	Weighting	Process				
		Process Rate	Feedstock Rate	Ratio *	Factor =	Factor			
		Number	K bbl/day	Rate	Ratio *	Factor =	Factor		
ASPHALT PROCESSES:									
Asphalt Production	18	0	422.3	0	12	0			
200 Deg. F Softening Point Unfluxed Asphalt	32	0	Not Applicable to Refinery Process Config. Factor						
Asphalt Oxidizing	43	0	422.3	0	12	0			
Asphalt Emulsifying	89	0	422.3	0	12	0			

TOTAL ASPHALT PROCESS FEEDSTOCK RATE= 0

REFORMING AND ALKYLATION PROCESSES:

H2SO4 Alkylation	8	27	Not Applicable to Refinery Process Config. Factor		
Catalytic Reforming	12	105	Not Applicable to Refinery Process Config. Factor		
TOTAL REFORMING AND ALKYLATION PROCESS FEEDSTOCK RATE=		132			

TOTAL REFINERY PROCESS CONFIGURATION FACTOR= 6.7

TABLE 3
PROCESS FACTORS BY SUBPART

Total	Cracking
Refinery Process Configuration	Subpart
	B
< 2.49	0.58
2.5 to 3.49	0.63
3.5 to 4.49	0.74
4.5 to 5.49	0.88
5.5 to 5.99	1
6.0 to 6.49	1.09
6.5 to 6.99	1.19
7.0 to 7.49	1.29
7.5 to 7.99	1.41
8.0 to 8.49	1.53
8.5 to 8.99	1.67
9.0 to 9.49	1.82
9.5 to 9.99	1.89
10.0 to 10.49	1.89
10.5 to 10.99	1.89
11.0 to 11.49	1.89
11.5 to 11.99	1.89
12.0 to 12.49	1.89
12.5 to 12.99	1.89
13.0 to 13.49	1.89
13.5 to 13.99	1.89
>=14.00	1.89

TABLE 4
SIZE FACTORS BY SUBPART

K bbl/day	Cracking
Feedstock (Stream Day)	Subpart
	B
< 24.9	0.91
25.0 to 49.9	0.95
50.0 to 74.9	1.04
75.0 to 99.9	1.13
100.0 to 124.9	1.23
125.0 to 149.9	1.35
150.0 to 174.9	1.41
175.0 to 199.9	1.41
200.0 to 224.9	1.41
>=225.0	1.41

TABLE 5

PROCESS GROUP FEEDSTOCK RATES:

Process Group:	Feedstock Rate, K bbl/day:
Crude=	1046.6
Cracking and Coking=	527
Lube=	0
Asphalt=	0
Reforming and Alkylation=	132

PROCESS FACTOR INPUT:
Refinery Configuration = 6.7

SIZE FACTOR INPUT:
Feedstock, K bbl/day = 422.3

FACTOR REFERENCE
PROCESS FACTOR = 1.19 419.23 (b)
SIZE FACTOR = 1.41 419.23 (b)

Multiplier = Feedstock * Process Factor * Size Factor

Multiplier = 708.57717

Calculation of Technology Based Limits for Citgo Petroleum Corp.; Lake Charles Manufacturing
Out. 001; Phase I

Conventional, nonconventional, and toxic refinery pollutant loading calculations

TABLE 6

40 CFR 419, Petroleum and Refining Guidelines

(*1)	(*2)	(*3)	(*4)	(*5)	(*6)	(*7)	(*8)	(*9)
	REFERENCES:		FACTORS:				LOADINGS:	
			Cracking	Cracking		Discharge	Cracking	Cracking
			Subpart	Subpart		Fraction	Subpart	Subpart
PROCESS WASTEWATER	Subpart B		B	B		Through	B	B
	Category: Treatmt.		lb/K bbl	lb/K bbl		Outfall	lb/day	lb/day
PARAMETER	Cracking	Tech.	Avg	Max	Multiplier		Avg	Max
Conventional:								
BOD5	419.24 (a)	BCT	5.5	9.9	708.57717	1	3897.1744	7014.914
TSS	419.24 (a)	BCT	4.4	6.9	708.57717	1	3117.7395	4889.1825
Oil and Grease	419.24 (a)	BCT	1.6	3	708.57717	1	1133.7235	2125.7315

Nonconventional:								
COD	---	---	---	---	708.57717	1	---	---
TOC	419.23 (a)	BAT	12.1	21.78	708.57717	1	8573.7838	15432.811
Ammonia	419.23 (a)	BAT	3	6.6	708.57717	1	2125.7315	4676.6093
Sulfide	419.23 (a)	BAT	0.029	0.065	708.57717	1	20.548738	46.057516

BPT Calculations for Total Recoverable Phenolics, Total Chromium, and Chromium (6+)

Total Phenolics	419.22 (a)	BPT	0.036	0.074	708.57717	1	25.508778	52.434711
Chromium (Total)	419.22 (a)	BPT	0.088	0.15	708.57717	1	62.354791	106.28658
Chromium (6+)	419.22 (a)	BPT	0.0056	0.012	708.57717	1	3.9680322	8.502926

BAT Calculations for Total Recoverable Phenolics, Total Chromium, and Chromium (6+)

Table 2
Rate, K bbl/day

Total Phenolics								
Crude Processes	419.23 (c)	BAT	0.003	0.013	1046.6	1	3.1398	13.6058
Cracking & Coking	419.23 (c)	BAT	0.036	0.147	527	1	18.972	77.469
Asphalt Processes	419.23 (c)	BAT	0.019	0.079	---	---	---	---
Lube Processes	419.23 (c)	BAT	0.09	0.369	---	---	---	---
Reforming and Alkylation	419.23 (c)	BAT	0.032	0.132	132	1	4.224	17.424

Total Phenolics BAT:							26.3358	108.4988
----------------------	--	--	--	--	--	--	---------	----------

Chromium (Total)								
Crude Processes	419.23 (c)	BAT	0.004	0.011	1046.6	1	4.1864	11.5126
Cracking & Coking	419.23 (c)	BAT	0.041	0.119	527	1	21.607	62.713
Asphalt Processes	419.23 (c)	BAT	0.022	0.064	---	---	---	---
Lube Processes	419.23 (c)	BAT	0.104	0.299	---	---	---	---
Reforming and Alkylation	419.23 (c)	BAT	0.037	0.107	132	1	4.884	14.124

Total Chromium BAT:							30.6774	88.3496
---------------------	--	--	--	--	--	--	---------	---------

Calculation of Technology Based Limits for Citgo Petroleum Corp.; Lake Charles Manufacturing Out. 001; Phase I

Conventional, nonconventional, and toxic refinery pollutant loading calculations

TABLE 6 (continued)

40 CFR 419, Petroleum and Refining Guidelines

(*1)	(*2)	(*3)	(*4)	(*5)	(*6)	(*7)	(*8)	(*9)
PROCESS WASTEWATER	REFERENCES:	FACTORS:			Discharge	LOADINGS:		
PARAMETER	Subpart B	Cracking Subpart	Cracking Subpart		Fraction Outfall	Cracking Subpart	Cracking Subpart	
	Category: Treatmt.	lb/K bbl	lb/K bbl		Table 2 Group Feedstock Rate, K bbl/day	lb/day	lb/day	
	Cracking Tech.	Avg	Max			Avg	Max	

Chromium (6+)

Process	Reference	Factor	Cracking	Cracking	Table 2	Cracking	Cracking	
			Subpart	Subpart	Group Feedstock Rate, K bbl/day	lb/day	lb/day	
			Avg	Max		Avg	Max	
Crude Processes	419.23(c)	BAT	0.0003	0.0007	1046.6	1	0.31398	0.73262
Cracking & Coking	419.23(c)	BAT	0.0034	0.0076	527	1	1.7918	4.0052
Asphalt Processes	419.23(c)	BAT	0.0019	0.0041	---	---	---	---
Lube Processes	419.23(c)	BAT	0.0087	0.0192	---	---	---	---
Reforming and Alkylation	419.23(c)	BAT	0.0031	0.0069	132	1	0.4092	0.9108

Chromium (6+) BAT:

2.51498	5.64862
---------	---------

Apply Most Stringent (BAT or BPT) for Total Recoverable Phenolics, Total Chromium, and Chromium (6+):

Parameter	Cracking	Cracking	Discharge	Cracking	Cracking
	Subpart	Subpart	Fraction	Subpart	Subpart
	Through	B	Through	B	B
	Flow	Flow	Flow	Flow	Flow
	K gal/day	K gal/day	K gal/day	K gal/day	K gal/day
Total Phenolics	---	---	---	25.508778	52.434711
Chromium (Total)	---	---	---	30.6774	88.3496
Chromium (6+)	---	---	---	2.51498	5.64862

PROCESS WASTEWATER	REFERENCES:	FACTORS:			Discharge	Cracking	Cracking
PARAMETER	Subpart B	Cracking Subpart	Cracking Subpart		Fraction Through	Subpart	Subpart
	Category: Treatmt.	lb/K gal	lb/K gal		Flow Outfall	lb/day	lb/day
	Cracking Tech.	Avg	Max		K gal/day	Avg	Max

Conventional

Parameter	Reference	Factor	Cracking	Cracking	Table 2	Cracking	Cracking	
			Subpart	Subpart	Group Feedstock Rate, K gal/day	lb/day	lb/day	
			Avg	Max		Avg	Max	
BOD5	419.24(c)	BCT	0.21	0.4	86	1	18.06	34.4
TSS	419.24(c)	BCT	0.17	0.26	86	1	14.62	22.36
Oil and Grease	419.24(c)	BCT	0.067	0.126	86	1	5.762	10.836

Nonconventional

Parameter	Reference	Factor	Cracking	Cracking	Table 2	Cracking	Cracking	
			Subpart	Subpart	Group Feedstock Rate, K gal/day	lb/day	lb/day	
			Avg	Max		Avg	Max	
COD	---	---	---	---	86	1	---	---
TOC	419.23(d)	BAT	0.462	0.88	86	1	39.732	75.68

Calculation of Technology Based Limits for Citgo Petroleum Corp.; Lake Charles Manufacturing
Out. 001; Phase I

Conventional, nonconventional, and toxic refinery pollutant loading calculations

TABLE 6 (continued)

40 CFR 419, Petroleum and Refining Guidelines

(*1)	(*2)	(*3)	(*4)	(*5)	(*6)	(*7)	(*8)	(*9)
			Cracking Subpart	Cracking Subpart		Discharge Fraction Through	Cracking Subpart	Cracking Subpart
STORMWATER	Subpart B		B	B			B	B
PARAMETER	Category:	Treatmt. Tech.	lb/K gal Avg	lb/K gal Max	Flow K gal/day	Outfall	lb/day Avg	lb/day Max
Conventional								
BOD5	419.24 (e)	BCT	0.22	0.4	1130	1	248.6	452
TSS	419.24 (e)	BCT	0.18	0.28	1130	1	203.4	316.4
Oil and Grease	419.24 (e)	BCT	0.067	0.13	1130	1	75.71	146.9
Nonconventional								
COD	---	---	---	---	1130	1	---	---
TOC	419.23 (f)	BAT	0.484	0.88	1130	1	546.92	994.4
Total Phenolics	419.23 (f)	BAT	0.0014	0.0029	1130	1	1.582	3.277
Metals								
Chromium (Total)	419.23 (f)	BAT	0.0018	0.005	1130	1	2.034	5.65
Chromium (6+)	419.23 (f)	BAT	0.00023	0.00052	1130	1	0.2599	0.5876

TABLE 7

TOTAL ALLOCATIONS = Process WW + Ballast Water + Contaminated SW + Sanite (lbs/day)

PARAMETER	PROCESS WASTEWATER		BALLAST		STORMWATER		TOTAL ALLOCATION	
	(*1) Cracking Subpart B lb/day Avg	(*2) Cracking Subpart B lb/day Max	(*3) Cracking Subpart B lb/day Avg	(*4) Cracking Subpart B lb/day Max	(*5) Cracking Subpart B lb/day Avg	(*6) Cracking Subpart B lb/day Max	(*7) Cracking Subpart B lb/day Avg	(*9) Cracking Subpart B lb/day Max
Conventional								
BOD5	3897.1744	7014.914	18.06	34.4	248.6	452	4163.8344	7501.314
TSS	3117.7395	4889.1825	14.62	22.36	203.4	316.4	3335.7595	5227.9425
Oil and Grease	1133.7235	2125.7315	5.762	10.836	75.71	146.9	1215.1955	2283.4675
Nonconventional								
COD	---	---	---	---	---	---	---	---
TOC	8573.7838	15432.811	39.732	75.68	546.92	994.4	9160.4358	16502.891
Ammonia	2125.7315	4676.6093	---	---	---	---	2125.7315	4676.6093
Sulfide	20.548738	46.057516	---	---	---	---	20.548738	46.057516
Total Phenolics	25.508778	52.434711	---	---	1.582	3.277	27.090778	55.711711
Metals								
Chromium (Total)	30.6774	88.3496	---	---	2.034	5.65	32.7114	93.9996
Chromium (6+)	2.51498	5.64862	---	---	0.2599	0.5876	2.77488	6.23622

Calculation of Technology Based Limits for Citgo Petroleum Corp.; Lake Charles Manufacturing
Out. 001; Phase I

Anti-Backsliding Screening

TABLE 8

Anti-Backsliding Calculations, 40 CFR 122.44(i)1, LAC 33.IX.2361.L

PARAMETER	(*1)	(*2)	(*3)	(*4)	(*5)	(*6)	(*7)	(*8)	(*9)	(*10)
	G/L Val	G/L Val	Tech Old	Tech Old	Antiback	Out. 001; Out. 001;	Out. 001; Out. 001;	Out. 001; Out. 001;	Out. 001; Out. 001;	Phase I
	Avg	Max	Avg	Max	0=no scr.	Avg	Max	Avg	Max	
	lb/day	lb/day	lb/day	lb/day	1=OldvsGL	lb/day	lb/day	mg/L	mg/L	
					2=Old+GL					
Conventional:										
BOD5	4163.8344	7501.314	1304	2455	1	1304	2455	---	---	
TSS	3335.7595	5227.9425			---	3336	5228	---	---	
Oil and Grease	1215.1955	2283.4675			---	1215	2283	---	---	
Nonconventional:										
COD	---	---			---	---	---	---	---	
TOC	9160.4358	16502.891	1620	2579	1	1620	2579	---	---	
Ammonia	2125.7315	4676.6093	486	1061	1	486	1061	---	---	
Sulfide	20.548738	46.057516			---	20.5	46.1	---	---	
Total Phenolics	27.090778	55.711711			---	27.1	55.7	---	---	
Metals:										
Chromium (Total)	32.7114	93.9996			---	32.7	94.0	---	---	
Chromium (6+)	2.77488	6.23622			---	2.8	6.2	---	---	

Calculation of Technology Based Limits for Citgo Petroleum Corp.; Lake Charles Manufacturing
 Out. 001; Phase II
 Refinery Guidelines, 40 CFR 419, Existing Source Only

TABLE 1

Spreadsheet: REFINERY_OCPX.xls
 Developer: Bruce Fielding
 Software: Lotus 4.0/Excel 2010
 Revision date: 09/07/00
 Calculation Date: 11/07

DATA INPUT:

(*1)

FACILITY INFORMATION

Permittee: Citgo Petroleum Corp.; Lake Charles Manufacturing
 Permit Number: LA0005941; AI 1250
 Appendix: Appendix A-2
 Concentration flow, (MGD):
 Anti-backsliding, GL vs Old, 0=n, 1=y, 2=GL+Old
 Outfall number: Out. 001; Phase II
 40 CFR 419 Subpart, , (A, B, C, D, or E): D
 Refinery Type: Lube
 (Topping, Cracking, Petrochemical, Lube, or Integrated)

(*6)

ANTI-BACKSLIDING INFORMATION:

(*A) (*B) (*C)
 Tech Old Tech Old Antiback
 Avg Max 0=no scr.
 lb/day lb/day 1=OldvsGL
 2=Old+GL

Conventional:

BOD5	1304	2455	1
TSS			---
Oil and Grease			---

Nonconventional:

COD			---
TOC	1620	2579	1
Ammonia	486	1061	1
Sulfide			---
Total Phenolics			---

Metals:

Chromium (Total)			---
Chromium (6+)			---

(*2)

THROUGHPUT RATES

Feedstock (Crude Oil and NGL) Rate to Topping Unit(s): 422.3
 Process Unit Rates: Input in Table 2

K bbl/day

422.3

Input in Table 2

(*3)

FLOW RATES

Ballast Flow:

K gal/day gpm

86

Stormwater Calculations

Process area, sq. ft. (or acres):

Number of Days (Default is 365):

Annual rainfall, inches:

sq. feet acres

365

inches % runoff

Contaminated Stormwater to Treatment System

K gal/day

1130

(*4)

RATIOS:

TOC:BOD5 (Default is 2.2, if needed):

Ratio:

2.2

(*5)

Discharge fraction, default =1

Fraction:

1

(*7)

Conversion Utilities:

mg/L-->lbs/day	8.34
gpm-->MGD	0.00144
gpm-->K gal/day	1.44
ft3-->gal	7.4805192
inches-->feet	0.0833333
acres-->sq. ft.	43560

Calculation of Technology Based Limits for Citgo Petroleum Corp.; Lake Charles Manufacturing
Out. 001; Phase II

Calculation of Unit Process Rates and Unit Configuration Factors

TABLE 2

(*1)

(*2) (*3) (*4) (*5) (*6) (*7)

Unit Process Rate

Unit to Unit

EPA Process Total Feedstock Process Process
Process Rate Feedstock Rate Weighting Config.

Number	K bbl/day	Rate	Ratio *	Factor	=	Factor
1	0	422.3	0	1		0
2	0	422.3	0	1		0
3	0	422.3	0	1		0

CRUDE PROCESSES:

Atmospheric Crude Distillation
Crude Desalting
Vacuum Crude Distillation

TOTAL CRUDE PROCESSES FEEDSTOCK RATE=

0

CRACKING AND COKING PROCESSES:

Visbreaking
Thermal Cracking
Fluid Catalytic Cracking
Moving Bed Catalytic Cracking
Hydrocracking
Delayed Coking
Fluid Coking
Hydrotreating

4	0	422.3	0	6		0
5	0	422.3	0	6		0
6	0	422.3	0	6		0
7	0	422.3	0	6		0
10	0	422.3	0	6		0
15	0	422.3	0	6		0
16	0	422.3	0	6		0
54	0	Not Applicable to Refinery Process Config. Factor				

TOTAL CRACKING AND COKING PROCESSES FEEDSTOCK RATE=

0

LUBE PROCESSES:

Hydrofining, Hydrofinishing, Lube Hydrofinishing
White Oil Manufacture
Propane: Dewaxing, Deasphalting,
Fractioning, Deresining
Duo Sol, Solvent Treating, Solvent Extraction,
Ductreating, Solvent Dewaxing,
Solvent Deasphalt
Lube Vacuum Tower, Oil Fractionation, Batch
Still (Naphtha Strip), Bright
Stock Treating
Centrifuge and Chilling
Dewaxing: MEK, Ketone, MEK-Toluene
Deoiling (Wax)
Naphthenic Lube Production
SO2 Extraction
Wax Pressing
Wax Plant (with Neutral Separation)
Furfural Extracting
Clay Contacting - Percolation
Wax Sweating
Acid Treating
Phenol Extraction

21	0	422.3	0	13		0
22	0	422.3	0	13		0
23	0	422.3	0	13		0
24	12.5	422.3	0.0295998	13		0.3847975
25	40	422.3	0.0947194	13		1.2313521
26	0	422.3	0	13		0
27	16	422.3	0.0378878	13		0.4925408
28	0	422.3	0	13		0
29	0	422.3	0	13		0
30	0	422.3	0	13		0
34	0	422.3	0	13		0
35	0	422.3	0	13		0
36	18	422.3	0.0426237	13		0.5541085
37	0	422.3	0	13		0
38	1.2	422.3	0.0028416	13		0.0369406
39	0	422.3	0	13		0
40	0	422.3	0	13		0

TOTAL LUBE PROCESS FEEDSTOCK RATE=

87.7

Calculation of Technology Based Limits for Citgo Petroleum Corp.; Lake Charles Manufacturing Out. 001; Phase II

Calculation of Unit Process Rates, Unit Configuration, Process and Size Factors

TABLE 2 (continued)

(*1)	(*2)	(*3)	(*4)	(*5)	(*6)	(*7)
	Unit Process Rate					
	Unit	to			Unit	
	EPA	Process	Total	Feedstock	Process	
	Process	Rate	Feedstock	Rate	Weighting	Config.
	Number	K bbl/day	Rate	Ratio *	Factor =	Factor
ASPHALT PROCESSES:						
Asphalt Production	18	0	422.3	0	12	0
200 Deg. F Softening Point Unfluxed Asphalt	32	0	Not Applicable to Refinery Process Config. Factor			
Asphalt Oxidizing	43	0	422.3	0	12	0
Asphalt Emulsifying	89	0	422.3	0	12	0

TOTAL ASPHALT PROCESS FEEDSTOCK RATE=

REFORMING AND ALKYLATION PROCESSES:

H2SO4 Alkylation	8	0	Not Applicable to Refinery Process Config. Factor			
Catalytic Reforming	12	0	Not Applicable to Refinery Process Config. Factor			

TOTAL REFORMING AND ALKYLATION PROCESS FEEDSTOCK RATE=

TOTAL REFINERY PROCESS CONFIGURATION FACTOR=

TABLE 3

PROCESS FACTORS BY SUBPART

Total	Lube
Refinery Process	Subpart
Configuration	D
< 2.49	0.81
2.5 to 3.49	0.81
3.5 to 4.49	0.81
4.5 to 5.49	0.81
5.5 to 5.99	0.81
6.0 to 6.49	0.81
6.5 to 6.99	0.88
7.0 to 7.49	0.88
7.5 to 7.99	1
8.0 to 8.49	1.09
8.5 to 8.99	1.19
9.0 to 9.49	1.29
9.5 to 9.99	1.41
10.0 to 10.49	1.53
10.5 to 10.99	1.67
11.0 to 11.49	1.82
11.5 to 11.99	1.98
12.0 to 12.49	2.15
12.5 to 12.99	2.34
13.0 to 13.49	2.44
13.5 to 13.99	2.44
>=14.00	2.44

TABLE 4

SIZE FACTORS BY SUBPART

K bbl/day	Lube
Feedstock	Subpart
(Stream Day)	D
< 24.9	0.71
25.0 to 49.9	0.71
50.0 to 74.9	0.74
75.0 to 99.9	0.81
100.0 to 124.9	0.88
125.0 to 149.9	0.97
150.0 to 174.9	1.05
175.0 to 199.9	1.14
200.0 to 224.9	1.19
>=225.0	1.19

TABLE 5

PROCESS GROUP FEEDSTOCK RATES:

Process Group:	Feedstock Rate, K bbl/day:
Crude=	0
Cracking and Coking=	0
Lube=	87.7
Asphalt=	0
Reforming and Alkylation=	0

PROCESS FACTOR INPUT:

Refinery Configuration =

SIZE FACTOR INPUT:

Feedstock, K bbl/day =

FACTOR REFERENCE

PROCESS FACTOR =	0.81	419.43 (b)
SIZE FACTOR =	1.19	419.43 (b)

Multiplier = Feedstock * Process Factor * Size Factor

Multiplier =

Calculation of Technology Based Limits for Citgo Petroleum Corp.; Lake Charles Manufacturing
Out. 001; Phase II

Conventional, nonconventional, and toxic refinery pollutant loading calculations

TABLE 6

40 CFR 419, Petroleum and Refining Guidelines

(*1)	(*2)	(*3)	(*4)	(*5)	(*6)	(*7)	(*8)	(*9)
	REFERENCES:		FACTORS:				LOADINGS:	
			Lube	Lube		Discharge	Lube	Lube
			Subpart	Subpart		Fraction	Subpart	Subpart
PROCESS WASTEWATER	Subpart D		D	D		Through	D	D
PARAMETER	Category: Treatmt.	lb/K bbl	lb/K bbl			Outfall	lb/day	lb/day
	Lube Tech.	Avg	Max		Multiplier	Avg	Max	
Conventional:								
BOD5	419.44(a)	BCT	9.1	17.9	407.05497	1	3704.2002	7286.284
TSS	419.44(a)	BCT	8	12.5	407.05497	1	3256.4398	5088.1871
Oil and Grease	419.44(a)	BCT	3	5.7	407.05497	1	1221.1649	2320.2133
Nonconventional:								
COD	---	---	---	---	407.05497	1	---	---
TOC	419.43(a)	BAT	20.02	39.38	407.05497	1	8149.2405	16029.825
Ammonia	419.43(a)	BAT	3.8	8.3	407.05497	1	1546.8089	3378.5563
Sulfide	419.43(a)	BAT	0.053	0.118	407.05497	1	21.573913	48.032486

BPT Calculations for Total Recoverable Phenolics, Total Chromium, and Chromium (6+)

Total Phenolics	419.42(a)	BPT	0.065	0.133	407.05497	1	26.458573	54.138311
Chromium (Total)	419.42(a)	BPT	0.16	0.273	407.05497	1	65.128795	111.12601
Chromium (6+)	419.42(a)	BPT	0.011	0.024	407.05497	1	4.4776047	9.7693193

BAT Calculations for Total Recoverable Phenolics, Total Chromium, and Chromium (6+)

Table 2
Rate, K bbl/day

Total Phenolics								
Crude Processes	419.43(c)	BAT	0.003	0.013	---	---	---	---
Cracking & Coking	419.43(c)	BAT	0.036	0.147	---	---	---	---
Asphalt Processes	419.43(c)	BAT	0.019	0.079	---	---	---	---
Lube Processes	419.43(c)	BAT	0.09	0.369	87.7	1	7.893	32.3613
Reforming and Alkylation	419.43(c)	BAT	0.032	0.132	---	---	---	---

Total Phenolics BAT: 7.893 32.3613

Chromium (Total)								
Crude Processes	419.43(c)	BAT	0.004	0.011	---	---	---	---
Cracking & Coking	419.43(c)	BAT	0.041	0.119	---	---	---	---
Asphalt Processes	419.43(c)	BAT	0.022	0.064	---	---	---	---
Lube Processes	419.43(c)	BAT	0.104	0.299	87.7	1	9.1208	26.2223
Reforming and Alkylation	419.43(c)	BAT	0.037	0.107	---	---	---	---

Total Chromium BAT: 9.1208 26.2223

Calculation of Technology Based Limits for Citgo Petroleum Corp.; Lake Charles Manufacturing
Out. 001; Phase II

Conventional, nonconventional, and toxic refinery pollutant loading calculations

TABLE 6 (continued)

40 CFR 419, Petroleum and Refining Guidelines

(*1)	(*2)	(*3)	(*4)	(*5)	(*6)	(*7)	(*8)	(*9)
	REFERENCES:	FACTORS:			Discharge	LOADINGS:		
		Lube	Lube		Fraction	Lube	Lube	
		Subpart	Subpart		Outfall	Subpart	Subpart	
PROCESS WASTEWATER	Subpart D	D	D		Table 2	D	D	
PARAMETER	Category: Treatmt.	lb/K bbl	lb/K bbl		Group Feedstock	lb/day	lb/day	
	Lube Tech.	Avg	Max		Rate, K bbl/day	Avg	Max	

Chromium (6+)

Process	Reference	BAT	Avg	Max	Rate	Avg	Max
Crude Processes	419.43(c)	BAT	0.0003	0.0007	---	---	---
Cracking & Coking	419.43(c)	BAT	0.0034	0.0076	---	---	---
Asphalt Processes	419.43(c)	BAT	0.0019	0.0041	---	---	---
Lube Processes	419.43(c)	BAT	0.0087	0.0192	87.7	1	0.76299
Reforming and Alkylation	419.43(c)	BAT	0.0031	0.0069	---	---	---

Chromium (6+) BAT:

0.76299	1.68384
---------	---------

Apply Most Stringent (BAT or BPT) for Total Recoverable Phenolics, Total Chromium, and Chromium (6+):

Parameter	Reference	BAT	Avg	Max	Rate	Avg	Max
Total Phenolics	---	---	---	---	---	7.893	32.3613
Chromium (Total)	---	---	---	---	---	9.1208	26.2223
Chromium (6+)	---	---	---	---	---	0.76299	1.68384

Process	Reference	BAT	Avg	Max	Rate	Avg	Max
BALLAST WATER	Subpart D	D	D		Discharge	Lube	Lube
PARAMETER	Category: Treatmt.	lb/K gal	lb/K gal		Fraction	Subpart	Subpart
	Lube Tech.	Avg	Max		Through	D	D
					Flow Outfall	lb/day	lb/day
					K gal/day	Avg	Max

Conventional

Parameter	Reference	BAT	Avg	Max	Rate	Avg	Max
BOD5	419.44(c)	BCT	0.21	0.4	86	1	18.06
TSS	419.44(c)	BCT	0.17	0.26	86	1	14.62
Oil and Grease	419.44(c)	BCT	0.067	0.126	86	1	5.762

Nonconventional

Parameter	Reference	BAT	Avg	Max	Rate	Avg	Max
COD	---	---	---	---	86	1	---
TOC	419.43(d)	BAT	0.462	0.88	86	1	39.732

Calculation of Technology Based Limits for Citgo Petroleum Corp.; Lake Charles Manufacturing
Out. 001; Phase II

Conventional, nonconventional, and toxic refinery pollutant loading calculations

TABLE 6 (continued)

40 CFR 419, Petroleum and Refining Guidelines

(*1)	(*2)	(*3)	(*4)	(*5)	(*6)	(*7)	(*8)	(*9)
			Lube Subpart	Lube Subpart		Discharge Fraction Through	Lube Subpart D	Lube Subpart D
STORMWATER	Subpart D		D	D				
PARAMETER	Category: Lube	Treatmt. Tech.	lb/K gal Avg	lb/K gal Max	Flow K gal/day	Outfall	lb/day Avg	lb/day Max
Conventional								
BOD5	419.44 (e)	BCT	0.22	0.4	1130	1	248.6	452
TSS	419.44 (e)	BCT	0.18	0.28	1130	1	203.4	316.4
Oil and Grease	419.44 (e)	BCT	0.067	0.13	1130	1	75.71	146.9
Nonconventional								
COD	---	---	---	---	1130	1	---	---
TOC	419.43 (f)	BAT	0.484	0.88	1130	1	546.92	994.4
Total Phenolics	419.43 (f)	BAT	0.0014	0.0029	1130	1	1.582	3.277
Metals								
Chromium (Total)	419.43 (f)	BAT	0.0018	0.005	1130	1	2.034	5.65
Chromium (6+)	419.43 (f)	BAT	0.00023	0.00052	1130	1	0.2599	0.5876

TABLE 7

TOTAL ALLOCATIONS = Process WW + Ballast Water + Contaminated SW + Sanitz (lbs/day)

PARAMETER	PROCESS WASTEWATER		BALLAST		STORMWATER		TOTAL ALLOCATION	
	(*1)	(*2)	(*3)	(*4)	(*5)	(*6)	(*7)	(*9)
	Lube Subpart	Lube Subpart	Lube Subpart	Lube Subpart	Lube Subpart	Lube Subpart	Lube Subpart	Lube Subpart
	D	D	D	D	D	D	D	D
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
	Avg	Max	Avg	Max	Avg	Max	Avg	Max
Conventional								
BOD5	3704.2002	7286.284	18.06	34.4	248.6	452	3970.8602	7772.684
TSS	3256.4398	5088.1871	14.62	22.36	203.4	316.4	3474.4598	5426.9471
Oil and Grease	1221.1649	2320.2133	5.762	10.836	75.71	146.9	1302.6369	2477.9493
Nonconventional								
COD	---	---	---	---	---	---	---	---
TOC	8149.2405	16029.825	39.732	75.68	546.92	994.4	8735.8925	17099.905
Ammonia	1546.8089	3378.5563	---	---	---	---	1546.8089	3378.5563
Sulfide	21.573913	48.032486	---	---	---	---	21.573913	48.032486
Total Phenolics	7.893	32.3613	---	---	1.582	3.277	9.475	35.6383
Metals								
Chromium (Total)	9.1208	26.2223	---	---	2.034	5.65	11.1548	31.8723
Chromium (6+)	0.76299	1.68384	---	---	0.2599	0.5876	1.02289	2.27144

Calculation of Technology Based Limits for Citgo Petroleum Corp.; Lake Charles Manufacturing
Out. 001; Phase II

Anti-Backsliding Screening

TABLE 8

Anti-Backsliding Calculations, 40 CFR 122.44(i)1, LAC 33.IX.2361.L

(*1) PARAMETER	(*2) G/L Val	(*3) G/L Val	(*4) Tech Old	(*5) Tech Old	(*6) Antiback	(*7) Out. 001;	(*8) Out. 001;	(*9) Out. 001;	(*10) Out. 001; Phase II
	Avg lb/day	Max lb/day	Avg lb/day	Max lb/day	0=no scr. 1=OldvsGL 2=Old+GL	Avg lb/day	Max lb/day	Avg mg/L	Max mg/L

Conventional:

BOD5	3970.8602	7772.684	1304	2455	1	1304	2455	---	---
TSS	3474.4598	5426.9471			---	3474	5427	---	---
Oil and Grease	1302.6369	2477.9493			---	1303	2478	---	---

Nonconventional:

COD	---	---			---	---	---	---	---
TOC	8735.8925	17099.905	1620	2579	1	1620	2579	---	---
Ammonia	1546.8089	3378.5563	486	1061	1	486	1061	---	---
Sulfide	21.573913	48.032486			---	21.6	48.0	---	---
Total Phenolics	9.475	35.6383			---	9.5	35.6	---	---

Metals:

Chromium (Total)	11.1548	31.8723			---	11.2	31.9	---	---
Chromium (6+)	1.02289	2.27144			---	1.0	2.3	---	---

Calculation of Technology Based Limits for Citgo Petroleum Corp.; Lake Charles Manufacturing
 Out. 003; Phase I
 Refinery Guidelines, 40 CFR 419, Existing Source Only

TABLE 1

Spreadsheet: REFINERY_OCKP.xls
 Developer: Bruce Fielding
 Software: Lotus 4.0/Excel 2010
 Revision date: 09/07/00
 Calculation Date: 04/26

DATA INPUT:

(*1)
 FACILITY INFORMATION

Permittee:
 Permit Number:
 Appendix:
 Concentration flow, (MGD):
 Anti-backsliding, GL vs Old, 0=n, 1=y, 2=GL+Old
 Outfall number:
 40 CFR 419 Subpart, , (A, B, C, D, or E):
 Refinery Type:
 (Topping, Cracking, Petrochemical,
 Lube, or Integrated)

Citgo Petroleum Corp.; Lake Charles Manufacturing	
LA0005941; AI 1250	
Appendix A-3	
0	
Out. 003; Phase I	
B	
Cracking	

(*6)

ANTI-BACKSLIDING INFORMATION:

PARAMETER	Tech Old		Antiback
	Avg	Max	0=no scr.
	1b/day	1b/day	1=OldvsGL 2=Old+GL

Conventional:

BOD5			---
TSS			---
Oil and Grease			---

Nonconventional:

COD			---
TOC			---
Ammonia			---
Sulfide			---
Total Phenolics			---

Metals:

Chromium (Total)			---
Chromium (6+)			---

(*2)
 THROUGHPUT RATES

K bbl/day

Feedstock (Crude Oil and NGL) Rate to Topping Unit(s):
 Process Unit Rates:

422.3
Input in Table 2

(*3)
 FLOW RATES

K gal/day gpm

Ballast Flow:

86

Stormwater Calculations
 Process area, sq. ft. (or acres):
 Number of Days (Default is 365):

365	

Annual rainfall, inches:

	% runoff

Contaminated Stormwater to Treatment System

K gal/day
1130

(*4)
 RATIOS:

TOC:BOD5 (Default is 2.2, if needed):

Ratio:
2.2

(*5)
 Discharge fraction, default =1

Fraction:
1

(*7)

Conversion Utilities:

mg/L-->lbs/day	8.34
gpm-->MGD	0.00144
gpm-->K gal/day	1.44
ft3-->gal	7.4805192
inches-->feet	0.0833333
acres-->sq. ft.	43560

Calculation of Technology Based Limits for Citgo Petroleum Corp.; Lake Charles Manufacturing
Out. 003; Phase I

Calculation of Unit Process Rates and Unit Configuration Factors

TABLE 2

(*1)

(*2)	(*3)	(*4)	(*5)	(*6)	(*7)
Unit Process Rate					
EPA Process	Unit to Process	Total Feedstock Rate	Feedstock Rate	Process Weighting	Unit Process Config.
Number	K bbl/day	Rate	Ratio *	Factor	= Factor
1	422.3	422.3	1	1	1
2	422.3	422.3	1	1	1
3	202	422.3	0.4783329	1	0.4783329

CRUDE PROCESSES:

Atmospheric Crude Distillation
Crude Desalting
Vacuum Crude Distillation

TOTAL CRUDE PROCESSES FEEDSTOCK RATE=

1046.6

CRACKING AND COKING PROCESSES:

Visbreaking
Thermal Cracking
Fluid Catalytic Cracking
Moving Bed Catalytic Cracking
Hydrocracking
Delayed Coking
Fluid Coking
Hydrotreating

4	0	422.3	0	6	0
5	0	422.3	0	6	0
6	147	422.3	0.3480938	6	2.0885626
7	0	422.3	0	6	0
10	47	422.3	0.1112953	6	0.6677717
15	103	422.3	0.2439024	6	1.4634146
16	0	422.3	0	6	0
54	230	Not Applicable to Refinery Process Config. Factor			

TOTAL CRACKING AND COKING PROCESSES FEEDSTOCK RATE=

527

LUBE PROCESSES:

Hydrofining, Hydrofinishing, Lube Hydrofinishing
White Oil Manufacture
Propane: Dewaxing, Deasphalting,
Fractioning, Deresining
Duo Sol, Solvent Treating, Solvent Extraction,
Duotreating, Solvent Dewaxing,
Solvent Deasphalt
Lube Vacuum Tower, Oil Fractionation, Batch
Still (Naphtha Strip), Bright
Stock Treating
Centrifuge and Chilling
Dewaxing: MEK, Ketone, MEK-Toluene
Deciling (Wax)
Naphthenic Lube Production
SO2 Extraction
Wax Pressing
Wax Plant (with Neutral Separation)
Furfural Extracting
Clay Contacting - Percolation
Wax Sweating
Acid Treating
Phenol Extraction

21	0	422.3	0	13	0
22	0	422.3	0	13	0
23	0	422.3	0	13	0
24	0	422.3	0	13	0
25	0	422.3	0	13	0
26	0	422.3	0	13	0
27	0	422.3	0	13	0
28	0	422.3	0	13	0
29	0	422.3	0	13	0
30	0	422.3	0	13	0
34	0	422.3	0	13	0
35	0	422.3	0	13	0
36	0	422.3	0	13	0
37	0	422.3	0	13	0
38	0	422.3	0	13	0
39	0	422.3	0	13	0
40	0	422.3	0	13	0

TOTAL LUBE PROCESS FEEDSTOCK RATE=

0

Calculation of Technology Based Limits for Citgo Petroleum Corp.; Lake Charles Manufacturing Out. 003; Phase I

Calculation of Unit Process Rates, Unit Configuration, Process and Size Factors

TABLE 2 (continued)

(*1)	(*2)	(*3)	(*4)	(*5)	(*6)	(*7)
Unit Process Rate						
Unit		to			Unit	
EPA	Process	Total Feedstock	Feedstock	Rate	Weighting	Process
Process	Rate	Feedstock	Rate	Ratio *	Factor =	Factor
Number	K bbl/day	Rate	Ratio *	Factor =	Factor	
Asphalt Production	18	0	422.3	0	12	0
200 Deg. F Softening Point Unfluxed Asphalt	32	0	Not Applicable to Refinery Process Config. Factor			
Asphalt Oxidizing	43	0	422.3	0	12	0
Asphalt Emulsifying	89	0	422.3	0	12	0

ASPHALT PROCESSES:

Asphalt Production
200 Deg. F Softening Point Unfluxed Asphalt
Asphalt Oxidizing
Asphalt Emulsifying

TOTAL ASPHALT PROCESS FEEDSTOCK RATE=

REFORMING AND ALKYLATION PROCESSES:

H2SO4 Alkylation Not Applicable to Refinery Process Config. Factor
Catalytic Reforming Not Applicable to Refinery Process Config. Factor

TOTAL REFORMING AND ALKYLATION PROCESS FEEDSTOCK RATE=

TOTAL REFINERY PROCESS CONFIGURATION FACTOR=

TABLE 3

PROCESS FACTORS BY SUBPART

Total Refinery Process Configuration	Cracking Subpart	B
< 2.49		0.58
2.5 to 3.49		0.63
3.5 to 4.49		0.74
4.5 to 5.49		0.88
5.5 to 5.99		1
6.0 to 6.49		1.09
6.5 to 6.99		1.19
7.0 to 7.49		1.29
7.5 to 7.99		1.41
8.0 to 8.49		1.53
8.5 to 8.99		1.67
9.0 to 9.49		1.82
9.5 to 9.99		1.89
10.0 to 10.49		1.89
10.5 to 10.99		1.89
11.0 to 11.49		1.89
11.5 to 11.99		1.89
12.0 to 12.49		1.89
12.5 to 12.99		1.89
13.0 to 13.49		1.89
13.5 to 13.99		1.89
>=14.00		1.89

TABLE 4

SIZE FACTORS BY SUBPART

K bbl/day Feedstock (Stream Day)	Cracking Subpart	B
< 24.9		0.91
25.0 to 49.9		0.95
50.0 to 74.9		1.04
75.0 to 99.9		1.13
100.0 to 124.9		1.23
125.0 to 149.9		1.35
150.0 to 174.9		1.41
175.0 to 199.9		1.41
200.0 to 224.9		1.41
>=225.0		1.41

TABLE 5

PROCESS GROUP FEEDSTOCK RATES:

Process Group:	Feedstock Rate, K bbl/day:
Crude=	1046.6
Cracking and Coking=	527
Lube=	0
Asphalt=	0
Reforming and Alkylation=	132

PROCESS FACTOR INPUT:

Refinery Configuration =

SIZE FACTOR INPUT:

Feedstock, K bbl/day =

FACTOR REFERENCE

PROCESS FACTOR = 419.23(b)
SIZE FACTOR = 419.23(b)

Multiplier = Feedstock * Process Factor * Size Factor

Multiplier =

Calculation of Technology Based Limits for Citgo Petroleum Corp.; Lake Charles Manufacturing
Out. 003; Phase I

Conventional, nonconventional, and toxic refinery pollutant loading calculations

TABLE 6

40 CFR 419, Petroleum and Refining Guidelines

(*1)	(*2)	(*3)	(*4)	(*5)	(*6)	(*7)	(*8)	(*9)
PROCESS WASTEWATER	Subpart B	Category: Treatmt.	FACTORS:		Multiplier	LOADINGS:		
			Cracking Subpart	Cracking Subpart		Discharge Fraction Through Outfall	Cracking Subpart	Cracking Subpart
PARAMETER	Subpart B	Treatmt.	lb/K bbl	lb/K bbl			lb/day	lb/day
Conventional:	Cracking	Tech.	Avg	Max			Avg	Max
BOD5	419.24(a)	BCT	5.5	9.9	708.57717	1	3897.1744	7014.914
TSS	419.24(a)	BCT	4.4	6.9	708.57717	1	3117.7395	4889.1825
Oil and Grease	419.24(a)	BCT	1.6	3	708.57717	1	1133.7235	2125.7315

Nonconventional:								
COD	---	---	---	---	708.57717	1	---	---
TOC	419.23(a)	BAT	12.1	21.78	708.57717	1	8573.7838	15432.811
Ammonia	419.23(a)	BAT	3	6.6	708.57717	1	2125.7315	4676.6093
Sulfide	419.23(a)	BAT	0.029	0.065	708.57717	1	20.548738	46.057516

BPT Calculations for Total Recoverable Phenolics, Total Chromium, and Chromium (6+)

Total Phenolics	419.22(a)	BPT	0.036	0.074	708.57717	1	25.508778	52.434711
Chromium (Total)	419.22(a)	BPT	0.088	0.15	708.57717	1	62.354751	106.28658
Chromium (6+)	419.22(a)	BPT	0.0056	0.012	708.57717	1	3.9680322	8.502926

BAT Calculations for Total Recoverable Phenolics, Total Chromium, and Chromium (6+)

	Table 2 Rate, K bbl/day							
Total Phenolics								
Crude Processes	419.23(c)	BAT	0.003	0.013	1046.6	1	3.1398	13.6058
Cracking & Coking	419.23(c)	BAT	0.036	0.147	527	1	16.972	77.463
Asphalt Processes	419.23(c)	BAT	0.019	0.079	---	---	---	---
Lube Processes	419.23(c)	BAT	0.09	0.369	---	---	---	---
Reforming and Alkylation	419.23(c)	BAT	0.032	0.132	132	1	4.224	17.424

Total Phenolics BAT:	26.3358	108.4988
----------------------	---------	----------

Chromium (Total)								
Crude Processes	419.23(c)	BAT	0.004	0.011	1046.6	1	4.1864	11.5126
Cracking & Coking	419.23(c)	BAT	0.041	0.119	527	1	21.607	62.713
Asphalt Processes	419.23(c)	BAT	0.022	0.064	---	---	---	---
Lube Processes	419.23(c)	BAT	0.104	0.299	---	---	---	---
Reforming and Alkylation	419.23(c)	BAT	0.037	0.107	132	1	4.884	14.124

Total Chromium BAT:	30.6774	88.3496
---------------------	---------	---------

Calculation of Technology Based Limits for Citgo Petroleum Corp.; Lake Charles Manufacturing
Out. 003; Phase I

Conventional, nonconventional, and toxic refinery pollutant loading calculations

TABLE 6 (continued)

40 CFR 419, Petroleum and Refining Guidelines

(*1)	(*2)	(*3)	(*4)	(*5)	(*6)	(*7)	(*8)	(*9)
PROCESS WASTEWATER PARAMETER	REFERENCES:	FACTORS:		Discharge			LOADINGS:	
	Subpart B	Cracking	Cracking	Fraction	Cracking	Cracking		
		Category: Treatmt.	Subpart	Subpart	Outfall	Subpart	Subpart	
Cracking	Tech.	lb/K bbl	lb/K bbl	Rate, K bbl/day	lb/day	lb/day		
		Avg	Max		Avg	Max		

Chromium (6+)

Crude Processes	419.23(c)	BAT	0.0003	0.0007
Cracking & Coking	419.23(c)	BAT	0.0034	0.0076
Asphalt Processes	419.23(c)	BAT	0.0019	0.0041
Lube Processes	419.23(c)	BAT	0.0087	0.0192
Reforming and Alkylation	419.23(c)	BAT	0.0031	0.0069

	1046.6	1	0.31398
	527	1	1.7918
	---	---	---
	---	---	---
	132	1	0.4092

Chromium (6+) BAT:

	2.51498	5.64862
--	---------	---------

Apply Most Stringent (BAT or BPT) for Total Recoverable Phenolics, Total Chromium, and Chromium (6+):

Total Phenolics	---	---	---	---
Chromium (Total)	---	---	---	---
Chromium (6+)	---	---	---	---

		25.508778	52.434711
		30.6774	88.3496
		2.51498	5.64862

BALLAST WATER PARAMETER	Subpart B	Category: Treatmt.	Cracking	Cracking	Discharge	Cracking	Cracking	
			Subpart	Subpart		Fraction	Subpart	Subpart
			Cracking	Cracking		Through	B	B
Cracking	Tech.	lb/K gal	lb/K gal	Flow	Outfall	lb/day	lb/day	
			Avg	Max	K gal/day	Avg	Max	

Conventional

BOD5	419.24(c)	BCT	0.21	0.4
TSS	419.24(c)	BCT	0.17	0.26
Oil and Grease	419.24(c)	BCT	0.067	0.126

	86	1	18.06	34.4
	86	1	14.62	22.36
	86	1	5.762	10.836

Nonconventional

COD	---	---	---	---
TOC	419.23(d)	BAT	0.462	0.88

	86	1	---	---
	86	1	39.732	75.68

Calculation of Technology Based Limits for Citgo Petroleum Corp.; Lake Charles Manufacturing
Out. 003; Phase I

Conventional, nonconventional, and toxic refinery pollutant loading calculations

TABLE 6 (continued)

40 CFR 419, Petroleum and Refining Guidelines

(*1)	(*2)	(*3)	(*4)	(*5)	(*6)	(*7)	(*8)	(*9)
STORMWATER PARAMETER	Subpart B Category: Cracking	Treatmt. Tech.	Cracking	Cracking	Flow K gal/day	Discharge Fraction Through	Cracking	Cracking
			Subpart	Subpart			Subpart	Subpart
			B	B			B	B
			lb/K gal	lb/K gal		Outfall	lb/day	lb/day
			Avg	Max			Avg	Max
Conventional								
BOD5	419.24 (e)	BCT	0.22	0.4	1130	1	248.6	452
TSS	419.24 (e)	BCT	0.18	0.28	1130	1	203.4	316.4
Oil and Grease	419.24 (e)	BCT	0.067	0.13	1130	1	75.71	146.9
Nonconventional								
COD	---	---	---	---	1130	1	---	---
TOC	419.23 (f)	BAT	0.484	0.88	1130	1	546.92	994.4
Total Phenolics	419.23 (f)	BAT	0.0014	0.0029	1130	1	1.582	3.277
Metals								
Chromium (Total)	419.23 (f)	BAT	0.0018	0.005	1130	1	2.034	5.65
Chromium (6+)	419.23 (f)	BAT	0.00023	0.00052	1130	1	0.2599	0.5876

TABLE 7

TOTAL ALLOCATIONS = Process WW + Ballast Water + Contaminated SW + Sanita (lbs/day)

PARAMETER	PROCESS WASTEWATER		BALLAST		STORMWATER		TOTAL ALLOCATION	
	(*1)	(*2)	(*3)	(*4)	(*5)	(*6)	(*7)	(*9)
	Cracking Subpart B lb/day Avg	Cracking Subpart B lb/day Max	Cracking Subpart B lb/day Avg	Cracking Subpart B lb/day Max	Cracking Subpart B lb/day Avg	Cracking Subpart B lb/day Max	Cracking Subpart B lb/day Avg	Cracking Subpart B lb/day Max
Conventional								
BOD5	3897.1744	7014.914	18.06	34.4	248.6	452	4163.8344	7501.314
TSS	3117.7395	4889.1825	14.62	22.36	203.4	316.4	3335.7595	5227.9425
Oil and Grease	1133.7235	2125.7315	5.762	10.836	75.71	146.9	1215.1955	2283.4675
Nonconventional								
COD	---	---	---	---	---	---	---	---
TOC	8573.7838	15432.811	39.732	75.68	546.92	994.4	9160.4358	16502.891
Ammonia	2125.7315	4676.6093	---	---	---	---	2125.7315	4676.6093
Sulfide	20.548738	46.057516	---	---	---	---	20.548738	46.057516
Total Phenolics	25.508778	52.434711	---	---	1.582	3.277	27.090778	55.711711
Metals								
Chromium (Total)	30.6774	88.3496	---	---	2.034	5.65	32.7114	93.9996
Chromium (6+)	2.51498	5.64862	---	---	0.2599	0.5876	2.77488	6.23622

Calculation of Technology Based Limits for Citgo Petroleum Corp.; Lake Charles Manufacturing
Out. 003; Phase I

Anti-Backsliding Screening

TABLE 8

Anti-Backsliding Calculations, 40 CFR 122.44(i)1, LAC 33.IX.2361.L

PARAMETER	(*1)	(*2)	(*3)	(*4)	(*5)	(*6)	(*7)	(*8)	(*9)	(*10)
	G/L Val	G/L Val	Tech Old	Tech Old	Antiback	Out. 003;	Out. 003;	Out. 003;	Out. 003;	Phase I
	Avg	Max	Avg	Max	0=nc	scr.	Avg	Max	Avg	Max
	lb/day	lb/day	lb/day	lb/day	1=OldvsGL		lb/day	lb/day	mg/L	mg/L
					2=Old+GL					
Conventional:										
BOD5	4163.8344	7501.314					4164	7501	---	---
TSS	3335.7595	5227.9425				---	3336	5228	---	---
Oil and Grease	1215.1955	2283.4675				---	1215	2283	---	---
Nonconventional:										
COD	---	---				---	---	---	---	---
TOC	9160.4358	16502.891					9160	16503	---	---
Ammonia	2125.7315	4676.6093					2126	4677	---	---
Sulfide	20.548738	46.057516				---	20.5	46.1	---	---
Total Phenolics	27.090778	55.711711				---	27.1	55.7	---	---
Metals:										
Chromium (Total)	32.7114	93.9996				---	32.7	94.0	---	---
Chromium (6+)	2.77488	6.23622				---	2.8	6.2	---	---

TABLE 1

Spreadsheet: REFINERY_OCXP.xls
 Developer: Bruce Fielding
 Software: Lotus 4.0/Excel 2010
 Revision date: 09/07/00
 Calculation Date: 11/07

DATA INPUT:

(*1)

FACILITY INFORMATION

Permittee:
 Permit Number:
 Appendix:
 Concentration flow, (MGD):
 Anti-backsliding, GL vs Old, 0=n, 1=y, 2=GL+Old
 Outfall number:
 40 CFR 419 Subpart, , (A, B, C, D, or E):
 Refinery Type:
 (Topping, Cracking, Petrochemical,
 Lube, or Integrated)

ANTI-BACKSLIDING INFORMATION:				
Citgo Petroleum Corp.; Lake Charles Manufacturing	(*A)	(*B)	(*C)	
LA0005941; AI 1250		Tech Old	Tech Old	Antiback
Appendix A-4		Avg	Max	0=no scr.
0	PARAMETER	lb/day	lb/day	1=OldvsGL 2=Old+GL
Out. 003; Phase II	Conventional:			
D	BOD5			
Lube	TSS			---
	Oil and Grease			---

(*6)

(*2)

THROUGHPUT RATES

Feedstock (Crude Oil and NGL) Rate to Topping Unit(s):
 Process Unit Rates:

K bbl/day
422.3
 Input in Table 2

Nonconventional:

COD		---
TOC		
Ammonia		
Sulfide		---
Total Phenolics		---

(*3)

FLOW RATES

Ballast Flow:

K gal/day gpm
86

Metals:

Chromium (Total)		---
Chromium (6+)		---

Stormwater Calculations

Process area, sq. ft. (or acres):
 Number of Days (Default is 365):

sq. feet acres

365

(*7)

Conversion Utilities:

mg/L-->lbs/day	8.34
gpm-->MGD	0.00144
gpm-->K gal/day	1.44
ft3-->gal	7.4805192
inches-->feet	0.0833333
acres-->sq. ft.	43560

Annual rainfall, inches:

inches % runoff

Contaminated Stormwater to Treatment System

K gal/day
1130

(*4)

RATIOS:

TOC:BOD5 (Default is 2.2, if needed):

Ratio:
2.2

(*5)

Discharge fraction, default =1

Fraction:
1

Calculation of Technology Based Limits for Citgo Petroleum Corp.; Lake Charles Manufacturing
Out. 003; Phase II

Calculation of Unit Process Rates and Unit Configuration Factors

TABLE 2

(*1)	(*2)	(*3)	(*4)	(*5)	(*6)	(*7)
Unit Process Rate						
Unit		to			Unit	
EPA	Process	Total Feedstock	Process	Process	Process	Process
Process	Rate	Feedstock Rate	Weighting	Config.	Factor	Factor
Number	K bbl/day	Rate	Ratio *	Factor =	Factor	Factor

CRUDE PROCESSES:

Atmospheric Crude Distillation	1	422.3	422.3	1	1	1
Crude Desalting	2	422.3	422.3	1	1	1
Vacuum Crude Distillation	3	202	422.3	0.4783329	1	0.4783329

TOTAL CRUDE PROCESSES FEEDSTOCK RATE=

1046.6

CRACKING AND COKING PROCESSES:

Visbreaking	4	0	422.3	0	6	0
Thermal Cracking	5	0	422.3	0	6	0
Fluid Catalytic Cracking	6	147	422.3	0.3480938	6	2.0885626
Moving Bed Catalytic Cracking	7	0	422.3	0	6	0
Hydrocracking	10	47	422.3	0.1112953	6	0.6677717
Delayed Coking	15	103	422.3	0.2439024	6	1.4634146
Fluid Coking	16	0	422.3	0	6	0
Hydrotreating	54	230	Not Applicable to Refinery Process Config. Factor			

TOTAL CRACKING AND COKING PROCESSES FEEDSTOCK RATE=

527

LUBE PROCESSES:

Hydrofining, Hydrofinishing, Lube Hydrofinishing	21	0	422.3	0	13	0
White Oil Manufacture	22	0	422.3	0	13	0
Propane: Dewaxing, Deasphalting, Fractioning, Deresining	23	0	422.3	0	13	0
Duo Sol, Solvent Treating, Solvent Extraction, Duotreating, Solvent Dewaxing, Solvent Deasphalt	24	0	422.3	0	13	0
Lube Vacuum Tower, Oil Fractionation, Batch Still (Naphtha Strip), Bright Stock Treating	25	0	422.3	0	13	0
Centrifuge and Chilling	26	0	422.3	0	13	0
Dewaxing: MEK, Ketone, MEK-Toluene	27	0	422.3	0	13	0
Deciling (Wax)	28	0	422.3	0	13	0
Naphthenic Lube Production	29	0	422.3	0	13	0
SO2 Extraction	30	0	422.3	0	13	0
Wax Pressing	34	0	422.3	0	13	0
Wax Plant (with Neutral Separation)	35	0	422.3	0	13	0
Furfural Extracting	36	0	422.3	0	13	0
Clay Contacting - Percolation	37	0	422.3	0	13	0
Wax Sweating	38	0	422.3	0	13	0
Acid Treating	39	0	422.3	0	13	0
Phenol Extraction	40	0	422.3	0	13	0

TOTAL LUBE PROCESS FEEDSTOCK RATE=

0

Calculation of Technology Based Limits for Citgo Petroleum Corp.; Lake Charles Manufacturing Out. 003; Phase II

Calculation of Unit Process Rates, Unit Configuration, Process and Size Factors

TABLE 2 (continued)

(*1)	(*2)	(*3)	(*4)	(*5)	(*6)	(*7)
	Unit Process Rate					
	Unit	to			Unit	
	EPA Process	Total Feedstock	Process	Weighting	Config.	
	Process	Rate	Feedstock Rate	Ratio *	Factor =	Factor
	Number	K bbl/day	Rate	Ratio *	Factor =	Factor
ASPHALT PROCESSES:						
Asphalt Production	18	0	422.3	0	12	0
200 Deg. F Softening Point Unfluxed Asphalt	32	0	Not Applicable to Refinery Process Config. Factor			
Asphalt Oxidizing	43	0	422.3	0	12	0
Asphalt Emulsifying	89	0	422.3	0	12	0

TOTAL ASPHALT PROCESS FEEDSTOCK RATE=

REFORMING AND ALKYLATION PROCESSES:

H2SO4 Alkylation	8	2	Not Applicable to Refinery Process Config. Factor			
Catalytic Reforming	12	105	Not Applicable to Refinery Process Config. Factor			
TOTAL REFORMING AND ALKYLATION PROCESS FEEDSTOCK RATE=		132				

TOTAL REFINERY PROCESS CONFIGURATION FACTOR=

TABLE 3

PROCESS FACTORS BY SUBPART

Total Refinery Process Configuration	Lube Subpart D
< 2.49	0.81
2.5 to 3.49	0.81
3.5 to 4.49	0.81
4.5 to 5.49	0.81
5.5 to 5.99	0.81
6.0 to 6.49	0.81
6.5 to 6.99	0.88
7.0 to 7.49	0.88
7.5 to 7.99	1
8.0 to 8.49	1.09
8.5 to 8.99	1.19
9.0 to 9.49	1.29
9.5 to 9.99	1.41
10.0 to 10.49	1.53
10.5 to 10.99	1.67
11.0 to 11.49	1.82
11.5 to 11.99	1.98
12.0 to 12.49	2.15
12.5 to 12.99	2.34
13.0 to 13.49	2.44
13.5 to 13.99	2.44
>=14.00	2.44

TABLE 4

SIZE FACTORS BY SUBPART

K bbl/day Feedstock (Stream Day)	Lube Subpart D
< 24.9	0.71
25.0 to 49.9	0.71
50.0 to 74.9	0.74
75.0 to 99.9	0.81
100.0 to 124.9	0.88
125.0 to 149.9	0.97
150.0 to 174.9	1.05
175.0 to 199.9	1.14
200.0 to 224.9	1.19
>=225.0	1.19

TABLE 5

PROCESS GROUP FEEDSTOCK RATES:

Process Group:	Feedstock Rate, K bbl/day:
Crude=	1046.6
Cracking and Coking=	527
Lube=	0
Asphalt=	0
Reforming and Alkylation=	132

PROCESS FACTOR INPUT:
Refinery Configuration =

SIZE FACTOR INPUT:
Feedstock, K bbl/day =

	FACTOR	REFERENCE
PROCESS FACTOR =	0.88	419.43 (b)
SIZE FACTOR =	1.19	419.43 (b)

Multiplier = Feedstock * Process Factor * Size Factor

Multiplier =

Calculation of Technology Based Limits for Citgo Petroleum Corp.; Lake Charles Manufacturing
Out. 003; Phase II

Conventional, nonconventional, and toxic refinery pollutant loading calculations

TABLE 6

40 CFR 419, Petroleum and Refining Guidelines

(*1)	(*2)	(*3)	(*4)	(*5)	(*6)	(*7)	(*8)	(*9)
PROCESS WASTEWATER	REFERENCES:		FACTORS:		LOADINGS:			
	Subpart D		Lube Subpart	Lube Subpart	Discharge Fraction	Lube Subpart	Lube Subpart	
PARAMETER	Category:	Treatmt.	lb/K bbl	lb/K bbl	Through	D	D	
	Lube	Tech.	Avg	Max	Outfall	lb/day	lb/day	
Conventional:					Multiplier	Avg	Max	
BOD5	419.44 (a)	BCT	9.1	17.9	442.23256	1	4024.3163	7915.9628
TSS	419.44 (a)	BCT	8	12.5	442.23256	1	3537.8605	5527.907
Oil and Grease	419.44 (a)	BCT	3	5.7	442.23256	1	1326.6977	2520.7256
Nonconventional:								
COD	---	---	---	---	442.23256	1	---	---
TOC	419.43 (a)	BAT	20.02	39.38	442.23256	1	8853.4959	17415.118
Ammonia	419.43 (a)	BAT	3.8	8.3	442.23256	1	1680.4837	3670.5302
Sulfide	419.43 (a)	BAT	0.053	0.118	442.23256	1	23.438326	52.183442

BPT Calculations for Total Recoverable Phenolics, Total Chromium, and Chromium (6+)

Total Phenolics	419.42 (a)	BPT	0.065	0.133	442.23256	1	28.745116	58.81693
Chromium (Total)	419.42 (a)	BPT	0.16	0.273	442.23256	1	70.75721	120.72949
Chromium (6+)	419.42 (a)	BPT	0.011	0.024	442.23256	1	4.8645582	10.613581

BAT Calculations for Total Recoverable Phenolics, Total Chromium, and Chromium (6+)

Table 2
Rate, K bbl/day

Total Phenolics								
Crude Processes	419.43 (c)	BAT	0.003	0.013	1046.6	1	3.1398	13.6058
Cracking & Coking	419.43 (c)	BAT	0.036	0.147	527	1	18.972	77.469
Asphalt Processes	419.43 (c)	BAT	0.019	0.079	---	---	---	---
Lube Processes	419.43 (c)	BAT	0.09	0.369	---	---	---	---
Reforming and Alkylation	419.43 (c)	BAT	0.032	0.132	132	1	4.224	17.424
Total Phenolics BAT:							26.3358	108.4988
Chromium (Total)								
Crude Processes	419.43 (c)	BAT	0.004	0.011	1046.6	1	4.1864	11.5126
Cracking & Coking	419.43 (c)	BAT	0.041	0.119	527	1	21.607	62.713
Asphalt Processes	419.43 (c)	BAT	0.022	0.064	---	---	---	---
Lube Processes	419.43 (c)	BAT	0.104	0.299	---	---	---	---
Reforming and Alkylation	419.43 (c)	BAT	0.037	0.107	132	1	4.884	14.124
Total Chromium BAT:							30.6774	88.3496

Calculation of Technology Based Limits for Citgo Petroleum Corp.; Lake Charles Manufacturing
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Conventional, nonconventional, and toxic refinery pollutant loading calculations

TABLE 6 (continued):

40 CFR 419, Petroleum and Refining Guidelines

(*1)	(*2)	(*3)	(*4)	(*5)	(*6)	(*7)	(*8)	(*9)
	REFERENCES:		FACTORS:		Discharge	LOADINGS:		
			Lube	Lube	Fraction	Lube	Lube	
			Subpart	Subpart	Outfall	Subpart	Subpart	

PROCESS WASTEWATER

Subpart D	D	D	Table 2	D	D
Category: Treatmt.	lb/K bbl	lb/K bbl	Group Feedstock	lb/day	lb/day
Lube	Tech.	Avg	Rate, K bbl/day	Avg	Max

Chromium (6+)

Process	419.43(c)	BAT	0.0003	0.0007	1046.6	1	0.31398	0.73262
Crude Processes	419.43(c)	BAT	0.0034	0.0076	527	1	1.7918	4.0052
Cracking & Coking	419.43(c)	BAT	0.0019	0.0041	---	---	---	---
Asphalt Processes	419.43(c)	BAT	0.0087	0.0192	---	---	---	---
Lube Processes	419.43(c)	BAT	0.0031	0.0069	132	1	0.4092	0.9108
Reforming and Alkylation								

Chromium (6+) BAT:

2.51498	5.64862
---------	---------

Apply Most Stringent (BAT or BPT) for Total Recoverable Phenolics, Total Chromium, and Chromium (6+):

Parameter	---	---	---	---	---	26.3358	58.81693
Total Phenolics	---	---	---	---	---	30.6774	88.3496
Chromium (Total)	---	---	---	---	---	2.51498	5.64862
Chromium (6+)							

			Lube	Lube	Discharge	Lube	Lube	
			Subpart	Subpart	Fraction	Subpart	Subpart	
BALLAST WATER	Category: Treatmt.	D	D	D	Through	D	D	
PARAMETER	Lube	Tech.	lb/K gal	lb/K gal	Flow	Outfall	lb/day	lb/day
			Avg	Max	K gal/day		Avg	Max

Conventional

Parameter	419.44(c)	BCT	0.21	0.4	86	1	18.06	34.4
BOD5	419.44(c)	BCT	0.17	0.26	86	1	14.62	22.36
TSS	419.44(c)	BCT	0.067	0.126	86	1	5.762	10.836
Oil and Grease								

Nonconventional

Parameter	---	---	---	---	86	1	---	---
COD	---	---	---	---	86	1	39.732	75.68
TOC	419.43(d)	BAT	0.462	0.88				

Calculation of Technology Based Limits for Citgo Petroleum Corp.; Lake Charles Manufacturing
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Conventional, nonconventional, and toxic refinery pollutant loading calculations

TABLE 6 (continued)

40 CFR 419, Petroleum and Refining Guidelines

(*1)	(*2)	(*3)	(*4)	(*5)	(*6)	(*7)	(*8)	(*9)
			Lube	Lube		Discharge	Lube	Lube
			Subpart	Subpart		Fraction	Subpart	Subpart
STORMWATER	Subpart D		D	D		Through	D	D
PARAMETER	Category:	Treatmt.	lb/K gal	lb/K gal	Flow	Outfall	lb/day	lb/day
	Lube	Tech.	Avg	Max	K gal/day		Avg	Max
Conventional								
BOD5	419.44 (e)	BCT	0.22	0.4	1130	1	248.6	452
TSS	419.44 (e)	BCT	0.18	0.28	1130	1	203.4	316.4
Oil and Grease	419.44 (e)	BCT	0.067	0.13	1130	1	75.71	146.9
Nonconventional								
COD	---	---	---	---	1130	1	---	---
TOC	419.43 (f)	BAT	0.484	0.88	1130	1	546.92	994.4
Total Phenolics	419.43 (f)	BAT	0.0014	0.0029	1130	1	1.582	3.277
Metals								
Chromium (Total)	419.43 (f)	BAT	0.0018	0.005	1130	1	2.034	5.65
Chromium (6+)	419.43 (f)	BAT	0.00023	0.00052	1130	1	0.2599	0.5876

TABLE 7

TOTAL ALLOCATIONS = Process WW + Ballast Water + Contaminated SW + Sanits (lbs/day)

PARAMETER	PROCESS WASTEWATER		BALLAST		STORMWATER		TOTAL ALLOCATION	
	(*1)	(*2)	(*3)	(*4)	(*5)	(*6)	(*7)	(*9)
	Lube	Lube	Lube	Lube	Lube	Lube	Lube	Lube
	Subpart	Subpart	Subpart	Subpart	Subpart	Subpart	Subpart	Subpart
	D	D	D	D	D	D	D	D
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
	Avg	Max	Avg	Max	Avg	Max	Avg	Max
Conventional								
BOD5	4024.3163	7915.9628	18.06	34.4	248.6	452	4290.9763	8402.3628
TSS	3537.8605	5527.907	14.62	22.36	203.4	316.4	3755.8805	5866.667
Oil and Grease	1326.6977	2520.7256	5.762	10.836	75.71	146.9	1408.1697	2678.4616
Nonconventional								
COD	---	---	---	---	---	---	---	---
TOC	8853.4959	17415.118	39.732	75.68	546.92	994.4	9440.1479	18485.198
Ammonia	1680.4837	3670.5302	---	---	---	---	1680.4837	3670.5302
Sulfide	23.438326	52.183442	---	---	---	---	23.438326	52.183442
Total Phenolics	26.3358	58.81693	---	---	1.582	3.277	27.9178	62.09393
Metals								
Chromium (Total)	30.6774	88.3496	---	---	2.034	5.65	32.7114	93.9996
Chromium (6+)	2.51498	5.64862	---	---	0.2599	0.5876	2.77488	6.23622

Calculation of Technology Based Limits for Citgo Petroleum Corp.; Lake Charles Manufacturing
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Anti-Backsliding Screening

TABLE 8

Anti-Backsliding Calculations, 40 CFR 122.44(i)1, LAC 33.IX.2361.L

(*1) PARAMETER	(*2) G/L Val Avg lb/day	(*3) G/L Val Max lb/day	(*4) Tech Old Avg lb/day	(*5) Tech Old Max lb/day	(*6) Antiback 0=no scr. 1=OldvsGL 2=Old+GL	(*7) Out. 003; Avg lb/day	(*8) Out. 003; Max lb/day	(*9) Out. 003; Avg mg/L	(*10) Out. 003; Phase II Max mg/L
Conventional:									
BOD5	4290.9763	8402.3628				4291	8402	---	---
TSS	3755.8805	5866.667			---	3756	5867	---	---
Oil and Grease	1408.1697	2678.4616			---	1408	2678	---	---
Nonconventional:									
COD	---	---			---	---	---	---	---
TOC	9440.1479	18485.198				9440	18485	---	---
Ammonia	1680.4837	3670.5302				1680	3671	---	---
Sulfide	23.438326	52.183442			---	23.4	52.2	---	---
Total Phenolics	27.9178	62.09393			---	27.9	62.1	---	---
Metals:									
Chromium (Total)	32.7114	93.9996			---	32.7	94.0	---	---
Chromium (6+)	2.77488	6.23622			---	2.8	6.2	---	---

APPENDIX A-5 LA0005941, AI No. 1250

Documentation and Explanation of Technology Calculations
and Associated Lotus Spreadsheet

This is a technology spreadsheet covering the effluent guidelines for petroleum refining, 40 CFR 419. The refinery guidelines consists of 5 Subparts; Subpart A-Topping, Subpart B-Cracking, Subpart C-Petrochemical, Subpart D-Lube, and Subpart E-Integrated. Treatment technologies consist of Best Available Technology Economically Achievable (BAT), Best Conventional Technology (BCT), and Best Practicable Control Technology Currently Available (BPT). For most effluent guidelines with toxic and non-conventional pollutants, BAT represents the most stringent guideline and the one that is used in most permitting applications. However, in refinery guidelines there are cases where BPT or BCT is sometimes more stringent than BAT and these limitations are applied to the parameter of concern. BCT is used for conventional pollutants. The final calculations are screened against limitations established in a previous permit by BPJ. These limitations are now BAT for that facility and must be screened against the calculated effluent guideline limitations with the most stringent applying in order to address anti-backsliding concerns (40 CFR 122.44.1, LAC 33.IX.2707.L). The term "Daily Average" as it is used in this documentation and in the spreadsheet is assumed to be equivalent to "Monthly Average". The spreadsheet is set up in a table and column/section format. Each table represents a general category for data input or calculation points. Each reference column or section is marked by a set of parentheses enclosing a number and asterisk, for example (*1) or (*8). These columns or sections represent inputs, existing data sets, calculation points, or results for determining technology based limits for an effluent of concern.

Introductory Notes to Petroleum Refining Effluent Limitations Calculations:

Regulatory Basis

Unless otherwise stated, the technology-based permit effluent limitations presented in this appendix are calculated using national effluent limitations and standards listed at 40 CFR Part 419 - Petroleum Refining Point Source Category. Technical data supporting the national effluent limitations and standards for the Petroleum Refining Point Source Category will be found at the following development documents:

1974 Development Document

Development Document for Effluent Limitations Guidelines and New Source Performance Standards for the Petroleum Refining Point Source Category, USEPA, EPA-44011-74-014a, April 1974

1982 Development Document

Development Document for Effluent Limitations Guidelines and New Source Performance Standards for the Petroleum Refining Point Source Category, USEPA, EPA 440/1-82/014, October 1982

Example Calculations

Example calculations for deriving petroleum refining permit effluent limitations will be found at:

40 CFR

Part 419.42(a)(3)

Part 419.43(c)(2)

Development Documents

1974 Development Document (Section IX, Pages 148-151)

1982 Development Document (Section I, Pages 1-14)

1985 Guidance

Guide for the Application of Effluent Limitations Guidelines for the Petroleum Refining Industry, USEPA, Industrial Technology Division, June 1985

Discussion of EPA Refining Processes Used in Calculations

	EPA Process <u>Number</u>
<u>Crude Processes</u>	
Atmospheric Crude Distillation	1
Crude Desalting	2
Vacuum Crude Distillation	3
<u>Cracking and Coking Processes</u>	
Visbreaking	4
Thermal Cracking	5
Fluid Catalytic Cracking	6
Moving Bed Catalytic Cracking	7
Hydrocracking	10
Delayed Coking	15
Fluid Coking	16
Hydrotreating*	54
<u>Lube Processes</u>	
Hydrofining, Hydrofinishing, Lube Hydrofinishing	21
White Oil Manufacture	22
Propane: Dewaxing, Deasphalting, Fractioning, Derinsing	23
Duo Sol, Solvent Treating, Solvent Extraction Duotreating, Solvent Dewaxing, Solvent Deasphalt	24
Lube Vacuum Tower, Oil Fractionation, Batch Still (Naphtha Strip), Bright Stock Treating	25
Centrifuge & Chilling	26
Dewaxing: MEK, Ketone, MEK-Toluene	27
Deoiling (Wax)	28
Naphthenic Lube Production	29
SO ₂ Extraction	30

Wax Pressing	34
Wax Plant (with Neutral Separation)	35
Furfural Extracting	36
Clay Contacting - Percolation	37
Wax Sweating	38
Acid Treating	39
Phenol Extraction	40

Asphalt Processes

Asphalt Production	18
200 Deg. F Softening Point Unfluxed Asphalt*	32
Asphalt Oxidizing	43
Asphalt Emulsifying	89

Reforming and Alkylation Processes

H2SO4 Alkylation*	8
Catalytic Reforming*	12

* These processes are not included in the refinery process configuration factor calculations.

EPA Process Numbers will be found at Appendix A to 40 CFR 419. They can be cross-referenced in Table III-7, pages 49-54 of the 1982 Development Document.

Refining processes used in Table 2 (except as noted) lead to the calculation of all BPT/BCT permit effluent limitations for ammonia (as N), sulfide (as S), and COD only. The Table 2 refining processes are listed at Section IX, Table 51, page 151, of the 1974 Development Document. A detailed discussion of the refining processes used in the refinery process configuration factor (Table 2) is found in the "1974" Flow Model at Section IV, pages 55-62, of the 1974 Development Document and at Section IV, pages 63-65 of the 1982 Development Document. Also see "Process Groupings Included in 1974 Flow Model" at page 19 of the 1985 Guidance. Because certain petroleum refining processes [Hydrotreating; 200 Deg. F Softening Point Unfluxed Asphalt; H2SO4 Alkylation; and Catalytic Reforming] were not included in the 1974 flow model, they are not included as a process in the refinery process configuration factor calculations (Table 2). In 1976, the U.S. Court of Appeals upheld the 1974 BPT and NSPS regulations [see discussion at Section IV, pages 61-62, of the 1982 Development Document]. Refining processes not included in the 1974 Flow Model [the basis for all BPT/BCT permit effluent limitations and BAT permit effluent limitations for ammonia (as N), sulfide (as S), and COD only] are not considered in the refinery process configuration factor calculations (Table 2).

Refining processes and categories used in Tables 2 and 5 lead to the calculation of amended BAT permit effluent limitations for total recoverable phenolics, chromium (total), and chromium (6+). These refining processes are listed at Appendix A to 40 CFR Part 419. A detailed discussion of the refining processes used in BAT permit effluent limit calculations will be found in the discussion of the Refined Flow Model at Section IV, pages 67-68,

of the 1982 Development Document. Also see "Process Groupings Included in 1979 Flow Model" at page 20 of the 1985 Guidance. Refining processes not included in the 1979 Flow Model [the basis for Appendix A to 40 CFR Part 419] are not considered in BAT permit effluent limitations for total recoverable phenolics, chromium (total), and chromium (6+).

Organizations or individuals desiring the inclusion of other refining processes in the previously mentioned calculations should petition the U.S. Environmental Protection Agency under the Administrative Procedures Act, 5-U.S.C. Sec. 553(e), which authorizes interested parties to petition the issuance, amendment, or repeal of a rule.

Table 1

Table 1 is a data input area.

(*1) Facility Information

Generalized input information for the facility:

Permittee- Permittee name.

Permit Number- LPDES permit number.

Concentration flow, (MGD)- If concentration limits are desired, then a flow for determining concentration limits is placed here.

Anti-backsliding, GL vs Old, 0=n, 1=y, 2=GL+Old: This switch establishes how previously established Best Professional Judgement (BPJ) permit limits will be screened. "0" indicates that no screening will occur. "1" indicates that the BPJ-Technology permit limits will be screened. "2" indicates that the guideline values will be added to the previously established BPJ-Technology limitations. This is only used when significant increases in production have occurred since the last permit was issued. Guideline values are calculated only on the basis of the increase.

Outfall number: Generally written as an abbreviation, e.g., "Out. 001".

40 CFR 419 Subpart, (A, B, C, D, or E): The subpart that the spreadsheet uses is specified by putting the designated subpart letter in the indicated cell. Input can be in either lower case or upper case.

Refinery type: The spreadsheet automatically specifies the refinery type, Topping, Cracking, Petrochemical, Lube, or Integrated based on the subpart specified.

(*2) Throughput Rates

Feedstock (Crude Oil and NGL) Rate to Topping Unit(s): As defined in the guidelines, the term "feedstock" shall mean the crude oil and natural gas liquids (NGL) fed to the topping unit(s).

Process Unit Rates: These values are input in Table 2 on the row indicating the specific process under the column labeled, "Unit Process Rate K bbl/day."

(*3) Flow Rates

Ballast Flow, K gal/day: As defined in the guidelines, "ballast" shall mean the flow of waters, from a ship, that is treated along with refinery wastewaters in the main treatment system. Units as specified.

Stormwater Calculations: The refinery effluent guidelines give an allowance for contaminated runoff. This is calculated using an areal estimate of the process area in either square feet or acres and an annual rainfall estimate in inches.

Process area, sq. ft. (or acres): The process area size is specified in the cell with the appropriate units.

Annual rainfall, inches: Estimate of annual rainfall as specified.

Contaminated stormwater to Treatment System: Input here is optional. This is the calculated value utilizing the process area size and amount of rainfall specified above or a precalculated value (from DMR's or other sources) submitted by the applicant. If you are utilizing a precalculated value, then inputs in the Process area, sq. ft. (or acres): or Annual rainfall, inches: fields are not necessary.

- (*4) TOC:BOD5. TOC to BOD5 Ratio. A TOC to BOD5 ratio of 2.2 to 1 is established on a BPJ basis consistent with EPA Region 6 and the refinery effluent guidelines. COD:BOD5 1=y default G/L calculated values for san. This field is used and will appear only when a sanitary allocation to process wastewaters is being calculated. A "1" placed in this field will take the default COD:BOD5 ratio calculated from the total loadings of COD and BOD5 from the refinery guidelines.
- (*5) Discharge fraction, default =1: If the process wastewater is not discharged at 100% through the regulated outfall, then the fraction that is discharged through the regulated outfall is placed here. Examples where a facility may split a process flow include, deep well injection, POTW's, other facilities, etc. This is in accordance with 40 CFR 122.50/LAC 33:IX.2717.
- (*6) Sanitary Flow, MGD: On rare occasions sanitary wastewaters are given a flow allocation in MGD. This allocation will be given only to facilities that currently have significant sanitary wastewaters included in their process wastewater BOD5 and TSS allocations. "Significant", in

this case, is defined when the sanitary wastewaters contribute 5% or more of the total BOD5 or TSS loading of the wastewater treatment system. This allocation will not be given to facilities that have not received this allocation before or facilities adding additional sanitary wastewaters to their process wastewater treatment systems in accordance with anti-backsliding regulations (40 CFR 122.44.1, LAC 33.IX.2707.L). This section will not appear if sanitary wastewater is not granted an allocation.

(*6), (*7) Anti-backsliding Information:

The previous permit limitations established by BPJ (now BAT) are put under the appropriate column (*A) "Avg" for daily maximum 30-day average, and (*B) "Max" for daily maximum on the row with the specified parameter. Column (*C) utilizes the same switches described in section (*1) under the discussion on anti-backsliding. The only difference here is that the switch can be specified on a parameter specific basis. If sanitary wastewater is granted an allocation, this will become section (*7), otherwise it will remain section (*6).

(*7), (*8) Conversion Utilities:

This section contains useful conversions for calculations throughout the spreadsheet. A section is dedicated to calculating COD:BOD5 ratios or inputting COD concentrations in mg/L for the exclusive purpose of calculating COD loadings attributed to sanitary wastewater. As stated above under section (*4), default COD:BOD5 ratios are calculated by dividing total guideline COD loading by total guideline BOD5 loading. The use of a more stringent ratio or concentration in a previously issued permit would preclude using the default calculation procedure. All fields containing information about COD ratios or concentrations will not appear if sanitary wastewaters are not granted an allocation for BOD5. If sanitary wastewater is granted an allocation, this will become section (*8), otherwise it will remain section (*7).

Table 2

Table 2 calculates the total refinery process configuration factor by summing all contributing unit process configuration factors (except processes noted).

- (*1) Specifies refinery processes under 5 different categories, crude processes, cracking and coking processes, lube processes, asphalt processes, and reforming and alkylation processes. Footnoted processes are not included in the total refinery process configuration factor.
- (*2) EPA process number. From Table III-7, Pages 49-54, Final Development Document for Effluent Limitations Guidelines and Standards for the Petroleum Refining Point Source Category, EPA 440/1-82/014, October, 1982.

- (*3) Unit Process Rate, K bbl/day. Process rate is placed on the row with the specified process. Unit process rates are summed for each process group for use in determining BAT limitations for Total Chromium, Chromium (6+), and Total Recoverable Phenolics in Table 6.
- (*4) Total Feedstock Rate, K bbl/day. This column contains the value specified in section (*2) of Table 1.
- (*5) Unit Process Rate to Feedstock Rate Ratio. The unit process rate is divided by the feedstock rate specified in column (*4).
- (*6) Weighting factor. The spreadsheet uses the weighting factors specified at 40 CFR 419.42(b)(3), Subpart D.
- (*7) Unit process configuration factor. The product in this column is the result of multiplying the "Unit Process Rate to Feedstock Rate Ratio" in column (*5) times the weighting factor specified in column (*6). These values are summed to obtain the total refinery process configuration factor.

Tables 3 and 4

Tables 3 and 4 calculate the process and size factors respectively. The input for determining the appropriate process factor is the total refinery process configuration factor. The input for determining the appropriate size factor is the feedstock in K bbl/day. The multiplier used in determining mass loadings for certain parameters specified in Table 6 is determined by multiplying the feedstock times the process factor times the size factor.

Table 5

Table 5 summarizes the process group feedstock rates (crude, cracking and coking, lube, asphalt, reforming and alkylation) specified in Table 2 for use in calculating BAT limitations for Total Recoverable Phenolics (specified as Total Phenolics), Total Chromium, and Chromium (6+) in Table 6.

Table 6

Table 6 is where mass loadings are calculated for each parameter under each applicable wastewater type; process, ballast, stormwater (contaminated) and sanitary wastewaters, when applicable. For Total Recoverable Phenolics (specified as Total Phenolics), Total Chromium, and Chromium (6+), mass loadings are calculated twice under the process wastewater section, once with BPT factors and once with BAT factors with the most stringent applying.

- (*1) Parameter.
- (*2) References. 40 CFR reference applicable to the specified factors and subparts in columns (*4) and (*5).

- (*3) Treatmt. Tech. Applicable treatment technology, BPT, BCT, or BPT, for the parameter and factors specified. BPJ is applied to sanitary wastewaters, when sanitary wastewater is granted an allocation.
- (*4) Factor, Avg. Daily average (daily maximum 30-day average) factors specified in the guidelines. Sanitary wastewater would be granted a flow based allocation of 30 mg/L for BOD₅ and TSS, when applicable.
- (*5) Factor, Max. Daily maximum factors specified in the guidelines. Sanitary wastewater would be granted a flow based allocation of 45 mg/L for BOD₅ and TSS, when applicable.
- (*6) Multiplier/Table 2 Group Feedstock Rate, K bbl/day/Flow K gal/day. For the process wastewater, this column contains the multiplier calculated under Tables 3 and 4 or the applicable group feedstock rate from Table 2 in 1000 barrels per day (K bbl/day). For ballast, sanitary (when applicable), and stormwater, flow in 1000 gallons per day (except sanitary in MGD) from the data input table, Table 1.
- (*7) Discharge fraction through outfall. This column contains the factor calculated in section (*5) of Table 1.
- (*8) Daily average (daily maximum 30-day average) loadings in lbs per day for the specified parameter under the specified subpart.
- (*9) Daily maximum loadings in lbs per day for the specified parameter under the specified subpart.

Table 7

Table 7 is a data summary table totaling the allocations from process wastewater, ballast water, contaminated stormwater, and sanitary wastewater (when applicable). The total values represent the refinery effluent guideline limitations.

- (*1) Process wastewater daily average (daily maximum 30-day average) loadings in lbs per day for the specified parameter under the specified subpart.
- (*2) Process wastewater daily maximum loadings in lbs per day for the specified parameter under the specified subpart.
- (*3) Ballast water daily average (daily maximum 30-day average) loadings in lbs per day for the specified parameter under the specified subpart.
- (*4) Ballast water daily maximum loadings in lbs per day for the specified parameter under the specified subpart.
- (*5) Contaminated stormwater daily average (daily maximum 30-day average) loadings in lbs per day for the specified parameter under the specified subpart.

- (*6) Contaminated stormwater daily maximum loadings in lbs per day for the specified parameter under the specified subpart.
- (*7) Sanitary wastewater daily average (daily maximum 30-day average) loadings in lbs per day for the specified parameter. This column will not appear if sanitary wastewater is not granted an allocation.
- (*8) Sanitary wastewater daily maximum loadings in lbs per day for the specified parameter. This column will not appear if sanitary wastewater is not granted an allocation.
- (*7, *9) Total daily average (daily maximum 30-day average) loadings in lbs per day for the specified parameter under the specified subpart. If sanitary wastewater is granted an allocation, this will become column (*9), otherwise it will remain column (*7).
- (*8, *10) Total daily maximum loadings in lbs per day for the specified parameter under the specified subpart. If sanitary wastewater is granted an allocation, this will become column (*10), otherwise it will remain column (*7).

Table 8

Table 8 is utilized when anti-backsliding (40 CFR 122.44.1, LAC 33.IX.2707.L) concerns are present. The effluent limitation guideline values are screened against BPJ-Technology values from the previous permit with the most stringent applying.

- (*1) Parameter.
- (*2) Daily average effluent limitation guideline in lbs/day from column (*7) in Table 7.
- (*3) Daily maximum effluent limitation guideline in lbs/day from column (*8) Table 7.
- (*4) Daily Average Tech Old in lbs/day. This column is utilized when an anti-backsliding concern (40 CFR 122.44.1, LAC 33.IX.2707.L) is present. This would be indicated by substantially higher limits ($\approx 30\%$ or greater) calculated under guidelines than those previously established in the old permit on a BPJ basis. If the previously issued permit (as applicable) contains limits for the parameter of concern and an anti-backsliding concern is present, the limits from the previously issued permit are placed in this column in lbs/day.
- (*5) Daily Maximum Tech Old in lbs/day. Similar to (*7).
- (*6) Antiback, 0=no scr., 1=OldvsGL, 2=Old+GL. Anti-Backsliding screening switch. The default is set not to screen. This can be changed under

section (*1) in the data input page. If a screen is conducted, a "1" will appear in this column. The more stringent permit limits will appear in columns (*7) and (*8). If the screen indicates that the previously issued permit limit utilizing BPJ-Technology is more stringent and an increase in production has occurred, the technology based limits can be recalculated using guidelines for the increase only. This will be indicated by a "2" in this column. The recalculated guideline limitations in columns (*2) and (*3) are subsequently added to the values in columns (*4) and (*5) yielding technology-based effluent limitations in columns (*7) and (*8). The values in this column can be changed on a row-by-row basis for site-specific screening situations.

(*7) Daily Average technology based effluent limit in lbs/day. If no anti-backsliding screening is conducted then the value in this column will be equal to the value in column (*2). When anti-backsliding screening is used, see discussion for column (*6).

(*8) Daily Maximum technology based effluent limit in lbs/day. If no anti-backsliding screening is conducted then the value in this column will be equal to the value in column (*3). When anti-backsliding screening is used, see discussion for column (*6).

(*9) Daily Average technology based effluent limit in mg/L. A concentration limit can be calculated using the specified concentration flow from section (*1) under the data input table and the mass limitation calculated under column (*7). The formula is as follows:

$$\frac{\text{effluent limit, lbs/day}}{\text{flow, MGD} * 8.34}$$

(*10) Daily Maximum technology based effluent limit in mg/L. Similar to column (*9), a concentration limit can be calculated using the specified concentration flow from section (*1) under the data input table and the mass limitation calculated under column (*8). The formula is as follows:

$$\frac{\text{effluent limit, lbs/day}}{\text{flow, MGD} * 8.34}$$

Appendix B

Water Quality Screen for Citgo Petroleum Corp.; Lake Charles Manufacturing Complex

Input variables:

Receiving Water Characteristics:

Dilution:

Toxicity Dilution Series:

ZID Fs =

0.1

Biomonitoring dilution:

0.0601495

Receiving Water Name=

Bayou D'Inde

Dilution Series Factor:

0.75

Critical flow (Qr) cfs=

41.1

MZ Fs =

1

Harm. mean/avg tidal cfs=

123.3

Critical Qr (MGD)=

26.56293

Drinking Water=1 HHNPCR=2

Harm. Mean (MGD)=

79.68879

MW=1, BW=2, C=n

ZID Dilution =

0.3902401

Rec. Water Hardness=

400

MZ Dilution =

0.0601495

Rec. Water TSS=

10

HHnc Dilution=

0.0601495

Fisch/Specific=1, Stream=0

HHc Dilution=

0.0208874

Diffuser Ratio=

ZID Upstream =

1.5625253

MZ Upstream =

15.625253

Effluent Characteristics:

MZhhnc Upstream=

15.625253

Permittee=

Citgo Petroleum Corp.; Lake Charles Manufacturing Complex

METALS

FW

Permit Number=

LA0005941; AI 1250

Total Arsenic

1.8938018

Facility flow (Qef),MGD=

1.7

MZhhc Upstream=

46.875759

Total Cadmium

3.965241

Outfall Number =

001, Phase I

ZID Hardness=

Chromium III

4.9476558

Eff. data, 2=lbs/day

2

MZ Hardness=

Chromium VI

1

MQL, 2=lbs/day

1

ZID TSS=

Total Copper

2.8924889

Effluent Hardness=

N/A

MZ TSS=

Total Lead

5.4377009

Effluent TSS=

N/A

Multipliers:

Total Mercury

3.1008643

WQBL ind. 0=y, 1=n

WLAa --> LTAA

0.32

Total Nickel

2.3188521

Acute/Chr. ratio 0=n, 1=y

0

WLAc --> LTAc

0.53

Total Zinc

3.4940779

Aquatic,acute onlly=y,0=n

LTA a,c-->WQBL avg

1.31

Aquatic Life, Dissolved

Metal Criteria, ug/L

Page Numbering/Labeling

LTA a,c-->WQBL max

3.11

METALS

ACUTE CHRONIC

Appendix

Appendix B-1

LTA h --> WQBL max

2.38

Arsenic

339.8

150

Page Numbers 1=y, 0=n

1

WQBL-limit/report

2.13

Cadmium

90.174513

2.8109967

Input Page # 1=y, 0=n

1

WLA Fraction

1

Chromium III

1707.86

554.01213

Fischer/Site Specific inputs:

Conversions:

ug/L-->lbs/day Qef

0.014178

Chromium VI

16

11

Pipe=1, Canal=2, Specific=3

ug/L-->lbs/day Qeo

0

Copper

68.029124

40.160522

Pipe width, feet

ug/L-->lbs/day Qr

0.342774

Lead

37.80543

5.5909106

ZID plume dist., feet

lbs/day-->ug/L Qeo

70.53181

Mercury

2.04

0.012

MZ plume dist., feet

lbs/day-->ug/L Qef

70.53181

Nickel

4573.2391

507.89488

HHnc plume dist., feet

diss-->tot 1=y0=n

1

Zinc

370.45141

338.27832

HHc plume dist., feet

Cu diss-->tot1=y0=n

1

Site Specific Multiplier Values:

CV =

Fischer/site specific dilutions:

cfs-->MGD

0.6463

N =

F/specific ZID Dilution =

Receiving Stream:

WLAa --> LTAA

F/specific MZ Dilution =

Default Hardness=

25

WLAc --> LTAc

F/specific HHnc Dilution=

Default TSS=

10

LTA a,c-->WQBL avg

F/specific HHc Dilution=

99 Crit., 1=y, 0=n

1

LTA a,c-->WQBL max

Old MQL=1, New=0

0

LTA h --> WQBL max

Citgo Petroleum Corp.; Lake Charles Manufacturing Complex

LA0005941; AI 1250

(*1) Toxic Parameters	(*2) Cu Effluent Instream Conc. ug/L	(*3) Effluent /Tech (Avg) lbs/day	(*4) Effluent /Tech (Max) lbs/day	(*5) MQL Effluent 1-No 95% 0-95 % ug/L	(*6) 95th % estimate Non-Tech lbs/day	(*7)	(*8) Numerical Criteria Acute FW ug/L	(*9) Chronic FW ug/L	(*10) HHNDW ug/L	(*11) HH Carcinogen Indicator "C"
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NONCONVENTIONAL

Total Phenols (4AAP)		27.1	55.7	5	1		700	350	50	
3-Chlorophenol				10						
4-Chlorophenol				10			383	192		
2,3-Dichlorophenol				10						
2,5-Dichlorophenol				10						
2,6-Dichlorophenol				10						
3,4-Dichlorophenol				10						
2,4-Dichlorophenoxy- acetic acid (2,4-D)				---						
2-(2,4,5-Trichlorophen- oxy) propionic acid (2,4,5-TP, Silvex)				---						

METALS AND CYANIDE

Total Arsenic				5			643.51386	284.07027		
Total Cadmium				1			357.56367	11.146279		
Chromium III		32.7	94	10	1		8449.9034	2741.0613		
Chromium VI		2.8	6.2	10	1		16	11		
Total Copper		0.04	---	3	0	0.0852	196.77348	116.16386		
Total Lead		---	---	2			205.57462	30.4017		
Total Mercury		---	---	0.005			6.3257631	0.0372104		
Total Nickel		---	---	5			10604.665	1177.7331		
Total Zinc		---	---	20			1294.3861	1181.9708		
Total Cyanide		---	---	10			45.9	5.4	12844	

DIOXIN

2,3,7,8 TCDD; dioxin				1.0E-05					7.2E-07	C
----------------------	--	--	--	---------	--	--	--	--	---------	---

VOLATILE COMPOUNDS

Benzene		---	---	10			2249	1125	6.59	C
Bromoform				10			2930	1465	34.7	C
Bromodichloromethane		---	---	10					6.884	C
Carbon Tetrachloride		---	---	2			2730	1365	1.2	C
Chloroform		---	---	10			2890	1445	70	C
Dibromochloromethane		---	---	10					5.08	C
1,2-Dichloroethane		---	---	10			11800	5900	6.8	C
1,1-Dichloroethylene		---	---	10			1160	580	0.58	C
1,3-Dichloropropylene		---	---	10			606	303	5.51	
Ethylbenzene		---	---	10			3200	1600	834	
Methyl Chloride		---	---	50			55000	27500		
Methylene Chloride		---	---	20			19300	9650	87	C
1,1,2,2-Tetrachloro- ethane				10			932	466	1.8	C

Citgo Petroleum Corp.; Lake Charles Manufacturing Complex
LA0005941; AI 1250

(*1)	(*12)	(*13)	(*14)	(*15)	(*16)	(*17)	(*18)	(*19)	(*20)	(*21)	(*22)	(*23)
Toxic Parameters	WLAa Acute	WLAc Chronic	WLAh HHNDW	LTAa Acute	LTAc Chronic	LTAh HHNDW	Limiting A,C,HH	WQBL Avg	WQBL Max	WQBL Avg	WQBL Max	Need WQBL?
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	lbs/day	lbs/day	

NONCONVENTIONAL

Total Phenols (4AAP)	1793.7677	5818.8385	831.26265	574.00567	3083.9844	831.26265	574.00567	751.94742	1785.1576	10.661111	25.309965	yes
3-Chlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
4-Chlorophenol	981.44719	3192.0486	---	314.0631	1691.7857	---	314.0631	411.42266	976.73624	5.8331505	13.848166	no
2,3-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
2,5-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
2,6-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
3,4-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
2,4-Dichlorophenoxyacetic acid (2,4-D)	---	---	---	---	---	---	---	---	---	---	---	no
2-(2,4,5-Trichlorophenoxy) propionic acid (2,4,5-TP, Silvex)	---	---	---	---	---	---	---	---	---	---	---	no

METALS AND CYANIDE

Total Arsenic	1649.0205	4722.7402	---	527.68657	2503.0523	---	527.68657	691.26941	1641.1052	9.8008177	23.26759	no
Total Cadmium	916.26595	185.30971	---	293.2051	98.214147	---	98.214147	128.66053	305.446	1.824149	4.3306133	no
Chromium III	21653.091	45570.837	---	6928.9892	24152.544	---	6928.9892	9076.9758	21549.156	128.69336	305.52394	no
Chromium VI	41.000405	182.87778	---	13.12013	96.925225	---	13.12013	17.18737	40.803603	0.2436825	0.5785135	yes
Total Copper	504.23703	1931.2536	---	161.35585	1023.5644	---	161.35585	211.37616	501.81669	2.9968912	7.1147571	no
Total Lead	526.79017	505.43594	---	168.57285	267.88105	---	168.57285	220.83044	524.26157	3.1309339	7.4329806	no
Total Mercury	16.209928	0.6186318	---	5.187177	0.3278749	---	0.3278749	0.4295161	1.0196909	0.0060897	0.0144572	no
Total Nickel	27174.722	19580.11	---	8695.911	10377.459	---	8695.911	11391.643	27044.283	161.51072	383.43385	no
Total Zinc	3316.8971	19650.563	---	1061.4071	10414.799	---	1061.4071	1390.4433	3300.976	19.713705	46.801238	no
Total Cyanide	117.61991	89.776366	213534.75	37.638372	47.581474	213534.75	37.638372	49.306267	117.05534	0.6990642	1.6596105	no

DICXIN

2,3,7,8 TCDD; dicxin	---	---	3.447E-05	---	---	3.447E-05	3.447E-05	3.447E-05	8.204E-05	4.887E-07	1.163E-06	no
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VOLATILE COMPOUNDS

Benzene	5763.1194	18703.41	315.50125	1844.1982	9912.8071	315.50125	315.50125	315.50125	750.89298	4.4731767	10.646161	no
Bromoform	7508.1991	24355.996	1661.2888	2402.6237	12908.678	1661.2888	1661.2888	1661.2888	3953.8674	23.553753	56.057932	no
Bromodichloromethane	---	---	329.57672	---	---	329.57672	329.57672	329.57672	784.3926	4.6727388	11.121118	no
Carbon Tetrachloride	6995.6941	22693.47	57.450911	2238.6221	12027.539	57.450911	57.450911	57.450911	136.73317	0.814539	1.9366028	no
Chloroform	7405.6981	24023.491	3351.3031	2369.8234	12732.45	3351.3031	2369.8234	3104.4686	7370.1507	44.015156	104.494	no
Dibromochloromethane	---	---	243.20885	---	---	243.20885	243.20885	243.20885	578.83707	3.4482151	8.206752	no
1,2-Dichloroethane	30237.798	98088.992	325.55516	9676.0955	51987.166	325.55516	325.55516	325.55516	774.82128	4.6157211	10.985416	no
1,1-Dichloroethylene	2972.5293	9642.6467	27.76794	951.20939	5110.6028	27.76794	27.76794	27.76794	66.087697	0.3936939	0.9269914	no
1,3-Dichloropropylene	1552.8903	5037.4516	91.605144	496.92491	2669.8494	91.605144	91.605144	91.605144	218.02024	1.2987777	3.091091	no
Ethylbenzene	8200.0809	26600.405	13865.461	2624.0259	14098.214	13865.461	2624.0259	3437.4739	8160.7206	48.736505	115.7027	no
Methyl Chloride	140938.89	457194.46	---	45100.445	242313.06	---	45100.445	59081.583	140262.38	837.65869	1988.6401	no
Methylene Chloride	49456.738	160433.69	4165.191	15826.156	85029.856	4165.191	4165.191	4165.191	9913.1546	59.054078	140.54871	no
1,1,2,2-Tetrachloroethane	2388.2736	7747.3679	86.176366	764.24754	4106.105	86.176366	86.176366	86.176366	205.09975	1.2218085	2.9079043	no

Water Quality Screen for Citgo Petroleum Corp.; Lake Charles Manufacturing Complex

Input variables:

Receiving Water Characteristics:

Dilution:

Toxicity Dilution Series:

ZID Fs = 0.1

Biomonitoring dilution: C.0984288

Receiving Water Name= Bayou D'Inde

Dilution Series Factor: 0.75

Critical flow (Qr) cfs=	41.1
Harm. mean/avg tidal cfs=	123.3
Drinking Water=1 HHNPCR=2	
MW=1, BW=2, C=n	
Rec. Water Hardness=	400
Rec. Water TSS=	10
Fisch/Specific=1, Stream=0	
Diffuser Ratio=	

MZ Fs =	1
Critical Qr (MGD)=	26.56293
Harm. Mean (MGD)=	79.68879
ZID Dilution =	0.5219307
MZ Dilution =	0.0984288
HHnc Dilution=	0.0984288
HHc Dilution=	0.0351137
ZID Upstream =	0.9159631
MZ Upstream =	9.159631
MZhhnc Upstream=	9.159631

Percent Effluent	
Dilution No. 1	13.124%
Dilution No. 2	9.8429%
Dilution No. 3	7.3822%
Dilution No. 4	5.5366%
Dilution No. 5	4.1525%

Effluent Characteristics:

Partition Coefficients; Dissolved-->Total

Permittee=

Citgo Petroleum Corp.; Lake Charles Manufacturing Complex

METALS

FW

Permit Number=

LA0005941; AI 1250

Total Arsenic	1.8938018
Total Cadmium	3.965241
Chromium III	4.9476558
Chromium VI	1
Total Copper	2.8924889
Total Lead	5.4377009
Total Mercury	3.1008643
Total Nickel	2.3188521
Total Zinc	3.4940779

Facility flow (Qef),MGD=

2.9

MZhhc Upstream= 27.478893

Outfall Number =

001, Phase II

ZID Hardness= ---

MZ Hardness= ---

Eff. data, 2-lbs/day

2

ZID TSS= ---

MZ TSS= ---

MQL, 2-lbs/day

1

Effluent Hardness=

N/A

Multipliers:

Effluent TSS=

N/A

WLAa --> LTAA 0.32

WLAc --> LTAc 0.53

WQBL ind. 0=y, 1=n

Acute/Chr. ratio 0=n, 1=y

0

LTA a,c-->WQBL avg 1.31

LTA a,c-->WQBL max 3.11

LTA h --> WQBL max 2.38

Aquatic,acute only1=y,0=n

WQBL-limit/report 2.13

Page Numbering/Labeling

Appendix

Appendix B-2

WLA Fraction 1

Page Numbers 1=y, 0=n

1

WQBL Fraction 1

Input Page # 1=y, 0=n

1

Fischer/Site Specific inputs:

Pipe=1, Canal=2, Specific=3

Pipe width, feet

ZID plume dist., feet

MZ plume dist., feet

HHnc plume dist., feet

HHc plume dist., feet

Conversions:	
ug/L-->lbs/day Qef	0.024186
ug/L-->lbs/day Qeo	0
ug/L-->lbs/day Qr	0.342774
lbs/day-->ug/L Qeo	41.346233
lbs/day-->ug/L Qef	41.346233
diss-->tot 1=y0=n	1
Cu diss-->tot1=y0=n	1
cfs-->MGD	0.6463

Fischer/site specific dilutions:

F/specific ZID Dilution = ---

F/specific MZ Dilution = ---

F/specific HHnc Dilution= ---

F/specific HHc Dilution= ---

Receiving Stream:	
Default Hardness=	25
Default TSS=	10
99 Crit., 1=y, 0=n	1
Old MQL=1, New=0	0

Aquatic Life, Dissolved

Metal Criteria, ug/L

METALS		
	ACUTE	CHRONIC
Arsenic	339.8	150
Cadmium	90.174513	2.8109967
Chromium III	1707.86	554.01213
Chromium VI	16	11
Copper	68.029124	40.160522
Lead	37.80543	5.5909106
Mercury	2.04	0.012
Nickel	4573.2391	507.89488
Zinc	370.45141	338.27832

Site Specific Multiplier Values:

CV =	---
N =	---
WLAa --> LTAA	---
WLAc --> LTAc	---
LTA a,c-->WQBL avg	---
LTA a,c-->WQBL max	---
LTA h --> WQBL max	---

Citgo Petroleum Corp.; Lake Charles Manufacturing Complex
LA0005941; AI 1250

(*1) Toxic Parameters	(*2) Cu Effluent Instream Conc. ug/L	(*3) Effluent /Tech (Avg) lbs/day	(*4) Effluent /Tech (Max) lbs/day	(*5) MQL Effluent 1-No 95% 0-95 % ug/L	(*6) 95th % estimate Non-Tech lbs/day	(*7)	(*8) Numerical Criteria Acute FW ug/L	(*9) Chronic FW ug/L	(*10) HHNW ug/L	(*11) HH Carcinogen Indicator "C"
-----------------------------	--	---	---	--	---	------	---	-------------------------------	-----------------------	---

NONCONVENTIONAL

Total Phenols (4AAP)		9.5	35.6	5	1		700	350	50	
3-Chlorophenol				10						
4-Chlorophenol				10			383	192		
2,3-Dichlorophenol				10						
2,5-Dichlorophenol				10						
2,6-Dichlorophenol				10						
3,4-Dichlorophenol				10						
2,4-Dichlorophenoxy- acetic acid (2,4-D)				---						
2-(2,4,5-Trichlorophen- oxy) propionic acid (2,4,5-TP, Silvex)				---						

METALS AND CYANIDE

Total Arsenic				5			643.51386	284.07027		
Total Cadmium				1			357.56367	11.146279		
Chromium III		11.2	31.9	10	1		8449.9034	2741.0613		
Chromium VI		1	2.3	10	1		16	11		
Total Copper		0.04	---	3	0	0.0852	196.77348	116.16386		
Total Lead		---	---	2			205.57462	30.4017		
Total Mercury		---	---	0.005			6.3257631	0.0372104		
Total Nickel		---	---	5			10604.665	1177.7331		
Total Zinc		---	---	20			1294.3861	1181.9708		
Total Cyanide		---	---	10			45.9	5.4	12844	

DIOXIN

2,3,7,8 TCDD; dioxin				1.0E-05					7.2E-07	C
----------------------	--	--	--	---------	--	--	--	--	---------	---

VOLATILE COMPOUNDS

Benzene		---	---	10			2249	1125	6.59	C
Bromoform				10			2930	1465	34.7	C
Bromodichloromethane		---	---	10					6.884	C
Carbon Tetrachloride		---	---	2			2730	1365	1.2	C
Chloroform		---	---	10			2890	1445	70	C
Dibromochloromethane		---	---	10					5.08	C
1,2-Dichloroethane		---	---	10			11800	5900	6.8	C
1,1-Dichloroethylene		---	---	10			1160	580	0.58	C
1,3-Dichloropropylene		---	---	10			606	303	5.51	
Ethylbenzene		---	---	10			3200	1600	834	
Methyl Chloride		---	---	50			55000	27500		
Methylene Chloride		---	---	20			19300	9650	87	C
1,1,2,2-Tetrachloro- ethane				10			932	466	1.8	C

Citgo Petroleum Corp.; Lake Charles Manufacturing Complex
LA0005941; AI 1250

(*1)	(*12)	(*13)	(*14)	(*15)	(*16)	(*17)	(*18)	(*19)	(*20)	(*21)	(*22)	(*23)
Toxic Parameters	WLAa	WLAc	WLAh	LTAa	LTAc	LTAh	Limiting A,C,HH	WQBL Avg	WQBL Max	WQBL Avg	WQBL Max	Need WQBL? Phase
	Acute	Chronic	HHNDW	Acute	Chronic	HHNDW		001,	001,	001,	001,	
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	lbs/day	lbs/day	

NONCONVENTIONAL

Total Phenols (4AAP)	1341.1742	3555.8709	507.98155	429.17574	1884.6116	507.98155	429.17574	562.22021	1334.7365	13.597858	32.281938	yes
3-Chlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
4-Chlorophenol	733.81387	1950.6492	---	234.82044	1033.8441	---	234.82044	307.61477	730.29156	7.4399709	17.662832	no
2,3-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
2,5-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
2,6-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
3,4-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
2,4-Dichlorophenoxyacetic acid (2,4-D)	---	---	---	---	---	---	---	---	---	---	---	no
2-(2,4,5-Trichlorophenoxy) propionic acid (2,4,5-TP, Silvex)	---	---	---	---	---	---	---	---	---	---	---	no

METALS AND CYANIDE

Total Arsenic	1232.9488	2886.0492	---	394.54362	1529.6061	---	394.54362	516.85214	1227.0307	12.500586	29.676964	no
Total Cadmium	685.0788	113.24208	---	219.22522	60.018304	---	60.018304	78.623979	186.65693	1.9015996	4.5144844	no
Chromium III	16189.703	27848.171	---	5180.705	14759.531	---	5180.705	6786.7235	16111.993	164.1437	389.68465	no
Chromium VI	30.65541	111.75594	---	9.8097311	59.230649	---	9.8097311	12.850748	30.508264	0.3108082	0.7378729	yes
Total Copper	377.01074	1180.182	---	120.64344	625.49645	---	120.64344	158.0429	375.20108	3.8224256	9.0746134	no
Total Lead	393.87339	308.87005	---	126.03948	163.70113	---	126.03948	165.11172	391.9828	3.9933922	9.4804959	no
Total Mercury	12.119929	0.3780436	---	3.8783772	0.2003631	---	0.2003631	0.2624757	0.6231293	0.0063482	0.015071	no
Total Nickel	20318.147	11965.334	---	6501.8069	6341.6268	---	6341.6268	8307.5311	19722.459	200.92595	477.0074	no
Total Zinc	2479.996	12008.387	---	793.59872	6364.4452	---	793.59872	1039.6143	2468.092	25.144112	59.693274	no
Total Cyanide	87.942706	54.862008	130490.3	28.141666	29.076864	130490.3	28.141666	36.865583	87.520581	0.891631	2.1167728	no

DIOXIN

2,3,7,8 TCDD: dioxin	---	---	2.05E-05	---	---	2.05E-05	2.05E-05	2.05E-05	4.88E-05	4.959E-07	1.18E-06	no
----------------------	-----	-----	----------	-----	-----	----------	----------	----------	----------	-----------	----------	----

VOLATILE COMPOUNDS

Benzene	4309.001	11429.585	187.67591	1378.8803	6057.68	187.67591	187.67591	187.67591	446.66866	4.5391295	10.803128	no
Bromoform	5613.7719	14883.859	988.21759	1796.407	7888.4455	988.21759	988.21759	988.21759	2351.9579	23.901031	56.884453	no
Bromodichloromethane	---	---	196.0487	---	---	196.0487	196.0487	196.0487	466.59591	4.7416339	11.285089	no
Carbon Tetrachloride	5230.5793	13867.896	34.174672	1673.7854	7349.9851	34.174672	34.174672	34.174672	81.335719	0.8265486	1.9671857	no
Chloroform	5537.1334	14680.667	1993.5225	1771.8827	7780.7534	1993.5225	1771.8827	2321.1663	5510.5551	56.139728	133.27829	no
Dibromochloromethane	---	---	144.67278	---	---	144.67278	144.67278	144.67278	344.32121	3.4990558	8.3277528	no
1,2-Dichloroethane	22608.365	59941.823	193.65647	7234.6767	31769.166	193.65647	193.65647	193.65647	460.90241	4.6837755	11.147386	no
1,1-Dichloroethylene	2222.5172	5892.586	16.517758	711.2055	3123.0706	16.517758	16.517758	16.517758	39.312264	0.3994985	0.9508064	no
1,3-Dichloropropylene	1161.0736	3078.3682	55.979567	371.54357	1631.5351	55.979567	55.979567	55.979567	133.23137	1.3539218	3.2223339	no
Ethylbenzene	6131.0819	16255.41	8473.1323	1961.9462	8615.3671	8473.1323	1961.9462	2570.1495	6101.6527	62.161637	147.57457	no
Methyl Chloride	105377.97	279389.85	---	33720.951	148076.62	---	33720.951	44174.445	104872.16	1068.4031	2536.438	no
Methylene Chloride	36978.088	98040.439	2477.6637	11832.988	51961.433	2477.6637	2477.6637	2477.6637	5896.8396	59.924774	142.62096	no
1,1,2,2-Tetrachloroethane	1785.6776	4734.3881	51.262008	571.41684	2509.2257	51.262008	51.262008	51.262008	122.00358	1.2398229	2.9507785	no

Water Quality Screen for Citgo Petroleum Corp.; Lake Charles Manufacturing Complex

Input variables:

Receiving Water Characteristics:

Dilution:

Toxicity Dilution Series:

ZID Fs = 0.0333333

Biomonitoring dilution: 0.0143352

Receiving Water Name=

Calcasieu River

Dilution Series Factor: 0.75

Critical flow (Qr) cfs= 2898

MZ Fs = 0.3333333

Harm. mean/avg tidal cfs= 8694

Critical Qr (MGD)= 1872.9774

Drinking Water=1 HHNPCR=2

Harm. Mean (MGD)= 5618.9322

Dilution No. 1 1.911%

MW=1, BW=2, O=n

ZID Dilution = 0.1269707

Dilution No. 2 1.4335%

Rec. Water Hardness= 400

MZ Dilution = 0.0143352

Dilution No. 3 1.0751%

Rec. Water TSS= 14

HHnc Dilution= 0.0048245

Dilution No. 4 0.8064%

Fisch/Specific=1,Stream=0

HHc Dilution= 0.0016134

Dilution No. 5 0.6048%

Diffuser Ratio=

ZID Upstream = 6.8758348

MZ Upstream = 68.758348

Partition Coefficients; Dissolved-->Total

MZhhnc Upstream= 206.27504

Effluent Characteristics:

Permittee=

Citgo Petroleum Corp.; Lake Charles Manufacturing Complex

METALS

FW

Permit Number=

LA0005941; AI 1250

Total Arsenic 1.9788042

Facility flow (Qef),MGD= 9.08

MZhhnc Upstream= 618.82513

Total Cadmium 3.838333

Outfall Number = 003, Phase I

ZID Hardness= ---

Chromium III 5.0417388

Eff. data, 2-lbs/day 2

MZ Hardness= ---

Chromium VI 1

SQL, 2-lbs/day 1

ZID TSS= ---

Total Copper 3.0655068

Effluent Hardness= N/A

MZ TSS= ---

Total Lead 5.746611

Effluent TSS= N/A

Multipliers:

Total Mercury 3.0041955

WQEL ind. 0=y, 1=n

WLAa --> LTAA 0.32

Total Nickel 2.524162

Acute/Chr. ratio 0=n, 1=y 0

WLAc --> LTAC 0.53

Total Zinc 3.7589792

Aquatic,acute only1=y,0=n

LTA a,c-->WQBL avg 1.31

Aquatic Life, Dissolved

LTA a,c-->WQBL max 3.11

Metal Criteria, ug/L

LTA h --> WQBL max 2.38

METALS ACUTE CHRONIC

Page Numbering/Labeling

WQBL-limit/report 2.13

Arsenic 339.8 150

Appendix

Appendix B-3

WLA Fraction 1

Cadmium 90.174513 2.8109967

Page Numbers 1=y, 0=n

1

WQBL Fraction 1

Chromium III 1707.86 554.01213

Input Page # 1=y, 0=n

1

Conversions:

Chromium VI 16 11

Fischer/Site Specific inputs:

ug/L-->lbs/day Qef 0.0757272

Copper 68.029124 40.160522

Pipe=1,Canal=2,Specific=3

ug/L-->lbs/day Qec 0

Lead 37.80543 5.5909106

Pipe width, feet

ug/L-->lbs/day Qr 24.16932

Mercury 2.04 0.012

ZID plume dist., feet

lbs/day-->ug/L Qec 13.205295

Nickel 4573.2391 507.89488

MZ plume dist., feet

lbs/day-->ug/L Qef 13.205295

Zinc 370.45141 338.27832

HHnc plume dist., feet

diss-->tot 1=y0=n 1

Site Specific Multiplier Values:

HHc plume dist., feet

Cu diss-->tot1=y0=n 1

CV = ---

N = ---

Fischer/site specific dilutions:

cfs-->MGD 0.6463

WLAa --> LTAA ---

F/specific ZID Dilution = ---

Receiving Stream:

WLAc --> LTAC ---

F/specific MZ Dilution = ---

Default Hardness= 25

LTA a,c-->WQBL avg ---

F/specific HHnc Dilution= ---

Default TSS= 10

LTA a,c-->WQBL max ---

F/specific HHc Dilution= ---

99 Crit., 1=y, 0=n 1

LTA h --> WQBL max ---

Old MQL=1, New=0 0

Citgo Petroleum Corp.; Lake Charles Manufacturing Complex
LA0005941; AI 1250

(*1) Toxic Parameters	(*2) Cu Effluent Instream Conc. ug/L	(*3) Effluent /Tech (Avg) lbs/day	(*4) Effluent /Tech (Max) lbs/day	(*5) MQL Effluent 1=No 0=95 % ug/L	(*6) 95th % Non-Tech lbs/day	(*7) estimate	(*8) Numerical Criteria		(*9) HHNDW FW ug/L	(*10) Carcinogen Indicator ug/L	(*11) HH "C"
-----------------------------	--	---	---	--	---------------------------------------	------------------	----------------------------	--	-----------------------------	--	--------------------

NONCONVENTIONAL

Total Phenols (4AAP)	27.1	55.7	5	1			700	350	50	
3-Chlorophenol			10							
4-Chlorophenol			10				383	192		
2,3-Dichlorophenol			10							
2,5-Dichlorophenol			10							
2,6-Dichlorophenol			10							
3,4-Dichlorophenol			10							
2,4-Dichlorophenoxy- acetic acid (2,4-D)			---							
2-(2,4,5-Trichlorophenoxy) propionic acid (2,4,5-TP, Silvex)			---							

METALS AND CYANIDE

Total Arsenic			5				672.39765	296.82062		
Total Cadmium			1				346.11981	10.789541		
Chromium III	32.7	94	10	1			8610.5839	2793.1844		
Chromium VI	2.8	6.2	10	1			16	11		
Total Copper	0.3	---	3	0	0.639		208.54374	123.11235		
Total Lead	---	---	2				217.2531	32.128788		
Total Mercury	---	---	0.005				6.1285587	0.0360503		
Total Nickel	---	---	5				11543.596	1282.009		
Total Zinc	---	---	20				1392.5192	1271.5812		
Total Cyanide	---	---	10				45.9	5.4	12844	

DIOXIN

2,3,7,8 TCDD; dioxin			1.0E-05						7.2E-07	C
----------------------	--	--	---------	--	--	--	--	--	---------	---

VOLATILE COMPOUNDS

Benzene	---	---	10				2249	1125	6.59	C
Bromoform			10				2930	1465	34.7	C
Bromodichloromethane	---	---	10						6.884	C
Carbon Tetrachloride	---	---	2				2730	1365	1.2	C
Chloroform	---	---	10				2890	1445	70	C
Dibromochloromethane	---	---	10						5.08	C
1,2-Dichloroethane	---	---	10				11800	5900	6.8	C
1,1-Dichloroethylene	---	---	10				1160	580	0.58	C
1,3-Dichloropropylene	---	---	10				606	303	5.51	
Ethylbenzene	---	---	10				3200	1600	834	
Methyl Chloride	---	---	50				55000	27500		
Methylene Chloride	---	---	20				19300	9650	87	C
1,1,2,2-Tetrachloro- ethane			10				932	466	1.8	C

Citgo Petroleum Corp.; Lake Charles Manufacturing Complex
LA0005941; AI 1250

(*1)	(*2)	(*3)	(*4)	(*5)	(*6)	(*7)	(*8)	(*9)	(*10)	(*11)
Toxic Parameters	Cu Effluent		Effluent	MQL Effluent		95th %	Numerical Criteria			HH
	Instream	/Tech	/Tech	1=No	95%	estimate	Acute	Chronic	HHNDW	Carcinogen
	Conc.	(Avg)	(Max)	0=95 %	Non-Tech		FW	FW		Indicator
	ug/L	lbs/day	lbs/day	ug/L	lbs/day		ug/L	ug/L	ug/L	"C"

VOLATILE COMPOUNDS (cont'd)

Tetrachloroethylene	---	---	10				1290	645	2.5	C
Toluene	---	---	10				1270	635	46200	
1,1,1-Trichloroethane	---	---	10				5280	2640		
1,1,2-Trichloroethane	---	---	10				1800	900	6.9	C
Trichloroethylene	---	---	10				3900	1950	21	C
Vinyl Chloride	---	---	10						0.45	C

ACID COMPOUNDS

2-Chlorophenol	---	---	10				258	129	126.4	
2,4-Dichlorophenol	---	---	10				202	101	232.6	

BASE NEUTRAL COMPOUNDS

Benzidine			50				250	125	0.00017	C
Hexachlorobenzene	---	---	5						0.00025	C
Hexachlorobutadiene	---	---	10				5.1	1.02	0.11	C

PESTICIDES

Aldrin			0.01				3		0.0004	C
Hexachlorocyclohexane (gamma BHC, Lindane)			0.05				5.3	0.21	0.2	C
Chlordane			0.2				2.4	0.0043	0.00019	C
4,4'-DDT			0.02				1.1	0.001	0.00019	C
4,4'-DDE			0.1				52.5	10.5	0.00019	C
4,4'-DDD			0.1				0.03	0.006	0.00027	C
Dieldrin			0.02				0.2374	0.0557	0.00005	C
Endosulfan			0.1				0.22	0.056	0.64	
Endrin			0.02				0.0864	0.0375	0.26	
Heptachlor			0.01				0.52	0.0038	0.00007	C
Toxaphene			0.3				0.73	0.0002	0.00024	C

Other Parameters:

Fecal Col. (col/100ml)									400	
Chlorine			33				19	11		
Ammonia										
Chlorides										
Sulfates										
TDS										

Citgo Petroleum Corp.; Lake Charles Manufacturing Complex
LA0005941; AI 1250

(*1)	(*2)	(*3)	(*4)	(*5)	(*6)	(*7)	(*8)	(*9)	(*10)	(*11)
Toxic	Cu Effluent		Effluent	MQL Effluent		95th %	Numerical Criteria			HH
Parameters	Instream	/Tech	/Tech	1-No	95%	estimate	Acute	Chronic	HHNDW	Carcinogen
	Conc.	(Avg)	(Max)	0=95 %	Non-Tech		FW	FW		Indicator
	ug/L	lbs/day	lbs/day	ug/L	lbs/day		ug/L	ug/L	ug/L	"C"

Technology Spreadsheet (ocpsfqlq.wk#) Import Macros:

OCPSF Spreadsheet (ocpsfql.wk#) Import Macros:

```

\T {GOTO}E79~ Erases spreadsheet parameter
/re{R}{D 26}~ input areas. Metals and Organics
{GOTO}E121~ The Non-Conventionals and
/re{R}{D 14}~ Pesticides are not erased.
{GOTO}E79~ Tech limits are imported from Tech
/fcantechexp_all~ spreadsheet.

\M {GOTO}E79~ Site-Specific Macro for erasing and
/re{R}{D 26}~ importing tech metal limitations
{GOTO}E79~ from Tech spreadsheet.
/fcantechexp_met~

\O {GOTO}E94~ Site-Specific Macro for erasing and
/re{R}{D 13}~ importing tech organic limitations
{GOTO}E121~ from Tech spreadsheet. Non-Conventional
/re{R}{D 14}~ Metals, and Pesticides are not touched.
{GOTO}E94~
/fcantechexp_org~

\R {GOTO}D65~ Reset macro; erases tech import ranges
/re{R 2}{D 42}~ and resets the status as unprotected
{GOTO}D121~ for those cells (Rule of Blue)
/re{R 2}{D 42}~
{GOTO}D65~
/ru{R 2}{D 42}~
{GOTO}D121~
/ru{R 2}{D 42}~
{HOME}~

\A {GOTO}E79~ Tech limits are imported from Tech
/fcantechexp_all~ spreadsheet. Imported values are
added to existing values

```

Water Quality Screen for Citgo Petroleum Corp.; Lake Charles Manufacturing Complex

Input variables:

Receiving Water Characteristics:

Dilution:

Toxicity Dilution Series:

ZID Fs = 0.0333333

Biomonitoring dilution: 0.0143352

Receiving Water Name=

Calcasieu River

Dilution Series Factor: 0.75

Critical flow (Qr) cfs= 2898

MZ Fs = 0.3333333

Harm. mean/avg tidal cfs= 8694

Critical Qr (MGD)= 1872.9774

Drinking Water=1 HHNPCR=2

Harm. Mean (MGD)= 5618.9322

Dilution No. 1 1.911%

MW=1, BW=2, O=n

ZID Dilution = 0.1269707

Dilution No. 2 1.4335%

Rec. Water Hardness= 400

MZ Dilution = 0.0143352

Dilution No. 3 1.0751%

Rec. Water TSS= 14

HHnc Dilution= 0.0048245

Dilution No. 4 0.8064%

Fisch/Specific=1,Stream=0

HHc Dilution= 0.0016134

Dilution No. 5 0.6048%

Diffuser Ratio=

ZID Upstream = 6.8758348

MZ Upstream = 68.758348

Partition Coefficients; Dissolved-->Total

MZhhnc Upstream= 206.27504

Effluent Characteristics:

Permittee=

Citgo Petroleum Corp.; Lake Charles Manufacturing Complex

METALS

FW

Permit Number=

LA0005941; AI 1250

Total Arsenic 1.9788042

Facility flow (Qef),MGD= 9.08

MZhhc Upstream= 618.82513

Total Cadmium 3.838333

Outfall Number = 003, Phase II

ZID Hardness= ---

Chromium III 5.0417388

Eff. data, 2=lbs/day 2

MZ Hardness= ---

Chromium VI 1

MQL, 2=lbs/day 1

ZID TSS= ---

Total Copper 3.0655068

Effluent Hardness= N/A

MZ TSS= ---

Total Lead 5.746611

Effluent TSS= N/A

Multipliers:

Total Mercury 3.0041955

WQBL ind. 0=y, 1=n

WLAa --> LTAA 0.32

Total Nickel 2.524162

Acute/Chr. ratio 0=n, 1=y 0

WLAc --> LTAC 0.53

Total Zinc 3.7589792

Aquatic,acute only1=y,0=n

LTA a,c-->WQBL avg 1.31

Aquatic Life, Dissolved

LTA a,c-->WQBL max 3.11

Metal Criteria, ug/L

LTA h --> WQBL max 2.38

WQBL-limit/report 2.13

METALS

ACUTE CHRONIC

Page Numbering/Labeling

Appendix B-4

WLA Fraction 1

Arsenic 339.8 150

Appendix

1

WQBL Fraction 1

Cadmium 90.174513 2.8109967

Page Numbers 1=y, 0=n

1

Input Page # 1=y, 0=n

Conversions:

ug/L-->lbs/day Qef 0.0757272

Chromium III 1707.86 554.01213

ug/L-->lbs/day Qec 0

Chromium VI 16 11

ug/L-->lbs/day Qr 24.16932

Copper 68.029124 40.160522

lbs/day-->ug/L Qec 13.205295

Lead 37.80543 5.5909106

lbs/day-->ug/L Qef 13.205295

Mercury 2.04 0.012

diss-->tot 1=y0=n 1

Nickel 4573.2391 507.89488

Cu diss->tot1=y0=n 1

Zinc 370.45141 338.27832

cfs-->MGD 0.6463

Site Specific Multiplier Values:

CV = ---

N = ---

Fischer/Site Specific inputs:

Pipe=1,Canal=2,Specific=3

Pipe width, feet

ZID plume dist., feet

MZ plume dist., feet

HHnc plume dist., feet

HHc plume dist., feet

Fischer/site specific dilutions:

F/specific ZID Dilution = ---

Receiving Stream:

WLAa --> LTAA ---

F/specific MZ Dilution = ---

Default Hardness= 25

WLAc --> LTAC ---

F/specific HHnc Dilution= ---

Default TSS= 10

LTA a,c-->WQBL avg ---

F/specific HHc Dilution= ---

99 Crit., 1=y, 0=n 1

LTA a,c-->WQBL max ---

Old MQL=1, New=0 0

LTA h --> WQBL max ---

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(*1) Toxic Parameters	(*2) Cu Effluent Instream Conc. ug/L	(*3) Effluent /Tech (Avg) lbs/day	(*4) Effluent /Tech (Max) lbs/day	(*5) MQL Effluent 1-No 95% 0-95 % ug/L	(*6) 95th % estimate Non-Tech lbs/day	(*7)	(*8) Numerical Criteria Acute FW ug/L	(*9) Chronic FW ug/L	(*10) HHNDW ug/L	(*11) HH Carcinogen Indicator "C"
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NONCONVENTIONAL

Total Phenols (4AAP)	27.9	62.1	5	1			700	350	50	
3-Chlorophenol				10						
4-Chlorophenol				10			383	192		
2,3-Dichlorophenol				10						
2,5-Dichlorophenol				10						
2,6-Dichlorophenol				10						
3,4-Dichlorophenol				10						
2,4-Dichlorophenoxy- acetic acid (2,4-D)				---						
2-(2,4,5-Trichlorophenoxy) propionic acid (2,4,5-TP, Silvex)				---						

METALS AND CYANIDE

Total Arsenic				5			672.39765	296.82062		
Total Cadmium				1			346.11981	10.789541		
Chromium III	32.7	94	10	1			8610.5839	2793.1844		
Chromium VI	2.8	6.2	10	1			16	11		
Total Copper	0.3	---	3	0	0.639		208.54374	123.11235		
Total Lead	---	---	2				217.2531	32.128788		
Total Mercury	---	---	0.005				6.1285587	0.0360503		
Total Nickel	---	---	5				11543.596	1282.009		
Total Zinc	---	---	20				1392.5192	1271.5812		
Total Cyanide	---	---	10				45.9	5.4	12844	

DIOXIN

2,3,7,8 TCDD; dioxin				1.0E-05					7.2E-07	C
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VOLATILE COMPOUNDS

Benzene	---	---	10				2249	1125	6.59	C
Bromoform			10				2930	1465	34.7	C
Bromodichloromethane	---	---	10						6.884	C
Carbon Tetrachloride	---	---	2				2730	1365	1.2	C
Chloroform	---	---	10				2890	1445	70	C
Dibromochloromethane	---	---	10						5.08	C
1,2-Dichloroethane	---	---	10				11800	5900	6.8	C
1,1-Dichloroethylene	---	---	10				1160	580	0.58	C
1,3-Dichloropropylene	---	---	10				606	303	5.51	
Ethylbenzene	---	---	10				3200	1600	834	
Methyl Chloride	---	---	50				55000	27500		
Methylene Chloride	---	---	20				19300	9650	87	C
1,1,2,2-Tetrachloro- ethane			10				932	466	1.8	C

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(*1)	(*12)	(*13)	(*14)	(*15)	(*16)	(*17)	(*18)	(*19)	(*20)	(*21)	(*22)	(*23)
Toxic Parameters	WLAa	WLAc	WLAh	LTAa	LTAc	LTAh	Limiting A,C,HH	WQBL Avg	WQBL Max	WQBL Avg	WQBL Max	WQBL Need
	Acute	Chronic	HHNDW	Acute	Chronic	HHNDW		003,	003,	003,	003,	Phase
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	lbs/day	lbs/day	

NONCONVENTIONAL

Total Phenols (4AAP)	5513.0844	24415.422	10363.752	1764.187	12940.174	10363.752	1764.187	2311.085	5486.6216	175.01199	415.48649	no
3-Chlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
4-Chlorophenol	3016.4447	13393.603	---	965.26231	7098.6095	---	965.26231	1264.4936	3001.9658	95.756562	227.33046	no
2,3-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
2,5-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
2,6-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
3,4-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
2,4-Dichlorophenoxy-acetic acid (2,4-D)	---	---	---	---	---	---	---	---	---	---	---	no
2-(2,4,5-Trichlorophenoxy) propionic acid (2,4,5-TP, Silvex)	---	---	---	---	---	---	---	---	---	---	---	no

METALS AND CYANIDE

Total Arsenic	5295.6928	20705.716	---	1694.6217	10974.03	---	1694.6217	2219.9544	5270.2735	168.11093	399.10306	no
Total Cadmium	2725.9824	752.66058	---	872.31438	398.91011	---	398.91011	522.57224	1240.6104	39.572932	93.947954	no
Chromium III	67815.537	194847.93	---	21700.972	103259.4	---	21700.972	28428.273	67490.022	2152.7935	5110.8304	no
Chromium VI	126.01336	767.34183	---	40.324274	406.69117	---	40.324274	52.824799	125.40849	4.0002741	9.496834	no
Total Copper	1642.4561	8588.1143	---	525.58594	4551.7006	---	525.58594	688.51758	1634.5723	52.139508	123.78158	no
Total Lead	1711.0495	2241.2512	---	547.53584	1187.8631	---	547.53584	717.27195	1702.8365	54.316997	128.95104	no
Total Mercury	48.267516	2.5148125	---	15.445605	1.3329506	---	1.3328506	1.7460343	4.1451655	0.1322223	0.3139018	no
Total Nickel	90915.458	89430.828	---	29092.947	47398.339	---	29092.947	38111.76	90479.064	2886.0969	6851.7262	no
Total Zinc	10967.251	88703.401	---	3509.5203	47012.803	---	3509.5203	4597.4715	10914.608	348.15365	826.53271	no
Total Cyanide	361.50082	376.69508	2662240.7	115.68026	199.64839	2662240.7	115.68026	151.54114	359.76561	11.475786	27.244043	no

DIOXIN

2,3,7,8 TCDD; dioxin	---	---	0.0004463	---	---	0.0004463	0.0004463	0.0004463	0.0010621	3.38E-05	8.043E-05	no
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VOLATILE COMPOUNDS

Benzene	17712.752	78478.142	4084.6476	5668.0808	41593.415	4084.6476	4084.6476	4084.6476	9721.4613	309.31893	736.17905	no
Bromoform	23076.196	102195.98	21507.932	7384.3827	54163.869	21507.932	7384.3827	9673.5414	22965.43	732.5502	1739.1077	no
Bromodichloromethane	---	---	4266.8762	---	---	4266.8762	4266.8762	4266.8762	10155.165	323.11859	769.02224	no
Carbon Tetrachloride	21501.029	95220.145	743.79016	6880.3293	50466.677	743.79016	743.79016	743.79016	1770.2206	56.325146	134.05385	no
Chloroform	22761.163	100800.81	43387.759	7283.572	53424.431	43387.759	7283.572	9541.4794	22651.909	722.54952	1715.3656	no
Dibromochloromethane	---	---	3148.7117	---	---	3148.7117	3148.7117	3148.7117	7493.9338	238.44312	567.49462	no
1,2-Dichloroethane	92934.851	411574.25	4214.8109	29739.152	218134.35	4214.8109	4214.8109	4214.8109	10031.25	319.17583	759.63847	no
1,1-Dichloroethylene	9135.9684	40459.842	359.49858	2923.5099	21443.716	359.49858	359.49858	359.49858	855.60661	27.223821	64.792693	no
1,3-Dichloropropylene	4772.7559	21136.779	1142.0855	1527.2819	11202.493	1142.0855	1142.0855	1142.0855	2718.1635	86.486937	205.83891	no
Ethylbenzene	25202.671	111613.36	172867.39	8064.8548	59155.079	172867.39	8064.8548	10564.96	25081.699	800.05483	1899.3668	no
Methyl Chloride	433170.91	1918354.6	---	138614.69	1016727.9	---	138614.69	181585.25	431091.69	13750.942	32645.367	no
Methylene Chloride	152003.61	673168.06	53924.786	48641.156	356779.07	53924.786	48641.156	63719.914	151273.99	4825.3307	11455.556	no
1,1,2,2-Tetrachloroethane	7340.278	32507.39	1115.6852	2348.889	17228.917	1115.6852	1115.6852	1115.6852	2655.3309	84.487719	201.08077	no

APPENDIX B-5 LA0005941, AI No. 1250

Documentation and Explanation of Water Quality Screen
and Associated Excel Spreadsheet

Each reference column is marked by a set of parentheses enclosing a number and asterisk, for example (*1) or (*19). These columns represent inputs, existing data sets, calculation points, and results for determining Water Quality Based Limits for an effluent of concern. The following represents a summary of information used in calculating the water quality screen:

Outfall 001

Receiving Water: Bayou D'Inde
Critical Flow, Q_{rc} (cfs): 41.1
Harmonic Mean Flow, Q_{rh} (cfs): 123.3
Segment No.: 030901
Receiving Stream Hardness (mg/L): 400
Receiving Stream TSS (mg/L): 10
MZ Stream Factor, F_s : 1
Plume distance, P_f : N/A

Outfall 003

Receiving Water: Clacasiou River
Critical Flow, Q_{rc} (cfs): 2,898
Harmonic Mean Flow, Q_{rh} (cfs): 8,694
Segment No.: 030301
Receiving Stream Hardness (mg/L): 400
Receiving Stream TSS (mg/L): 14
MZ Stream Factor, F_s : 0.33
Plume distance, P_f : N/A

Effluent Characteristics:

Company: Citgo Petroleum Corporation
Facility flow, Q_e (MGD): 1.70 (Outfall 001 Phase I); 2.90 (Outfall 001 Phase II); 9.08 (Outfall 003)
Effluent Hardness: N/A
Effluent TSS: N/A
Pipe/canal width, P_w : N/A
Permit Number: LA0005941

Variable Definition:

Q_{rc} , critical flow of receiving stream, cfs
 Q_{rh} , harmonic mean flow of the receiving stream, cfs
 P_f = Allowable plume distance in feet, specified in LAC 33.IX.1115.D
 P_w = Pipe width or canal width in feet
 Q_e , total facility flow, MGD
 F_s , stream factor from LAC.IX.33.11 (1 for harmonic mean flow)
 C_u , ambient concentration, ug/L
 C_r , numerical criteria from LAC.IX.1113, Table 1
WLA, wasteload allocation

LTA, long term average calculations
 WQBL, effluent water quality based limit
 ZID, Zone of Initial Dilution in % effluent
 MZ, Mixing Zone in % effluent

Formulas used in aquatic life water quality screen (dilution type WLA):

Streams:

$$\text{Dilution Factor} = \frac{Q_e}{(Q_{rc} \times 0.6463 \times F_s + Q_e)}$$

$$\text{WLA a,c,h} = \frac{C_r}{\text{Dilution Factor}} - \frac{(F_s \times Q_{rc} \times 0.6463 \times C_u)}{Q_e}$$

Static water bodies (in the absence of a site specific dilution):

Discharge from a pipe:

Discharge from a canal:

Critical
 Dilution = $\frac{(2.8) P_w n^{1/2}}{P_f}$

Critical
 Dilution = $\frac{(2.38) (P_w^{1/2})}{(P_f)^{1/2}}$

$$\text{WLA} = \frac{(C_r - C_u) P_f}{(2.8) P_w n^{1/2}}$$

$$\text{WLA} = \frac{(C_r - C_u) P_f^{1/2}}{2.38 P_w^{1/2}}$$

Formulas used in human health water quality screen, human health non-carcinogens (dilution type WLA):

Streams:

$$\text{Dilution Factor} = \frac{Q_e}{(Q_{rc} \times 0.6463 + Q_e)}$$

$$\text{WLA a,c,h} = \frac{C_r}{\text{Dilution Factor}} - \frac{(Q_{rc} \times 0.6463 \times C_u)}{Q_e}$$

Formulas used in human health water quality screen, human health carcinogens (dilution type WLA):

$$\text{Dilution Factor} = \frac{Q_e}{(Q_{rh} \times 0.6463 + Q_e)}$$

$$\text{WLA a,c,h} = \frac{C_r}{\text{Dilution Factor}} - \frac{(Q_{rh} \times 0.6463 \times C_u)}{Q_e}$$

Static water bodies in the absence of a site specific dilution (human health carcinogens and human health non-carcinogens):

Discharge from a pipe:

Discharge from a canal:

Critical
Dilution = $\frac{(2.8) P_w n^{1/2}}{P_f}$

$$WLA = \frac{(Cr-Cu) P_f^*}{(2.8) P_w n^{1/2}}$$

Critical
Dilution = $\frac{(2.38) (P_w^{1/2})}{(P_f)^{1/2}}$

$$WLA = \frac{(Cr-Cu) P_f^{1/2*}}{2.38 P_w^{1/2}}$$

* P_f is set equal to the mixing zone distance specified in LAC 33:IX.1115 for the static water body type, i.e., lake, estuary, Gulf of Mexico, etc.

If a site specific dilution is used, WLA are calculated by subtracting Cu from Cr and dividing by the site specific dilution for human health and aquatic life criteria.

$$WLA = \frac{(Cr-Cu)}{\text{site specific dilution}}$$

Longterm Average Calculations:

$$LTAA = WLAa \times 0.32$$

$$LTAc = WLAc \times 0.53$$

$$LTAh = WLAh$$

WQBL Calculations:

Select most limiting LTA to calculate daily max and monthly avg WQBL

If aquatic life LTA is more limiting:

$$\text{Daily Maximum} = \text{Min}(LTAA, LTAc) \times 3.11$$

$$\text{Monthly Average} = \text{Min}(LTAc, LTAc) \times 1.31$$

If human health LTA is more limiting:

$$\text{Daily Maximum} = LTAh \times 2.38$$

$$\text{Monthly Average} = LTAh$$

Mass Balance Formulas:

$$\text{mass (lbs/day)}: (\text{ug/L}) \times 1/1000 \times (\text{flow, MGD}) \times 8.34 = \text{lbs/day}$$

$$\text{concentration (ug/L)}: \frac{\text{lbs/day}}{(\text{flow, MGD}) \times 8.34 \times 1/1000} = \text{ug/L}$$

The following is an explanation of the references in the spreadsheet.

(*1) Parameter being screened.

(*2) Instream concentration for the parameter being screened in ug/L. In the absence of accurate supporting data, the instream concentration is assumed to be zero (0).

- (*3) Monthly average effluent or technology value in concentration units of ug/L or mass units of lbs/day. Units determined on a case-by-case basis as appropriate to the particular situation.
- (*4) Daily maximum technology value in concentration units of ug/L or mass units of lbs/day. Units determined on a case-by-case basis as appropriate to the particular situation.
- (*5) Minimum analytical Quantification Levels (MQLs). Established in a letter dated January 27, 1994 from Wren Stenger of EPA Region 6 to Kilren Vidrine of LDEQ and from the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". The applicant must test for the parameter at a level at least as sensitive as the specified MQL. If this is not done, the MQL becomes the application value for screening purposes if the pollutant is suspected to be present on-site and/or in the waste stream. Units are in ug/l or lbs/day depending on the units of the effluent data.
- (*6) States whether effluent data is based on 95th percentile estimation. A "1" indicates that a 95th percentile approximation is being used, a "0" indicates that no 95th percentile approximation is being used.
- (*7) 95th percentile approximation multiplier (2.13). The constant, 2.13, was established in memorandum of understanding dated October 8, 1991 from Jack Ferguson of Region 6 to Jesse Chang of LDEQ and included in the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". This value is screened against effluent Water Quality Based Limits established in columns (*18) - (*21). Units are in ug/l or lbs/day depending on the units of the measured effluent data.
- (*8) LAC 33.IX.1113.C.6, Table 1, Numerical Criteria for Specific Toxic Substances, freshwater (FW) or marine water (MW) (whichever is applicable) aquatic life protection, acute criteria. Units are specified. Some metals are hardness dependent. The hardness of the receiving stream shall generally be used; however, a flow weighted hardness may be determined in site-specific situations. Dissolved metals are converted to Total metals using partition coefficients in accordance with the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". Similar to hardness, the TSS of the receiving stream shall generally be used; however, a flow weighted TSS may be determined in site-specific situations.

Hardness Dependent Criteria:

<u>Metal</u>	<u>Formula</u>
Cadmium	$e^{(1.1280[\ln(\text{hardness})] - 1.6774)} \times (1.136672 - [\ln(\text{hardness})(0.041838)])$
Chromium III	$e^{(0.8190[\ln(\text{hardness})] + 3.6880)} \times 0.316$
Copper	$e^{(0.9422[\ln(\text{hardness})] - 1.3884)} \times 0.960$
Lead	$e^{(1.2730[\ln(\text{hardness})] - 1.4600)} \times (1.46203 - [\ln(\text{hardness})(0.145712)])$

Nickel $e^{(0.8460[\ln(\text{hardness})] + 3.3612)} \times 0.998$
 Zinc $e^{(0.8473[\ln(\text{hardness})] + 0.8604)} \times 0.978$

Dissolved to Total Metal Multipliers for Freshwater Streams (TSS dependent):

<u>Metal</u>	<u>Multiplier</u>
Arsenic	$1 + 0.48 \times \text{TSS}^{-0.73} \times \text{TSS}$
Cadmium	$1 + 4.00 \times \text{TSS}^{-1.13} \times \text{TSS}$
Chromium III	$1 + 3.36 \times \text{TSS}^{-0.93} \times \text{TSS}$
Copper	$1 + 1.04 \times \text{TSS}^{-0.74} \times \text{TSS}$
Lead	$1 + 2.80 \times \text{TSS}^{-0.80} \times \text{TSS}$
Mercury	$1 + 2.90 \times \text{TSS}^{-1.14} \times \text{TSS}$
Nickel	$1 + 0.49 \times \text{TSS}^{-0.57} \times \text{TSS}$
Zinc	$1 + 1.25 \times \text{TSS}^{-0.70} \times \text{TSS}$

Dissolved to Total Metal Multipliers for Marine Environments (TSS dependent):

<u>Metal</u>	<u>Multiplier</u>
Copper	$1 + (10^{4.86} \times \text{TSS}^{-0.72} \times \text{TSS}) \times 10^{-6}$
Lead	$1 + (10^{6.06} \times \text{TSS}^{-0.85} \times \text{TSS}) \times 10^{-6}$
Zinc	$1 + (10^{5.36} \times \text{TSS}^{-0.52} \times \text{TSS}) \times 10^{-6}$

If a metal does not have multiplier listed above, then the dissolved to total metal multiplier shall be 1.

- (*9) LAC 33.IX.1113.C.6, Table 1, Numerical Criteria for Specific Toxic Substances, freshwater (FW) or marine water (MW) (whichever is applicable) aquatic life protection, chronic criteria. Units are specified. Some metals are hardness dependent. The hardness of the receiving stream shall generally be used; however, a flow weighted hardness may be determined in site-specific situations. Dissolved metals are converted to Total metals using partition coefficients in accordance with the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". Similar to hardness, the TSS of the receiving stream shall generally be used; however, a flow weighted TSS may be determined in site-specific situations.

Hardness dependent criteria:

<u>Metal</u>	<u>Formula</u>
Cadmium	$e^{(0.7852[\ln(\text{hardness})] - 3.4900)} \times (1.101672 - [\ln(\text{hardness}) \{0.041839\}])$
Chromium III	$e^{(0.8473[\ln(\text{hardness})] + 0.7614)} \times 0.86$
Copper	$e^{(0.8545[\ln(\text{hardness})] - 1.3860)} \times 0.960$
Lead	$e^{(1.2730[\ln(\text{hardness})] - 4.7050)} \times (1.46203 - [\ln(\text{hardness}) \{0.145712\}])$
Nickel	$e^{(0.8460[\ln(\text{hardness})] + 1.1645)} \times 0.997$

Zinc $e^{(0.8473[\ln(\text{hardness})] + 0.7614)} \times 0.986$

Dissolved to total metal multiplier formulas are the same as (*8), acute numerical criteria for aquatic life protection.

- (*10) LAC 33.IX.1113.C.6, Table 1, Numerical Criteria for Specific Toxic Substances, human health protection, drinking water supply (HHDW), non-drinking water supply criteria (HHNDW), or human health non-primary contact recreation (HHNPCR) (whichever is applicable). A DEQ and EPA approved Use Attainability Analysis is required before HHNPCR is used, e.g., Monte Sano Bayou. Units are specified.
- (*11) C if screened and carcinogenic. If a parameter is being screened and is carcinogenic a "C" will appear in this column.
- (*12) Wasteload Allocation for acute aquatic criteria (WLAa). Dilution type WLAa is calculated in accordance with the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". Negative values indicate that the receiving water is not meeting the acute aquatic numerical criteria for that parameter. Units are in ug/L.

Dilution WLAa formulas for streams:

$$\text{WLAa} = (\text{Cr}/\text{Dilution Factor}) - \frac{(\text{Fs} \times \text{Qrc} \times 0.6463 \times \text{Cu})}{\text{Qe}}$$

Dilution WLAa formulas for static water bodies:

$$\text{WLAa} = (\text{Cr}-\text{Cu})/\text{Dilution Factor}$$

Cr represents aquatic acute numerical criteria from column (*8).

If Cu data is unavailable or inadequate, assume Cu=0.

If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDLs, then a blank shall appear in this column.

- (*13) Wasteload Allocation for chronic aquatic criteria (WLAc). Dilution type WLAc is calculated in accordance with the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". Negative values indicate that the receiving water is not meeting the chronic aquatic numerical criteria for that parameter. Units are in ug/L.

Dilution WLAc formula:

$$\text{WLAc} = (\text{Cr}/\text{Dilution Factor}) - \frac{(\text{Fs} \times \text{Qrc} \times 0.6463 \times \text{Cu})}{\text{Qe}}$$

Dilution WLAc formulas for static water bodies:

$$\text{WLAc} = (\text{Cr}-\text{Cu})/\text{Dilution Factor}$$

Cr represents aquatic chronic numerical criteria from column (*9).

If Cu data is unavailable or inadequate, assume Cu=0.

If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDLs, then a blank shall appear in this column.

- (*14) Wasteload Allocation for human health criteria (WLAh). Dilution type WLAh is calculated in accordance with the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". Negative values indicate that the receiving water is not meeting the human health numerical criteria for that parameter. Units are in ug/L.

Dilution WLAh formula:

$$WLAh = (Cr/Dilution Factor) - \frac{(Fs \times Qrc, Qrh \times 0.6463 \times Cu)}{Qe}$$

Dilution WLAh formulas for static water bodies:

$$WLAh = (Cr-Cu)/Dilution Factor)$$

Cr represents human health numerical criteria from column (*10).

If Cu data is unavailable or inadequate, assume Cu=0.

If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDLs, then a blank shall appear in this column.

- (*15) Long Term Average for aquatic numerical criteria (LTAA). WLAa numbers are multiplied by a multiplier specified in the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards" which is 0.32. $WLAa \times 0.32 = LTAA$.

If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDLs, then a blank shall appear in this column.

- (*16) Long Term Average for chronic numerical criteria (LTAc). WLAc numbers are multiplied by a multiplier specified in the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards" which is 0.53. $WLAc \times 0.53 = LTAc$.

If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDL's, then a blank shall appear in this column.

- (*17) Long Term Average for human health numerical criteria (LTAh). WLAh numbers are multiplied by a multiplier specified in the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards" which is 1. $WLAc \times 1 = LTAh$.

If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDL's, then a blank shall appear in this column.

- (*18) Limiting Acute, Chronic or Human Health LTAs. The most limiting LTA is placed in this column. Units are consistent with the WLA calculation. If standards are being applied at end-of-pipe, such as in the case of

certain TMDLs, then the type of limit, Aquatic or Human Health (HH), is indicated.

- (*19) End of pipe Water Quality Based Limit (WQBL) monthly average in terms of concentration, ug/L. If aquatic life criteria was the most limiting LTA then the limiting LTA is multiplied by 1.31 to determine the average WQBL ($LTA_{\text{limiting aquatic}} \times 1.31 = WQBL_{\text{monthly average}}$). If human health criteria was the most limiting criteria then $LTA_{\text{h}} = WQBL_{\text{monthly average}}$. If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDL's, then either the human health criteria or the chronic aquatic life criteria shall appear in this column depending on which is more limiting.
- (*20) End of pipe Water Quality Based Limit (WQBL) daily maximum in terms of concentration, ug/L. If aquatic life criteria was the most limiting LTA then the limiting LTA is multiplied by 3.11 to determine the daily maximum WQBL ($LTA_{\text{limiting aquatic}} \times 3.11 = WQBL_{\text{daily max}}$). If human health criteria was the most limiting criteria then LTA_{h} is multiplied by 2.38 to determine the daily maximum WQBL ($LTA_{\text{limiting aquatic}} \times 2.38 = WQBL_{\text{daily max}}$). If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDLs, then either the human health criteria or the acute aquatic life criteria shall appear in this column depending on which is more limiting.
- (*21) End of pipe Water Quality Based Limit (WQBL) monthly average in terms of mass, lbs/day. The mass limit is determined by using the mass balance equations above. $\text{Monthly average WQBL, ug/l/1000} \times \text{facility flow, MGD} \times 8.34 = \text{monthly average WQBL, lbs/day}$.
- (*22) End of pipe Water Quality Based Limit (WQBL) monthly average in terms of mass, lbs/day. Mass limit is determined by using the mass balance equations above. $\text{Daily maximum WQBL, ug/l/1000} \times \text{facility flow, MGD} \times 8.34 = \text{daily maximum WQBL, lbs/day}$.
- (*23) Indicates whether the screened effluent value(s) need water quality based limits for the parameter of concern. A "yes" indicates that a water quality based limit is needed in the permit; a "no" indicates the reverse.

MEMORANDUM

TO: Amy Exnicios
 FROM: Binh Dao; ^{WCB} Chuck Berger; ^{SJT} Scott Templet
 DATE: August 3, 2022
 RE: Water Quality and Stream Flow Characteristics for Bayou D'Inde
 (Subsegment 030901/ AI 91248 and Subsegment 030301 / AI 91217), receiving waters for
 the Citgo Petroleum Corp – Lake Charles Manufacturing Complex Outfall 001 / 003
 (AI 1250 / LA0005941)

Outfall 001

The ambient water quality data for the discontinuous period of October 2012 to September 2021 at ambient water quality monitoring network site 0848 (Bayou D'Inde South of Sulphur, LA) was used to determine water quality characteristics for Permit No. LA0005941, outfall 001. Site 0848 is the nearest sampling site to Outfall 001 with recent TSS and hardness data located approximately 1.3 kilometers downstream. The following results were obtained:

Average Hardness = 595.5 mg/L
 15th Percentile TSS = 10.0 mg/L

Outfall 001 discharges to Bayou D'Inde via an effluent pipeline. This waterbody is tidally influenced at this location, so the tidal flow method from the *LDEQ Water Quality Management Plan -Volume 3: Permitting Guidance Document for Implementation of Louisiana's Surface Water Quality Standards* was used to verify the critical tidal flow (7Q10 flow) and average tidal flow (QAH). The following values were used for the tidal flow calculation.

	Total Surface Area (ft ²) ^{Note 1}	Tidal Range (ft) ^{Note 2}	Tidal Period (hrs)
Upstream of Outfall 001	2,701,571	1.02	6.21

Note 1: The following measurements were derived from ArcMap 10.5.1 and are an approximation.

Note 2: Derived from NOAA Station 8767961 at Bulk Terminal, Louisiana.

The tidal range, tidal period and channel dimensions are consistent to what was used for the determinations of AI 1244 (EDMS ID #12867948, dated August 6, 2021) and AI 5337 (EDMS ID #13151154, dated January 11, 2022). Historical 7Q10 and QAH values for AI 1250 were last evaluated in 1992 by CK Associates. Due to relative sea-level rise and subsidence that occurs in this area, the calculated 7Q10 and QAH values are consistent with determinations within this area. The updated 7Q10 and QAH flow values are provided below for permit limit calculations.

7Q10 (Critical Tidal Flow) = 41.1 cfs
 QAH (Average Tidal Flow) = 123.3 cfs

Outfall 003

The ambient water quality data for the continuous period of May 1988 to May 1998 at ambient water quality monitoring network site 0094 (Bayou D'Inde and Calcasieu Ship Channel confluence Lake Charles, LA) was used to determine water quality characteristics for Permit No. LA0005941, outfall 003. Site 0094 is the nearest sampling site to Outfall 003 located approximately 5.2 kilometers upstream. The following results were obtained:

Average Hardness = 956.8 mg/L
15th Percentile TSS = 14.0 mg/L

Outfall 003 discharges directly into the Calcasieu River via an effluent pipe. This waterbody is tidally influenced at this location, so the tidal flow method from the *LDEQ Water Quality Management Plan -Volume 3: Permitting Guidance Document for Implementation of Louisiana's Surface Water Quality Standards* was used to verify the critical tidal flow (7Q10 flow) and average tidal flow (QAH). The following values were used for the tidal flow calculation.

	Total Surface Area (ft ²) ^{Note 1}	Tidal Range (ft) ^{Note 2}	Tidal Period (hrs)
Upstream of Outfall 003	193,383,132	1.05	6.21

Note 1: The following measurements were derived from ArcMap 10.5.1 and are an approximation.

Note 2: Derived from NOAA Station 8767816 at Lake Charles, Louisiana.

The calculated 7Q10 and QAH values are within 5 percent of the historical determination (EDMS ID #3427712 dated February 26, 2004). Through aerial topography, there does not appear to have been any significant changes to the hydrology of this area since the previous determination. The 7Q10 and harmonic mean flow (QAH) values are provided below for permit limit calculations.

7Q10 (Critical Tidal Flow) = 2,898 cfs
QAH (Average Tidal Flow) = 8,694 cfs

If you have any additional questions or comments, please contact me at 225-219-7304.

Appendix C

**BIOMONITORING FREQUENCY RECOMMENDATION
AND RATIONALE FOR ADDITIONAL REQUIREMENTS**

Permit Number: **LA0005941**
 Facility AI#: **1250**
 Facility Name: **CITGO Petroleum Corporation/Lake Charles Manufacturing Complex**
 Previous Critical Biomonitoring Dilution:
 Outfall 001:
 Phase I: **7%**
 Phase II: **12%**
 Outfall 003:
 Phases I & II: **1.7%**
 Proposed Critical Biomonitoring Dilution:
 Outfall 001:
 Phase I: **6.0%**
 Phase II: **10%**
 Outfall 003:
 Phases I & II: **1.4%**
 Outfall Discharge Flow:
 Outfall 001:
 Phase I: **1.70 mgd**
 Phase II: **2.90 mgd**
 Outfall 003:
 Phases I & II: **9.08 mgd**
 Receiving stream 7Q10:
 Outfall 001: **41.1 cfs (Bayou D'Inde)**
 Outfall 003: **2,898 cfs (Calcasieu River)**
 Date of Review: **4/17/23**
 Name of Reviewer: **Laura Thompson**

Recommended Frequency by Species:

***Menidia beryllina* (Inland Silverside):** **Once/Quarter¹**
***Mysidopsis bahia* (Mysid shrimp)²:** **Once/Quarter¹**

¹ If there are no lethal effects demonstrated after the first year of quarterly testing, the permittee may certify fulfillment of the WET testing requirements in writing to the permitting authority. If granted, the biomonitoring frequency for the test species may be reduced to not less than once per year for the less sensitive species (usually *Menidia beryllina*) and not less than twice per year for the more sensitive species (usually *Mysidopsis bahia*). Upon expiration of the permit, the biomonitoring frequency for both species shall revert to once per quarter until the permit is re-issued.

² Please note that per EPA's Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, "The genus name of this organism was formally changed to *Americamysis* (Price et al., 1994); however, the method manual will continue to refer to *Mysidopsis bahia* to maintain consistency with previous versions of the method."

Recommended Dilution Series:

<u>Outfall 001:</u>	
Phase I:	2.5%, 3.4%, 4.5%, 6.0%, and 8.0%
Phase II:	4%, 6%, 7%, 10%, and 13%
<u>Outfall 003:</u>	
Phases I & II:	0.60%, 0.81%, 1.1%, 1.4%, and 1.9%

Number of Tests Performed during previous 5 years by Species:

<u>Outfall 001:</u>	
<i>Menidia beryllina</i> (Inland Silverside):	20
<i>Mysidopsis bahia</i> (Mysid shrimp):	20

<u>Outfall 003:</u>	
<i>Menidia beryllina</i> (Inland Silverside):	20
<i>Mysidopsis bahia</i> (Mysid shrimp):	20

Number of Failed Tests during previous 5 years by Species:

<u>Outfall 001:</u>	
<i>Menidia beryllina</i> (Inland Silverside):	No failures on file during the past 5 years
<i>Mysidopsis bahia</i> (Mysid shrimp):	No failures on file during the past 5 years

<u>Outfall 003:</u>	
<i>Menidia beryllina</i> (Inland Silverside):	No failures on file during the past 5 years
<i>Mysidopsis bahia</i> (Mysid shrimp):	No failures on file during the past 5 years

Failed Test Dates during previous 5 years by Species:

<u>Outfall 001:</u>	
<i>Menidia beryllina</i> (Inland Silverside):	No failures on file during the past 5 years
<i>Mysidopsis bahia</i> (Mysid shrimp):	No failures on file during the past 5 years

<u>Outfall 003:</u>	
<i>Menidia beryllina</i> (Inland Silverside):	No failures on file during the past 5 years
<i>Mysidopsis bahia</i> (Mysid shrimp):	No failures on file during the past 5 years

Previous TRE Activities: N/A – No previous TRE Activities

Additional Requirements (including WET Limits) Rationale / Comments Concerning Permitting:

CITGO Petroleum Corporation owns and operates the Lake Charles Manufacturing Complex, a petroleum refinery located in Lake Charles, Calcasieu Parish, Louisiana. LPDES Permit LA0005941, effective November 1, 2017, contained marine

chronic biomonitoring as an effluent characteristic of Outfalls 001 and 003 for *Mysidopsis bahia* and *Menidia beryllina*. The effluent series consisted of:

Outfall 001:

Phase I: 3%, 4%, 6%, 7%, and 10% concentrations, with the 7% effluent concentration being defined as the critical dilution.

Phase II: 5%, 7%, 9%, 12%, and 16% concentrations, with the 12% effluent concentration being defined as the critical dilution.

Outfall 003:

Phases I & II: 0.7%, 1.0 %, 1.3%, 1.7%, and 2.3% concentrations, with the 1.7% effluent concentration being defined as the critical dilution.

The testing was to be performed once per quarter for the *Mysidopsis bahia* and the *Menidia beryllina* for each outfall. Data on file indicates that the permittee has complied with the biomonitoring requirements contained in LA0005941 with no lethal or sub-lethal failures during the past five years.

A Total Maximum Daily Load (TMDL) has been developed for the receiving streams, Bayou D'Inde (Outfall 001) and the Upper Calcasieu Estuary (Outfall 003), which recommends that all major and significant minor dischargers to Bayou D'Inde and the Upper Calcasieu Estuary test effluents for chronic toxicity at least quarterly for the term of the permit to demonstrate that unmonitored pollutants or the combination of monitored and/or unmonitored pollutants are not causing instream toxicity. Consistent with the TMDL, it is recommended that marine chronic biomonitoring continue to be an effluent characteristic of:

Outfall 001

Phase I: the continuous discharge of 1.70 mgd of non-process wastewater; process area stormwater; recovery well water; sanitary wastewater; stormwater; rerouted process wastewater from the main refinery; and hydrostatic test wastewater in LA0005941. The effluent dilution series shall be 2.5%, 3.4%, 4.5%, 6.0%, and 8.0% concentrations, with the 6.0% effluent concentration being defined as the critical dilution.

Phase II: the continuous discharge of 2.90 mgd of treated process water; treated process area stormwater; utility wastewater; miscellaneous non-process wastewater; non-process area stormwater; sanitary wastewater; and hydrostatic test water in LA0005941. The effluent dilution series shall be 4%, 6%, 7%, 10%, and 13% concentrations, with the 10% effluent concentration being defined as the critical dilution.

Outfall 003

Phases I & II: the continuous discharge of 9.08 mgd of treated process wastewater; process area stormwater; sanitary wastewater; utility wastewater; miscellaneous non-process wastewater; PFU wastewater; non-process area stormwater; and hydrostatic test water in LA0005941. The effluent dilution series shall be 0.60%, 0.81%, 1.1%, 1.4%, and 1.9% concentrations, with the 1.4% effluent concentration being defined as the critical dilution.

In accordance with the Environmental Protection Agency (Region 6) WET testing frequency acceleration(s), the biomonitoring frequency shall be once per quarter for *Menidia beryllina* and *Mysidopsis bahia* for both outfalls. The permittee has passed all *Menidia beryllina* and *Mysidopsis bahia* lethal and sub-lethal tests for the previous five years. Therefore, in lieu of the TMDL, LDEQ recommends that this facility be eligible to receive a frequency reduction, provided the following conditions are met:

If there are no significant lethal or sub-lethal effects demonstrated at or below the critical dilution during the first four quarters of testing, the permittee may certify fulfillment of the WET testing requirements to the permitting authority and WET testing may be reduced to not less than once per six months for the more sensitive species (*Mysidopsis bahia*) and not less than once per year for the less sensitive species (*Menidia beryllina*) for the remainder of the term of the permit. Upon expiration of the permit, the biomonitoring frequency for both test species shall revert to once per quarter until the permit is re-issued.

This recommendation is in accordance with the LDEQ/OES Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, Water Quality Management Plan Volume 3. Version 9 (July 5, 2022), and the Best Professional Judgment (BPJ) of the reviewer.

Appendix D

Worksheet for Technical Review of Working Draft of Proposed Permit

Company Name:	CITGO Petroleum Corp	AI #:	1250	TEMPO Activity No:	PER20220002
Facility Name:	Lake Charles Manufacturing Complex	Remarks Submitted by:	Doug LaBar/Diana LeBlanc		
Permit Writer:	Amy Exnicios	Permit Writer Email:	Amy.exnicios@la.gov		
Technical Review Start Date:	11/14/23	Technical Review Due Date:	11/29/23		

Instructions

Permit Reference – Indicate specific portion(s) of the permit to which the remark relates (i.e. “Fact Sheet Section IV”, or “Permit Part II, Paragraph G”, etc.).

Remarks – Explain the basis for each remark. Provide regulatory citations where possible. If the remark is made due to an error or omission in the permit application this must be noted and the revised information **must be submitted**. Revised information may be submitted separately from this worksheet. Please be aware that revised information must be submitted in writing and certified by the Responsible Official. *Please Note:* New or additional information not addressed in the original permit application will be addressed on a case-by-case basis. The Department reserves the right to address such changes in a separate permit action.

DEQ Response – **DO NOT COMPLETE THIS SECTION.** This section will be completed by Water Permits Division of DEQ, included in the proposed permit package and made available for public review during any required public comment period.

- Additional rows may be added as necessary.
- Completed Form shall be emailed to the Permit writer in MS Word compatible format within the deadline specified in the email notification.
- **DO NOT USE THIS FORM TO SUBMIT COMMENTS DURING THE OFFICIAL PUBLIC COMMENT PERIOD.**

Permit Reference	Remarks	Water Permits Division Response (for official use only)
Outfall 001- Phase I, Outfall 001- Phase II, Outfall 003- Phase I, Outfall 003- Phase II wastewater descriptions	Hydrostatic test wastewater is already authorized at Outfalls 001 and 003, but “from Internal Outfall 101” was added after hydrostatic test wastewater. This change triggers the monitoring requirements and permit limitations at Outfall 101 for hydrostatic test wastewater routed to the CWWT and Outfall 001 or the WWTP and Outfall 003. This change is not appropriate because all hydrostatic test wastewater routed to the CWWT and Outfall 001 or the WWTP and Outfall 003 is fully treated by activated sludge (biological treatment) just as process wastewater is which does not have additional internal monitoring and reporting requirements. These additional	The phrase “from Internal Outfall 101” has been removed from the outfall descriptions of Outfalls 001 and 003 (Phases I and II).

Permit Reference	Remarks	Water Permits Division Response (for official use only)
	<p>internal monitoring and reporting requirements are warranted for hydrostatic test wastewater discharges that are routed to storm water outfalls that typically have no wastewater treatment, but not for hydrostatic test wastewater discharges that are routed to advanced wastewater treatment systems. CITGO requests that "from Internal Outfall 101" be removed after hydrostatic test wastewater for each outfall and phase referenced above.</p>	
<p>Outfall 001- Phase I, Outfall 001- Phase II, Outfall 003- Phase I, Outfall 003- Phase II permit limitations for phenolic compound and hexavalent chromium</p>	<p>Permit limitations for phenolic compounds and hexavalent chromium at Outfall 001- Phases I and II are based on water quality (see Fact Sheet Pages 17 and 20) and calculated in Appendix B-1 and Appendix B-2. However, the input variables for effluent (lbs/day) in columns *3 and *4 do not match the effluent data submitted in the EPA Form 2C for Outfall 001. There are 11 data points for hexavalent chromium at Outfall 001 that were determined to be non-detect and reported as zero. Permit limitations for phenolic compounds and hexavalent at Outfall 003- Phases I and II are not based on water quality (see Fact Sheet Pages 26 and 30), but nevertheless the input variables for effluent (lbs/day) in columns *3 and *4 do not match the effluent data submitted in the EPA Form 2C for Outfall 003. CITGO requests that the water quality screen in Appendix B-1 and Appendix B-2 be re-evaluated and revised accordingly.</p>	<p>As per LDEQ's <u>Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards</u>, LDEQ, July 5, 2022 (EDMS Document No. 13380688, page 13 of 52) if technology-based limits are present for the pollutant being screened then the calculated technology based limits are screened against the calculated effluent water quality based limits. The discharges from CITGO are subject to 40 CFR 419, Subparts B and D; therefore, technology based limitations were used in the water quality screen. No changes have been made to the limitations.</p>
<p>Outfall 103</p>	<p>Sample type was changed from "estimate" in the previous permit to "measurement" in the draft permit. CITGO requests that sample type revert to "estimate" because it is not practical to install and operate a flow meter in normally dry conditions because the meter's probe is designed to be constantly submerged in water. Outfall 103 has never discharged and if it did discharge, the large volume of overflow could more accurately be estimated rather than measured with a flow meter.</p>	<p>In order to accurately calculate mass loadings a measured flow is needed. Therefore, the sample type will not be changed.</p>

Permit Reference	Remarks	Water Permits Division Response (for official use only)
Part II, Paragraph K, Page 7 of 21	TSS is omitted from the list of parameters in the first sentence, but it is listed with the appropriate LOQ. CITGO requests that TSS is added to the list of parameters in the first sentence.	TSS has been added to limit of quantifications in Part II.K.
Part II, Paragraph P, Page 15	In Section 1- Flow Monitoring, CITGO requests that the following language is added, "Monitoring shall be achieved by direct flow measurement, estimation based on pump operation curves, pump power input, heat and material balance, and/or other sound engineering methods.	The requested language has been added to Part I, IT-01 footnote 2(*4), to Part II.P, and in the Fact Sheet Part XI, Flow Monitoring.
Part II, Paragraph P, Page, Page 15	In Section 2- Visual and Remote Inspections, the third sentence of the second paragraph begins with "Because." CITGO believes this a typo and should be removed.	The word "because" has been removed from the third sentence of the second paragraph of Part II.P.2 and in the Fact Sheet Part XI, Visual and Remote Inspections, Page 51.

LOUISIANA WATER POLLUTION CONTROL FEE SYSTEM
RATING WORKSHEET

PERMIT NO. LA0005941 AI NO. 1250 Activity No.: PER20220002

- 1.a. Company Name CITGO Petroleum Corporation
- 1.b. Facility Name Lake Charles Manufacturing Complex
- 2. Local Mailing Address Post Office Box 1562
Lake Charles, LA 70602
- 3. Billing Address (If different) _____
- 4.a. Facility Location 4401 Highway 108 South in Westlake
- 4.b. Parish Calcasieu
- 5. Facility Type petroleum refinery
- 6. Products Produced _____
6.a. Raw materials stored or used _____
6.b. By-products produced _____
- 7. Primary SIC Code 2911, 2819, and 2869 7.a. Other SIC Codes _____
- 8. Fac. Manager _____ 8.a. Telephone _____
- 9. Owner _____ 9.a. Telephone _____
- 10. Env. Contact Sterling Neblett 10.a. Telephone 337-708-6800

11. State Permit No. _____	12. LPDES Permit No. <u>LA0005941</u>
11.a. Date Issued _____	12.a. Effective Date <u>November 1, 2017</u>
11.b. New _____ Modified _____	12.b. Expiration Date <u>October 31, 2022</u>

- 13. Number and Identification of Outfalls 11 external (Outfalls 001, 002, 003, 004, 006, 009, 101, 011, 012, and 014) 2 internal (101 and 106)
- 14. Number of Injection Wells N/A
- 15. Water Source(s) _____
- 16. Receiving Water(s) Calcasieu River (Outfalls 003, 004, 006, 009, and 011); Calcasieu River via the Indian Marais (Outfalls 103, 010, and 014), and Bayou D'Inde (Outfalls 001, 002, and 012)
- 17. River Basin Calcasieu River 18. Basin Segment No. 030301 030901

TOTAL RATING POINTS ASSIGNED

11,610.8

Federal Tax I. D. No.:

73-1173881

ale Initials of Rater

1. FACILITY COMPLEXITY DESIGNATION

Primary SIC 2911

Other SIC 2819, 2869

Complexity Designation = _____

- _____ I (0 points)
- _____ II (10 points)
- _____ III (20 points)
- _____ IV (30 points)
- _____ V (40 points)
- _____ VI (50 points)

COMPLEXITY DESIGNATION POINTS 40

2. FLOW VOLUME AND TYPE

A. Wastewater Type I

Is total Daily Average Discharge greater than 400 mgd?

_____ Yes, then points = 200

_____ No, then

Points = 0.5 X Total Daily Average Discharge (mgd)

Points = 0.5 X _____ = _____
 Total points = _____

B. Wastewater Type II

Points = 10 X Total Daily Average Discharge (mgd)

Points = 10 X 10.77 = 107.7

Total points = 107.7

C. Wastewater Type III

Points = 2 X Total Daily Average Discharge (mgd)

Points = 2 X _____ = _____
 Total points = 0

FLOW VOLUME AND TYPE POINTS 107.7

3. POLLUTANTS

A. BOD or _____

Daily Average Load = _____

- _____ ≤ 50 lb/day (0 points)
- _____ > 50 - 500 (5 points)
- _____ > 500 - 1000 (10 points)
- _____ > 1000 - 3000 (20 points)
- _____ V > 3000 - 5000 (30 points)
- _____ > 5000 lb/day (calculate)

Points = 0.008 X Daily Average Load (lbs)

Points = 0.008 X 0 = 0

COD or _____

Daily Average Load = _____

- _____ ≤ 100 lb/day (0 points)
- _____ > 100 - 500 (5 points)
- _____ > 500 - 1000 (10 points)
- _____ > 1000 - 5000 (20 points)
- _____ > 5000 - 10000 (30 points)
- _____ > 10000 lb/day (calculate)

Points = 0.004 X Daily Average Load (lbs)

Points = 0.004 X 0 = 0

BOD OR COD DEMAND POINTS 30
 (whichever is greater)

B. TSS

Daily Average Load = _____

- _____ ≤ 100 lb/day (0 points)
- _____ > 100 - 500 (5 points)
- _____ > 500 - 1000 (10 points)
- _____ ✓ > 1000 - 5000 (20 points)
- _____ > 5000 - 10000 (30 points)
- _____ > 10000 lb/day (calculate)

Points = 0.004 X Daily Average Load (lbs)
 Points = 0.004 X 0 = 0

TSS POINTS 20

C. TOXICS

Total Annual Discharge to Water = 1138810 (lbs)

Points = 0.01 X Annual discharge (lbs)
 Points = 0.01 X 1138810 = 11388.1

TOXIC POINTS 11388.1

TOTAL POLLUTANT POINTS 11438.1

4. TEMPERATURE (HEAT LOAD)

Heat Load = Average Summer flow (mgd) X ΔT X 0.00834

where ΔT = Permit Limit (Max. Temp.) - 70°

Heat Load = 0 (mgd) X 0 X 0.00834 = 0 Billion BTU

- Heat Load = 0 ≤ 4 billion BTU (0 points)
- _____ > 4-20 billion BTU (5 points)
- _____ > 20-100 billion BTU (10 points)
- _____ > 100-200 billion BTU (15 points)
- _____ > 200 billion BTU (20 points)

HEAT LOAD POINTS 0

5. POTENTIAL PUBLIC HEALTH IMPACTS

Is the receiving water to which the wastewater is discharged or a water body to which it is a tributary used as a drinking water supply source within 50 miles downstream?

✓ No (0 points)
 _____ Yes, then . . .

- Complexity Designation
- _____ I, II (0 points)
 - _____ III (5 points)
 - _____ IV (10 points)
 - _____ V (20 points)
 - _____ VI (30 points)

POTENTIAL PUBLIC HEALTH IMPACT POINTS 0

6. MAJOR/MINOR FACILITY DESIGNATION

Has your facility been designated a Major Facility by the administrative authority?

✓ Yes, then Points = 25
 _____ No, then

were effluent limitations assigned to the discharge based on water quality factors in the receiving stream?

✓ No, then Points = 0
 _____ Yes, then Points = 5

TOTAL MAJOR/MINOR POINTS 25

TOTAL RATING POINTS ASSIGNED 11610.8