Bryan W. Shaw, Ph.D., *Chairman*
Carlos Rubinstein, *Commissioner*
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Zak Covar, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

October 19, 2012

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CERTIFIED MAIL

U.S. Environmental Protection Agency
Region 6
Attention: Evelyn Rosborough (6WQ-CA)
1445 Ross Avenue
Dallas, Texas 75202

Re: TPDES Draft Permit No. WQ0000535000, EPA ID No. TX0002976 CN600127468, RN100219310 – Valero Refining-Texas, LP

Dear Ms. Rosborough:

Enclosed is the draft permit and Fact Sheet and Executive Director's Preliminary Decision for the draft TPDES Permit No. WQ0000535000 as required under the TCEQ/EPA Memorandum of Agreement. Please review and provide any written comments, objections (general or interim) or recommendations with respect to the draft permit within forty-five days from receipt of this draft permit to my attention.

If you need additional information or have any questions, please contact me by telephone at (512) 239-4523, by email at msunder@tceq.state.tx.us, by fax at (512) 239-4430, or if by correspondence, include MC 148 in the letterhead address following my name. Thank you for your cooperation in this matter.

Sincerely,

Michael Sunderlin

Michael Sunderlin, Acting Team Leader
Industrial Permits Team
Water Quality Division

MS

Enclosures

ATTACHMENT 1

EPA - REGION 6
NPDES PERMIT CERTIFICATION CHECKLIST

In accordance with the MOA established between the State of Texas and the United States Environmental Protection Agency, Region 6, the Texas Commission on Environmental Quality submits the following draft Texas Pollutant Discharge Elimination System (TPDES) permit for Agency review.

Major	XX	**Minor**		**POTW**		**Private Domestic**		**Non-POTW**	XX

Facility Name	Valero Refining-Texas, L.P.		
SIC Code	2911		
Type of operation	Petroleum Refinery		
NPDES Permit No.	TX0002976	**TPDES Permit No.**	WQ0000535000
Segment No.	1007	**Basin**	the San Jacinto River Basin
Receiving Water	Houston Ship Channel/ Buffalo Bayou Tidal		

Permit Action:	**New**	
	Renewal WITH changes	
	Renewal w/out changes (permit and WQS)	
	Major Amendment with renewal	**X**
	Amendment/Modification WITHOUT renewal, proceed directly to question 22, below	

Answer the following.

		Yes	No	N/A
1.	Are there known or potential interstate water issues associated with this permit?		X	
2.	Are there known or potential third-party interest/environmental concern regarding this permit action?		X	
3.	Does this facility discharge to a 303(d) listed waterbody segment?	X		
	If **YES**, does the facility discharge any of the pollutant(s) of concern identified in the 303(d) listing?		X	
4.	Is this permit consistent with the approved WQMP?			X
5.	Does the facility discharge to a waterbody segment which has a finalized TMDL?	X		
	If **YES**, does the permit implement the TMDL consistent with the WLAs?	X		
6.	Does the fact sheet document the rationale for the inclusion/omission of permit conditions for each 303(d) listed pollutant of concern or TMDL pollutant?	X		
7.	Has a priority watershed of critical concern been identified by the U. S. Fish and Wildlife Service for this segment?		X	
8.	Does this permit authorize ammonia discharges > 4.0 mg/l at the edge of the mixing zone?		X	
9.	Does this permit require testing for Whole Effluent Toxicity in accordance with the state's standard practices and implementation plan?	X		

		Yes	No	N/A
10.	If this facility has completed and implemented a Toxicity Reduction Evaluation (TRE), has any subsequent toxicity been identified?			X
11.	Does this permit propose to grant a variance request *(WQS, FDF, etc.)* or does it incorporate a proposed or final approval of a variance request?		X	
12.	If a POTW is ≥ 5 MGD, does it have an approved Pretreatment Program?			X
13.	Since the last permit issuance, has the POTW had a new Pretreatment Program approved or a Pretreatment Program modification approved?			X
14.	Does this permit contain authorization for wet weather related peak-flow discharges?		X	
15.	Does this permit include a bypass of any treatment unit or authorize overflows in the system?		X	
16.	Does this permit include provisions for effluent trading?		X	
17.	Does this permit contain specific issues on which EPA and the state are not in agreement regarding the permitting approach?		X	
18.	Is this facility subject to a national effluent limitations guideline? Please specify: **40 CFR Part 419**	X		
19.	Does this permit contain "first-time" implementation of a new federal guideline, policy, regulation, etc.? Please specify:		X	
20.	Is this a new facility or an expansion of an existing facility?	X		
	For an **EXISTING** facility, if any limits have been removed or are less stringent than those in the previous permit, is it in accordance with the anti-backsliding regulations?	X		
21.	Does this permit incorporate any exceptions to the standards or regulations?		X	
22.	Is this is a permit modification/amendment?	X		

Please specify:	Increase the effluent limitations for all limited parameters at Outfall 001 based on projected production increases and authorize the discharge of additional utility wastewaters (reverse osmosis reject water and water softening wastewaters via Outfall 001.

Name: Michael Sunderlin

Date April 17, 2012

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

NOTICE OF APPLICATION AND PRELIMINARY DECISION FOR WATER QUALITY TPDES PERMIT AMENDMENT FOR INDUSTRIAL WASTEWATER

TPDES PERMIT NO. WQ0000535000

APPLICATION AND PRELIMINARY DECISION. Valero Refining-Texas, L.P., 9701 Manchester, Houston, Texas 77012, which operates a petroleum refinery, has applied to the Texas Commission on Environmental Quality (TCEQ) for a major amendment to TPDES Permit No. WQ0000535000 to increase the effluent limitations for all limited parameters at Outfall 001 based on projected production increases and authorize the discharge of additional utility wastewaters (reverse osmosis reject water and water softening wastewaters) via Outfall 001. The current permit authorizes the discharge of boiler blowdown, cooling tower blowdown, treated process wastewater and process area stormwater at a daily average flow not to exceed 2,150,000 gallons per day (Interim Phase) and 2,880,000 gallons per day (Final Phase) via Outfall 001; post-first flush stormwater runoff, steam condensate, fire water, cooling tower overspray, and heat exchanger cooling water backwash on an intermittent and flow variable basis via Outfall 002; uncontaminated stormwater runoff, steam condensate, fire water, and hydrostatic test water on an intermittent and flow variable basis via Outfalls 003, 005, 006, and Outfall 007; and non-process area stormwater, steam condensate, fire water, cooling tower overspray, heat exchanger cooling water backwash, and hydrostatic test water on an intermittent and flow variable basis via Outfall 008. This application was submitted to the TCEQ on September 30, 2011.

The facility is located at 9701 Manchester, 0.5 miles east of Loop 610, one-mile north of State Highway 225, and bordered on the north by the Houston Ship Channel, in the City of Houston, Harris County, Texas 77012. The effluent is discharged via Outfalls 001, 002, 003, 005, 006, and 008 to the Houston Ship Channel/Buffalo Bayou Tidal and via Outfall 007 to the tidal portion of Sims Bayou, which is part of the Houston Ship Channel/Buffalo Bayou Tidal, in Segment No. 1007 of the the San Jacinto River Basin.

In accordance with §307.5 and the TCEQ implementation procedures (January 2003) for the Texas Surface Water Quality Standards, an antidegradation review of the receiving waters was performed. A Tier 1 antidegradation review has preliminarily determined that existing water quality uses will not be impaired by this permit action. Numerical and narrative criteria to protect existing uses will be maintained. A Tier 2 review is not required since no exceptional, high, or intermediate aquatic life use water bodies have been identified in the discharge route. Existing uses will be maintained and protected. The preliminary determination can be reexamined and may be modified if new information is received.

The TCEQ Executive Director has reviewed this action for consistency with the Texas Coastal Management Program goals and policies in accordance with the regulations of the Coastal Coordination Council, and has determined that the action is consistent with the applicable CMP goals and policies.

The TCEQ Executive Director has completed the technical review of the application and prepared a draft permit. The draft permit, if approved, would establish the conditions under which the facility must operate. The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The permit application, Executive Director's preliminary decision, and draft permit are available for viewing and copying at Melcher Neighborhood Library, 7200 Keller, Houston, Texas. This link to an electronic map of the site or facility's general location is provided as a public courtesy and not part of the application or notice. For exact location refer to application. http://www.tceq.texas.gov/assets/public/hb610/index.html?lat=29.723333&lng=-95.253055&zoom=13&type=r

PUBLIC COMMENT / PUBLIC MEETING. You may submit public comments or request a public meeting about this application. The purpose of a public meeting is to provide the opportunity to submit written or oral comment or to ask questions about the application. Generally, the TCEQ will hold a public meeting if the executive director determines that there is a significant degree of public interest in the application or if requested by a local legislator. A public meeting is not a contested case hearing.

OPPORTUNITY FOR A CONTESTED CASE HEARING. After the deadline for public comments, the executive director will consider the comments and prepare a response to all relevant and material, or significant public comments. **The response to comments, along with the executive director's decision on the application, will be mailed to everyone who submitted public comments or who requested to be on a mailing list for this application. If comments are received, the mailing will also provide instructions for requesting a contested case hearing or reconsideration of the executive director's decision.** A contested case hearing is a legal proceeding similar to a civil trial in a state district court.

TO REQUEST A CONTESTED CASE HEARING, YOU MUST INCLUDE THE FOLLOWING ITEMS IN YOUR REQUEST: your name; address; phone number; applicant's name and permit number; the location and distance of your property/activities relative to the facility; a specific description of how you would be adversely affected by the facility in a way not common to the general public; and the statement "[I/we] request a contested case hearing." If the request for contested case hearing is filed on behalf of a group or association, the request must designate the group's representative for receiving future correspondence; identify an individual member of the group who would be adversely affected by the propose facility or activity; provide the information discussed above regarding the affected member's location and distance from the facility or activity; explain how and why the member would be affected; and explain how the interests the group seeks to protect are germane to the group's purpose.

Following the close of all applicable comment and request periods, the Executive Director will forward the application and any requests for reconsideration or for a contested case hearing to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

The Commission will only grant a contested case hearing on disputed issues of fact that are relevant and material to the Commission's decision on the application. Further, the Commission will only grant a hearing on issues that were raised in timely filed comments that were not subsequently withdrawn.

EXECUTIVE DIRECTOR ACTION. The executive director may issue final approval of the application unless a timely contested case hearing request or a timely request for reconsideration is filed. If a timely hearing request or request for reconsideration is filed, the executive director will not issue final approval of the permit and will forward the application and requests to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

MAILING LIST. If you submit public comments, a request for a contested case hearing or a reconsideration of the Executive Director's decision, you will be added to the mailing list for this specific application to receive future public notices mailed by the Office of the Chief Clerk. In addition, you may request to be added to: (1) the permanent list for a specific applicant name and permit number; and/or (2) the mailing list for a specific county. If you wish to be placed on the permanent and/or the county mailing list, clearly specify which list(s) and send you request to TCEQ Office of the Chief Clerk at the address below.

All written public comments and public meeting requests must be submitted to the Office of the Chief Clerk, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 or electronically at www.tceq.state.tx.us/about/comments.html within 30 days from the date of newspaper publication of this notice.

AGENCY CONTACTS AND INFORMATION. If you need more information about this permit application or the permitting process, please call the TCEQ Public Education Program, Toll Free, at 1-800-687-4040. Si desea información en Español, puede llamar al 1-800-687-4040. General information about the TCEQ can be found at our web site at www.TCEQ.state.tx.us.

Further information may also be obtained from Valero Refining-Texas, L.P. at the address stated above or by calling Mr. Chris Hendrix at (713) 923-3300.

Issued:

FACT SHEET AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

For proposed Texas Pollutant Discharge Elimination System TPDES Permit No. WQ0000535000, EPA ID No. TX0002976 to discharge to water in the state.

Issuing Office:	Texas Commission on Environmental Quality P.O. Box 13087 Austin, Texas 78711-3087
Applicant:	Valero Refining-Texas, L.P. 9701 Manchester Houston, Texas 77012
Prepared By:	Michael Sunderlin Wastewater Permitting Section Water Quality Division (512) 239-4523
Date:	September 27, 2012
Permit Action:	Major Amendment; TPDES Permit No. WQ0000535000

I. EXECUTIVE DIRECTOR RECOMMENDATION

The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. It is proposed the permit be issued to expire on September 1, 2017 following the requirements of 30 TAC §305.71.

II. APPLICANT ACTIVITY

The applicant currently operates a petroleum refinery.

III. DISCHARGE LOCATION

As described in the application, the plant site is located at 9701 Manchester, 0.5 miles east of Loop 610, one-mile north of State Highway 225, and bordered on the north by the Houston Ship Channel, in the City of Houston, Harris County, Texas. Discharge is via Outfalls 001, 002, 003, 005, 006, and 008 to the Houston Ship Channel/Buffalo Bayou Tidal and via Outfall 007 to the tidal portion of Sims Bayou, which is part of the Houston Ship Channel/Buffalo Bayou Tidal in Segment No. 1007 of the the San Jacinto River Basin.

IV. RECEIVING STREAM USES

The designated uses for Segment No. 1007 are navigation and industrial water supply.

V. STREAM STANDARDS

The general criteria and numerical criteria that make up the stream standards are provided in 30 TAC §§307.1 - 307.10, effective August 17, 2000.

VI. DISCHARGE DESCRIPTION

The following is a quantitative description of the discharge described in the Monthly Effluent Report data for the period of June 2007 through February 2012. The "Average of Daily Avg." values presented in the following table are the average of all daily average values for the reporting period for each parameter. The "Maximum of Daily Max." values presented in the following table are the individual maximum values for the reporting period for each parameter.

A. Flow

Outfall	Frequency	Average of Daily Avg.	Maximum of Daily Max
001	Continuous	1.86 MGD	3.21 MGD
002	Intermittent	0.67 MGD	7.1 MGD
003	Intermittent	0.37 MGD	0.91 MGD
004	Intermittent		
005	Intermittent	0.44 MGD	2.6 MGD
006	Intermittent	0.35 MGD	0.72 MGD
007	Intermittent	0.37 MGD	0.65 MGD
008	Intermittent	0.37 MGD	1.77 MGD

B. Temperature (degrees F)

Outfall		Daily Avg.	Daily Max
001		N/A	107 ^{0}F

C. Effluent Characteristics

Outfall	Parameter	Average of Daily Avg	Maximum of Daily Max
001	Carbonaceous Biochemical Oxygen Demand (5-day)	35.5 lbs/day	189 lbs/day
	Total Suspended Solids	187 lbs/day	1122 lbs/day
	Chemical Oxygen Demand	812 lbs/day	1833 lbs/day
	Oil and Grease	64.0 lbs/day	627 lbs/day
	Total Phenols	0.27 lbs/day	1.4 lbs/day
	Ammonia as Nitrogen (NH_3-N)	21.2 lbs/day	189.4 lbs/day
	Sulfide	1.24 lbs/day	7.95 lbs/day
	Total Chromium	0.104 lbs/day	1.4 lbs/day
	Hexavalent Chromium	0.096 lbs/day	0.60 lbs/day
	Free Cyanide	0.133 lbs/day	1.908 lbs/day
	Total Zinc	2.29 lbs/day	12.39 lbs/day
	pH	6.3 SU (min)	11.3 SU
002	Chemical Oxygen Demand	N/A	105 mg/l
	Oil and Grease	N/A	10 mg/l
	pH	6.2 SU (min)	8.9 SU
003	Chemical Oxygen Demand	N/A	148 mg/l
	Oil and Grease	N/A	15 mg/l
	pH	6.4 SU (min)	9.0 SU

Outfall	Parameter	Average of Daily Avg	Maximum of Daily Max
005	Chemical Oxygen Demand	N/A	87 mg/l
	Oil and Grease	N/A	5.0 mg/l
	pH	6.7 SU (min)	8.84 SU
006	Chemical Oxygen Demand	N/A	33.3 mg/l
	Oil and Grease	N/A	8.0 mg/l
	pH	6.7 SU (min)	9.1 SU
007	Chemical Oxygen Demand	N/A	111 mg/l
	Oil and Grease	N/A	15 mg/l
	pH	4.23 SU (min)	8.8 SU
008	Chemical Oxygen Demand	N/A	112 mg/l
	Oil and Grease	N/A	15 mg/l
	pH	6.9 SU (min)	8.1 SU

D. Effluent Limitation Exceedances

Outfall	Parameter	Months of Daily Avg	Months of Daily Max
001	Free Cyanide	9	12
	pH	0 (min)	1

The majority of the exceedances (7-average and 9-max) for free cyanide occurred during the period of April 2009 through February 2010, and are addressed in Administrative Order 2010-0909-MLM-E. The remaining exceedances for free cyanide and the single exceedance for pH do not require any specific action.

VII. PROPOSED EFFLUENT LIMITATIONS

Final effluent limitations are established in the draft permit as follows:

Outfall No	Parameter	Daily Average Lbs/day	Daily Maximum Lbs/day
001	Flow	2.88 MGD	3.50 MGD
	Temperature	N/A	120°F
	Carbonaceous Biochemical Oxygen Demand (5-day)	294	441
	Total Suspended Solids	1,358	2,554
	Chemical Oxygen Demand	9,020	17,447
	Oil and Grease	566	991
	Ammonia (as Nitrogen)	186	279
	Total Phenols	8.80	19.0
	Sulfide	11.3	24.3
	Total Chromium	14.0	36.9

Outfall No	Parameter	Daily Average Lbs/day	Daily Maximum Lbs/day
001	Hexavalent Chromium	4.72	9.63
	Cyanide (Free)	0.211	0.4463
	Zinc (Total)	5.67	12.0
	pH	6.0 SU (min)	9.0 SU
002, 003, 005-008	Flow	Report (MGD)	Report (MGD)
	Chemical Oxygen Demand	N/A	150 mg/l
	Oil and Grease	N/A	15 mg/l
	pH	6.0 SU (min)	9.0 SU

VIII. SUMMARY OF CHANGES FROM APPLICATION

The following changes have been made from the application that makes the draft permit more stringent.

A. Effluent limitations for total zinc at Outfall 001 are more stringent based on calculated water quality-based effluent limitations.

See the next section for additional changes to the existing permit.

IX. SUMMARY OF CHANGES FROM EXISTING PERMIT

A. The permittee requested the following changes in their amendment request that the Executive Director has recommended granting.

1. Increase the effluent limitations for the following limited parameters at Outfall 001 based on projected production increases: total suspended solids, chemical oxygen demand, oil & grease, total phenols, total chromium, and hexavalent chromium.

2. Authorize the discharge of additional utility wastewaters (reverse osmosis reject water and water softening wastewaters) via Outfall 001. The term "utility wastewaters" replaces these wastestreams and the existing wastestreams of boiler blowdown and cooling tower blowdown. New Other Requirment Provision No. 8 was added to provide a definition for the term of "utility wastewaters" for the purpose of listing the authorized wastestreams.

B. The following additional changes have been made to the draft permit.

1. Removed the provision (Former Other Requirement Provision No. 8) that would allow the TCEQ to terminate the permit if the total oxygen demand loading of regulated discharged to the Houston Ship Channel System were to exceed 247,697 lbs/day for any one month. The Total Oxygen Demand load is accounted for in the revised Waste Load Evaluation-1 (WLE-1R), which was used in evaluating this renewal application as stated in the Interoffice Memorandum dated May 14, 2007 from the Water Quality Assessment Team of the Water Quality Assessment Section (Modeling Memo). The Modeling Memo evaluated the discharge via Outfall 002 for oxygen demanding constituents. Therefore, this Other Requirement is no longer applicable.

2. The permit includes the most current standard language for permit requirements (MAL, biomonitoring, boiler plate, and cyanide testing requirements).

X. DRAFT PERMIT RATIONALE

The following section sets forth the statutory and regulatory requirements considered in preparing the draft permit. Also set forth are any calculations or other necessary explanations of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guidelines and water quality standards.

A. REASON FOR PERMIT ISSUANCE

The applicant has applied to the Texas Commission on Environmental Quality (TCEQ) for a major amendment to Permit No. WQ0000535000 to increase the effluent limitations for all limited parameters at Outfall 001 based on projected production increases and authorize the discharge of additional utility wastewaters (reverse osmosis reject water and water softening wastewaters via Outfall 001. The current permit authorizes the discharge of boiler blowdown, cooling tower blowdown, treated process wastewater and process area stormwater at a daily average flow not to exceed 2,150,000 gallons per day (Interim Phase) and 2,880,000 gallons per day (Final Phase) via Outfall 001; post-first flush stormwater runoff, steam condensate, fire water, cooling tower overspray, and heat exchanger cooling water backwash on an intermittent and flow variable basis via Outfall 002; uncontaminated stormwater runoff, steam condensate, fire water, and hydrostatic test water on an intermittent and flow variable basis via Outfalls 003, 005, 006, and Outfall 007; and non-process area stormwater, steam condensate, fire water, cooling tower overspray, heat exchanger cooling water backwash, and hydrostatic test water on an intermittent and flow variable basis via Outfall 008. The final phase became active on August 1, 2007.

The Executive Director has reviewed this action for consistency with the goals and policies of the Texas Coastal Management Program (CMP) in accordance with the regulations of the Coastal Coordination council (CCC) and has determined that the action is consistent with the applicable CMP goals and policies.

B. WATER QUALITY SUMMARY

The discharge route is via Outfalls 001, 002, 003, 005, 006, and 008 to the Houston Ship Channel/Buffalo Bayou Tidal and via Outfall 007 to the tidal portion of Sims Bayou, which is part of the Houston Ship Channel/Buffalo Bayou Tidal, Segment No. 1007 of the the San Jacinto River Basin. The designated uses for Segment No. 1007 are navigation and industrial water supply. Effluent limitations and conditions established in the draft permit are in compliance with state water quality standards and the applicable water quality management plan. The effluent limits in the draft permit will maintain and protect the existing instream uses. Additional discussion of the water quality aspects of the draft permit will be found at Section X.D. of this fact sheet.

In accordance with Title 30 of the Texas Administrative Code (30 TAC) §307.5 and the TCEQ implementation procedures (January 2003) for the Texas Surface Water Quality Standards, an antidegradation review of the receiving waters was performed. A Tier 1 antidegradation review has preliminarily determined that existing water quality uses will not be impaired by this permit action. Numerical and narrative criteria to protect existing uses will be maintained. A Tier 2 review is not required since no exceptional, high, or intermediate aquatic life use water bodies have been identified in the discharge route. Existing uses will be maintained and protected. The preliminary determination can be reexamined and may be modified if new information is received.

The discharge from this permit action is not expected to have an effect on any federal endangered or threatened aquatic or aquatic dependent species or proposed species or their critical habitat. This determination is based on the United States Fish and Wildlife Service's (USFWS) biological opinion on the State of Texas authorization of the Texas Pollutant Discharge Elimination System (TPDES; September 14, 1998; October 21, 1998 update). To make this determination for TPDES permits, TCEQ and EPA only considered aquatic or aquatic dependent species occurring in watersheds of critical concern or high priority as listed in Appendix A of the USFWS biological opinion. The determination is subject to reevaluation due to subsequent updates or amendments to the biological opinion. The permit does not require EPA review with respect to the presence of endangered or threatened species.

Segment 1007 is included in the agency's document *Fourteen Total Maximum Daily Loads for Nickel in the Houston Ship Channel System* (TMDL Project No.1). The discharge was screened using the methods outlined in the documents, *Procedures to Implement the Texas Surface Water Quality Standards* (IPs), TCEQ January 2003; and *Implementation Plan for Dissolved Nickel in the Houston Ship Channel* (TMDL Implementation Plan), TCEQ, July 2001. The discharge authorized in this draft permit was considered during the development of the TMDL and included in the waste load allocation. The TMDL indicates that the water quality criteria for dissolved nickel are generally being met in the Houston Ship Channel and a specific limit for nickel is not needed for this facility.

The Houston Ship Channel/Buffalo Bayou Tidal (Segment 1007) is currently listed on the State's inventory of impaired and threatened waters, the 2008 Clean Water Act Section 303(d) list. The listing is specifically for elevated levels of bacteria, dioxin in blue crab and catfish tissue, and PCBs and pesticides in fish tissue. The impairment is segment wide for Segment 1007 of the HSC (AU 1007_01). Sims Bayou Tidal is also listed for elevated levels of dioxin in blue crab and catfish tissue, and PCBs and pesticides in fish tissue (AU 1007_02). The application indicates that dioxin compounds, PCB's, and pesticides are not present in the discharges from this facility. Issuance of this permit is not expected to cause any additional impact to the receiving water because there are no known sources of bacteria dioxin compounds, PCB's, and pesticides in the wastewater discharge.

C. TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS

1. GENERAL COMMENTS

Regulations promulgated in Title 40 of the Code of Federal Regulations (40 CFR) require technology-based limitations be placed in wastewater discharge permits based on effluent limitations guidelines, where applicable, or on best professional judgment (BPJ) in the absence of guidelines.

The draft permit authorizes the discharge of treated process wastewater, utility wastewaters, and process area stormwater at a daily average flow not to exceed 2.88 MGD via Outfall 001; post-first flush stormwater runoff, steam condensate, fire water, cooling tower overspray, and heat exchanger cooling water backwash on an intermittent and flow variable basis via Outfall 002; uncontaminated stormwater runoff, steam condensate, fire water, and hydrostatic test water on an intermittent and flow variable basis via Outfalls 003, 005, 006, and Outfall 007; and non-process area stormwater, steam condensate, fire water, cooling tower overspray, heat exchanger cooling water backwash, and hydrostatic test water on an intermittent and flow variable basis via Outfall 008.

The discharge of process wastewater and contaminated process-related stormwater via Outfall 001 from this facility is subject to federal effluent limitation guidelines at 40 CFR Part 419, Subpart C. A new source determination was performed and the discharge of process wastewater and process area stormwater are not a new source as defined at 40 CFR § 122.2. Therefore new source performance standards (NSPS) are not required for this discharge.

The discharge of utility wastewater via Outfall 001; post-first flush stormwater runoff, steam condensate, fire water, cooling tower overspray, and heat exchanger cooling water backwash via Outfall 002; stormwater runoff, steam condensate, fire water, and hydrostatic test water via Outfalls 003, 005, 006 and 007; and stormwater, steam condensate, fire water, cooling tower overspray, heat exchanger cooling water backwash and hydrostatic test water via Outfall 008 are not subject to federal effluent limitation guidelines and any technology-based effluent limitations are based on BPJ.

The wastewater treatment system treats wastewater from the refinery process units and potentially contaminated stormwater run-off and consists of the following major components: American Petroleum Institute (API) separator, dissolved air flotation (DAF) unit, equalization tank, biological unit, and clarifier.

Process wastewaters receive the following treatment - oil/water separation via an API separator, dissolved air flotation unit, equalization tank, biological unit and a clarifier prior to discharge via Outfall 001. Discharges via Outfall 002 receive no treatment. Discharges via Outfalls 003, 005, 006, and 007 flow through a Corrugated Plate Interceptor, prior to discharge the stormwater runoff is retained, sampled, and analyzed. Stormwater may be rerouted to the wastewater treatment plant if stormwater is determined to be contaminated. Hydrostatic test water is processed through filter media prior to discharge. Discharges via Outfall 008 receive no treatment with the exception of hydrostatic test water which is processed through filter media prior to discharge.

2. CALCULATIONS

See Appendix A of this fact sheet for calculations and further discussion of technology-based effluent limitations proposed in the draft permit.

Technology-based effluent limitations for flow and temperature at Outfall 001 are continued from the existing permit and are based on BPJ.

Technology-based effluent limitations for total suspended solids, chemical oxygen demand, oil & grease, total phenols, sulfide, total chromium, hexavalent chromium, and pH at Outfall 001 are based EPA categorical guidelines (40 CFR 419) for process wastewaters and BPJ allocations for non-categorical wastewaters.

Technology-based effluent limitations for chemical oxygen demand, oil & grease, and pH at Outfalls 002, 003, and 005 – 008 are continued from the existing permit and are based on BPJ.

The following technology-based effluent limitations are proposed in the draft permit:

Outfall	Parameter	Daily Avg Lbs/day	Daily Max Lbs/day
001	Flow	2.88 MGD	3.50 MGD
	Temperature	N/A	120°F
	Total Suspended Solids	1,358	2,554
	Chemical Oxygen Demand	9,020	17,447
	Oil and Grease	566	991
	Total Phenols	8.80	19.0
	Sulfide	11.3	24.3
	Total Chromium	14.0	36.9
	Hexavalent Chromium	4.72	9.63
	pH	6.0 SU (min)	9.0 SU
002, 003, 005-008	Flow	Report (MGD)	Report (MGD)
	Chemical Oxygen Demand	N/A	150 mg/l
	Oil and Grease	N/A	15 mg/l
	pH	6.0 SU (min)	9.0 SU

D. WATER QUALITY-BASED EFFLUENT LIMITATIONS/CONDITIONS

1. GENERAL COMMENTS

The Texas Surface Water Quality Standards found at 30 TAC Chapter 307 state that "surface waters will not be toxic to man from ingestion of water, consumption of aquatic organisms, or contact with the skin, or to terrestrial or aquatic life." The methodology outlined in the "Procedures to Implement the Texas Surface Water Quality Standards" is designed to insure compliance with 30 TAC Chapter 307. Specifically, the methodology is designed to insure that no source will be allowed to discharge any wastewater that: (1) results in instream aquatic toxicity; (2) causes a violation of an applicable narrative or numerical state water quality standard; (3) results in the endangerment of a drinking water supply; or (4) results in aquatic bioaccumulation that threatens human health. Calculated water quality-based effluent limits can be found in Appendix B of this fact sheet.

TPDES permits contain technology-based effluent limits reflecting the best controls available. Where these technology-based permit limits do not protect water quality or the designated uses, additional water quality-based effluent limitations and/or conditions are included. State narrative and numerical water quality standards are used in conjunction with EPA criteria and other toxicity databases to determine the adequacy of technology-based permit limits and the need for additional water quality-based controls. A comparison of technology-based effluent limits and calculated water quality-based effluent limits can be found in Appendix C of this fact sheet.

2. AQUATIC LIFE CRITERIA

a. SCREENING

Water quality-based effluent limitations are calculated from freshwater/marine aquatic life criteria found in Table 1 of the Texas Surface Water Quality Standards (30 TAC Chapter 307).

Acute marine criteria are applied at the edge of the zone of initial dilution (ZID) and chronic marine criteria are applied at the edge of the aquatic life mixing zone. The ZID for this discharge is defined as 50 feet from the point where the discharge enters the Houston Ship Channel/Buffalo Bayou Tidal. The aquatic life mixing zone for this discharge is defined as a radius of 200 feet from the point where the discharge enters the Houston Ship Channel/Buffalo Bayou Tidal.

TCEQ practice is to establish minimum estimated effluent percentages at the edges of the ZID and aquatic life mixing zone for discharges that are 10 MGD or less into bays, estuaries, or wide tidal rivers that are at least 400 feet wide. These critical effluent percentages are as follows:

Acute Effluent %	30%
Chronic Effluent %	8%

Wasteload allocations (WLAs) are calculated using the above estimated effluent percentages, criteria outlined in the Texas Surface Water Quality Standards, and partitioning coefficients for metals (when appropriate and designated in the implementation procedures). The WLA is the end-of-pipe effluent concentration that can be discharged when after mixing in the receiving stream, the instream numerical criteria will not be exceeded. From the WLA, a long term average (LTA) is calculated using a log normal probability distribution, a given coefficient of variation (0.6), and a 99th percentile confidence level. The lower of the two LTAs (acute and chronic) is used to calculate a daily average and daily maximum effluent limitation for the protection of aquatic life using the same statistical considerations with the 99th percentile confidence level and a standard number of monthly effluent samples collected (12). Assumptions used in deriving the effluent limitations include segment values for hardness, chlorides, pH and total suspended solids (TSS) according to the segment-specific values contained in the TCEQ guidance document, *Procedures to Implement the Texas Surface Water Quality Standards (IPs).* The segment values are 108 mg/L $CaCO_3$ for hardness, 482 mg/L Chlorides, 7.1 standard units for pH, and 8.0 mg/L for TSS. For additional details on the calculation of water quality-based effluent limitations, refer to the TCEQ guidance document.

TCEQ practice for determining significant potential is to compare the reported analytical data against percentages of the calculated daily average water quality-based effluent limitation. Permit limitations are required when analytical data reported in the application exceeds 85 percent of the calculated daily average water quality-based effluent limitation. Monitoring and reporting is required when analytical data reported in the application exceeds 70 percent of the calculated daily average water quality-based effluent limitation.

b. PERMIT ACTION

Analytical data reported in the application was screened against calculated water quality-based effluent limitations for the protection of aquatic life.

Reported analytical data does not exceed 70 percent of the calculated daily average water quality-based effluent limitation for aquatic life protection.

The current permit includes existing effluent limitations for free cyanide and total zinc at Outfall 001 for the protection of aquatic life. The existing effluent limitations for free cyanide are continued into the proposed permit. More stringent water quality-based effluent limitations for total zinc are included in the proposed permit.

Outfall	Parameter	Dly Avg	Dly Max
001	Cyanide (Free)	0.211 lbs/day	0.4463 lbs/day
	Zinc (Total)	5.67 lbs/day	12.0 lbs/day

3. AQUATIC ORGANISM TOXICITY CRITERIA (7-DAY CHRONIC)

a. SCREENING

The existing permit includes chronic marine biomonitoring requirements at Outfall 001.

In the past five years, the permittee performed twenty-two chronic tests, with zero demonstrations of significant toxicity (i.e., zero failures) by either test species.

Species	Date of Failure	Result (NOEC)	Endpoint
Mysid shrimp	n/a		
Inland silverside	n/a		

A reasonable potential (RP) determination was performed in accordance with 40 CFR §122.44(d)(1)(ii) to determine whether the discharge will reasonably be expected to cause or contribute to an exceedance of a state water quality standard or criterion within that standard. Each test species is evaluated separately. The RP determination is based on representative data from the previous five years of chronic WET testing. The table below identifies the thresholds for the number of test failures required to necessitate that a WET limit be placed in the permit or the consideration of additional BPJ factors, such as the duration and magnitude of the failures.

WET REASONABLE POTENTIAL DETERMINATION THRESHOLDS
More than 3 failures in the past five years = WET limit
3 failures with 2 or 3 occurring in the past 3 years = WET limit
1 to 3 failures in the past five years but 1 or less in last 3 years = BPJ
0 failures = No limit

With zero failures in the past five years, a determination of no RP was made. If RP is not demonstrated, WET limits are not required and the test species are eligible for the testing frequency reduction.

All of the test results were used for this determination.

Analytical data submitted with the application does not indicate violation of any numerical water quality-based effluent limitation for aquatic life protection, therefore minimum chronic freshwater biomonitoring conditions required for EPA classified major facilities are proposed in the draft permit as outlined below.

b. PERMIT ACTION

The provisions of this section apply to Outfall 001.

Based on information contained in the permit application, TCEQ has determined that there may be pollutants present in the effluent(s) that may have the potential to cause toxic conditions in the receiving stream.

Whole effluent biomonitoring is the most direct measure of potential toxicity, which incorporates 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 are as follows:

i) Chronic static renewal 7-day survival and growth test using the mysid shrimp (*Mysidopsis bahia*). The frequency of the testing shall be once per quarter.

ii) Chronic static renewal 7-day larval survival and growth test using the inland silverside (*Menidia beryllina*). The frequency of the testing shall be once per quarter.

Toxicity tests shall be performed in accordance with protocols described in the latest revision of the *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fourth Edition*, EPA/600/4-90/027F. 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.

This permit may be reopened to require effluent limits, additional testing, 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.

If none of the first four consecutive quarterly tests demonstrates significant toxicity, the permittee may submit this information in writing and, upon approval, reduce the testing frequency to once per six months for the invertebrate test species and once per year for the vertebrate test species. If one or more of the first

four consecutive quarterly tests demonstrates significant toxicity, the permittee shall continue quarterly testing for that species until the permit is reissued. If a testing frequency reduction had been previously granted and a subsequent test demonstrates significant toxicity, the permittee will resume a quarterly testing frequency for that species until the permit is reissued.

c. DILUTION SERIES

The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. These additional effluent concentrations shall be 3%, 5%, 6%, 8%, and 11%. The low-flow effluent concentration (critical dilution) is defined as 8% effluent.

The dilution series outlined above was calculated using a 0.75 factor applied to the critical dilution. The critical dilution is the estimated effluent dilution at the edge of the aquatic life mixing zone, which is calculated in section X.D.2.a. of this fact sheet.

4. AQUATIC ORGANISM TOXICITY CRITERIA (24-HOUR ACUTE)

a. SCREENING

The existing permit includes 24-hour acute freshwater biomonitoring language for Outfall 001. Minimum 24-hour acute freshwater biomonitoring requirements are proposed in the draft permit as outlined below.

In the past five years, the permittee has performed twelve valid 24-hour acute tests, with zero demonstrations of significant mortality by either test species.

b. PERMIT ACTION

24-hour 100% acute biomonitoring tests are required at Outfall 001 at a frequency of once per six months for the life of the permit.

The biomonitoring procedures stipulated as a condition of this permit are as follows:

i) Acute 24-hour static toxicity test using the mysid shrimp (*Mysidopsis bahia*). A minimum of five (5) replicates with eight (8) organisms per replicate shall be used for this test.

ii) Acute 24-hour static toxicity test using the inland silverside (*Menidia beryllina*). A minimum of five (5) replicates with eight (8) organisms per replicate shall be used for this test.

5. AQUATIC ORGANISM BIOACCUMULATION CRITERIA

a. SCREENING

Water quality-based effluent limitations for the protection of human health are calculated using criteria for the consumption of marine fish tissue found in Table 3 of the Texas Surface Water Quality Standards (30 TAC Chapter 307). Marine fish tissue bioaccumulation criteria are applied at the edge of the human health mixing zone for discharges into bays, estuaries and wide tidal rivers. The human health mixing zone for this discharge is defined as a 400-foot radius from the point where the discharge enters the Houston Ship Channel/Buffalo Bayou Tidal. TCEQ practice is to establish a minimum estimated effluent percentage at the edge of the human health mixing zone for discharges that are 10 MGD or less into bays, estuaries, and wide tidal rivers that are at least 400 feet wide. This critical effluent percentage is:

Human Health Effluent %:	4%

Water quality-based effluent limitations for human health protection against the consumption of fish tissue are calculated using the same procedure as outlined for calculation of water quality-based effluent limitations for aquatic life protection. A 99th percentile confidence level in the long-term average calculation is used with only one long-term average value being calculated.

Significant potential is again determined by comparing reported analytical data against 70 percent and 85 percent of the calculated daily average water quality-based effluent limitation.

b. PERMIT ACTION

Analytical data reported in the application was screened against calculated water quality-based effluent limitations for the protection of human health (using consumption of fish tissue criteria).

Reported analytical data does not exceed 70 percent of the calculated daily average water quality-based effluent limitation for human health protection (using consumption of fish tissue criteria).

6. DRINKING WATER SUPPLY PROTECTION

a. SCREENING

Water Quality Segment No. 1007, which receives the discharges from this facility, is not designated as a public water supply. Screening reported analytical data against water quality-based effluent limitations calculated for the protection of a drinking water supply is not applicable.

b. PERMIT ACTION

None.

7. DISSOLVED OXYGEN CRITERIA PROTECTION

As recommended in the TCEQ IOM dated 11/15/2011, the effluent limitations for carbonaceous biochemical oxygen demand (5-day) and ammonia (as Nitrogen) at Outfall 001 are continued from the current TPDES permit and are consistent with recommendations in the WLE-1 for discharges into the Houston Ship Channel system.

The following permit limitations are proposed in the draft permit for protection of the dissolved oxygen criterion:

Outfall	Parameter	Dly Avg	Dly Max
001	Carbonaceous Biochemical Oxygen Demand (5-day)	294 lbs/day	441 lbs/day
	Ammonia (as Nitrogen)	186 lbs/day	279 lbs/day

XI. PRETREATMENT REQUIREMENTS

This facility is not defined as a publicly owned treatment works (POTW). Pretreatment requirements are not proposed in the draft permit.

XII. VARIANCE REQUESTS

No variance requests have been received.

XIII. PROCEDURES FOR FINAL DECISION

When an application is declared administratively complete, the Chief Clerk sends a letter to the applicant advising the applicant to publish the Notice of Receipt of Application and Intent to Obtain Permit in the newspaper. In addition, the Chief Clerk instructs the applicant to place a copy of the application in a public place for review and copying in the county where the facility is or will be located. This application will be in a public place throughout the comment period. The Chief Clerk also mails this notice to any interested persons and, if required, to landowners identified in the permit application. This notice informs the public about the application, and provides that an interested person may file comments on the application or request a contested case hearing or a public meeting.

Once a draft permit is completed, it is sent, along with the Executive Director's preliminary decision, as contained in the technical summary or fact sheet, to the Chief Clerk. At that time, Notice of Application and Preliminary Decision will be mailed to the same people and published in the same newspaper as the prior notice. This notice sets a deadline for making public comments. The applicant must place a copy of the Executive Director's preliminary decision and draft permit in the public place with the application.

Any interested person may request a public meeting on the application until the deadline for filing public comments. A public meeting is intended for the taking of public comment, and is not a contested case proceeding.

After the public comment deadline, the Executive Director prepares a response to all significant public comments on the application or the draft permit raised during the public comment period. The Chief Clerk then mails the Executive Director's Response to Comments and Final Decision to people who have filed comments, requested a contested case hearing, or requested to be on the mailing list. This notice provides that if a person is not satisfied with the Executive Director's response and decision, they can request a contested case hearing or file a request to reconsider the Executive Director's decision within 30 days after the notice is mailed.

The Executive Director will issue the permit unless a written hearing request or request for reconsideration is filed within 30 days after the Executive Director's Response to Comments and Final Decision is mailed. If a hearing request or request for reconsideration is filed, the Executive Director will not issue the permit and will forward the application and request to the TCEQ Commissioners for their consideration at a scheduled Commission meeting. If a contested case hearing is held, it will be a legal proceeding similar to a civil trial in state district court.

If the Executive Director calls a public meeting or the Commission grants a contested case hearing as described above, the Commission will give notice of the date, time, and place of the meeting or hearing. If a hearing request or request for reconsideration is made, the Commission will consider all public comments in making its decision and shall either adopt the Executive Director's response to public comments or prepare its own response.

For additional information about this application contact Michael Sunderlin at (512) 239-4523

XIV. ADMINISTRATIVE RECORD

The following section is a list of the fact sheet citations to applicable statutory or regulatory provisions and appropriate supporting references.

A PERMIT(S)

TCEQ Permit No. WQ0000535000 issued on May 23, 2007.

B. APPLICATION

TPDES wastewater permit application received on September 30, 2011.

C. 40 CFR CITATION(S)

40 CFR Part 419 Subpart C.

D. LETTERS/MEMORANDA/RECORDS OF COMMUNICATION

TCEQ IOM from Pheil (SI Team) to Industrial Permits Team; 11/15/2011.

TCEQ IOM from Marshall (WQA Team) to Industrial Permits Team; 11/15/2011.

TCEQ IOM from Vignali (WQA Team) to Industrial Permits Team; 11/08/2011.

TCEQ IOMs from Murphy (SI Team) to Industrial Permits Team; 11/07/2011 & 04/23/2012.

E. MISCELLANEOUS

Quality Criteria for Water (1986), EPA 440/5-86-001, 5/1/86.

The State of Texas Water Quality Inventory, 13th Edition, Publication No. SFR-50, Texas Commission on Environmental Quality, December 1996.

Texas Surface Water Quality Standards, 30 TAC §§307.1 - 307.10, effective August 17, 2000, and Appendix E, effective February 27, 2002.

Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fourth Edition, EPA/600/4-90/027F.

Procedures to Implement the Texas Surface Water Quality Standards, Texas Commission on Environmental Quality, January 2003.

Guidance Document for Establishing Monitoring Frequencies for Domestic and Industrial Wastewater Discharge Permits," TCEQ Document No. 98-001.000-OWR-WQ, May 1998.

Appendix A
Calculated Technology-Based Effluent Limits

APPLICATION OF 40 CFR PART 419, SUBPART C - PETROCHEMICAL SUBCATEGORY

CALCULATION OF THE PROCESS CONFIGURATION					
Process	Actual Quantity (1000 bbl)	Actual Throughput (1000 bbl)	Capacity Relative to Throughput	Weighting Factor	Process Configuration
Crude					
Atmospheric Distillation	100	130	0.769	1	0.769
Vacuum Distillation	35.00	130	0.269	1	0.269
Desalting	130	130	1.00	1	1.00
Cracking and Coking					
Fluid Catalytic Cracking	70	130	0.538	6	3.228
Vis-breaking	-	130	-	6	-
Thermal Cracking	-	130	-	6	-
Moving Bed Catalytic Cracking	-	130	-	6	-
Hydrocracking	72	130	0.554	6	3.324
Fluid Coking	-	130	-	6	-
Delayed Coking	-	130	-	6	-
Hydrotreating	61	130	0.469	-	-
Lube		130	-	13	-
Asphalt					
Asphalt production		130	0.0	12	-
Asphalt oxidation		130	0.0	12	-
Asphalt emulsifying		130	0.0	12	-
Reforming and Alkylation					
H_2SO_4 Alkylation	16	130	0.123	0	0
Catalytic Reforming	0	130	0.0	0	0
				Total	8.59
				Process Factor	1.51
				Size Factor	1.08
				Multiplier (process factor × size factor)	1.63

BEST PRACTICABLE CONTROL TECHNOLOGY CURRENTLY AVAILABLE (BPT), 40 CFR PART 419.32

40 CFR Part 419.32(a)

Allowable loading = Effluent Limitations x Multiplier x 1,000 bbl of feedstock

Parameter	Effluent Limitations (lbs/1,000 lbs of feedstock)		Multiplier	1,000 bbl of feedstock	Allowable Loading (lbs/day)	
	30-Day Average	Daily Maximum			30-Day Average	Daily Maximum
BOD (5-day)	6.5	12.1	1.63	130	1377.35	2563.99
TSS	5.25	8.3	1.63	130	1112.48	1758.77
COD	38.4	74.0	1.63	130	8136.96	15680.60
Oil and Grease	2.1	3.9	1.63	130	444.99	826.41
Phenolic compounds	0.0425	0.088	1.63	130	9.01	18.65
Ammonia as N	3.8	8.25	1.63	130	805.22	1748.18
Sulfide	0.035	0.078	1.63	130	7.42	16.53
Total Chromium	0.107	0.183	1.63	130	22.67	38.78
Hexavalent Chromium	0.0072	0.016	1.63	130	1.533	3.390
pH	6.0 min.	9.0 max.	-	-	-	-

40 CFR Part 419.32(c) - Ballast Water

The permit authorizes the discharge of ballast water because the permittee has the capabilities to accept and treat this waste. However, the permittee does not regularly accept ballast water for treatment so no allocation was calculated.

40 CFR Part 419.32(e) - Contaminated Stormwater

The effluent limitations at 40 CFR Part 419.32(e) apply to stormwater discharge that is commingled with treated or process wastewater. The applicant reports contributions of contaminated stormwater at 72,000 gallons/day.

Allowable Loading = Effluent Limitations x 1,000 gallons of flow

Parameter	Effluent Limitations (lbs/1,000 gallons of flow) 30-Day Average	Daily Maximum	1,000 gallons of flow	Allowable Loading (lbs/day) 30-Day Average	Daily Maximum
BOD (5-day)	0.22	0.40	72.00	15.84	28.80
TSS	0.18	0.28	72.00	12.96	20.16
COD	1.50	3.00	72.00	108.00	216.00
Oil and Grease	0.067	0.13	72.00	4.82	9.36
Phenolic compounds	0.0014	0.0029	72.00	0.10	0.21
Total Chromium	0.0035	0.0060	72.00	0.25	0.43
Hexavalent Chromium	0.00023	0.0052	72.00	0.017	0.037
pH	6.0 min.	9.0 max.	-	-	-

TOTAL ALLOCATIONS FOR BEST PRACTICABLE CONTROL TECHNOLOGY-BASED POLLUTANTS

Parameter	Total Allowable Loading - BPT (lbs/day)	
	Daily Average	Daily Maxium
BOD (5-day)	1393.19	2592.79
TSS	1125.44	1778.93
COD	8244.96	15896.60
Oil and Grease	449.81	835.77
Phenolic compounds (4AAP)	9.11	18.86
Ammonia as N	805.22	1748.18
Sulfide	7.42	16.53
Total Chromium	22.92	39.21
Hexavalent Chromium	1.543	3.427
pH	6.0 min.	9.0 max.

BEST AVAILABLE TECHNOLOGY ECONOMICALLY ACHIEVABLE (BAT), 40 CFR PART 419.33
40 CFR Part 419.33(a) and 40 CFR Part 419.33(b)

Parameter	30-Day Average	Daily Maximum	Multiplier	1000 bbl of feedstock	30-Day Average	Daily Maximum
COD	38.4	74.0	1.63	130	8136.96	15680.60
Ammonia as N	3.8	8.25	1.63	130	805.22	1748.18
Sulfide	0.035	0.078	1.63	130	7.42	16.53

			Allowances (lbs/1000 bbl of feedstock)		Effluent Limits (lbs/day)	
Parameter	Process	1000 bbl of feedstock	Dly. Avg.	Dly. Max.	Dly Avg.	Dly. Max
Phenolic Compounds	Crude	265	0.003	0.013	0.80	3.45
	Cracking and Coking	203	0.036	0.147	7.31	29.84
	Reforming & Alkylation	16	0.032	0.132	0.51	2.11
			Total Loading Limits:		8.62	35.40
Total Chromium	Crude	265	0.004	0.011	1.06	2.92
	Cracking and Coking	203	0.041	0.119	8.32	24.16
	Reforming & Alkylation	16	0.037	0.107	0.59	1.71
			Total Loading Limits:		9.97	28.79
Hexavalent Chromium	Crude	265	0.0003	0.0007	0.080	0.186
	Cracking and Coking	203	0.0034	0.0076	0.690	1.543
	Reforming & Alkylation	16	0.0031	0.0069	0.050	0.110
			Total Loading Limits:		0.820	1.839

40 CFR Part 419.33(d) - Ballast Water

The permit authorizes the discharge of ballast water because the permittee has the capabilities to accept and treat this waste. However, the permittee does not regularly accept ballast water for treatment so no allocation was calculated.

40 CFR Part 419.33(f) - Contaminated Stormwater

The effluent limitations at 40 CFR Part 419.32(f) apply to stormwater discharge that is commingled with treated or process wastewater. The applicant reports contributions of contaminated stormwater at 72,000 gallons/day.

Allowable Loading = Effluent Limitations x 1,000 gallons of flow

	Effluent Limitations (lbs/1,000 gallons of flow)			Allowable Loading (lbs/day)	
Parameter	30-Day Average	Daily Maximum	1,000 gallons of flow	30-Day Average	Daily Maximum
COD	1.50	3.00	72.00	108.00	216.00
Phenolic compounds	0.0014	0.0029	72.00	0.10	0.21
Total Chromium	0.0018	0.005	72.00	0.13	0.36
Hexavalent Chromium	0.00023	0.00052	72.00	0.017	0.037
pH	6.0 min.	9.0 max.	-	-	-

TOTAL ALLOCATIONS FOR BEST AVAILABLE TECHNOLOGY-BASED POLLUTANTS

Parameter	Total Allowable Loading - BAT (lbs/day)	
	Daily Average	Daily Maximum
COD	8244.96	15896.60
Phenolic compounds (4AAP)	8.72	35.61
Ammonia as N	805.22	1748.18
Sulfide	7.42	16.53
Total Chromium	10.10	29.15
Hexavalent Chromium	0.837	1.876

BEST PRACTICABLE CONTROL TECHNOLOGY CURRENTLY AVAILABLE (BCT), 40 CFR PART 419.34

40 CFR Part 419.34(a)

Allowable loading = Effluent Limitations x Multiplier x 1,000 bbl of feedstock

	Effluent Limitations (lbs/1,000 lbs of feedstock)				Allowable Loading (lbs/day)	
Parameter	30-Day Average	Daily Maximum	Multiplier	1,000 bbl of feedstock	30-Day Average	Daily Maximum
BOD (5-day)	6.5	12.1	1.63	130	1377.35	2563.99
TSS	5.25	8.3	1.63	130	1112.48	1758.77
Oil and Grease	2.1	3.9	1.63	130	444.99	826.41
pH	6.0 min.	9.0 max.	-	-	-	-

40 CFR Part 419.34(c) - Ballast Water

The permit authorizes the discharge of ballast water because the permittee has the capabilities to accept and treat this waste. However, the permittee does not regularly accept ballast water for treatment so no allocation was calculated.

40 CFR Part 419.34(e) - Contaminated Stormwater

The effluent limitations at 40 CFR Part 419.34(e) apply to stormwater discharge that is commingled with treated or process wastewater. The applicant reports contributions of contaminated stormwater at 72,000 gallons/day.

Allowable Loading = Effluent Limitations x 1,000 gallons of flow

	Effluent Limitations (lbs/1,000 gallons of flow)			Allowable Loading (lbs/day)	
Parameter	30-Day Average	Daily Maximum	1,000 gallons of flow	30-Day Average	Daily Maximum
BOD (5-day)	0.22	0.40	72.00	15.84	28.80
TSS	0.18	0.28	72.00	12.96	20.16
Oil and Grease	0.067	0.13	72.00	4.82	9.36
pH	6.0 min.	9.0 max.	-	-	-

TOTAL ALLOCATIONS FOR BEST CONVENTIONAL POLLUTANT CONTROL TECHNOLOGY BASED POLLUTANTS

Parameter	Total Allowable Loading - BPT (lbs/day)	
	Daily Average	Daily Maxium
BOD (5-day)	1393.19	2592.79
TSS	1125.44	1778.93
Oil and Grease	449.81	835.77
pH	6.0 min.	9.0 max.

COMPARISON OF BPT, BAT, & BCT EFFLUENT LIMITS

Parameter	Total Allowable Loading - BPT (lbs/day)		Total Allowable Loading - BAT (lbs/day)		Total Allowable Loading - BCT (lbs/day)	
	Daily Avg	Daily Max	Daily Avg	Daily Max	Daily Avg	Daily Max
BOD (5-day)	1393.19	2592.79	-	-	1393.19	2592.79
TSS	1125.44	1778.93	-	-	1125.44	1778.93
COD	8244.96	15896.60	8244.96	15896.60	-	-
Oil and Grease	449.81	835.77	-	-	449.81	835.77
Phenolic compounds (4AAP)	9.11	18.86	8.72	35.61	-	-
Ammonia as N	805.22	1748.18	805.22	1748.18	-	-
Sulfide	7.42	16.53	7.42	16.53	-	-
Total Chromium	22.92	39.21	10.10	29.15	-	-
Hexavalent Chromium	1.543	3.427	0.837	1.876	-	-
pH	6.0 min.	9.0 max.	-	-	6.0 min.	9.0 max.

BPJ - Allocations for Utility Wastewaters

Allocations for utility wastewaters are based on BPJ concentration criteria and the following flow contributions:

Cooling tower blowdown, boiler blowdown, water softening system, condensates	0.382 MGD
SW collection pit (heat exchanger backwash, fire system water, condensates, misc)	0.158 MGD
RO reject	0.389 MGD
Total	0.929 MGD

Parameter	Effluent Concentrations (mg/l)		Flow (MGD)	Allowable Loading (lbs/day)	
	30-Day Average	Daily Maximum		30-Day Average	Daily Maximum
BOD (5-day)	10	20	0.929	77.52	155.05
TSS	30	100	0.929	232.58	775.25
COD	100	200	0.929	775.25	1550.50
Oil and Grease	15	20	0.929	116.29	155.05
Phenolic compounds (4AAP)	0.010	0.020	0.929	0.078	0.16
Ammonia as N	0.5	1.0	0.929	3.88	7.75
Sulfide	0.5	1.0	0.929	3.88	7.75
Total Chromium	0.5	1.0	0.929	3.88	7.75
Hexavalent Chromium	0.5	1.0	0.929	3.88	7.75

SUMMATIONS – OUTFALL 001

	------BOD-5 (lbs/day)------		-------TSS (lbs/day)------	
	Dly Avg	Dly Max	Dly Avg	Dly Max
Process WW	1393.19	2592.79	1125.44	1778.93
Utility WW	77.52	155.05	232.58	775.25
	1470.71	2747.84	1358.02	2554.18

	--------COD (lbs/day)------		-------O&G (lbs/day)------	
	Dly Avg	Dly Max	Dly Avg	Dly Max
Process WW	8244.96	15896.60	449.81	835.77
Utility WW	775.25	1550.50	116.29	155.05
	9020.21	17447.10	566.10	990.82

	--Phenolic Cmpds (lbs/day)--		-----Ammonia (lbs/day)----	
	Dly Avg	Dly Max	Dly Avg	Dly Max
Process WW	8.72	18.86	805.22	1748.18
Utility WW	0.078	0.16	3.88	7.75
	8.798	19.02	809.10	1755.93

	--Sulfide Cmpds (lbs/day)--		--Total Chromium (lbs/day)--	
	Dly Avg	Dly Max	Dly Avg	Dly Max
Process WW	7.42	16.53	10.10	29.15
Utility WW	3.88	7.75	3.88	7.75
	11.30	24.28	13.98	36.90

	-Hex Chromium (lbs/day)--	
	Dly Avg	Dly Max
Process WW	0.837	1.876
Utility WW	3.88	7.75
	4.717	9.626

FINAL TECHNOLOGY-BASED EFFLUENT LIMITATIONS - 40 CFR 419 AND BPJ

The following table shows the final technology-based effluent limitations for discharges subject to 40 CFR 419 and wastestreams given pollutant allocations based on BPJ. These effluent limitations were calculated by comparing the BPT limits with the BAT limits and selecting the most protective, then adding the additional allocations.

Parameter	Total Allowable Loading - Technology-Based (lbs/day)	
	Daily Average	Daily Maximum
BOD (5-day)	1471	2748
TSS	1358	2554
COD	9020	17447
Oil and Grease	566	991
Phenolic compounds (4AAP)	8.80	19.0
Ammonia as N	809	1756
Sulfide	11.3	24.3
Total Chromium	14.0	36.9
Hexavalent Chromium	4.72	9.63
pH	6.0 min.	9.0 max.

Appendix B
Calculated Water Quality-Based Effluent Limits

TEXTOX MENU #5 - BAY OR WIDE TIDAL RIVER
The water quality-based effluent limitations demonstrated below are calculated using:
Table 1, 2000 Texas Surface Water Quality Standards (30 TAC 307) for Marine Aquatic Life
Table 3, 2000 Texas Surface Water Quality Standards for Human Health
"Procedures to Implement the Texas Surface Water Quality Standards," Texas Commission on Environmental Quality, January 2003
"Procedures to Implement the Texas Surface Water Quality Standards," Appendix D, Texas Commission on Environmental Quality, June 2010

PERMITTEE INFORMATION:	
Permittee Name:	Valero Refining - Texas L.P.
TPDES Permit No:	WQ0000535000
Outfall No:	001
Prepared by:	Michael Sunderlin
Date:	03/22/2012
DISCHARGE INFORMATION:	
Receiving Waterbody:	Neches River Tidal
Segment No:	1007
TSS (mg/L):	8
Chloride (mg/L):	482
Effluent Flow for Aquatic Life (MGD)	< 10
Chronic Effluent % for Aquatic Life:	8
Acute Effluent % for Aquatic Life:	30
Oyster Waters:	no
Effluent Flow for Human Health (MGD):	< 10
Human Health Effluent %:	4

CALCULATE TOTAL/DISSOLVED RATIO:							
Estuarine Metal	*Intercept (b)*	*Slope (m)*	*Partition Coefficient (Kp)*	*Dissolved Fraction (Cd/Ct)*		*Water Effect Ratio (WER)*	
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Cadmium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (Total)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (+3)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (+6)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	4.85	-0.72	15840.73	0.89		1.00	Assumed
Lead	6.06	-0.85	196053.01	0.39		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	5.86	-0.74	155493.92	0.45		1.00	Assumed
Zinc	5.36	-0.52	77695.02	0.62		1.00	Assumed

AQUATIC LIFE
CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS

Parameter	*SW Acute Criterion (ug/L)*	*SW Chronic Criterion (ug/L)*	*WLAa*	*WLAc*	*LTAa*	*LTAc*	*Daily Avg. (ug/L)*	*Daily Max. (ug/L)*
Aldrin	1.3	N/A	4.33	N/A	1.39	N/A	2.04	4.31
Aluminum	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Arsenic	149	78	497	975	159	595	234	494
Cadmium	45.4	10	151	125	48.43	76.25	71.19	151
Carbaryl	613	N/A	2043	N/A	654	N/A	961	2034
Chlordane	0.09	0.004	0.300	0.050	0.096	0.031	0.045	0.095
Chlorpyrifos	0.011	0.006	0.037	0.075	0.012	0.046	0.017	0.036
Chromium (+3)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium (+6)	1090	49.6	3633	620	1163	378	556	1176
Copper	13.5	3.6	50.70	50.70	16.22	30.93	23.85	50.46
Copper (oyster waters)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cyanide	5.6	5.6	18.67	70.00	5.97	42.70	8.78	18.58
4,4'-DDT	0.13	0.001	0.43	0.013	0.139	0.008	0.011	0.024
Demeton	N/A	0.1	N/A	1.250	N/A	0.763	1.121	2.371
Dicofol	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dieldrin	0.71	0.002	2.37	0.025	0.757	0.015	0.022	0.047
Diuron	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endosulfan I (alpha)	0.034	0.009	0.11	0.113	0.036	0.069	0.053	0.113
Endosulfan II (beta)	0.034	0.009	0.11	0.113	0.036	0.069	0.053	0.113
Endosulfan sulfate	0.034	0.009	0.11	0.113	0.036	0.069	0.053	0.113
Endrin	0.037	0.002	0.12	0.025	0.039	0.015	0.022	0.047
Guthion	N/A	0.01	N/A	0.125	N/A	0.076	0.112	0.237
Heptachlor	0.053	0.004	0.18	0.050	0.057	0.031	0.045	0.095
Hexachlorocyclohexane (Lindane)	0.16	N/A	0.53	N/A	0.17	N/A	0.25	0.53
Lead	133	5.3	1139	170	364	104	153	323
~~Malathion~~	~~N/A~~	~~0.01~~	~~N/A~~	~~0.13~~	~~N/A~~	~~0.08~~	~~0.11~~	~~0.24~~
Mercury	2.1	1.1	7.00	13.75	2.24	8.39	3.29	6.97
Methoxychlor	N/A	0.03	N/A	0.38	N/A	0.23	0.34	0.71
Mirex	N/A	0.001	N/A	0.0125	N/A	0.0076	0.0112	0.0237
Nickel	118	13.1	393	164	126	100	147	311
Parathion (ethyl)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pentachlorophenol	15.1	9.6	50.33	120.00	16.11	73.20	23.68	50.09
Phenanthrene	7.7	4.6	25.67	57.50	8.21	35.08	12.07	25.54
Polychlorinated Biphenyls (PCBs)	10	0.03	33.33	0.38	10.67	0.23	0.34	0.71
Selenium	564	136	1880	1700	602	1037	884	1871
Silver (free ion)	2	N/A	167	N/A	53.30	N/A	78.36	166
Toxaphene	0.21	0.0002	0.70	0.0025	0.2240	0.0015	0.0022	0.0047
Tributyltin (TBT)	0.24	0.043	0.80	0.54	0.26	0.33	0.38	0.80
2,4,5 Trichlorophenol	259	12	863	150	276	91.5	135	285
Zinc	92.7	84.2	501	1707	160	1041	236	499

HUMAN HEALTH CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS					
Parameter	*SW Fish Criterion (ug/L)*	*WLAh*	*LTAh*	*Daily Avg. (ug/L)*	*Daily Max. (ug/L)*
Acrylonitrile	7.3	183	170	249	528
Aldrin	0.0028	0.07	0.07	0.10	0.20
Arsenic	N/A	N/A	N/A	N/A	N/A
Barium	N/A	N/A	N/A	N/A	N/A
Benzene	70.8	1770	1646	2420	5119
Benzidine	0.00232	0.06	0.05	0.08	0.17
Benzo(a)anthracene	0.54	13.50	12.56	18.46	39.05
Benzo(a)pyrene	0.54	13.50	12.56	18.46	39.05
Bis(chloromethyl)ether	0.0129	0.32	0.30	0.44	0.93
Cadmium	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	5.6	140	130	191	405
Chlordane	0.0213	0.53	0.50	0.73	1.54
Chlorobenzene	920	23000	21390	31443	66523
Chloroform	861	21525	20018	29427	62257
Chromium (+6)	2216	55400	51522	75737	160233
Chrysene	5.4	135	126	185	390
Cresols	8744	218600	203298	298848	632257
Cyanide	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	0.007	0.18	0.16	0.24	0.51
4,4'-DDE	0.005	0.13	0.12	0.17	0.36
4,4'-DDT	0.005	0.13	0.12	0.17	0.36
2,4'-D	N/A	N/A	N/A	N/A	N/A
Danitol	0.481	12.03	11.18	16.44	34.78
Dibromochloromethane	47.7	1193	1109	1630	3449
1,2-Dibromoethane	0.223	5.58	5.18	7.62	16.12
1,3-Dichloropropene (1,3- Dichloropropylene)	107	2675	2488	3657	7737
Dieldrin	0.001	0.03	0.02	0.03	0.07
p-Dichlorobenzene	N/A	N/A	N/A	N/A	N/A
1,2-Dichloroethane	49.3	1233	1146	1685	3565
1,1-Dichloroethylene	3.9	97.5	90.7	133	282
Dicofol	0.144	3.60	3.35	4.92	10.41
Dioxins/Furans (TCDD Equivalents)	9.33E-08	2.33E-06	2.17E-06	3.19E-06	6.75E-06
Endrin	0.893	22.33	20.76	30.52	64.57
Fluoride	N/A	N/A	N/A	N/A	N/A
Heptachlor	0.00177	0.04	0.04	0.06	0.13
Heptachlor Epoxide	0.723	18.08	16.81	24.71	52.28
Hexachlorobenzene	0.0132	0.33	0.31	0.45	0.95
Hexachlorobutadiene	2.4	60.0	55.8	82.0	173.5
Hexachlorocyclohexane (alpha)	0.275	6.88	6.39	9.40	19.88
Hexachlorocyclohexane (beta)	0.964	24.10	22.41	32.95	69.70
Hexachlorocyclohexane (gamma) (Lindane)	1.34	33.50	31.16	45.80	96.89
Hexachloroethane	185	4625	4301	6323	13377
Hexachlorophene	0.036	0.90	0.84	1.23	2.60
Lead	16.9	1085	1009	1484	3139
Mercury	0.025	0.63	0.58	0.85	1.81
Methoxyclor	1.48	37.00	34.41	50.58	107
Methyl Ethyl Ketone	6.63E+06	1.66E+08	1.54E+08	2.27E+08	4.79E+08
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	156	3900	3627	5332	11280
N-Nitrosodiethylamine	5.12	128	119	175	370
N-Nitroso-di-n-Butylamine	8.98	225	209	307	649

PCBs (Polychlorinated Biphenyls)	0.000885	0.02	0.02	0.03	0.06
Pentachlorobenzene	4.45	111	103	152	322
Pentachlorophenol	90	2250	2093	3076	6508
Pyridine	8889	222225	206669	303804	642741
Selenium	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.162	4.05	3.77	5.54	11.71
Tetrachloroethylene	215	5375	4999	7348	15546
Toxaphene	0.009	0.23	0.21	0.31	0.65
2,4,5-TP (Silvex)	33.6	840	781	1148	2430
2,4,5-Trichlorophenol	712	17800	16554	24334	51483
Trichloroethylene	408	10200	9486	13944	29501
1,1,1-Trichloroethane	8391	209775	195091	286783	606732
TTHM (Sum of Total Trihalomethanes)	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	277	6925	6440	9467	20029

CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS		
Aquatic Life		
Parameter	***70%***	***85%***
Aldrin	1.427	1.733
Aluminum	N/A	N/A
Arsenic	164	199
Cadmium	49.8	60.5
Carbaryl	673	817
Chlordane	0.031	0.038
Chlorpyrifos	0.012	0.015
Chromium (+3)	N/A	N/A
Chromium (+6)	389	473
Copper	16.695	20.273
Copper (oyster waters)	N/A	N/A
Cyanide	6.147	7.464
4,4'-DDT	0.008	0.010
Demeton	0.785	0.953
Dicofol	N/A	N/A
Dieldrin	0.016	0.019
Diuron	N/A	N/A
Endosulfan (alpha)	0.037	0.045
Endosulfan (beta)	0.037	0.045
Endosulfan sulfate	0.037	0.045
Endrin	0.016	0.019
Guthion	0.078	0.095
Heptachlor	0.031	0.038
Hexachlorocyclohexane (Lindane)	0.176	0.213
Lead	107	130
Malathion	0.078	0.095
Mercury	2.305	2.799
Methoxychlor	0.235	0.286
Mirex	0.008	0.010
Nickel	102.8	124.8
Parathion (ethyl)	N/A	N/A
Pentachlorophenol	16.574	20.125
Phenanthrene	8.452	10.263
Polychlorinated Biphenyls (PCBs)	0.235	0.286
Selenium	619	752
Silver (free ion)	54.849	66.603
Toxaphene	0.0016	0.0019

Tributyltin (TBT)	0.263	0.320
2,4,5 Trichlorophenol	94.2	114.3
Zinc	165.0	200.3
Human Health		
Parameter	***70%***	***85%***
Acrylonitrile	175	212
Aldrin	0.067	0.081
Arsenic	N/A	N/A
Barium	N/A	N/A
Benzene	1694	2057
Benzidine	0.056	0.067
Benzo(a)anthracene	12.92	15.69
Benzo(a)pyrene	12.92	15.69
Bis(chloromethyl)ether	0.309	0.375
Cadmium	N/A	N/A
Carbon Tetrachloride	134	163
Chlordane	0.510	0.619
Chlorobenzene	22010	26727
Chloroform	20599	25013
Chromium (+6)	53016	64377
Chrysene	129	157
Cresols	209194	254021
Cyanide	N/A	N/A
4,4'-DDD	0.167	0.203
4,4'-DDE	0.120	0.145
4,4'-DDT	0.120	0.145
2,4'-D	N/A	N/A
Danitol	11.51	13.97
Dibromochloromethane	1141	1386
1,2-Dibromoethane	5.335	6.478
1,3-Dichloropropene (1,3-Dichloropropylene)	2560	3108
Dieldrin	0.024	0.029
p-Dichlorobenzene	N/A	N/A
1,2-Dichloroethane	1179	1432
1,1-Dichloroethylene	93.3	113
Dicofol	3.445	4.183
Dioxins/Furans (TCDD Equivalents)	2.23E-06	2.71E-06
Endrin	21.364	25.942
Fluoride	N/A	N/A
Heptachlor	0.042	0.051
Heptachlor Epoxide	17.297	21.004
Hexachlrobenzene	0.316	0.383
Hexachlorobutadiene	57.4	69.7
Hexachlorocyclohexane (alpha)	6.579	7.989
Hexachlorocyclohexane (beta)	23.1	28.0
Hexachlorocyclohexane (gamma) (Lindane)	32.1	38.9
Hexachloroethane	4426	5374
Hexachlorophene	0.861	1.046
Lead	1038	1261
Mercury	0.598	0.726
Methoxyclor	35.408	42.995
Methyl Ethyl Ketone	1.59E+08	1.93E+08
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A
Nitrobenzene	3732	4532
N-Nitrosodiethylamine	122	149

N-Nitroso-di-n-Butylamine	215	261
PCBs (Polychlorinated Biphenyls)	0.021	0.026
Pentachlorobenzene	106	129
Pentachlorophenol	2153	2615
Pyridine	212663	258233
Selenium	N/A	N/A
1,2,4,5-Tetrachlorobenzene	3.876	4.706
Tetrachloroethylene	5144	6246
Toxaphene	0.215	0.261
2,4,5-TP (Silvex)	804	976
2,4,5-Trichlorophenol	17034	20684
Trichloroethylene	9761	11853
1,1,1-Trichloroethane	200748	243766
TTHM (Sum of Total Trihalomethanes)	N/A	N/A
Vinyl Chloride	6627	8047

Water quality-based mass effluent limitations are calculated by using the following formula:

Mass limits = [(concentration limits ug/l)/1000] * [Flow MGD] * [8.345] = limits lbs/day

Flow	2.88 MGD

POLLUTANT	**Dly Avg ug/l**	**Dly Max ug/l**		**Dly Avg lbs/day**	**Dly Max lbs/day**
Chromium (Hexavalent)	556	1176		13.4	28.3
~~Cyanide (Free)~~	~~8.78~~	~~18.58~~		~~0.211~~	~~0.447~~
Zinc (Total)	236	499		5.67	12.0

Appendix C
Comparision of Technology-Based Effluent Limits and Water Quality-Based Effluent Limits

The following table is a summary of technology based effluent limitations calculated/assessed in the draft permit (Technology Based), effluent limitations from the existing permit (Existing Permit), and calculated/assessed water quality based effluent limitations (Water Quality).

Current permit effluent limitations appearing in "***bold italics***" were not used for comparison purposes based on the applicant's amendment request to increase effluent limitations based on related increases in production. These current permit effluent limitations are provided for reference purposes only.

		Current Permit		WQ Based		Tech Based	
Outfall	**Parameter**	**Dly Avg Lbs/day**	**Dly Max Lbs/day**	**Dly Avg Lbs/day**	**Dly Max Lbs/day**	**Dly Avg Lbs/day**	**Dly Max Lbs/day**
001	Flow	2.88 MGD	3.50 MGD	***	***	***	***
	Temperature	N/A	120°F	***	***	***	***
	CBOD-5	294	441	294	***	1,471	2,748
	TSS	***912***	***1,526***	***	***	1,358	2,554
	COD	***5536***	***10,701***	***	***	9,020	17,447
	Oil and Grease	***351***	***627***	***	***	566	991
	Total Phenols	***5.74***	***11.9***	***	***	8.80	19.0
	Ammonia (as N)	186	279	186	***	809	1,756
	Sulfide	***4.64***	***10.35***	***	***	11.3	24.3
	Total Chromium	***7.56***	***21.8***	***	***	14.0	36.9
	Hexavalent Chromium	***0.626***	***1.406***	13.4	28.3	4.72	9.63
	Total Zinc	6.14	12.95	5.67	12.0	***	***
	Free Cyanide	0.211	0.4463	0.211	0.447	***	***
	pH	6.0 SU (min)	9.0 SU	***	***	6.0 SU (min)	9.0 SU
002-003	Flow	Report (MGD)	Report (MGD)	***	***	***	***
	COD	N/A	150 mg/l	***	***	***	***
	Oil & Grease	N/A	15 mg/l	***	***	***	***
	pH	6.0 SU (min)	9.0 SU	***	***	***	***
005-008	Flow	Report (MGD)	Report (MGD)	***	***	***	***
	COD	N/A	150 mg/l	***	***	***	***
	Oil & Grease	N/A	15 mg/l	***	***	***	***
	pH	6.0 SU (min)	9.0 SU	***	***	***	***

TPDES PERMIT NO. WQ0000535000
[For TCEQ office use only -
EPA I.D. No. TX0002976]

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
P. O. Box 13087
Austin, Texas 78711-3087

This permit supersedes and replaces TPDES Permit No. WQ0000535000, issued on May 23, 2007.

PERMIT TO DISCHARGE WASTES
under provisions of
Section 402 of the Clean Water Act
and Chapter 26 of the Texas Water Code

Valero Refining-Texas, L.P.

whose mailing address is

9701 Manchester
Houston, Texas 77012

is authorized to treat and discharge wastes from a petroleum refinery (SIC 2911)

located at 9701 Manchester, 0.5 miles east of Loop 610, one-mile north of State Highway 225, and bordered on the north by the Houston Ship Channel, in the City of Houston, Harris County, Texas

via Outfalls 001, 002, 003, 005, 006, and 008 to the Houston Ship Channel/Buffalo Bayou Tidal; and via Outfall 007 to the tidal portion of Sims Bayou, which is part of the Houston Ship Channel/Buffalo Bayou Tidal in Segment No. 1007 of the the San Jacinto River Basin

only according to effluent limitations, monitoring requirements and other conditions set forth in this permit, as well as the rules of the Texas Commission on Environmental Quality (TCEQ), the laws of the State of Texas, and other orders of the TCEQ. The issuance of this permit does not grant to the permittee the right to use private or public property for conveyance of wastewater along the discharge route described in this permit. This includes, but is not limited to, property belonging to any individual, partnership, corporation, or other entity. Neither does this permit authorize any invasion of personal rights nor any violation of federal, state, or local laws or regulations. It is the responsibility of the permittee to acquire property rights as may be necessary to use the discharge route.

This permit shall expire at midnight on September 1, 2017.

ISSUED DATE:

For the Commission

1. During the period beginning upon date of permit issuance and lasting through the date of expiration, the permittee is authorized to discharge treated process wastewater (*1), utility wastewaters (*2), and process area stormwater subject to the following effluent limitations.

The daily average flow of effluent shall not exceed 2.88 million gallons per day (MGD). The daily maximum flow shall not exceed 3.50 MGD.

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average lbs/day	Daily Maximum lbs/day	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Flow	2.88 MGD	3.50 MGD	N/A	Continuous	Record
Temperature	N/A	120°F	N/A	Continuous (*3)	In-situ
Carbonaceous Biochemical Oxygen Demand, 5-day	294	441	36.7	2/week	Composite
Total Suspended Solids	1,358	2,554	200	2/week	Composite
Chemical Oxygen Demand	9,020	17,447	1300	2/week	Composite
Oil and Grease	566	991	80	2/week	Grab
Total Phenols	8.80	19.0	1.2	2/week	Grab
Ammonia as Nitrogen (NH_3-N)	186	279	30	2/week	Composite
Sulfide	11.3	24.3	1.6	2/week	Grab
Total Chromium	14.0	36.9	2.0	2/week	Composite
Hexavalent Chromium	4.72	9.63	0.78	2/week	Composite
Total Zinc	5.67	12.0	0.80	2/week	Composite
Free Cyanide (*4)	0.211	0.4463	0.037	1/week	Composite

(*1) Includes air scrubber water.
(*2) See Other Requirement No. 8.
(*3) See Other Requirement No. 3.
(*4) See Other Requirement No. 7.

2. The pH shall not be less than 6.0 standard units (SU) nor greater than 9.0 SU and shall be monitored continuously by recorder (See Other Requirement No. 4).
3. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.
4. Effluent monitoring samples shall be taken at the following locations: At Outfall 001, adjacent to the treatment plant, at the North property boundary on the Houston Ship Channel.

1. During the period beginning upon the date of issuance and lasting through the date of expiration, the permittee is authorized to discharge post-first flush stormwater runoff, steam condensate, fire water, cooling tower overspray, and heat exchanger cooling water backwash subject to the following effluent limitations.

Volume: Intermittent and flow variable.

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Flow	Report (MGD)	Report (MGD)	N/A	1/day (*1)	Estimate
Chemical Oxygen Demand	N/A	150	150	1/day (*1)	Grab
Oil and Grease	N/A	15	15	1/day (*1)	Grab

(*1) When a stormwater discharge occurs, samples shall be collected within the first two hours after the stormwater discharge begins and 1/day thereafter for the duration of the stormwater discharge.

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/day (*1), by grab sample.

3. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

4. Effluent monitoring samples shall be taken at the following locations: At Outfall 002, located at the north boundary of the plant site, on the Houston Ship Channel, next to the wastewater treatment plant.

1. During the period beginning upon the date of issuance and lasting through the date of expiration, the permittee is authorized to discharge uncontaminated stormwater runoff, steam condensate, fire water, and hydrostatic test water subject to the following effluent limitations.

Volume: Intermittent and flow variable.

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Flow	Report (MGD)	Report (MGD)	N/A	1/day (*1)	Estimate
Chemical Oxygen Demand	N/A	150	150	1/day (*1)	Grab
Oil and Grease	N/A	15	15	1/day (*1)	Grab

(*1) When a stormwater discharge occurs, samples shall be collected within the first two hours after the stormwater discharge begins and 1/day thereafter for the duration of the stormwater discharge.

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/day (*1), by grab sample.

3. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

4. Effluent monitoring samples shall be taken at the following locations:

At Outfall 003: Far northeast corner of the plant site, next to dock, on the Houston Ship Channel.

At Outfall 005: Northwest corner of the plant site on the Houston Ship Channel, approximately 500 feet from Outfall 006.

At Outfall 006: Far northwest corner of the plant site on the Houston Ship Channel.

At Outfall 007: Southeast corner of the plant site, discharging to Sims Bayou, after the last weir prior to the end-pipe.

1. During the period beginning upon the date of issuance and lasting through the date of expiration, the permittee is authorized to discharge non-process area stormwater, steam condensate, fire water, cooling tower overspray, heat exchanger cooling water backwash, and hydrostatic test water subject to the following effluent limitations.

   Volume: Intermittent and flow variable.

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average mg/L	Daily Maximum mg/L	Single Grab mg/L	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Flow	Report (MGD)	Report (MGD)	N/A	1/day (*1)	Estimate
Chemical Oxygen Demand	N/A	150	150	1/day (*1)	Grab
Oil and Grease	N/A	15	15	1/day (*1)	Grab

   (*1) When a stormwater discharge occurs, samples shall be collected within the first two hours after the stormwater discharge begins and 1/day thereafter for the duration of the stormwater discharge.

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/day (*1), by grab sample.

3. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

4. Effluent monitoring samples shall be taken at the following locations: At Outfall 008, at the north boundary of the plant site on the Houston Ship Channel, approximately 100 feet east of Outfall 001.

DEFINITIONS AND STANDARD PERMIT CONDITIONS

As required by Title 30 Texas Administrative Code (TAC) Chapter 305, certain regulations appear as standard conditions in waste discharge permits. 30 TAC §§305.121 - 305.129 (relating to Permit Characteristics and Conditions) as promulgated under the Texas Water Code (TWC) §§5.103 and 5.105, and the Texas Health and Safety Code (THSC) §§361.017 and 361.024(a), establish the characteristics and standards for waste discharge permits, including sewage sludge, and those sections of 40 Code of Federal Regulations (CFR) Part 122 adopted by reference by the Commission. The following text includes these conditions and incorporates them into this permit. All definitions in Texas Water Code §26.001 and 30 TAC Chapter 305 shall apply to this permit and are incorporated by reference. Some specific definitions of words or phrases used in this permit are as follows:

1. Flow Measurements

   a. Annual average flow - the arithmetic average of all daily flow determinations taken within the preceding 12 consecutive calendar months. The annual average flow determination shall consist of daily flow volume determinations made by a totalizing meter, charted on a chart recorder, and limited to major domestic wastewater discharge facilities with a one million gallons per day or greater permitted flow.

   b. Daily average flow - the arithmetic average of all determinations of the daily flow within a period of one calendar month. The daily average flow determination shall consist of determinations made on at least four separate days. If instantaneous measurements are used to determine the daily flow, the determination shall be the arithmetic average of all instantaneous measurements taken during that month. Daily average flow determination for intermittent discharges shall consist of a minimum of three flow determinations on days of discharge.

   c. Daily maximum flow - the highest total flow for any 24-hour period in a calendar month.

   d. Instantaneous flow - the measured flow during the minimum time required to interpret the flow measuring device.

   e. 2-hour peak flow (domestic wastewater treatment plants) - the maximum flow sustained for a two-hour period during the period of daily discharge. The average of multiple measurements of instantaneous maximum flow within a two-hour period may be used to calculate the 2-hour peak flow.

   f. Maximum 2-hour peak flow (domestic wastewater treatment plants) - the highest 2-hour peak flow for any 24-hour period in a calendar month.

2. Concentration Measurements

   a. Daily average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar month, consisting of at least four separate representative measurements.

      i. For domestic wastewater treatment plants - When four samples are not available in a calendar month, the arithmetic average (weighted by flow) of all values in the previous four consecutive month period consisting of at least four measurements shall be utilized as the daily average concentration.

      ii. For all other wastewater treatment plants - When four samples are not available in a calendar month, the arithmetic average (weighted by flow) of all values taken during the month shall be utilized as the daily average concentration.

   b. 7-day average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar week, Sunday through Saturday.

   c. Daily maximum concentration - the maximum concentration measured on a single day, by the sample type specified in the permit, within a period of one calendar month.

   d. Daily discharge - 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.

      The "daily discharge" determination of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the "daily discharge" determination of concentration shall be the arithmetic average (weighted by flow value) of all samples collected during that day.

e. Bacteria concentration (Fecal coliform, E. coli, or Enterococci) – the number of colonies of bacteria per 100 milliliters effluent. The daily average bacteria concentration is a geometric mean of the values for the effluent samples collected in a calendar month. The geometric mean shall be determined by calculating the nth root of the product of all measurements made in a calendar month, where n equals the number of measurements made; or computed as the antilogarithm of the arithmetic mean of the logarithms of all measurements of made in a calendar month. For any measurement of bacteria equaling zero, a substitute value of one shall made for input into either computation method. If specified, the 7-day average for bacteria is the geometric mean of the values for all effluent samples collected during a calendar week.

f. Daily average loading (lbs/day) - the arithmetic average of all daily discharge loading calculations during a period of one calendar month. These calculations must be made for each day of the month that a parameter is analyzed. The daily discharge, in terms of mass (lbs/day), is calculated as (Flow, MGD x Concentration, mg/l x 8.34).

g. Daily maximum loading (lbs/day) - the highest daily discharge, in terms of mass (lbs/day), within a period of one calendar month.

3. Sample Type

a. Composite sample - For domestic wastewater, a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected at the intervals required by 30 TAC §319.9 (a). For industrial wastewater, a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected at the intervals required by 30 TAC §319.9 (b).

b. Grab sample - an individual sample collected in less than 15 minutes.

4. Treatment Facility (facility) - wastewater facilities used in the conveyance, storage, treatment, recycling, reclamation and/or disposal of domestic sewage, industrial wastes, agricultural wastes, recreational wastes, or other wastes including sludge handling or disposal facilities under the jurisdiction of the Commission.

5. The term "sewage sludge" is defined as solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in 30 TAC Chapter 312. This includes the solids that have not been classified as hazardous waste separated from wastewater by unit processes .

6. Bypass - the intentional diversion of a waste stream from any portion of a treatment facility.

MONITORING AND REPORTING REQUIREMENTS

1. Self-Reporting

Monitoring results shall be provided at the intervals specified in the permit. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall conduct effluent sampling and reporting in accordance with 30 TAC §§319.4 - 319.12. Unless otherwise specified, a monthly effluent report shall be submitted each month, to the Enforcement Division (MC 224), by the 20th day of the following month for each discharge that is described by this permit whether or not a discharge is made for that month. Monitoring results must be reported on an approved self-report form that is signed and certified as required by Monitoring and Reporting Requirements No. 10.

As provided by state law, the permittee is subject to administrative, civil and criminal penalties, as applicable, for negligently or knowingly violating the Clean Water Act; TCW Chapters 26, 27, and 28; and THSC Chapter 361, including but not limited to knowingly making any false statement, representation, or certification on any report, record, or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, or falsifying, tampering with or knowingly rendering inaccurate any monitoring device or method required by this permit or violating any other requirement imposed by state or federal regulations.

2. Test Procedures

a. Unless otherwise specified in this permit, test procedures for the analysis of pollutants shall comply with procedures specified in 30 TAC §§319.11 - 319.12. Measurements, tests, and calculations shall be accurately accomplished in a representative manner.

b. All laboratory tests submitted to demonstrate compliance with this permit must meet the requirements of 30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.

3. Records of Results

   a. Monitoring samples and measurements shall be taken at times and in a manner so as to be representative of the monitored activity.

   b. 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 Part 503), monitoring and reporting records, including strip charts and records of calibration and maintenance, copies of all records required by this permit, records of all data used to complete the application for this permit, and the certification required by 40 CFR §264.73(b)(9) shall be retained at the facility site, or shall be readily available for review by a TCEQ representative for a period of three years from the date of the record or sample, measurement, report, application or certification. This period shall be extended at the request of the Executive Director.

   c. Records of monitoring activities shall include the following:

      i. date, time, and place of sample or measurement;
      ii. identity of individual who collected the sample or made the measurement.
      iii. date and time of analysis;
      iv. identity of the individual and laboratory who performed the analysis;
      v. the technique or method of analysis; and
      vi. the results of the analysis or measurement and quality assurance/quality control records.

      The period during which records are required to be kept shall be automatically extended to the date of the final disposition of any administrative or judicial enforcement action that may be instituted against the permittee.

4. Additional Monitoring by Permittee

   If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit using approved analytical methods as specified above, all results of such monitoring shall be included in the calculation and reporting of the values submitted on the approved self-report form. Increased frequency of sampling shall be indicated on the self-report form.

5. Calibration of Instruments

   All automatic flow measuring or recording devices and all totalizing meters for measuring flows shall be accurately calibrated by a trained person at plant start-up and as often thereafter as necessary to ensure accuracy, but not less often than annually unless authorized by the Executive Director for a longer period. Such person shall verify in writing that the device is operating properly and giving accurate results. Copies of the verification shall be retained at the facility site and/or shall be readily available for review by a TCEQ representative for a period of three years.

6. Compliance Schedule Reports

   Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date to the Regional Office and the Enforcement Division (MC 224).

7. Noncompliance Notification

   a. In accordance with 30 TAC §305.125(9) any noncompliance that may endanger human health or safety, or the environment shall be reported by the permittee to the TCEQ. Report of such information shall be provided orally or by facsimile transmission (FAX) to the Regional Office within 24 hours of becoming aware of the noncompliance. A written submission of such information shall also be provided by the permittee to the Regional Office and the Enforcement Division (MC 224) within five working days of becoming aware of the noncompliance. The written submission shall contain a description of the noncompliance and its cause; the potential danger to human health or safety, or the environment; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, and to mitigate its adverse effects.

   b. The following violations shall be reported under Monitoring and Reporting Requirement 7.a.:

      i. Unauthorized discharges as defined in Permit Condition 2(g).
      ii. Any unanticipated bypass that exceeds any effluent limitation in the permit.
      iii. Violation of a permitted maximum daily discharge limitation for pollutants listed specifically in the Other Requirements section of an Industrial TPDES permit.

   c. In addition to the above, any effluent violation that deviates from the permitted effluent limitation by more than 40% shall be reported by the permittee in writing to the Regional Office and the Enforcement Division (MC 224) within 5 working days of becoming aware of the noncompliance.

d. Any noncompliance other than that specified in this section, or any required information not submitted or submitted incorrectly, shall be reported to the Enforcement Division (MC 224) as promptly as possible. For effluent limitation violations, noncompliances shall be reported on the approved self-report form.

8. In accordance with the procedures described in 30 TAC §§35.301 - 35.303 (relating to Water Quality Emergency and Temporary Orders) if the permittee knows in advance of the need for a bypass, it shall submit prior notice by applying for such authorization.

9. Changes in Discharges of Toxic Substances

All existing manufacturing, commercial, mining, and silvicultural permittees shall notify the Regional Office, orally or by facsimile transmission within 24 hours, and both the Regional Office and the Enforcement Division (MC 224) in writing within five (5) working days, after becoming aware of or having reason to believe:

a. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant listed at 40 CFR Part 122, Appendix D, Tables II and III (excluding Total Phenols) that is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

i. One hundred micrograms per liter (100 μg/L);
ii. 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;
iii. Five (5) times the maximum concentration value reported for that pollutant in the permit application; or
iv. The level established by the TCEQ.

b. That any activity has occurred or will occur that would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant that is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

i. Five hundred micrograms per liter (500 μg/L);
ii. One milligram per liter (1 mg/L) for antimony;
iii. Ten (10) times the maximum concentration value reported for that pollutant in the permit application; or
iv. The level established by the TCEQ.

10. Signatories to Reports

All reports and other information requested by the Executive Director shall be signed by the person and in the manner required by 30 TAC §305.128 (relating to Signatories to Reports).

11. All Publicly Owned Treatment Works (POTWs) must provide adequate notice to the Executive Director of the following:

a. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to CWA §301 or §306 if it were directly discharging those pollutants;

b. 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; and

c. For the purpose of this paragraph, adequate notice shall include information on:

i. The quality and quantity of effluent introduced into the POTW; and
ii. Any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

PERMIT CONDITIONS

1. General

a. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in an application or in any report to the Executive Director, it shall promptly submit such facts or information.

b. This permit is granted on the basis of the information supplied and representations made by the permittee during action on an application, and relying upon the accuracy and completeness of that information and those representations. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked, in whole or in part, in accordance with 30 TAC Chapter 305, Subchapter D, during its term for good cause including, but not limited to, the following:

i. Violation of any terms or conditions of this permit;

ii. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

c. The permittee shall furnish to the Executive Director, upon request and within a reasonable time, any information to determine whether cause exists for amending, revoking, suspending, or terminating the permit. The permittee shall also furnish to the Executive Director, upon request, copies of records required to be kept by the permit.

2. Compliance

a. Acceptance of the permit by the person to whom it is issued constitutes acknowledgment and agreement that such person will comply with all the terms and conditions embodied in the permit, and the rules and other orders of the Commission.

b. The permittee has a duty to comply with all conditions of the permit. Failure to comply with any permit condition constitutes a violation of the permit and the Texas Water Code or the Texas Health and Safety Code, and is grounds for enforcement action, for permit amendment, revocation, or suspension, or for denial of a permit renewal application or an application for a permit for another facility.

c. 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 the permit.

d. The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal or other permit violation that has a reasonable likelihood of adversely affecting human health or the environment.

e. Authorization from the Commission is required before beginning any change in the permitted facility or activity that may result in noncompliance with any permit requirements.

f. A permit may be amended, suspended and reissued, or revoked for cause in accordance with 30 TAC §§305.62 and 305.66 and TWC §7.302. The filing of a request by the permittee for a permit amendment, suspension and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

g. There shall be no unauthorized discharge of wastewater or any other waste. For the purpose of this permit, an unauthorized discharge is considered to be any discharge of wastewater into or adjacent to water in the state at any location not permitted as an outfall or otherwise defined in the Other Requirements section of this permit.

h. In accordance with 30 TAC §305.535(a), the permittee may allow any bypass to occur from a TPDES permitted facility that does not cause permitted effluent limitations to be exceeded or an unauthorized discharge to occur, but ~~only if the bypass is also for essential maintenance to assure efficient operation.~~

i. The permittee is subject to administrative, civil, and criminal penalties, as applicable, under Texas Water Code §§7.051 - 7.075 (relating to Administrative Penalties), 7.101 - 7.111 (relating to Civil Penalties), and 7.141 - 7.202 (relating to Criminal Offenses and Penalties) for violations including, but not limited to, negligently or knowingly violating the federal CWA §§301, 302, 306, 307, 308, 318, or 405, or any condition or limitation implementing any sections in a permit issued under the CWA § 402, or any requirement imposed in a pretreatment program approved under the CWA §§402 (a)(3) or 402 (b)(8).

3. Inspections and Entry

a. Inspection and entry shall be allowed as prescribed in the TWC Chapters 26, 27, and 28, and THSC Chapter 361.

b. The members of the Commission and employees and agents of the Commission are entitled to enter any public or private property at any reasonable time for the purpose of inspecting and investigating conditions relating to the quality of water in the state or the compliance with any rule, regulation, permit, or other order of the Commission. Members, employees, or agents of the Commission and Commission contractors are entitled to enter public or private property at any reasonable time to investigate or monitor or, if the responsible party is not responsive or there is an immediate danger to public health or the environment, to remove or remediate a condition related to the quality of water in the state. Members, employees, Commission contractors, or agents acting under this authority who enter private property shall observe the establishment's rules and regulations concerning safety, internal security, and fire protection, and if the property has management in residence, shall notify management or the person then in charge of his presence and shall exhibit proper credentials. If any member, employee, Commission contractor, or agent is refused the right to enter in or on public or private property under this authority, the Executive Director may invoke the remedies authorized in TWC §7.002. The statement above, that Commission entry shall occur in accordance with an establishment's rules and regulations concerning safety, internal security, and fire protection, is not grounds for denial or restriction of entry to any part of the facility, but merely describes the Commission's duty to observe appropriate rules and regulations during an inspection.

4. Permit Amendment and/or Renewal

   a. The permittee shall give notice to the Executive Director as soon as possible of any planned physical alterations or additions to the permitted facility if such alterations or additions would require a permit amendment or result in a violation of permit requirements. Notice shall also be required under this paragraph when:

      i. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in accordance with 30 TAC §305.534 (relating to New Sources and New Dischargers); or

      ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in the permit, nor to notification requirements in Monitoring and Reporting Requirements No. 9;

      iii. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

   b. Prior to any facility modifications, additions, or expansions that will increase the plant capacity beyond the permitted flow, the permittee must apply for and obtain proper authorization from the Commission before commencing construction.

   c. The permittee must apply for an amendment or renewal at least 180 days prior to expiration of the existing permit in order to continue a permitted activity after the expiration date of the permit. If an application is submitted prior to the expiration date of the permit, the existing permit shall remain in effect until the application is approved, denied, or returned. If the application is returned or denied, authorization to continue such activity shall terminate upon the effective date of the action. If an application is not submitted prior to the expiration date of the permit, the permit shall expire and authorization to continue such activity shall terminate.

   d. Prior to accepting or generating wastes that are not described in the permit application or that would result in a significant change in the quantity or quality of the existing discharge, the permittee must report the proposed changes to the Commission. The permittee must apply for a permit amendment reflecting any necessary changes in permit conditions, including effluent limitations for pollutants not identified and limited by this permit.

   e. In accordance with the TWC §26.029(b), after a public hearing, notice of which shall be given to the permittee, the Commission may require the permittee, from time to time, for good cause, in accordance with applicable laws, to conform to new or additional conditions.

   f. If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under CWA §307(a) for a toxic pollutant that is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition. The permittee shall comply with effluent standards or prohibitions established under CWA §307(a)for toxic pollutants within the time provided in the regulations that established those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

5. Permit Transfer

   a. Prior to any transfer of this permit, Commission approval must be obtained. The Commission shall be notified in writing of any change in control or ownership of facilities authorized by this permit. Such notification should be sent to the Applications Review and Processing Team (MC 148) of the Water Quality Division.

   b. A permit may be transferred only according to the provisions of 30 TAC §305.64 (relating to Transfer of Permits) and 30 TAC §50.133 (relating to Executive Director Action on Application or WQMP update).

6. Relationship to Hazardous Waste Activities

   This permit does not authorize any activity of hazardous waste storage, processing, or disposal that requires a permit or other authorization pursuant to the Texas Health and Safety Code.

7. Relationship to Water Rights

   Disposal of treated effluent by any means other than discharge directly to water in the state must be specifically authorized in this permit and may require a permit pursuant to Texas Water Code Chapter 11.

8. Property Rights

   A permit does not convey any property rights of any sort, or any exclusive privilege.

9. Permit Enforceability

The conditions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

10. Relationship to Permit Application

The application pursuant to which the permit has been issued is incorporated herein; provided, however, that in the event of a conflict between the provisions of this permit and the application, the provisions of the permit shall control.

11. Notice of Bankruptcy.

a. Each permittee shall notify the executive director, in writing, immediately following the filing of a voluntary or involuntary petition for bankruptcy under any chapter of Title 11 (Bankruptcy) of the United States Code (11 USC) by or against:

i. the permittee;
ii. an entity (as that term is defined in 11 USC, §101(15)) controlling the permittee or listing the permit or permittee as property of the estate; or
iii. an affiliate (as that term is defined in 11 USC, §101(2)) of the permittee.

b. This notification must indicate:
i. the name of the permittee;
ii. the permit number(s);
iii. the bankruptcy court in which the petition for bankruptcy was filed; and
iv. the date of filing of the petition.

OPERATIONAL REQUIREMENTS

1. The permittee shall at all times ensure that the facility and all of its systems of collection, treatment, and disposal are properly operated and maintained. This includes, but is not limited to, the regular, periodic examination of wastewater solids within the treatment plant by the operator in order to maintain an appropriate quantity and quality of solids inventory as described in the various operator training manuals and according to accepted industry standards for process control. Process control, maintenance, and operations records shall be retained at the facility site, or shall be readily available for review by a TCEQ representative, for a period of three years.

2. Upon request by the Executive Director, the permittee shall take appropriate samples and provide proper analysis in order to demonstrate compliance with Commission rules. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall comply with all applicable provisions of 30 TAC Chapter 312 concerning sewage sludge use and disposal and 30 TAC §§319.21 - 319.29 concerning the discharge of certain hazardous metals.

3. Domestic wastewater treatment facilities shall comply with the following provisions:

a. The permittee shall notify the Municipal Permits Team, Wastewater Permitting Section (MC 148) of the Water Quality Division, in writing, of any facility expansion at least 90 days prior to conducting such activity.

b. The permittee shall submit a closure plan for review and approval to the Municipal Permits Team, Wastewater Permitting Section (MC 148) of the Water Quality Division, for any closure activity at least 90 days prior to conducting such activity. Closure is the act of permanently taking a waste management unit or treatment facility out of service and includes the permanent removal from service of any pit, tank, pond, lagoon, surface impoundment and/or other treatment unit regulated by this permit.

4. The permittee is responsible for installing prior to plant start-up, and subsequently maintaining, adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failures by means of alternate power sources, standby generators, and/or retention of inadequately treated wastewater.

5. Unless otherwise specified, the permittee shall provide a readily accessible sampling point and, where applicable, an effluent flow measuring device or other acceptable means by which effluent flow may be determined.

6. The permittee shall remit an annual water quality fee to the Commission as required by 30 TAC Chapter 21. Failure to pay the fee may result in revocation of this permit under TWC §7.302(b)(6).

7. Documentation

For all written notifications to the Commission required of the permittee by this permit, the permittee shall keep and make available a copy of each such notification under the same conditions as self-monitoring data are required to be kept and made available. Except for information required for TPDES permit applications, effluent data, including effluent data in permits, draft permits and permit applications, and other information specified as not confidential in 30 TAC §1.5(d), any information submitted pursuant to this permit may be claimed as confidential by the submitter. Any such claim must be asserted in the manner prescribed in the application form or by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, information may be made available to the public without further notice. If the Commission or Executive Director agrees with the designation of confidentiality, the TCEQ will not provide the information for public inspection unless required by the Texas Attorney General or a court pursuant to an open records request. If the Executive Director does not agree with the designation of confidentiality, the person submitting the information will be notified.

8. Facilities that generate domestic wastewater shall comply with the following provisions; domestic wastewater treatment facilities at permitted industrial sites are excluded.

   a. Whenever flow measurements for any domestic sewage treatment facility reach 75% of the permitted daily average or annual average flow for three consecutive months, the permittee must initiate engineering and financial planning for expansion and/or upgrading of the domestic wastewater treatment and/or collection facilities. Whenever the flow reaches 90% of the permitted daily average or annual average flow for three consecutive months, the permittee shall obtain necessary authorization from the Commission to commence construction of the necessary additional treatment and/or collection facilities. In the case of a domestic wastewater treatment facility that reaches 75% of the permitted daily average or annual average flow for three consecutive months, and the planned population to be served or the quantity of waste produced is not expected to exceed the design limitations of the treatment facility, the permittee shall submit an engineering report supporting this claim to the Executive Director of the Commission.

      If in the judgment of the Executive Director the population to be served will not cause permit noncompliance, then the requirement of this section may be waived. To be effective, any waiver must be in writing and signed by the Director of the Enforcement Division (MC 149) of the Commission, and such waiver of these requirements will be reviewed upon expiration of the existing permit; however, any such waiver shall not be interpreted as condoning or excusing any violation of any permit parameter.

   b. The plans and specifications for domestic sewage collection and treatment works associated with any domestic permit must be approved by the Commission, and failure to secure approval before commencing construction of such works or making a discharge is a violation of this permit and each day is an additional violation until approval has been secured.

   c. Permits for domestic wastewater treatment plants are granted subject to the policy of the Commission to encourage the development of area-wide waste collection, treatment, and disposal systems. The Commission reserves the right to amend any domestic wastewater permit in accordance with applicable procedural requirements to require the system covered by this permit to be integrated into an area-wide system, should such be developed; to require the delivery of the wastes authorized to be collected in, treated by or discharged from said system, to such area-wide system; or to amend this permit in any other particular to effectuate the Commission's policy. Such amendments may be made when the changes required are advisable for water quality control purposes and are feasible on the basis of waste treatment technology, engineering, financial, and related considerations existing at the time the changes are required, exclusive of the loss of investment in or revenues from any then existing or proposed waste collection, treatment or disposal system.

9. Domestic wastewater treatment plants shall be operated and maintained by sewage plant operators holding a valid certificate of competency at the required level as defined in 30 TAC Chapter 30.

10. For Publicly Owned Treatment Works (POTWs), the 30-day average (or monthly average) percent removal for BOD and TSS shall not be less than 85%, unless otherwise authorized by this permit.

11. Facilities that generate industrial solid waste as defined in 30 TAC §335.1 shall comply with these provisions:

   a. Any solid waste, as defined in 30 TAC §335.1 (including but not limited to such wastes as garbage, refuse, sludge from a waste treatment, water supply treatment plant or air pollution control facility, discarded materials, discarded materials to be recycled, whether the waste is solid, liquid, or semisolid), generated by the permittee during the management and treatment of wastewater, must be managed in accordance with all applicable provisions of 30 TAC Chapter 335, relating to Industrial Solid Waste Management.

   b. Industrial wastewater that is being collected, accumulated, stored, or processed before discharge through any final discharge outfall, specified by this permit, is considered to be industrial solid waste until the wastewater passes through the actual point source discharge and must be managed in accordance with all applicable provisions of 30 TAC Chapter 335.

c. The permittee shall provide written notification, pursuant to the requirements of 30 TAC §335.8(b)(1), to the Corrective Action Section (MC 127) of the Remediation Division informing the Commission of any closure activity involving an Industrial Solid Waste Management Unit, at least 90 days prior to conducting such an activity.

d. Construction of any industrial solid waste management unit requires the prior written notification of the proposed activity to the Registration and Reporting Section (MC 129) of the Permitting and Remediation Support Division. No person shall dispose of industrial solid waste, including sludge or other solids from wastewater treatment processes, prior to fulfilling the deed recordation requirements of 30 TAC §335.5.

e. The term "industrial solid waste management unit" means a landfill, surface impoundment, waste-pile, industrial furnace, incinerator, cement kiln, injection well, container, drum, salt dome waste containment cavern, or any other structure vessel, appurtenance, or other improvement on land used to manage industrial solid waste.

f. The permittee shall keep management records for all sludge (or other waste) removed from any wastewater treatment process. These records shall fulfill all applicable requirements of 30 TAC Chapter 335 and must include the following, as it pertains to wastewater treatment and discharge:

   i. Volume of waste and date(s) generated from treatment process;
   ii. Volume of waste disposed of on-site or shipped off-site;
   iii. Date(s) of disposal;
   iv. Identity of hauler or transporter;
   v. Location of disposal site; and
   vi. Method of final disposal.

   The above records shall be maintained on a monthly basis. The records shall be retained at the facility site, or shall be readily available for review by authorized representatives of the TCEQ for at least five years.

12. For industrial facilities to which the requirements of 30 TAC Chapter 335 do not apply, sludge and solid wastes, including tank cleaning and contaminated solids for disposal, shall be disposed of in accordance with THSC Code Chapter 361.

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OTHER REQUIREMENTS

1. The Executive Director has reviewed this action for consistency with the goals and policies of the Texas Coastal Management Program (CMP) in accordance with the regulations of the Coastal Coordination council (CCC) and has determined that the action is consistent with the applicable CMP goals and policies.

2. Violations of daily maximum limitations for the following pollutants shall be reported orally or by facsimile to TCEQ Region 12, within 24 hours from the time the permittee becomes aware of the violation followed by a written report within five working days to TCEQ Region 12 and the Enforcement Division (MC 224):

METALS AND CYANIDE	MAL (mg/L)
Chromium (Hexavalent)	0.010
Chromium (Total)	0.010
Zinc (Total)	0.005
Cyanide (Free)	0.020

Test methods utilized shall be sensitive enough to demonstrate compliance with the permit effluent limitations. Permit compliance/noncompliance determinations will be based on the effluent limitations contained in this permit with consideration given to the minimum analytical level (MAL) for the parameters specified above.

When an analysis of an effluent sample for any of the parameters listed above indicates no detectable levels above the MAL and the test method detection level is as sensitive as the specified MAL, a value of zero (0) shall be used for that measurement when determining calculations and reporting requirements for the self-reporting form. This applies to determinations of daily maximum concentration, calculations of loading and daily averages, and other reportable results.

When a reported value is zero (0) based on this MAL provision, the permittee shall submit the following statement with the self-reporting form either as a separate attachment to the form or as a statement in the comments section of the form.

> "The reported value(s) of zero (0) for _____[list parameter(s)]_____ on the self-reporting form for [monitoring period date range]____ is based on the following conditions: 1) the analytical method used had a method detection level as sensitive as the MAL specified in the permit, and 2) the analytical results contained no detectable levels above the specified MAL."

When an analysis of an effluent sample for a parameter indicates no detectable levels and the test method detection level is not as sensitive as the MAL specified in the permit, or an MAL is not specified in the permit for that parameter, the level of detection achieved shall be used for that measurement when determining calculations and reporting requirements for the self-reporting form. A zero (0) may not be used.

3. For continuous temperature measurements taken in accordance with Page 2 of this permit, the reporting requirements in MONITORING AND REPORTING REQUIREMENT, Item 7 may be omitted if the continuously recorded temperature does not exceed the Daily Maximum temperature for more than 30 minutes for any single exceedance and not more than a total of 7 hours and 26 minutes in any 31 days period.

4. The permittee shall maintain the pH within the range specified on Page 2 of this permit. Excursions from the range are permitted. An excursion is an unintentioned and temporary incident in which the pH value of the wastewater exceeds the range set forth on Page 2. A pH excursion is not a violation and a non-compliance report is not required for pH excursions provided:

   (a) The excursion does not exceed the range of 5-11 standard pH units,

   (b) The individual excursion does not exceed 60 minutes,

   (c) The sum of all excursions does not exceed 7 hours and 26 minutes in any 31 day period.

5. The permittee is hereby placed on notice that this permit may be reviewed by the TCEQ after the completion of any new intensive water quality survey on Segment No.1007 of the Houston Ship Channel/Buffalo Bayou Tidal and any subsequent updating of the water quality model for Segment No. 1007 in order to determine if the limitations and conditions contained herein are consistent with any such revised model. The permit may be amended, pursuant to 30 TAC Sections 305.62, as a result of such review.

6. Chronic toxic criteria apply at the edge of the mixing zone. The mixing zone for Outfall 001 is defined as a volume of water within a radius of 200 feet extending over the receiving water from the point where the discharge reaches the Houston Ship Channel/Buffalo Bayou Tidal.

7. The approved analytical methods for cyanide include any procedure for total cyanide, weak acid dissociable cyanide, cyanide amenable to chlorination, available cyanide, or free cyanide that is approved in 40 CFR Part 136. An alternate test method may be used upon approval by the EPA Region 6 Administrator.

8. The term "utility wastewater" shall include, but is not limited to, the following: cooling tower blowdown, boiler blowdown, reverse osmosis reject water, water softening wastewaters, non-contact cooling water, and non-contact condensates.

CHRONIC BIOMONITORING REQUIREMENTS: MARINE

The provisions of this Section apply to Outfall 001 for whole effluent toxicity (WET) testing.

1. Scope, Frequency and Methodology

a. The permittee shall test the effluent for toxicity in accordance with the provisions below. Such testing will determine if an appropriately dilute effluent sample adversely affects the survival or growth of the test organisms.

b. The permittee shall conduct the following toxicity tests utilizing the test organisms, procedures, and quality assurance requirements specified below and in accordance with "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Third Edition" (EPA-821-R-02-014), or its most recent update:

1) Chronic static renewal 7-day survival and growth test using the mysid shrimp (*Mysidopsis bahia*) (Method 1007.0 or its most recent update). A minimum of eight replicates with five organisms per replicate shall be used in the control and in each dilution. This test shall be conducted once per quarter.

2) Chronic static renewal 7-day larval survival and growth test using the inland silverside (*Menidia beryllina*) (Method 1006.0 or its most recent update). A minimum of five replicates with eight organisms per replicate shall be used in the control and in each dilution. This test shall be conducted once per quarter.

The permittee must perform and report a valid test for each test species during the prescribed reporting period. An invalid test must be repeated during the same reporting period. An invalid test is herein defined as any test failing to satisfy the test acceptability criteria, and quality assurance requirements specified in the test methods and permit. All test results, valid or invalid, must be submitted as described below.

c. The permittee shall use five effluent dilution concentrations and a control in each toxicity test. These additional effluent concentrations are 3%, 5%, 6%, 8%, and 11% effluent. The critical dilution, defined as 8% effluent, is the effluent concentration representative of the proportion of effluent in the receiving water during critical low flow or critical mixing conditions.

d. This permit may be amended to require a WET limit, a Chemical-Specific (CS) limit, a Best Management Practice (BMP), or other appropriate actions to address toxicity. The permittee may be required to conduct a Toxicity Reduction Evaluation after multiple toxic events.

e. Testing Frequency Reduction

1) If none of the first four consecutive quarterly tests demonstrates significant toxicity, the permittee may submit this information in writing and, upon approval, reduce the testing frequency to once per six months for the invertebrate test species and once per year for the vertebrate test species.

2) If one or more of the first four consecutive quarterly tests demonstrates significant toxicity, the permittee shall continue quarterly testing for that species until the permit is reissued. If a testing frequency reduction had been previously granted and a subsequent test demonstrates significant toxicity, the permittee will resume a quarterly testing frequency for that species until the permit is reissued.

2. Required Toxicity Testing Conditions

a. Test Acceptance - The permittee shall repeat any toxicity test, including the control and all effluent dilutions, which fails to meet any of the following criteria:

1) a control mean survival of 80% or greater;

2) a control mean dry weight of surviving mysid shrimp of 0.20 mg or greater;

3) a control mean dry weight for surviving unpreserved inland silverside of 0.50 mg or greater and 0.43 mg or greater for surviving preserved inland silverside.

4) a control Coefficient of Variation percent (CV%) between replicates of 40 or less in the in the growth and survival tests.

5) a critical dilution CV% of 40 or less in the growth and survival endpoints for either growth and survival test. However, if statistically significant lethal or nonlethal effects are exhibited at the critical dilution, a CV% greater than 40 shall not invalidate the test.

6) a Percent Minimum Significant Difference of 37 or less for mysid shrimp growth;

7) a Percent Minimum Significant Difference of 28 or less for inland silverside growth.

b. Statistical Interpretation

1) For the mysid shrimp and the inland silverside larval survival and growth tests, the statistical analyses used to determine if there is a significant difference between the control and an effluent dilution shall be in accordance with the methods described in the manual referenced above, or its most recent update.

2) The permittee is responsible for reviewing test concentration-response relationships to ensure that calculated test-results are interpreted and reported correctly. The EPA manual, "Method Guidance and Recommendation for Whole Effluent Toxicity (WET) Testing (40 CFR Part 136)" (EPA 821-B-00-004), provides guidance on determining the validity of test results.

3) If significant lethality is demonstrated (that is, there is a statistically significant difference in survival at the critical dilution when compared to the control), the conditions of test acceptability are met, and the survival of the test organisms are equal to or greater than 80% in the critical dilution and all dilutions below that, then the permittee shall report a survival No Observed Effect Concentration (NOEC) of not less than the critical dilution for the reporting requirements.

4) The NOEC is defined as the greatest effluent dilution at which no significant effect is demonstrated. The Lowest Observed Effect Concentration (LOEC) is defined as the lowest effluent dilution at which a significant effect is demonstrated. A significant effect is herein defined as a statistically significant difference at the 95% confidence level between the survival, reproduction, or growth of the test organism(s) in a specified effluent dilution compared to the survival, reproduction, or growth of the test organism(s) in the control (0% effluent).

5). The use of NOECs and LOECs assumes either a monotonic (continuous) concentration-response relationship or a threshold model of the concentration-response relationship. For any test result that demonstrates a non-monotonic (non-continuous) response, the NOEC should be determined based on the guidance manual referenced in Item 2 above.

6) Pursuant to the responsibility assigned to the permittee in Part 2.b.2), test results that demonstrate a non-monotonic (non-continuous) concentration-response relationship may be submitted, prior to the due date, for technical review. The above-referenced guidance manual will be used when making a determination of test acceptability.

c. Dilution Water

1) Dilution water used in the toxicity tests shall be the receiving water collected as close to the point of discharge as possible but unaffected by the discharge.

2) Where the receiving water proves unsatisfactory as a result of preexisting instream toxicity (i.e. fails to fulfill the test acceptance criteria of item 2.a.), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:

a) a synthetic lab water control was performed (in addition to the receiving water control) which fulfilled the test acceptance requirements of item 2.a;

b) the test indicating receiving water toxicity was carried out to completion (i.e., 7 days);

c) the permittee submitted all test results indicating receiving water toxicity with the reports and information required in Part 3 of this Section.

3) The synthetic dilution water shall consist of a standard, reconstituted seawater. Upon approval, the permittee may substitute other dilution water with chemical and physical characteristics similar to that of the receiving water.

d. Samples and Composites

1) The permittee shall collect a minimum of three composite samples from Outfall 001. The second and third composite samples will be used for the renewal of the dilution concentrations for each toxicity test.

2) The permittee shall collect the composite samples such that the samples are representative of any periodic episode of chlorination, biocide usage, or other potentially toxic substance discharged on an intermittent basis.

3) The permittee shall initiate the toxicity tests within 36 hours after collection of the last portion of the first composite sample. The holding time for any subsequent composite sample shall not exceed 72 hours. Samples shall be maintained at a temperature of 0-6 degrees Centigrade during collection, shipping, and storage.

4) If Outfall 001 ceases discharging during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum numbers of effluent portions, and the sample holding time, are waived during that sampling period. However, the permittee must have collected an effluent composite sample volume sufficient to complete the required toxicity tests with renewal of the 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 sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report.

3. Reporting

All reports, tables, plans, summaries, and related correspondence required in any Part of this Section shall be submitted to the attention of the Standards Implementation Team (MC 150) of the Water Quality Division.

a. The permittee shall prepare a full report of the results of all tests conducted in accordance with the manual referenced above, or its most recent update, for every valid and invalid toxicity test initiated whether carried to completion or not.

b. The permittee shall routinely report the results of each biomonitoring test on the Table 1 forms provided with this permit.

1) Annual biomonitoring test results are due on or before January 20th for biomonitoring conducted during the previous 12 month period.

2) Semiannual biomonitoring test results are due on or before July 20th and January 20th for biomonitoring conducted during the previous 6 month period.

3) Quarterly biomonitoring test results are due on or before April 20th, July 20th, October 20th, and January 20th, for biomonitoring conducted during the previous calendar quarter.

4) Monthly biomonitoring test results are due on or before the 20th day of the month following sampling.

c. Enter the following codes for the appropriate parameters for valid tests only:

1) For the mysid shrimp, Parameter TLP3E, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

2) For the mysid shrimp, Parameter TOP3E, report the NOEC for survival.

3) For the mysid shrimp, Parameter TXP3E, report the LOEC for survival.

4) For the mysid shrimp, Parameter TWP3E, enter a "1" if the NOEC for growth is less than the critical dilution; otherwise, enter a "0."

5) For the mysid shrimp, Parameter TPP3E, report the NOEC for growth.

6) For the mysid shrimp, Parameter TYP3E, report the LOEC for growth.

7) For the inland silverside, Parameter TLP6B, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

8) For the inland silverside, Parameter TOP6B, report the NOEC for survival.

9) For the inland silverside, Parameter TXP6B, report the LOEC for survival.

10) For the inland silverside, Parameter TWP6B, enter a "1" if the NOEC for growth is less than the critical dilution; otherwise, enter a "0."

11) For the inland silverside, Parameter TPP6B, report the NOEC for growth.

12) For the inland silverside, Parameter TYP6B, report the LOEC for growth.

d. Enter the following codes for retests only:

1) For retest number 1, Parameter 22415, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

2) For retest number 2, Parameter 22416, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

4. Persistent Toxicity

The requirements of this Part apply only when a test demonstrates a significant effect at the critical dilution. A significant effect is defined as a statistically significant difference, at the 95% confidence level, between a specified endpoint (survival or growth) of the test organism in a specified effluent dilution when compared to the specified endpoint of the test organism in the control. Significant lethality is defined as a statistically significant difference in survival at the critical dilution when compared to the survival of the test organism in the control. Significant sublethality is defined as a statistically significant difference in growth at the critical dilution when compared to the growth of the test organism in the control.

a. The permittee shall conduct a total of 2 additional tests (retests) for any species that demonstrates a significant effect (lethal or sublethal) at the critical dilution. The two retests shall be conducted monthly during the next two consecutive months. The permittee shall not substitute either of the two retests in lieu of routine toxicity testing. All reports shall be submitted within 20 days of test completion.

b. If the retests are performed due to a demonstration of significant lethality, and one or both of the two retests specified in item 4.a. demonstrates significant lethality, the permittee shall initiate the TRE requirements as specified in Part 5. The provisions of item 4.a. are suspended upon completion of the two retests and submittal of the TRE Action Plan and Schedule defined in Part 5.

If neither test demonstrates significant lethality and the permittee is testing under the reduced testing frequency provision of Part 1.e., the permittee shall return to a quarterly testing frequency for that species.

c. If the two retests are performed due to a demonstration of significant sublethality, and one or both of the two retests specified in item 4.a. demonstrates significant lethality, the permittee shall again perform two retests as stipulated in item 4.a.

d. If the two retests are performed due to a demonstration of significant sublethality, and neither test demonstrates significant lethality, the permittee shall continue testing at the quarterly frequency.

e. Regardless of whether retesting for lethal or sublethal effects or a combination of the two, no more than one retest per month is required for a species.

5. Toxicity Reduction Evaluation

a. Within 45 days of the retest that demonstrates significant lethality, or within 45 days of being so instructed due to multiple toxic events, the permittee shall submit a General Outline for initiating a Toxicity Reduction Evaluation (TRE). The outline shall include, but not be limited to, a description of project personnel, a schedule for obtaining consultants (if needed), a discussion of influent and effluent data available for review, a sampling and analytical schedule, and a proposed TRE initiation date.

b. Within 90 days of the retest that demonstrates significant lethality, or within 90 days of being so instructed due to multiple toxic events, the permittee shall submit a TRE Action Plan and Schedule for conducting a TRE. The plan shall specify the approach and methodology to be used in performing the TRE. A TRE is a step-wise investigation combining toxicity testing with physical and chemical analysis to determine actions necessary to eliminate or reduce effluent toxicity to a level not effecting significant lethality at the critical dilution. The TRE Action Plan shall lead to the successful elimination of significant lethality for both test species defined in item 1.b. As a minimum, the TRE Action Plan shall include the following:

1) Specific Activities - The TRE Action Plan shall specify the approach the permittee intends to utilize in conducting the TRE, including toxicity characterizations, identifications, confirmations, source evaluations, treatability studies, and alternative approaches. When conducting characterization analyses, the permittee shall perform multiple characterizations and follow the procedures specified in the document entitled, "Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures" (EPA/600/6-91/003), or alternate procedures. The permittee shall perform multiple identifications and follow the methods specified in the documents entitled, "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). All characterization, identification, and confirmation tests shall be conducted in an orderly and logical progression;

2) Sampling Plan - The TRE Action Plan should describe sampling locations, methods, holding times, chain of custody, and preservation techniques. The effluent sample volume collected for all tests shall be adequate to perform the toxicity characterization/ identification/ confirmation procedures, and chemical-specific analyses when the toxicity tests show significant lethality. Where the permittee has identified or suspects specific pollutant(s) and source(s) of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical-specific analyses for the identified and suspected pollutant(s) and source(s) of effluent toxicity;

3) Quality Assurance Plan - The TRE Action Plan should address record keeping and data evaluation, calibration and standardization, baseline tests, system blanks, controls, duplicates, spikes, toxicity persistence in the samples, randomization, reference toxicant control charts, as well as mechanisms to detect artifactual toxicity; and

4) Project Organization - The TRE Action Plan should describe the project staff, project manager, consulting engineering services (where applicable), consulting analytical and toxicological services, etc.

c. Within 30 days of submittal of the TRE Action Plan and Schedule, the permittee shall implement the TRE with due diligence.

d. The permittee shall submit quarterly TRE Activities Reports concerning the progress of the TRE. The quarterly reports are due on or before April 20th, July 20th, October 20th, and January 20th. The report shall detail information regarding the TRE activities including:

1) results and interpretation of any chemical-specific analyses for the identified and suspected pollutant(s) performed during the quarter;

2) results and interpretation of any characterization, identification, and confirmation tests performed during the quarter;

3) any data and substantiating documentation which identifies the pollutant(s) and source(s) of effluent toxicity;

4) results of any studies/evaluations concerning the treatability of the facility's effluent toxicity;

5) any data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant lethality at the critical dilution; and

6) any changes to the initial TRE Plan and Schedule that are believed necessary as a result of the TRE findings.

Copies of the TRE Activities Report shall also be submitted to the U.S. EPA Region 6 office.

e. During the TRE, the permittee shall perform, at a minimum, quarterly testing using the more sensitive species; testing for the less sensitive species shall continue at the frequency specified in Part 1.b.

f. If the effluent ceases to effect significant lethality (herein as defined below) the permittee may end the TRE. A "cessation of lethality" is defined as no significant lethality for a period of 12 consecutive months with at least monthly testing. At the end of the 12 months, the permittee shall submit a statement of intent to cease the TRE and may then resume the testing frequency specified in Part 1.b. The permittee may only apply the "cessation of lethality" provision once.

This provision accommodates situations where operational errors and upsets, spills, or sampling errors triggered the TRE, in contrast to a situation where a single toxicant or group of toxicants cause lethality. This provision does not apply as a result of corrective actions taken by the permittee. "Corrective actions" are herein defined as proactive efforts which eliminate or reduce effluent toxicity. These include, but are not limited to, source reduction or elimination, improved housekeeping, changes in chemical usage, and modifications of influent streams and effluent treatment.

The permittee may only apply this cessation of lethality provision once. If the effluent again demonstrates significant lethality to the same species, the permit will be amended to add a WET limit with a compliance period, if appropriate. However, prior to the effective date of the WET limit, the permittee may apply for a permit amendment removing and replacing the WET limit with an alternate toxicity control measure by identifying and confirming the toxicant and an appropriate control measure.

g. The permittee shall complete the TRE and submit a Final Report on the TRE Activities no later than 28 months from the last test day of the retest that confirmed significant lethal effects at the critical dilution. The permittee may petition the Executive Director (in writing) for an extension of the 28-month limit. However, to warrant an extension the permittee must have demonstrated due diligence in their pursuit of the TIE/TRE and must prove that circumstances beyond their control stalled the TIE/TRE. The report shall provide information pertaining to the specific control mechanism(s) selected that will, when implemented, result in reduction of effluent toxicity to no significant lethality at the critical dilution. The report will also provide a specific corrective action schedule for implementing the selected control mechanism(s). A copy of the TRE Final Report shall also be submitted to the U.S. EPA Region 6 office.

h. Based upon the results of the TRE and proposed corrective actions, this permit may be amended to modify the biomonitoring requirements, where necessary, to require a compliance schedule for implementation of corrective actions, to specify a WET limit, to specify a BMP, and to specify CS limits.

TABLE 1 (SHEET 1 OF 4)

MYSID SHRIMP SURVIVAL AND GROWTH

		Date Time		Date Time
Dates and Times Composites Collected	No. 1	FROM: _____	TO: _____	
	No. 2	FROM: _____	TO: _____	
	No. 3	FROM: _____	TO: _____	

Test initiated: _____ am/pm _____ date

Dilution water used: _____ Receiving water _____ Synthetic dilution water

MYSID SHRIMP SURVIVAL

Percent Effluent	Percent Survival in Replicate Chambers								Mean Percent Survival			CV%*
	A	B	C	D	E	F	G	H	24h	48h	7 day	
0%												
3%												
5%												
6%												
8%												
11%												

* Coefficient of Variation = standard deviation x 100/mean

DATA TABLE FOR GROWTH OF MYSID SHRIMP

Replicate	Mean dry weight in milligrams in replicate chambers					
	0%	3%	5%	6%	8%	11%
A						
B						
C						
D						
E						

TABLE 1 (SHEET 2 OF 4)

MYSID SHRIMP SURVIVAL AND GROWTH

DATA TABLE FOR GROWTH OF MYSID SHRIMP (Continued)

Replicate	Mean dry weight in milligrams in replicate chambers					
	0%	3%	5%	6%	8%	11%
F						
G						
H						
Mean Dry Weight (mg)						
CV%*						
PMSD						

1. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

   Is the mean survival at 7 days significantly less than the control survival for the % effluent corresponding to lethality?

   CRITICAL DILUTION (8%): _____ YES _____ NO

2. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

   Is the mean dry weight (growth) at 7 days significantly less than the control's dry weight (growth) for the % effluent corresponding to non-lethal effects?

   CRITICAL DILUTION (8%): _____ YES _____ NO

3. Enter percent effluent corresponding to each NOEC\LOEC below:

   a.) NOEC survival = _____% effluent

   b.) LOEC survival = _____% effluent

   c.) NOEC growth = _____% effluent

   d.) LOEC growth = _____% effluent

TABLE 1 (SHEET 3 OF 4)

INLAND SILVERSIDE MINNOW LARVAL SURVIVAL AND GROWTH TEST

		Date Time		Date Time
Dates and Times Composites Collected	No. 1	FROM: _____	TO:	_____
	No. 2	FROM: _____	TO:	_____
	No. 3	FROM: _____	TO:	_____

Test initiated: _____am/pm _____date

Dilution water used: _____ Receiving water _____ Synthetic Dilution water

INLAND SILVERSIDE SURVIVAL

Percent Effluent	Percent Survival in Replicate Chambers					Mean Percent Survival			CV%*
	A	B	C	D	E	24h	48h	7 days	
0%									
3%									
5%									
6%									
8%									
11%									

* Coefficient of Variation = standard deviation x 100/mean

TABLE 1 (SHEET 4 OF 4)

INLAND SILVERSIDE LARVAL SURVIVAL AND GROWTH TEST

INLAND SILVERSIDE GROWTH

Percent Effluent	Average Dry Weight in milligrams in replicate chambers					Mean Dry Weight (mg)	CV%*
	A	B	C	D	E		
0%							
3%							
5%							
6%							
8%							
11%							
PMSD							

Weights are for: ___ preserved larvae, or ___ unpreserved larvae

1. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

   Is the mean survival at 7 days significantly less than the control survival for the % effluent corresponding to lethality?

   CRITICAL DILUTION (8%): _____ YES _____ NO

2. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

   Is the mean dry weight (growth) at 7 days significantly less than the control's dry weight (growth) for the % effluent corresponding to non-lethal effects?

   CRITICAL DILUTION (8%): _____ YES _____ NO

3. Enter percent effluent corresponding to each NOEC/LOEC below:

   a.) NOEC survival = _____% effluent

   b.) LOEC survival = _____% effluent

   c.) NOEC growth = _____% effluent

   d.) LOEC growth = _____% effluent

24-HOUR ACUTE BIOMONITORING REQUIREMENTS: MARINE

The provisions of this Section apply to Outfall 001 for whole effluent toxicity (WET) testing.

1. Scope, Frequency and Methodology

a. The permittee shall test the effluent for lethality in accordance with the provisions in this Section. Such testing will determine compliance with the Surface Water Quality Standard, 307.6(e)(2)(B), of greater than 50% survival of the appropriate test organisms in 100% effluent for a 24-hour period.

b. The toxicity tests specified shall be conducted once per six months. The permittee shall conduct the following toxicity tests utilizing the test organisms, procedures, and quality assurance requirements specified in this section of the permit and in accordance with "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition" (EPA-821-R-02-012), or its most recent update:

1) Acute 24-hour static toxicity test using the mysid shrimp (*Mysidopsis bahia*). A minimum of five replicates with eight organisms per replicate shall be used in the control and in each dilution.

2) Acute 24-hour static toxicity test using the inland silverside (*Menidia beryllina*). A minimum of five replicates with eight organisms per replicate shall be used in the control and in each dilution.

A valid test result must be submitted for each reporting period. The permittee must report, then repeat, an invalid test during the same reporting period. The repeat test shall include the control and all effluent dilutions and use the appropriate number of organisms and replicates, as specified above. An invalid test is herein defined as any test failing to satisfy the test acceptability criteria, procedures, and quality assurance requirements specified in the test methods and permit.

c. In addition to an appropriate control, a 100% effluent concentration shall be used in the toxicity tests. The control and dilution water shall consist of a standard, synthetic, reconstituted seawater.

d. This permit may be amended to require a WET limit, a Chemical-Specific (CS) limit, a Best Management Practice (BMP), or other appropriate actions to address toxicity. The permittee may be required to conduct a Toxicity Reduction Evaluation after multiple toxic events.

2. Required Toxicity Testing Conditions

a. Test Acceptance - The permittee shall repeat any toxicity test, including the control, if the control fails to meet a mean survival equal to or greater than 90%.

b. Dilution Water - In accordance with item 1.c., the control and dilution water shall consist of a standard, synthetic, reconstituted seawater.

c. Samples and Composites

1) The permittee shall collect one composite sample from Outfall 001.

2) The permittee shall collect the composite samples such that the samples are representative of any periodic episode of chlorination, biocide usage, or other potentially toxic substance discharged on an intermittent basis.

3) The permittee shall initiate the toxicity tests within 36 hours after collection of the last portion of the composite sample. Samples shall be maintained at a temperature of 0-6 degrees Centigrade during collection, shipping, and storage.

4) If Outfall 001 ceases discharging during the collection of the effluent composite sample, the requirements for the minimum number of effluent portions are waived. However, the permittee must have collected a composite sample volume sufficient for completion of the required test. The abbreviated sample collection, duration, and methodology must be documented in the full report required in Part 3 of this Section.

3. Reporting

All reports, tables, plans, summaries, and related correspondence required in any Part of this Section shall be submitted to the attention of the Standards Implementation Team (MC 150) of the Water Quality Division.

a. The permittee shall prepare a full report of the results of all tests conducted in accordance with the manual referenced above, or its most recent update, for every valid and invalid toxicity test initiated.

b. The permittee shall routinely report the results of each biomonitoring test on the Table 2 forms provided with this permit.

1) Semiannual biomonitoring test results are due on or before January 20th and July 20th for biomonitoring conducted during the previous 6 month period.

2) Quarterly biomonitoring test results are due on or before January 20th, April 20th, July 20th, and October 20th, for biomonitoring conducted during the previous calendar quarter.

c. Enter the following codes for the appropriate parameters for valid tests only:

1) For the mysid shrimp, Parameter TIE3E, enter a "0" if the mean survival at 24-hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter a "1."

2) For the inland silverside, Parameter TIE6B, enter a "0" if the mean survival at 24-hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter a "1."

d. Enter the following codes for retests only:

1) For retest number 1, Parameter 22415, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

2) For retest number 2, Parameter 22416, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

4. Persistent Mortality

The requirements of this Part apply when a toxicity test demonstrates significant lethality, here defined as a mean mortality of 50% or greater to organisms exposed to the 100% effluent concentration after 24-hours.

a. The permittee shall conduct 2 additional tests (retests) for each species that demonstrates significant lethality. The two retests shall be conducted once per week for 2 weeks. Five effluent dilution concentrations in addition to an appropriate control shall be used in the retests. These additional effluent concentrations are 6%, 13%, 25%, 50% and 100% effluent. The first retest shall be conducted within 15 days of the laboratory determination of significant lethality. All test results shall be submitted within 20 days of test completion of the second retest. Test completion is defined as the 24th hour.

b. If one or both of the two retests specified in item 4.a. demonstrates significant lethality, the permittee shall initiate the TRE requirements as specified in Part 5 of this Section.

5. Toxicity Reduction Evaluation

a. Within 45 days of the retest that demonstrates significant lethality, the permittee shall submit a General Outline for initiating a Toxicity Reduction Evaluation (TRE). The outline shall include, but not be limited to, a description of project personnel, a schedule for obtaining consultants (if needed), a discussion of influent and effluent data available for review, a sampling and analytical schedule, and a proposed TRE initiation date.

b. Within 90 days of the retest that demonstrates significant lethality, the permittee shall submit a TRE Action Plan and Schedule for conducting a TRE. The plan shall specify the approach and methodology to be used in performing the TRE. A TRE is a step-wise investigation combining toxicity testing with physical and chemical analysis to determine actions necessary to eliminate or reduce effluent toxicity to a level not effecting significant lethality at the critical dilution. The TRE Action Plan shall lead to the successful elimination of significant lethality for both test species defined in item 1.b. As a minimum, the TRE Action Plan shall include the following:

1) Specific Activities - The TRE Action Plan shall specify the approach the permittee intends to utilize in conducting the TRE, including toxicity characterizations, identifications, confirmations, source evaluations, treatability studies, and alternative approaches. When conducting characterization analyses, the permittee shall perform multiple characterizations and follow the procedures specified in the document entitled, "Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures" (EPA/600/6-91/003), or alternate procedures. The permittee shall perform multiple identifications and follow the methods specified in the documents entitled, "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). All characterization, identification, and confirmation tests shall be conducted in an orderly and logical progression;

2) Sampling Plan - The TRE Action Plan should describe sampling locations, methods, holding times, chain of custody, and preservation techniques. The effluent sample volume collected for all tests shall be adequate to perform the toxicity characterization/ identification/ confirmation procedures, and chemical-specific analyses when the toxicity tests show significant lethality. Where the permittee has identified or suspects specific pollutant(s) and source(s) of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical-specific analyses for the identified and suspected pollutant(s) and source(s) of effluent toxicity;

3) Quality Assurance Plan - The TRE Action Plan should address record keeping and data evaluation, calibration and standardization, baseline tests, system blanks, controls, duplicates, spikes, toxicity persistence in the samples, randomization, reference toxicant control charts, as well as mechanisms to detect artifactual toxicity; and

4) Project Organization - The TRE Action Plan should describe the project staff, project manager, consulting engineering services (where applicable), consulting analytical and toxicological services, etc.

c. Within 30 days of submittal of the TRE Action Plan and Schedule, the permittee shall implement the TRE with due diligence.

d. The permittee shall submit quarterly TRE Activities Reports concerning the progress of the TRE. The quarterly TRE Activities Reports are due on or before April 20th, July 20th, October 20th, and January 20th. The report shall detail information regarding the TRE activities including:

1) results and interpretation of any chemical-specific analyses for the identified and suspected pollutant(s) performed during the quarter;

2) results and interpretation of any characterization, identification, and confirmation tests performed during the quarter;

3) any data and substantiating documentation which identifies the pollutant(s) and source(s) of effluent toxicity;

4) results of any studies/evaluations concerning the treatability of the facility's effluent toxicity;

5) any data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to eliminate significant lethality; and

6) any changes to the initial TRE Plan and Schedule that are believed necessary as a result of the TRE findings.

Copies of the TRE Activities Report shall also be submitted to the U.S. EPA Region 6 office.

e. During the TRE, the permittee shall perform, at a minimum, quarterly testing using the more sensitive species; testing for the less sensitive species shall continue at the frequency specified in Part 1.b.

f. If the effluent ceases to effect significant lethality (herein as defined below) the permittee may end the TRE. A "cessation of lethality" is defined as no significant lethality for a period of 12 consecutive weeks with at least weekly testing. At the end of the 12 weeks, the permittee shall submit a statement of intent to cease the TRE and may then resume the testing frequency specified in Part 1.b. The permittee may only apply the "cessation of lethality" provision once.

This provision accommodates situations where operational errors and upsets, spills, or sampling errors triggered the TRE, in contrast to a situation where a single toxicant or group of toxicants cause lethality. This provision does not apply as a result of corrective actions taken by the permittee. "Corrective actions" are herein defined as proactive efforts which eliminate or reduce effluent toxicity. These include, but are not limited to, source reduction or elimination, improved housekeeping, changes in chemical usage, and modifications of influent streams and effluent treatment.

The permittee may only apply this cessation of lethality provision once. If the effluent again demonstrates significant lethality to the same species, the permit will be amended to add a WET limit with a compliance period, if appropriate. However, prior to the effective date of the WET limit, the permittee may apply for a permit amendment removing and replacing the WET limit with an alternate toxicity control measure by identifying and confirming the toxicant and an appropriate control measure.

g. The permittee shall complete the TRE and submit a Final Report on the TRE Activities no later than 18 months from the last test day of the retest that demonstrates significant lethality. The permittee may petition the Executive Director (in writing) for an extension of the 18-month limit. However, to warrant an extension the permittee must have demonstrated due diligence in their pursuit of the TIE/TRE and must prove that circumstances beyond their control stalled the TIE/TRE. The report shall specify the control mechanism(s) that will, when implemented, reduce effluent toxicity as specified in item 5.g. The report will also specify a corrective action schedule for implementing the selected control mechanism(s). A copy of the TRE Final Report shall also be submitted to the U.S. EPA Region 6 office.

h. Within 3 years of the last day of the test confirming toxicity, the permittee shall comply with 307.6.(e)(2)(B), which requires greater than 50% survival of the test organism in 100% effluent at the end of 24-hours. The permittee may petition the Executive Director (in writing) for an extension of the 3-year limit. However, to warrant an extension the permittee must have demonstrated due diligence in their pursuit of the TIE/TRE and must prove that circumstances beyond their control stalled the TIE/TRE.

The requirement to comply with 307.6.(e)(2)(B) may be exempted upon proof that toxicity is caused by an excess, imbalance, or deficiency of dissolved salts. This exemption excludes instances where individually toxic components (e.g. metals) form a salt compound. Following the exemption, the permit may be amended to include an ion-adjustment protocol, alternate species testing, or single species testing.

i. Based upon the results of the TRE and proposed corrective actions, this permit may be amended to modify the biomonitoring requirements where necessary, to require a compliance schedule for implementation of corrective actions, to specify a WET limit, to specify a BMP, and to specify a CS limit.

TABLE 2 (SHEET 1 OF 2)

MYSID SHRIMP SURVIVAL

GENERAL INFORMATION

	Time	Date
Composite Sample Collected		
Test Initiated		

PERCENT SURVIVAL

Time	Rep	Percent effluent					
		0%	6%	13%	25%	50%	100%
24h	A						
	B						
	C						
	D						
	E						
	MEAN						

Enter percent effluent corresponding to the LC50 below:

24 hour LC50 = _____% effluent

TABLE 2 (SHEET 2 OF 2)

INLAND SILVERSIDE SURVIVAL

GENERAL INFORMATION

	Time	Date
Composite Sample Collected		
Test Initiated		

PERCENT SURVIVAL

Time	Rep	Percent effluent					
		0%	6%	13%	25%	50%	100%
24h	A						
	B						
	C						
	D						
	E						
	MEAN						

Enter percent effluent corresponding to the LC50 below:

24 hour LC50 = _____% effluent

APPLICANT & THEIR CONTACTS DURING APPLICATION PROCESS
MAILING LIST FOR NOTICE

TCEQ Permit No. WQ0000535000

Applicant Information

Legal Name of Facility **Owner** Valero Refining-Texas, L.P.

Operator (If Required To Be Co-Permittee)

Permit Mailing **Address** 9701 Manchester
Houston, Texas 77012

CN600127468 **RN**100219310

Contact Information

APPLICANT'S REPRESENTATIVE(S) OR CONTACT PERSON DURING APPLICATION PROCESS

Mr. Chris Hendrix
Valero Refining-Texas, L.P.
9701 Manchester
Houston, Texas 77012

Phone: 713-923-3300
Fax: 713-923-3561
Email: Chris.Hendrix@valero.com

Notice To Be Published By

Mr. Chris Hendrix
Valero Refining-Texas, L.P.
9701 Manchester
Houston, Texas 77012

Phone: 713-923-3300
Fax: 713-923-3561
Email: Chris.Hendrix@valero.com

Mailing Lists

Fixed State Mailing List (By Chief Clerk)

County Mailing List Harris

City to Be Notified Houston

Notice to GLO ( ) Yes (X) No

Adjacent/Downstream Landowners List plus Interested Persons

Landowner Mailing List Attached (X) Yes ( ) No

Bilingual Notice Required (X) Yes ( ) No

Notify Following County Judges Only If They Officially Requested to Be Notified of All Permit Actions (Only Applies To Facilities With a flow of 5 MGD or greater)

List of Adjacent Landowners
TPDES Application 2011
Valero Houston Refinery

MAPID	Name	Address	City, ST zip
1	ACOSTA FERNANDO	9231 E AVENUE L	HOUSTON TX 77012-2727
2	ALANIZ JOSE GUADALUPE	10313 BURMAN ST	HOUSTON TX 77029-2649
3	ALEJANDRO FERNANDO	9416 E AVENUE O	HOUSTON TX 77012-2428
4	AMERIGAS PROPANE LP	460 N GULPH RD	KING OF PRUSSIA PA 19406-2815
5	BANDA RAUL G	5132 PEASE ST	HOUSTON TX 77023-2036
6	BARRAGAN BEATRICE L	610 CENTRAL ST	HOUSTON TX 77012-2234
7	BROCKSMITH C E	24810 STASSI RD	PLAQUEMINE LA 70764-5914
8	BROCKSMITH K H	RR 3 BOX 1445	PLAQUEMINE LA 70764
9	BURDGE ADELBERT D III	1004 96TH ST	HOUSTON TX 77012-2814
10	CAMPOS JOSE JR	9403 E AVENUE N	HOUSTON TX 77012-2421
11	CANALES ESEQUIEL R	9635 E AVENUE J	HOUSTON TX 77012-2839
12	CARDENAS JAVIER & SORINA	9442 E AVENUE L	HOUSTON TX 77012-2848
13	CARREON MARIA ANTONIA	9620 E AVENUE L	HOUSTON TX 77012-2852
14	CARRIZAL GERARDO & IRMA	9427 E AVENUE N	HOUSTON TX 77012-2421
15	CARROLL FREDDIE	9547 E AVENUE J	HOUSTON TX 77012-2837
16	CASTILLO JOSEFA &	9629 E AVENUE K	HOUSTON TX 77012-2845
17	CAVAZOS IRENE	7213 WINFREE DR	HOUSTON TX 77087-3546
18	CENTERPOINT ENERGY HOU ELE	PO BOX 1475	HOUSTON TX 77251-1475
19	CHAPA JOSE JUAN	9503 E AVENUE I	HOUSTON TX 77012-2831
20	CHARTER INTL OIL CO	51 W 52ND ST	NEW YORK NY 10019-6119
21	CITY OF HOUSTON	PO BOX 1562	HOUSTON TX 77251-1562
22	CONTRERAS PEDRO F	4618 POLK ST	HOUSTON TX 77023-1208
23	CRANDALL WILLIAM J & ELSA	9428 MANCHESTER ST	HOUSTON TX 77012
24	DE ALEJANDRO LEONARDO	7247 RIMWOOD RD	HOUSTON TX 77049-2200
25	DELBOSQUE DOMINGO JR	9541 E AVENUE K	HOUSTON TX 77012-2843
26	DELOS SANTOS AURORA	9439 E AVENUE N	HOUSTON TX 77012-2421
27	DIAZ GLORIA ESTATE OF	12420 SILENT CREEK DR	PEARLAND TX 77584-1675
28	DOMINGO CHRISTOPHER LYNN	12211 WHITE RIVER DR	TOMBALL TX 77375-7788
29	DURAN FELIPE & ROSEMARY	9420 E AVENUE N	HOUSTON TX 77012-2422
30	FLORES HUBERTO & GUMECINDA	9345 E AVENUE N	HOUSTON TX 77012-2219
31	FRAGOSO CARLOS R	9611 E AVENUE J	HOUSTON TX 77012-2839
32	FRANCO JUAN D JR	1331 GLOBE ST	HOUSTON TX 77034-1001
33	GARCIA ELEODORA CALETRE	9510 E AVENUE K	HOUSTON TX 77012-2844
34	GARCIA FLOR E	9344 E AVENUE N	HOUSTON TX 77012-2220
35	GARCIA MOISES	9430 E AVENUE N	HOUSTON TX 77012-2422
36	GARZA AMPARO	15003 WEIL PL	HOUSTON TX 77060-5145
37	GARZA DOMINGA E	9517 E AVENUE L	HOUSTON TX 77012-2849
38	GOMEZ GONZALO & ROSALINDA	14103 WHITLOCK DR	HOUSTON TX 77062-8013
39	GOMEZ RAMON JR	9624 E AVENUE J	HOUSTON TX 77012-2840
40	GONZALES JOSE	9625 E AVENUE J	HOUSTON TX 77012-2839
41	GONZALEZ CLAUDIA E	9601 E AVENUE J	HOUSTON TX 77012-2839
42	GOODYEAR TIRE & RUBBER CO	1144 E MARKET ST	AKRON OH 44316-0001
43	GUERRA MARIA G	9618 E AVENUE J	HOUSTON TX 77012-2840
44	GUTEIRREZ ANTONIO A	9131 E AVENUE P	HOUSTON TX 77012-2227
45	GUTHIER FRED	9522 E AVENUE I	HOUSTON TX 77012-2832
46	GUTIERREZ ANTONIO	PO BOX 11908	HOUSTON TX 77293-1908
47	HERNANDEZ ANA &	9624 E AVENUE L	HOUSTON TX 77012-2852
48	HERNANDEZ ELSIE	1301 96TH ST	HOUSTON TX 77012-2819
49	HERNANDEZ MARIA	9442 MANCHESTER ST	HOUSTON TX 77012-2450
50	HERRERA ISAIAS	7839 BELLE PARK DR	HOUSTON TX 77072-3404
51	HOFFMAN BRIAN J	PO BOX 25418	HOUSTON TX 77265-5418
52	HOUSTON CEMENT COMPANY	11011 CODY ST STE 300	OVERLAND PARK KS 66210-1430
53	HOUSTON LAND & TRUST CO %BANK OF AMERICA	525 N TRYON ST	CHARLOTTE NC 28255-0001
54	HUERTA PATRICK	5953 SOUTHCREST ST	HOUSTON TX 77033-1019
55	IBARRA RIGOBERTO F	9620 E AVENUE J	HOUSTON TX 77012-2840
56	IGLESIA EVANGELISTICA HOUSTON	12910 CRYSTAL COVE DR	HOUSTON TX 77044-1802
57	J & P LANDERS MANAGEMENT INC	PO BOX 19949	HOUSTON TX 77224-1949
58	JIMENEZ DIONICIA G	9410 E AVENUE N	HOUSTON TX 77012-2422
59	JOE VITELA JR	9448 E AVENUE J	HOUSTON TX 77012-2836

RECEIVED
SEP 30 2011
WATER QUALITY DIVISION
Applications Team

List of Adjacent Landowners
TPDES Application 2011
Valero Houston Refinery

60	LEOS FORKLIFT ET AL	9429 MANCHESTER ST	HOUSTON TX 77012-2449
61	LOPEZ GILBERTO S	8634 WETHERILL ST	HOUSTON TX 77093-7233
62	MADDOX GARY B ET AL	9525 KATY FWY STE 215	HOUSTON TX 77024-1431
63	MANCHESTER TERMINAL CORP	10000 MANCHESTER ST	HOUSTON TX 77012-2411
64	MARROQUIN EMETERIO &	9404 E AVENUE L	HOUSTON TX 77012-2848
65	MARTINEZ JAVIER & MARIBEL	1122 COUNTY ROAD 607	ANGLETON TX 77515-9272
66	MARTINEZ SALOMON	9606 E AVENUE I	HOUSTON TX 77012-2834
67	MAYLONGSHORE RUBY D ET AL	7927 PIN OAK RD	ALVIN TX 77511-9023
68	MEDRANO MARIA Y MEDRANO C V ESTATE OF	9534 E AVENUE L	HOUSTON TX 77012-2850
69	MELENDEZ ALBERTO & MARIA L	9519 E AVENUE H	HOUSTON TX 77012-2827
70	MENA GERMAN & REYNA	9523 E AVENUE L	HOUSTON TX 77012-2849
71	MORALES MARGARET S	9514 E AVENUE I	HOUSTON TX 77012-2832
72	MUNDZ CARLOS J	10407 SAGEFOREST DR	HOUSTON TX 77089-3310
73	ONEAL STEEL INC ATTN: JODY PURYEAR	PO BOX 671287	DALLAS TX 75367-1287
74	ORTA MARIBEL N	9545 E AVENUE I	HOUSTON TX 77012-2831
75	PABLO VERA	9521 E AVENUE H	HOUSTON TX 77012-2827
76	PADGETT ROBERT T MRS	9610 E AVENUE J	HOUSTON TX 77012-2840
77	PATEL BHAVNA & GHANSHYAM	9345 MANCHESTER ST	HOUSTON TX 77012-2255
78	PAULSON PAUL D	4315 LUCIAN LN	FRIENDSWOOD TX 77546-4216
79	PHILIPSON INGRID	876 STREY LN UNIT 574	HOUSTON TX 77024-4377
80	PORT OF HOUSTON AUTHORITY	PO BOX 2562	HOUSTON TX 77252-2561
81	PROLER SOUTHWEST LP	90 HIRSCH RD	HOUSTON TX 77020-6332
82	RAMIREZ JOHN	9446 E AVENUE L	HOUSTON TX 77012-2848
83	RAMIREZ RAY GARZA	9819 SAGEDOWNE LN	HOUSTON TX 77089-3517
84	RAMON JESUS G	9510 E AVENUE I	HOUSTON TX 77012-2832
85	REYES GUADALUPE A ESTATE OF F L REYES	9540 E AVENUE I	HOUSTON TX 77012-2832
86	RHODIA INC % CONTROLLERS GROUP	8 CEDARBROOK DR	CRANBURY NJ 08512-3612
87	RIOS SAMUEL % SAMUEL RIOS	1302 95TH ST	HOUSTON TX 77012-2810
88	ROBLES JUAN A & CONSEPCION A	9507 E AVENUE H	HOUSTON TX 77012-2827
89	ROBLES SEDELIA	9503 E AVENUE L	HOUSTON TX 77012-2849
90	ROBLES VICTOR & IRMA P	9507 E AVENUE L	HOUSTON TX 77012-2849
91	ROCHA GREGORIA	9429 E AVENUE L	HOUSTON TX 77012-2847
92	RODRIGUEZ BENITO S	814 95TH ST	HOUSTON TX 77012-2406
93	RODRIGUEZ BERTHA F	11703 POPLARWOOD DR	HOUSTON TX 77089-6032
94	RODRIGUEZ GILBERTO	9607 E AVENUE K	HOUSTON TX 77012-2845
95	RODRIGUEZ LEONEL	9411 E AVENUE K	HOUSTON TX 77012-2841
96	RODRIGUEZ LEONEL & ALMA	9411 E AVENUE N	HOUSTON TX 77012-2421
97	ROSALES ALFREDO & NANCY	7217 DAHLIA ST	HOUSTON TX 77012-2954
98	SILVA HUMBERTO V	9546 E AVENUE I	HOUSTON TX 77012-2832
99	SILVA RODOLFO C & MARTHA C	9532 E AVENUE I	HOUSTON TX 77012-2832
100	SOLIS ANGELO SAUCEDO	9631 E AVENUE J	HOUSTON TX 77012-2839
101	SOUTHERN PACIFIC RAILROAD COMPANY UNION PACIFIC RA	1400 DOUGLAS ST STOP 1640	OMAHA NE 68179-1640
102	SUZANNE WILLIAMS BECK	9510 E AVENUE L	HOUSTON TX 77012-2850
103	TEXAS PORT RECYCLING LP	4400 PINEMONT DR	HOUSTON TX 77018-1040
104	TORRES ANCIRA	501 PECAN DR	SOUTH HOUSTON TX 77587-5133
105	TORRES CESAREO	9433 E AVENUE N	HOUSTON TX 77012-2421
106	TORRES CESAREO & PAULA	9533 E AVENUE K	HOUSTON TX 77012-2843
107	TREVINO TEOFILO EST	518 BROADWAY ST	HOUSTON TX 77012-1710
108	UNITED STATES GYPSUM CO	125 S FRANKLIN ST	CHICAGO IL 60606-4647
109	UNITED STATES OF AMERICA	819 TAYLOR ST	FORT WORTH TX 76102-6124
110	VALDEZ ANDREW & LUCY	310 CENTRAL ST	HOUSTON TX 77012-2304
111	VALDEZ EVELIA & JOSE	9502 E AVENUE I	HOUSTON TX 77012-2832
112	VARELA RENEE % FIRST CAPITAL INT LLC	9439 MANCHESTER ST	HOUSTON TX 77012-2449
113	VASQUEZ MARY L TRUST & ESTATE OF % JIMMY VASQUEZ	7810 BURLESON RD	AUSTIN TX 78744-3304
114	VILLANUEVA JOSE L	9422 E AVENUE O	HOUSTON TX 77012-2428
115	VILLANUEVA JOSE M	9632 E AVENUE K	HOUSTON TX 77012-2846
116	VITILA JOE R	9445 E AVENUE I	HOUSTON TX 77012-2829
117	WESTWAY TRADING CORP	365 CANAL ST STE 2900	NEW ORLEANS LA 70130
118	WINFREE BESSIE	7677 BONITA ST	HOUSTON TX 77016-6328
119	ZEPEDA JOSE D & JOVAN G	9638 E AVENUE K	HOUSTON TX 77012-2846

RECEIVED
SEP 30 2011
WATER QUALITY DIVISION
Applications Team

Bryan W. Shaw, Ph.D., *Chairman*
Carlos Rubinstein, *Commissioner*
Toby Baker, *Commissioner*
Zak Covar, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 3, 2012

Mr. Chris Hendrix
Valero Refining-Texas, L.P.
9701 Manchester
Houston, Texas 77012

Re: Valero Refining-Texas, L.P.
Proposed TPDES Permit No. WQ0000535000, EPA ID No. TX0002976
CN600127468, RN100219310

Dear Mr. Hendrix:

Enclosed for your review and comment is a copy of a draft proposed permit for the above-referenced operation. This draft is subject to further staff review and modification, however, we believe it generally includes the terms and conditions that are appropriate to your discharge. **Please read the entire draft carefully as there may be changes from the existing permit.** Also enclosed for your review and comment is a copy of the draft second notice, the Notice of Application and Preliminary Decision. Please provide comments if there are any inaccuracies or any information that is not consistent with your application. After the draft permit is filed with the Office of the Chief Clerk, you will receive instructions for publishing this notice in a newspaper and/or the notice will be published in the *Texas Register*.

Please read the enclosed "Draft Permit Form" and submit your comments prior to the deadline that is indicated by the form. If your comments are not received by the deadline, the draft permit will be transferred to the Chief Clerk's office and comments received after this date will not be considered. Please see the enclosed form for further details.

If you have comments or questions, please contact me prior to the "Draft Permit Form" deadline at (512) 239-4523, by E-mail at msunder@tceq.state.tx.us, or if by correspondence, include MC-148 in the letterhead address following my name.

Sincerely,

Michael Sunderlin
Wastewater Permitting Section
Water Quality Division

MS
Enclosure

cc: TCEQ Region 12

Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

TO: 4/17/2012 Yvonna Miramontes, Team Leader
Industrial Permits, Wastewater Permits Section

DATE: April 17, 2012

From: MJS 4-17-2012 Michael Sunderlin, Permit Writer
Industrial Permits, Wastewater Permits Section

Subject: Draft TPDES Permit No. WQ0000535000

Applicant:	Valero Refining-Texas, L.P.				
Plant Name:	a petroleum refinery				
■ **TPDES**	☐ **TCEQ**	WQ0000535000		**EPA ID. No.**	TX0002976
Industrial:	☐ **Minor**	■ **Major**			
Toxic Rating:	4	**Stream Segment:**	1007		
Received:	09/30/2011	**Administratively Complete:**	10/06/2011		
Assigned:	11/18/2012	**To Team Leader:**	04/17/2012		

ATTACHMENTS:	**State-Only**	**TPDES**
New	☐	☐
Renewal	☐	■
Major Amendment	☐	■
Minor Amendment	☐	☐
Staff Initiated Amendment	☐	☐
Fact Sheet	☐	■
SOB/Technical Summary	☐	☐

RATIONAL Used to Draft Permit:		
■	**Federal Guidelines:**	40 CFR 419-C
■	**Waste Load Evaluation:**	HSC-WLE1
■	**TCEQ Rules:**	
■	**Existing Permit(s):**	
■	**Other:**	BPJ

Company's Rep: Mr. Chris Hendrix

phone #: (713) 923-3300 Fax #: (713) 923-3561

Known Opposition: None If yes, briefly explain: _____

Comments: _____

FILE LOCATION: I:\WQ\IND\ERC and Region Permits\WQ0000535000.docx

Request for Comments – Draft Conditions
TCEQ – Water Quality Division
Phone: (512)239-4671
Fax: (512)239-4430
Mailing Address: TCEQ, Water Quality Division, P.O. Box 13087, Austin, TX 78711-3087

TO: Region: **12**
Submitted by: **Michael Sunderlin** E-Mail ID: **msunder** Phone: **(512) 239-4523**
Date Request Submitted:
Comments Deadline: **To be completed by admin staff**

Date Application Received by TCEQ in Austin: **September 30, 2011**

REGIONAL OFFICES: The entity below has submitted an application for the project referenced below in accordance with regulations of the TCEQ. Please return comments ASAP, but no later than the comments deadline which is 10 days from the submittal date. Permit disposition will proceed after comments are received or after the comments deadline has passed. If no comments are received within this time frame, we will assume you have no comments or objections to the project as proposed. Please return a complete copy of the form (both sides) with your comments.

PROJECT TYPE: **Major Amendment**
TEAM ASSIGNED: **Industrial**
TPDES/TLAP: **TPDES**
REGULATED ENTITY NO.: **RN100219310**
PERMIT NO.: **WQ0000535000**
COMPANY NAME: **Valero Refining-Texas, L.P.**
CUSTOMER REFERENCE NO.: **CN600127468**

PLANT NAME: **A petroleum refinery**
ADDRESS: **9701 Manchester, Houston, Texas 77012**
SEGMENT: **1007**
COUNTY: **Harris**
TECHNICAL CONTACT: **Mr. Chris Hendrix**
PHONE: **(713) 923-3300**
MAJOR/MINOR: **Major**
COMPLIANCE RATING: **Average** **(CN: 6.46)** **(RN: 9.12)**
SUMMARY OF APPLICATION REQUEST: **Major amendment w/ renewal to increase the effluent limitations for all limited parameters at Outfall 001 based on projected production increases and authorize the discharge of additional utility wastewaters (reverse osmosis reject water and water softening wastewaters via Outfall 001.**

PERMIT WRITER COMMENTS: **Changes made as requested.**

Request for Comments -- Draft Permit
RESPONSE

TO: **Permit Writer**
FROM: Region:
Copy of Application Received by your Office: ___ YES ___ NO Date Received: __

COMPANY NAME:

PERMIT NO.: WQ0000535000

REGULATED ENTITY NO: RN100219310

Investigator's/Compliance Officer's Name (Please Print): _____

Phone: _____

Comments Deadline (from pg. 1):

Date of Last Site Visit: _____

COMMENTS ON CONDITIONS: (Please mark up draft special conditions with your comments. Please address applicability and enforceability. List any additional conditions below):

Compliance Determination Conditions: _____

_____

_____

_____

_____

Operational Limitations: _____

_____

_____

_____

_____

GENERAL COMMENTS: : _____

_____

_____

_____

CMP THRESHOLD REVIEW SHEET

INDUSTRIAL WASTEWATER DISCHARGE PERMITS

PERMITTEE: Valero Refining-Texas, L.P.

TPDES PERMIT NO.: WQ0000535000

CLASSIFIED SEGMENT:

NAME: Houston Ship Channel/ Buffalo Bayou Tidal

NUMBER: 1007

COUNTY: Harris

SECTION A

No 1. This is a new permit application which would authorize the discharge of a wastewater subject to EPA Categorical Effluent Standards (40 CFR Parts 400-471) into a priority segment (see Appendix B).

No 2. This is an amendment permit application which would authorize an increase in the mass loading of pollutants from the discharge of a wastewater subject to EPA Categorical Effluent Standards (40 CFR Parts 400-471) into a priority segment (see Appendix B).

No 3. This is an amendment permit application which would change the point of discharge of a wastewater subject to EPA Categorical Effluent Standards (40 CFR Parts 400-471) into a priority segment (see Appendix B).

IF "YES" TO ANY OF THE ABOVE THEN THE PERMIT ACTION IS CONSIDERED ABOVE THRESHOLD, COMPLETE SECTION B.

IF NO TO ALL OF THE ABOVE, THEN THE PERMIT ACTION IS CONSIDERED BELOW THRESHOLD, STOP HERE.

Michael Sunderlin
PERMIT WRITER

April 17, 2012
DATE

SECTION B

____ 1. The IOM from standards states that "no significant degradation of high quality receiving waters is anticipated" (if receiving water has a designated high quality aquatic life use).

____ 2. The IOM from standards states that "no loss of designated uses is anticipated."

____ 3. The draft permit complies with all applicable provisions of 30 TAC 307, 309, and 319.

PERMIT WRITER

DATE

30 TAC §281
APPENDIX B

TIDAL SEGMENTS DESIGNATED AS TCEQ PRIORITY WATERBODIES
COASTAL MANAGEMENT PROGRAM

Segment Number	Name
2412	Sabine Lake
2411	Sabine Pass
2423	East Bay
2439	Lower Galveston Bay
0801	Trinity River Tidal
1113	Armand Bayou Tidal
2431	Moses Lake
2424	West Bay
2432	Chocolate Bay
2433	Bastrop Bay/Oyster Lake
2434	Christmas Bay
2435	Drum Bay
2442	Cedar Lakes
2441	East Matagorda Bay
2451	Matagorda Bay/Powderhorn Lake
2452	Tres Palacios Bay/Turtle Bay
2456	Carancahua Bay
2455	Keller Bay
2461	Espiritu Santo Bay
2462	San Antonio Bay/Hynes Bay/Guadalupe Bay
1801	Guadalupe River Tidal
2463	Mesquite Bay/Carlos Bay/Ayres Bay
2473	St. Charles Bay
2471	Aransas Bay
2472	Copano Bay/Port Bay/Mission Bay
2483	Redfish Bay
2482	Nueces Bay
2492	Baffin Bay/Alazan Bay/Cayo Del Grullo/Laguna Salada
2491	Laguna Madre
2493	South Bay

TPDES PERMIT MAJOR/MINOR RATING WORK SHEET

TPDES No.: WQ0000535000 **NPDES No.:** TX0002976

Facility Name: Valero Refining-Texas, L.P.

City/County: Houston, Texas 77012 / Harris

Receiving Water (Name/Segment No.): Houston Ship Channel/ Buffalo Bayou Tidal 1007

Is this facility a steam electric power plant (SIC=4911) with one or more of the following characteristics?

1. Power output 500 MW or greater (no cooling pond/lake).
2. A nuclear power plant.
3. Cooling water discharge greater than 25% of the receiving waters 7Q2 flow rate.

☐ **YES** (score is 600, stop here).
■ **NO** (continue)

Is this permit for a MS4 serving a population greater than 100k?

☐ **YES** (score is 700, stop here).
■ **NO** (continue)

FACTOR 1: Toxic Pollutant Potential

Primary SIC Code: 2911

Other SIC Codes: _____ _____ _____ _____

Industrial Subcategory Code 3

Determine the Toxicity potential from Appendix A. Be sure to use the TOTAL toxicity potential column and check one.

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
☐ No process wastestreams	0	0	☐ 3.	3	15	☐ 7.	7	35
☐ 1.	1	5	☐ 4.	4	20	■ 8.	8	40
☐ 2.	2	10	☐ 5.	5	25	☐ 9.	9	45
			☐ 6.	6	30	☐ 10.	10	50

CODE NUMBER CHECKED 8
TOTAL POINTS FACTOR 1: 40

FACTOR 2: Flow/Stream Flow Volume (*Complete either Section A or B; check only one*)

SECTION A - Wastewater Flow Only Considered

Wastewater Type		Code	Points
Type I:	Flow < 5 MGD	☐ 11	0
	Flow 5 to 10 MGD	☐ 12	10
	Flow 10 to 50 MGD	☐ 13	20
	Flow > 50	☐ 14	30
Type II:	Flow <1 MGD	☐ 21	10
	Flow 1 to 5 MGD	■ 22	20
	Flow 5 to 10 MGD	☐ 23	30
	Flow > 10 MGD	☐ 24	50
Type III	Flow < 1 MGD	☐ 31	0
	Flow 1 to 5 MGD	☐ 32	10
	Flow 5 to 10 MGD	☐ 33	20
	Flow > 10 MGD	☐ 34	30

SECTION B - Wastewater & Stream Flow Considered

Wastewater Type	Percent Effluent @ Mixing Zone	Code	Points
Type I/III:	< 10%	☐ 41	0
	10% to 50%	☐ 42	10
	> 50%	☐ 43	20
Type II:	< 10%	☐ 51	0
	10% to 50%	☐ 52	20
	> 50%	☐ 53	30

CODE NUMBER CHECKED FROM SECTION A or B 22
TOTAL POINTS FACTOR 2: 20

TPDES PERMIT MAJOR/MINOR RATING WORK SHEET

TPDES No.: WQ0000535000

FACTOR 3: Conventional Pollutants (*Only when limited by the permit)*

A. Oxygen Demanding Pollutant: (check one) ☐ BOD/CBOD ■ COD ☐ Other:

Permit Limits: (check one)		Code	Points
☐	< 100 lbs/day	1	0
☐	100 to 1000 lbs/day	2	5
☐	1000 to 3000 lbs/day	3	15
■	> 3000 lbs/day	4	20

B. Total Suspended Solids (TSS)

Permit Limits: (check one)		Code	Points
☐	< 100 lbs/day	1	0
☐	100 to 1000 lbs/day	2	5
■	1000 to 5000 lbs/day	3	15
☐	> 5000 lbs/day	4	20

C. Nitrogen Pollutant: (check one) ☐ Ammonia ☐ Other:

Permit Limits: (check one)		Nitrogen Equivalent	Code	Points
■		< 300 lbs/day	1	0
☐		300 to 1000 lbs/day	2	5
☐		1000 to 3000 lbs/day	3	15
☐		> 3000 lbs/day	4	20

CODE NUMBER CHECKED A 4 B 3 C 1

POINTS FACTOR 3: A 20 + B 15 + C 0 = 35 Total

FACTOR 4: Public Health Impacts

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this includes any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above referenced supply

☐ YES (If yes, check toxicity potential number below)
■ NO (If no, go to Factor 5)

Determine the human health toxicity potential from Appendix A. Use the same SIC code and subcategory reference as in Factor 1. (Be sure to use the human health toxicity group column - check one below.)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
☐ No process wastestreams	0	0	☐ 3.	3	0	☐ 7.	7	15
☐ 1.	1	0	☐ 4.	4	0	☐ 8.	8	20
☐ 2.	2	0	☐ 5.	5	5	☐ 9.	9	25
			☐ 6.	6	10	☐ 10.	10	30

CODE NUMBER CHECKED ---

TOTAL POINTS FACTOR 4: 0

TPDES PERMIT RATING WORK SHEET

TPDES No.: WQ0000535000

FACTOR 5: Water Quality Factors

A. Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-based federal effluent guidelines, or technology-based state effluent guidelines), or has a wasteload allocation been assigned to the discharge?

	Code	Points
■ YES	1	10
☐ NO	2	0

B. Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?

	Code	Points
■ YES	1	0
☐ NO	2	5

C. Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?

	Code	Points
☐ YES	1	10
■ NO	2	0

CODE NUMBER CHECKED A 1 B 1 C 2

POINT FACTOR 5: A 10 + B 0 + C 0 = 10 Total

FACTOR 6: Proximity to Near Coastal Waters

A. Base Score: Enter flow code here (from Factor 2): 22

Enter the multiplication factor that corresponds to the flow code: 0.30

Check appropriate facility HPRI Code (from PCS):

	HPRI#	CODE	HPRI Score	Flow Code	Multiplication Factor
☐	1	1	20	11, 31, or 41	0.00
☐	2	2	0	12, 32, or 42	0.05
■	3	3	30	13, 33, or 43	0.10
☐	4	4	0	14 or 34	0.15
☐	5	5	0	21 or 51	0.10
				22 or 52	0.30
				23 or 53	0.60
				24	1.00

HPRI code checked: 3

Base Score: (HPRI Score) 30 X (Multiplication Factor) 0.30 = 9.0 (Total Points)

B. Additional Points -- NEP Program

For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions)?

	Code	Points
☐ YES	1	10
■ NO	2	0

C. Additional Points -- Great Lakes Area of Concern

For a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 areas of concern?

	Code	Points
☐ YES	1	10
■ NO	2	0

CODE NUMBER CHECKED A 3 B 2 C 2

POINT FACTOR 6: A 9 + B 0 + C 0 = 9 Total

TPDES PERMIT RATING WORK SHEET

TPDES No.: WQ0000535000

SCORE SUMMARY

Factor	Description	Total Points
1	Toxic Pollutant Potential	40
2	Flow/Streamflow Volume	20
3	Conventional Pollutants	35
4	Public Health Impacts	0
5	Water Quality Factors	10
6	Proximity to Near Coastal Waters	9
	TOTAL (Factors 1 through 6)	114

S1. Is the total score equal to or greater than 80?

- [x] YES - Facility is a major, stop here.
- [ ] NO - Facility is NOT a major, proceed to S2.

S2. Do you want the facility to be designated a discretionary major?

- [ ] YES - Add 500 points to the score above and provide justification below.
- [ ] NO - Stop here

Justification:

Check appropriate classification:

- [x] Major
- [ ] Minor
- [ ] Discretionary Major

Michael Sunderlin
Permit Reviewer

512-239-4523
Phone Number

April 17, 2012
Date Reviewed

TOXIC RATING WORKSHEET

TPDES Permit No.:	WQ0000535000			
NPDES Permit No.:	TX0002976			
Permittee:	Valero Refining-Texas, L.P.			
Facility:				
SIC Codes:	1. 2911	2.	3.	4.
40 CFR Section:	40 CFR Part 419-C			
Toxic Rating for Facility:	4			
Permit Writer:	Michael Sunderlin		Date: April 17, 2012	

CALCULATE TOXIC RATING FOR THE FACILITY

For each outfall listed below, list the percent contribution to the total wastewater flow from the facility and the toxic rating for the outfall.

OUTFALL No.	% Contribution	Toxic Rating	Rating x Percent
001	100	4	400

Total 100 Total: 400

Toxic Rating for Facility = Total/100 = 4 (round to nearest whole #)

OUTFALL NO.: 001

List waste streams in order of percent contribution to outfall and toxic rating for each waste stream:

Description of Waste Stream	%	Toxic Rating	Rating x Percent
Process Wastewater	60	6	360
Utility Wastewater	40	2	80

Total 100 Total: 440

Toxic Rating for Facility = Total/100 = 4 (round to nearest whole #)

NEW SOURCE DETERMINATION WORKSHEET

PERMITTEE:	Valero Refining-Texas, L.P.
TPDES PERMIT NUMBER:	WQ0000535000
NPDES PERMIT NUMBER:	TX0002976
TYPE OF INDUSTRIAL ACTIVITY:	Petroleum Refinery
SIC CODE:	2911
CATEGORICAL GUIDELINES:	40 CFR Part 419

A. NEW SOURCE DETERMINATION - SCREENING

ANSWER EITHER "YES" OR "NO" TO THE FOLLOWING QUESTIONS AND PROCEED AS DIRECTED:

1. Is there an applicable new source performance standard for this facility?

   Yes XX No _____ If YES, proceed to Item No. 2. If NO proceed to Section B, the facility is not a new source.

2. Was the current production facility in existence prior to the promulgation of the applicable new source performance standard?

   Yes XX No _____ If NO, proceed to Item No. 3. If YES proceed to Section B, the facility is not a new source.

3. This facility MAY be classified as a new source. Additional information will be required to conduct an evaluation and make a final determination. Please refer to 40 CFR 122.29.

B. NEW SOURCE DETERMINATION - DETERMINATION

PLEASE CHECK THE APPROPRIATE DETERMINATION:

XX	Facility IS NOT a new source. Determination made via screening in Section A above.
	Facility IS NOT a new source. Determination made via evaluation. Please see attached evaluation.
	Facility IS a new source. Determination made via evaluation. Please see attached evaluation.

Michael Sunderlin
REVIEWER

April 17, 2012
DATE

Compliance History Report

Customer/Respondent/Owner-Operator:	CN600127468	Valero Refining-Texas, L.P.	Classification: AVERAGE	Rating: 6.46
Regulated Entity:	RN100219310	VALERO REFINING HOUSTON REFINERY	Classification: AVERAGE	Site Rating: 9.12

ID Number(s):

AIR OPERATING PERMITS	ACCOUNT NUMBER	HG0130C
AIR OPERATING PERMITS	PERMIT	1381
POLLUTION PREVENTION PLANNING	ID NUMBER	P00524
INDUSTRIAL AND HAZARDOUS WASTE	SOLID WASTE REGISTRATION # (SWR)	30520
INDUSTRIAL AND HAZARDOUS WASTE	EPA ID	TXD053624193
AIR NEW SOURCE PERMITS	REGISTRATION	94434
AIR NEW SOURCE PERMITS	REGISTRATION	92272
AIR NEW SOURCE PERMITS	REGISTRATION	36395
AIR NEW SOURCE PERMITS	REGISTRATION	36394
AIR NEW SOURCE PERMITS	REGISTRATION	36392
AIR NEW SOURCE PERMITS	REGISTRATION	37103
AIR NEW SOURCE PERMITS	REGISTRATION	37102
AIR NEW SOURCE PERMITS	REGISTRATION	37101
AIR NEW SOURCE PERMITS	REGISTRATION	38961
AIR NEW SOURCE PERMITS	REGISTRATION	40306
AIR NEW SOURCE PERMITS	REGISTRATION	41495
AIR NEW SOURCE PERMITS	REGISTRATION	42119
AIR NEW SOURCE PERMITS	REGISTRATION	42999
AIR NEW SOURCE PERMITS	REGISTRATION	44387
AIR NEW SOURCE PERMITS	REGISTRATION	45273
AIR NEW SOURCE PERMITS	REGISTRATION	45869
AIR NEW SOURCE PERMITS	REGISTRATION	47166
AIR NEW SOURCE PERMITS	REGISTRATION	48166
AIR NEW SOURCE PERMITS	REGISTRATION	50138
AIR NEW SOURCE PERMITS	REGISTRATION	50232
AIR NEW SOURCE PERMITS	PERMIT	8483A
AIR NEW SOURCE PERMITS	PERMIT	2501A
AIR NEW SOURCE PERMITS	PERMIT	7144A
AIR NEW SOURCE PERMITS	PERMIT	7158A
AIR NEW SOURCE PERMITS	REGISTRATION	71919
AIR NEW SOURCE PERMITS	REGISTRATION	33933
AIR NEW SOURCE PERMITS	REGISTRATION	34151
AIR NEW SOURCE PERMITS	REGISTRATION	34119
AIR NEW SOURCE PERMITS	REGISTRATION	34094
AIR NEW SOURCE PERMITS	REGISTRATION	33180
AIR NEW SOURCE PERMITS	REGISTRATION	33383
AIR NEW SOURCE PERMITS	REGISTRATION	28324
AIR NEW SOURCE PERMITS	PERMIT	19637
AIR NEW SOURCE PERMITS	PERMIT	19294
AIR NEW SOURCE PERMITS	REGISTRATION	10580A
AIR NEW SOURCE PERMITS	PERMIT	2507A
AIR NEW SOURCE PERMITS	PERMIT	2498A
AIR NEW SOURCE PERMITS	REGISTRATION	10471A
AIR NEW SOURCE PERMITS	REGISTRATION	13020A
AIR NEW SOURCE PERMITS	REGISTRATION	36390
AIR NEW SOURCE PERMITS	REGISTRATION	35206
AIR NEW SOURCE PERMITS	REGISTRATION	55752
AIR NEW SOURCE PERMITS	PERMIT	48982
AIR NEW SOURCE PERMITS	REGISTRATION	75514
AIR NEW SOURCE PERMITS	AFS NUM	4820100065
AIR NEW SOURCE PERMITS	ACCOUNT NUMBER	HG0130C
AIR NEW SOURCE PERMITS	REGISTRATION	70289
AIR NEW SOURCE PERMITS	PERMIT	71281
AIR NEW SOURCE PERMITS	REGISTRATION	50600
AIR NEW SOURCE PERMITS	REGISTRATION	54510
AIR NEW SOURCE PERMITS	REGISTRATION	56205
AIR NEW SOURCE PERMITS	REGISTRATION	54616
AIR NEW SOURCE PERMITS	REGISTRATION	71680
AIR NEW SOURCE PERMITS	REGISTRATION	54513
AIR NEW SOURCE PERMITS	REGISTRATION	73824

AIR NEW SOURCE PERMITS	REGISTRATION	73902
AIR NEW SOURCE PERMITS	REGISTRATION	73869
AIR NEW SOURCE PERMITS	REGISTRATION	74363
AIR NEW SOURCE PERMITS	REGISTRATION	76694
AIR NEW SOURCE PERMITS	REGISTRATION	78537
AIR NEW SOURCE PERMITS	REGISTRATION	78574
AIR NEW SOURCE PERMITS	PERMIT	80493
AIR NEW SOURCE PERMITS	REGISTRATION	81166
AIR NEW SOURCE PERMITS	REGISTRATION	81526
AIR NEW SOURCE PERMITS	REGISTRATION	81979
AIR NEW SOURCE PERMITS	REGISTRATION	84930
AIR NEW SOURCE PERMITS	REGISTRATION	88508
AIR NEW SOURCE PERMITS	REGISTRATION	94967
AIR NEW SOURCE PERMITS	REGISTRATION	87909
AIR NEW SOURCE PERMITS	REGISTRATION	85583
AIR NEW SOURCE PERMITS	REGISTRATION	86148
AIR NEW SOURCE PERMITS	REGISTRATION	86875
AIR NEW SOURCE PERMITS	REGISTRATION	86142
AIR NEW SOURCE PERMITS	REGISTRATION	86293
AIR NEW SOURCE PERMITS	REGISTRATION	95584
AIR NEW SOURCE PERMITS	REGISTRATION	83749
AIR NEW SOURCE PERMITS	EPA ID	PSDTX767M2
AIR NEW SOURCE PERMITS	REGISTRATION	82694
AIR NEW SOURCE PERMITS	EPA ID	PSDTX767M1
AIR NEW SOURCE PERMITS	EPA ID	PSDTX767
AIR NEW SOURCE PERMITS	REGISTRATION	98526
AIR NEW SOURCE PERMITS	REGISTRATION	101541
AIR NEW SOURCE PERMITS	PERMIT	98069
AIR NEW SOURCE PERMITS	REGISTRATION	101758
AIR NEW SOURCE PERMITS	REGISTRATION	101936
AIR NEW SOURCE PERMITS	REGISTRATION	99288
WASTEWATER	PERMIT	WQ0000535000
WASTEWATER	EPA ID	TX0002976
PETROLEUM STORAGE TANK REGISTRATION	REGISTRATION	34003
STORMWATER	PERMIT	TXR05K869
IHW CORRECTIVE ACTION	SOLID WASTE REGISTRATION # (SWR)	30520
AIR EMISSIONS INVENTORY	ACCOUNT NUMBER	HG0130C

Location: 9701 MANCHESTER ST, HOUSTON, TX, 77012

TCEQ Region: REGION 12 - HOUSTON

Date Compliance History Prepared: April 13, 2012

Agency Decision Requiring Compliance History: Permit - Issuance, renewal, amendment, modification, denial, suspension, or revocation of a permit.

Compliance Period: September 30, 2006 to April 13, 2012

TCEQ Staff Member to Contact for Additional Information Regarding this Compliance History

Name: Michael Sunderlin Phone: 239 - 4523

Site Compliance History Components

1. Has the site been in existence and/or operation for the full five year compliance period? YES

2. Has there been a (known) change in ownership/operator of the site during the compliance period? NO

3. If **YES**, who is the current owner/operator? N/A

4. If **YES**, who was/were the prior owner(s)/operator(s)? N/A
VALERO ENERGY CORP, OWNER, 6/10/2004 to 11/5/2006

5. If **YES**, when did the change(s) in owner or operator occur? N/A

6. Rating Date: 9/1/2011 Repeat Violator: NO

Components (Multimedia) for the Site :

A. Final Enforcement Orders, court judgments, and consent decrees of the State of Texas and the federal government.

Effective Date: 07/13/2007 ADMINORDER 2007-0161-AIR-E

Classification: Moderate

Citation: 30 TAC Chapter 101, SubChapter F 101.221(a)
30 TAC Chapter 116, SubChapter B 116.115(c)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT A 60.18(c)(2)
5C THC Chapter 382, SubChapter A 382.085(b)

Rqmt Prov: No. 2501A, Special Condition 1 PERMIT
No. 2501A, Special Condition 10B PERMIT

Description: Failed to prevent unauthorized emissions, to operate the gas flares with a flame present at all times, and to maintain them in good working order.

Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
5C THC Chapter 382, SubChapter A 382.085(b)

Rqmt Prov: No. 2501A, Special Condition 1 PERMIT

Description: Failed to prevent unauthorized emissions.

Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
5C THC Chapter 382, SubChapter A 382.085(b)

Rqmt Prov: No. 2501A, Special Condition 1 PERMIT

Description: Failed to prevent unauthorized emissions.

Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
5C THC Chapter 382, SubChapter D 382.085(b)

Rqmt Prov: No. 2501A, Special Condition 1 PERMIT

Description: Failed to prevent unauthorized emissions.

Effective Date: 08/10/2007 ADMINORDER 2006-2218-AIR-E

Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)

Rqmt Prov: TCEQ Air Permit No. 2501A, SC1 PERMIT

Description: Valero exceeded SO2 permit emission limits during an avoidable emissions event.

Classification: Moderate

Citation: 30 TAC Chapter 111, SubChapter A 111.111(a)(1)(B)
30 TAC Chapter 116, SubChapter B 116.115(c)

Rqmt Prov: No. 2501A, Special Condition 1 PERMIT

Description: Failure to prevent unauthorized emissions due to operator error.

Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)

Rqmt Prov: No. 2501A, Special Condition 1 PERMIT

Description: Failure to prevent an unplanned compressor shutdown resulting in unauthorized emissions.

Classification: Minor

Citation: 30 TAC Chapter 101, SubChapter F 101.201(f)
5C THC Chapter 382, SubChapter D 382.085(b)

Description: Failure to provide additional or more detailed information on the emissions event when requested by the executive director or air pollution agency with jurisdiction, within the time frame established in the request.

Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)

Rqmt Prov: No. 2501A, Special Condition 1 PERMIT

Description: Valero exceeded SO2 permit limits during an avoidable emissions event.

Classification: Minor

Citation: 30 TAC Chapter 101, SubChapter F 101.201(c)
5C THC Chapter 382, SubChapter D 382.085(b)

Description: Valero failed to submit a final emissions event report no later than two weeks after the end of the emissions event.

Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
5C THC Chapter 382, SubChapter D 382.085(b)

Rqmt Prov: Permit No. 2501A, Special Condition #1 PERMIT
Permit No. 2507A, Special Condition #1 PERMIT

Description: Failure to prevent unathorized emissions through the FCC flare.

Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
5C THC Chapter 382, SubChapter D 382.085(b)

Rqmt Prov: Permit No. 2507A, Special Condition #6 PERMIT
Description: Failure to route acid gas to the SRU.
Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
5C THC Chapter 382, SubChapter D 382.085(b)
Rqmt Prov: 2501A PERMIT
Description: Failure to prevent unauthorized emissions.
Classification: Moderate
Citation: 30 TAC Chapter 112, SubChapter A 112.3(b)
30 TAC Chapter 116, SubChapter B 116.115(c)
5C THC Chapter 382, SubChapter D 382.085(b)
Rqmt Prov: 2501A, SC 1 PERMIT
Description: Failure to maintain net SO2 net groud level concentrations below the limit of 0.28 ppmv averaged over any 30-minute period.

Effective Date: 11/09/2007 ADMINORDER 2007-0604-AIR-E
Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter F 116.615(2)
5C THC Chapter 382, SubChapter D 382.085(b)
Rqmt Prov: No. 50232 PERMIT
Description: Failure to prevent unauthorized emissions.
Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
5C THC Chapter 382, SubChapter A 382.085(b)
Rqmt Prov: No. 2501A, SC No. 1 PERMIT
Description: Valero failed to prevent unauthorized emissions.
Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter F 116.615(2)
5C THC Chapter 382, SubChapter A 382.085(b)
Rqmt Prov: No. 50232 PERMIT
Description: Failed to prevent unauthorized emissions.

Effective Date: 06/19/2008 ADMINORDER 2008-0014-AIR-E
Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
5C THSC Chapter 382 382.085(b)
Rqmt Prov: No. 71281, Special Condition No. 1 PERMIT
Description: Failed to prevent unauthorized emissions during a November 26, 2007 emissions event (Incident No. 100464).
Classification: Minor
Citation: 30 TAC Chapter 101, SubChapter F 101.201(c)
5C THSC Chapter 382 382.085(b)
Description: Failed to submit the final record for the November 26, 2007 emissions event (Incident No. 100464) within 14 days after the end of the emissions event.

Effective Date: 07/03/2008 ADMINORDER 2007-1960-AIR-E
Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
5C THC Chapter 382, SubChapter A 382.085(b)
Rqmt Prov: Permit 48982, Special Condition #12 PERMIT
Description: The Respondent is alleged to have failed to retrofit heaters 27BA1100, 27BA1103, 27BA1105, and 29BA1300 with burners meeting 0.06 pounds of nitrogen oxides (NOx) per million British thermal units by December 31, 2006.

Effective Date: 10/23/2008 ADMINORDER 2008-0712-AIR-E
Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
5C THSC Chapter 382 382.085(b)
Rqmt Prov: TCEQ Air Permit No. 2501A, SC 1 PERMIT
Description: Valero failed to prevent unauthorized emissions of 143.16 lbs of VOC, 73.2 lbs of carbon monoxide, 10.2 lbs of oxides of nitrogen, 6.68 lbs of hydrogen sulfide, and 609.0 lbs of sulfur dioxide during an emissions event that occurred on March 24, 2008 (Incident No. 105338) and lasted for 4 hours and 0 minutes.
Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
5C THSC Chapter 382 382.085(b)
Rqmt Prov: Special Condition 1 PERMIT

Description: Failed to prevent unauthorized emissions of 104.80 lbs of VOC, 112.770 lbs of carbon monoxide, 16.08 lbs of oxides of nitrogen, 9.60 lbs of hydrogen sulfide, and 872.62 lbs of sulfur dioxide during an emissions event that occurred on March 31, 2008 and lasted for 3 hours and 35 minutes.

Effective Date: 04/05/2009 ADMINORDER 2008-1437-AIR-E

Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
5C THSC Chapter 382 382.085(b)

Rqmt Prov: Special Condition No. 1 PERMIT

Description: Failure to prevent unauthorized emissions.

Effective Date: 07/20/2009 ADMINORDER 2009-0339-AIR-E

Classification: Minor

Citation: 30 TAC Chapter 101, SubChapter F 101.201(c)
5C THSC Chapter 382 382.085(b)

Description: Failure to submit the final report of a reportable emissions event in a timely manner.

Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(b)(2)(F)
5C THSC Chapter 382 382.085(b)

Rqmt Prov: Standard Permit PERMIT

Description: Failure to prevent unauthorized emissions. Specifically, 1,200.00 lbs of nitrogen oxides; 302.00 lbs of carbon monoxide; 2,083.00 lbs of sulfur dioxide; and 601.00 lbs of different organic compounds (VOCs). Loss of affirmative defense due to late reporting.

Effective Date: 05/09/2010 ADMINORDER 2009-1487-AIR-E

Classification: Moderate

Citation: 30 TAC Chapter 115, SubChapter H 115.725(a)(1)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)

Rqmt Prov: Special Condition 1I(i) OP

Description: Failure to comply with the emissions limitations and operations limitations, relating to three specific sources, that were established during the initial HRVOC performance tests required by 30 TAC 115.725(a)(1).

Classification: Moderate

Citation: 30 TAC Chapter 115, SubChapter B 115.142(1)(G)
30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Part 60, Subpart QQQ 60.693-2(a)(2)
5C THSC Chapter 382 382.085(b)

Rqmt Prov: General Terms & Conditions OP
Special Terms and Conditions 1A OP

Description: Failure to operate API Separator without leakage.

Classification: Minor

Citation: 30 TAC Chapter 122, SubChapter B 122.143(4)
30 TAC Chapter 122, SubChapter B 122.146(5)(C)(ii)
5C THSC Chapter 382 382.085(b)

Rqmt Prov: General Terms & Conditions OP
Special Condition 1A OP

Description: Failure to submit a deviation report with proper rule citation information.

Effective Date: 11/18/2011 ADMINORDER 2010-0909-MLM-E

Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(b)(2)(F)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)

Rqmt Prov: FOP O1381, STC 19 PERMIT
Standard Permit 81979, GC 30 PERMIT

Description: Failed to comply with the 3.53 lbs per hour ("lbs/hr") NOx emission rate for Temporary Boiler No. 1 at the Houston Refinery. Specifically, during a November 2, 2007 stack test, the NOx emissions rate from Temporary Boiler No. 1 was 4.57 lbs/hr.

Classification: Moderate

Citation: 2D TWC Chapter 26, SubChapter A 26.121(a)
30 TAC Chapter 305, SubChapter F 305.125(1)

Rqmt Prov: WQ0000535000, Requirement 1 for 001 PERMIT

Description: Failed to comply with the permitted effluent limitations at the Houston Refinery.

Classification: Major

Citation: 30 TAC Chapter 319, SubChapter A 319.11(c)
30 TAC Chapter 319, SubChapter A 319.7(a)(5)

Rqmt Prov: WQ0000535000, Nos. 2.f. and g PERMIT

Description: Failed to correctly calculate the effluent loadings for free cyanide at the Houston Refinery. Specifically, the April 2009 through February 2010 DMRs for free cyanide were calculated using the concentration average instead of the loading average.

Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)

Rqmt Prov: O1381, Special Condition 19 OP
Standard Permit 81979, SC 5.B.v. PERMIT

Description: Failed to perform stack testing within 90 days after the installation of Temporary Boiler No. 1 at the Houston Refinery. Specifically, Temporary Boiler No. 1 was installed on June 19, 2007; however, stack testing was not conducted until 136 days later on November 2, 2007.

Effective Date: 12/19/2011 ADMINORDER 2011-0781-AIR-E

Classification: Moderate

Citation: 30 TAC Chapter 117, SubChapter B 117.335(e)
30 TAC Chapter 117, SubChapter H 117.9020(2)(C)(i)
5C THSC Chapter 382 382.085(b)

Description: Failed to stack test seven units for initial demonstration of compliance with 30 TEX. ADMIN. CODE ch. 117 before the deadline of March 31, 2007. The following units were not stack tested: the A Unifier Rx Furnace, C Unifier Rx Furnace, D Unifier Rx Furnace, D Unifier Reboiler, Boilerhouse Hot Oil Heater, 90 Dock 1 Thermal Oxidizer, and WWT Pump Engine (EPNs 28BA1200, 27BA1000, 41BA101, 41BA102, 81BA25, 90CB5601, and 47GG1523, respectively). Cat A 8 c (1) (G)

B. Any criminal convictions of the state of Texas and the federal government.

N/A

C. Chronic excessive emissions events.

N/A

D. The approval dates of investigations. (CCEDS Inv. Track. No.)

1	03/26/2007	(457476)
2	11/10/2006	(489514)
3	11/10/2006	(489909)
4	11/10/2006	(490256)
5	11/10/2006	(494149)
6	11/10/2006	(497338)
7	10/23/2006	(510591)
8	12/11/2006	(511248)
9	09/10/2007	(511304)
10	09/10/2007	(511307)
11	02/27/2007	(512312)
12	11/08/2006	(513557)
13	11/06/2006	(514699)
14	10/12/2006	(514788)
15	11/07/2006	(516134)
16	10/25/2006	(516346)
17	12/29/2006	(518678)
18	10/20/2006	(520000)
19	11/21/2006	(531593)
20	12/04/2006	(531849)
21	12/07/2006	(532001)
22	12/12/2006	(532173)
23	12/07/2006	(533208)
24	12/21/2006	(534112)
25	05/08/2007	(534918)

26	01/31/2007	(537333)
27	01/31/2007	(537702)
28	01/24/2007	(537745)
29	02/05/2007	(538081)
30	02/21/2007	(539856)
31	02/20/2007	(540176)
32	05/15/2007	(542295)
33	11/20/2006	(544242)
34	12/19/2006	(544243)
35	01/18/2007	(544244)
36	03/27/2007	(554074)
37	04/13/2007	(554910)
38	04/20/2007	(556275)
39	05/04/2007	(557971)
40	05/24/2007	(558983)
41	01/14/2008	(566943)
42	07/27/2007	(567340)
43	08/06/2007	(571198)
44	08/22/2007	(573220)
45	06/19/2007	(574870)
46	03/23/2007	(574871)
47	04/20/2007	(574872)
48	05/21/2007	(574873)
49	06/18/2007	(574874)
50	07/19/2007	(574875)
51	05/23/2007	(593171)
52	10/25/2007	(595241)
53	11/12/2007	(599655)
54	11/20/2007	(600266)
55	08/21/2007	(607492)
56	10/01/2007	(607493)
57	10/19/2007	(607494)
58	02/05/2008	(609016)
59	12/04/2007	(610822)
60	12/28/2007	(612910)
61	03/13/2008	(614793)
62	02/29/2008	(616621)
63	11/20/2007	(619387)
64	12/20/2007	(619388)
65	01/21/2008	(619389)
66	05/09/2008	(637174)
67	03/20/2008	(638045)
68	05/23/2008	(639669)
69	05/22/2008	(639743)
70	04/18/2008	(646376)
71	05/01/2008	(646378)
72	04/25/2008	(646406)
73	04/25/2008	(653771)

74	02/20/2008	(671885)
75	03/19/2008	(671886)
76	04/18/2008	(671887)
77	12/05/2008	(680116)
78	12/15/2008	(687526)
79	05/14/2008	(689811)
80	06/17/2008	(689812)
81	07/21/2008	(689813)
82	08/14/2008	(699940)
83	08/18/2008	(699945)
84	09/05/2008	(701193)
85	02/13/2009	(708289)
86	08/19/2008	(710569)
87	09/19/2008	(710570)
88	10/20/2008	(710571)
89	12/15/2008	(721478)
90	02/16/2009	(726844)
91	11/20/2008	(727366)
92	03/09/2009	(735657)
93	08/24/2009	(740719)
94	06/24/2009	(741061)
95	08/11/2009	(741091)
96	08/11/2009	(741118)
97	07/20/2009	(741127)
98	08/12/2010	(742039)
99	05/04/2009	(744200)
100	06/30/2010	(746498)
101	06/30/2009	(747023)
102	08/31/2009	(747447)
103	08/19/2009	(749699)
104	02/24/2009	(750098)
105	03/13/2009	(750099)
106	04/20/2009	(750100)
107	04/20/2009	(750101)
108	12/16/2008	(750102)
109	09/14/2009	(759275)
110	07/15/2009	(762174)
111	07/15/2009	(762202)
112	10/29/2009	(767520)
113	09/03/2009	(767802)
114	05/20/2009	(768252)
115	01/20/2009	(768253)
116	09/24/2009	(775299)
117	09/14/2009	(775528)
118	09/11/2009	(775816)
119	11/30/2009	(781553)
120	12/14/2009	(783520)
121	02/22/2010	(789352)

122	04/01/2010	(797369)
123	05/27/2010	(800683)
124	05/24/2010	(801063)
125	06/17/2010	(802806)
126	08/31/2010	(803066)
127	02/20/2010	(804277)
128	07/20/2009	(804278)
129	08/25/2009	(804279)
130	09/22/2009	(804280)
131	11/19/2009	(804281)
132	11/19/2009	(804282)
133	12/20/2009	(804283)
134	01/19/2010	(804284)
135	06/01/2010	(824942)
136	06/16/2010	(827092)
137	03/24/2010	(830736)
138	04/20/2010	(830737)
139	05/20/2010	(830738)
140	06/18/2010	(846220)
141	09/24/2010	(857925)
142	05/19/2011	(859962)
143	07/12/2010	(860818)
144	08/19/2010	(866780)
145	11/03/2010	(870195)
146	09/16/2010	(873855)
147	02/25/2011	(877984)
148	03/08/2011	(878062)
149	10/19/2010	(881457)
150	12/17/2010	(885121)
151	11/19/2010	(887987)
152	03/17/2011	(895911)
153	12/20/2010	(896186)
154	04/29/2011	(902023)
155	01/14/2011	(902261)
156	04/08/2011	(907446)
157	02/18/2011	(909035)
158	03/11/2011	(916296)
159	10/20/2011	(922584)
160	04/19/2011	(924722)
161	05/18/2011	(937976)
162	06/17/2011	(945291)
163	10/25/2011	(952279)
164	07/19/2011	(952575)
165	08/19/2011	(959258)
166	12/05/2011	(964139)
167	01/23/2012	(964940)
168	09/20/2011	(965287)
169	10/19/2011	(971330)

170 11/21/2011 (977488)
171 04/12/2012 (981650)
172 02/15/2012 (982113)
173 02/29/2012 (982223)
174 12/20/2011 (984256)
175 01/19/2012 (990555)

E. Written notices of violations (NOV). (CCEDS Inv. Track. No.)

Date: 10/12/2006 (514788) CN600127468
Self Report? NO Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
5C THC Chapter 382, SubChapter A 382.085(b)
No. 2501A, Special Condition 1 PERMIT
Description: Failure to prevent unauthorized emissions.

Date: 01/31/2007 (574870) CN600127468
Self Report? YES Classification: Moderate
Citation: 30 TAC Chapter 305, SubChapter F 305.125(1)
TWC Chapter 26 26.121(a)
Description: Failure to meet the limit for one or more permit parameter

Date: 03/27/2007 (457476) CN600127468
Self Report? NO Classification: Minor
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
5C THC Chapter 382, SubChapter D 382.085(b)
No. 2501A Special Condition #1 PERMIT
Description: Failure to submit emissions event notification in a timely manner.
Self Report? NO Classification: Minor
Citation: 30 TAC Chapter 101, SubChapter F 101.201(a)(1)(B)
Description: Failure to report an emissions event in a timely manner.

Date: 05/23/2007 (593171) CN600127468
Self Report? NO Classification: Moderate
Citation: 30 TAC Chapter 305, SubChapter F 305.125(1)
30 TAC Chapter 305, SubChapter F 305.125(17)
Description: NON-RPT VIOS FOR MONIT PER OR PIPE

Date: 08/31/2007 (607493) CN600127468
Self Report? YES Classification: Moderate
Citation: 2D TWC Chapter 26, SubChapter A 26.121(a)
30 TAC Chapter 305, SubChapter F 305.125(1)
Description: Failure to meet the limit for one or more permit parameter

Date: 11/20/2007 (600266) CN600127468
Self Report? NO Classification: Minor
Citation: 30 TAC Chapter 101, SubChapter F 101.223(a)(1)
5C THC Chapter 382, SubChapter A 382.085(b)
Description: Valero failed to submit a CAP in a timely manner.

Date: 12/31/2007 (619389) CN600127468
Self Report? YES Classification: Moderate
Citation: 2D TWC Chapter 26, SubChapter A 26.121(a)
30 TAC Chapter 305, SubChapter F 305.125(1)
Description: Failure to meet the limit for one or more permit parameter

Date: 01/14/2008 (566943) CN600127468
Self Report? NO Classification: Minor
Citation: 30 TAC Chapter 115, SubChapter D 115.352(4)
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THC Chapter 382, SubChapter D 382.085(b)
FOP O-01381, ST&C 19 OP
FOP O-01381, ST&C 1A OP
Permit 2498A, Speciaol Condition 7E PERMIT
Permit 2501A, Special Condition 4E PERMIT
Permit 48982, Special Condition 6E PERMIT
Description: Failure to cap open-ended valves/lines.
Self Report? NO Classification: Minor
Citation: 30 TAC Chapter 115, SubChapter D 115.352(2)

30 TAC Chapter 122, SubChapter B 122.143(4)
5C THC Chapter 382, SubChapter D 382.085(b)
FOP O-01381, ST&C 1A OP

Description: Failure to make first repair attempts to LDAR leaks.

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 115, SubChapter D 115.352(2)
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THC Chapter 382, SubChapter D 382.085(b)
FOP O-01381, ST&C 19 OP
FOP O-01381, ST&C 1A OP
Permit 48982, Special Condition 6I PERMIT

Description: Failure to repair leaks within 15 days.

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 111, SubChapter A 111.111(a)(4)(A)
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT A 60.18(c)(1)
5C THC Chapter 382, SubChapter D 382.085(b)
FOP O-01381, ST&C 19 OP
FOP O-01381, ST&C 1A OP
Permit 2501A, Special Condition 10C PERMIT

Description: Failure to operate Flares 30FL1, 30FL2 & 30FL5 without visible emissions.

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 111, SubChapter A 111.111(a)(1)(B)
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THC Chapter 382, SubChapter D 382.085(b)
FOP O-01381, ST&C 19 OP
FOP O-01381, ST&C 1A OP
FOP O-01381, ST&C 3B.(i) OP
Permit 2507A, Special Condition 8G PERMIT

Description: Failure to Operate the SRU Incinerator stack without visible emissions.

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 111, SubChapter A 111.111(a)(1)(B)
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THC Chapter 382, SubChapter D 382.085(b)
FOP O-01381, ST&C 19 OP
FOP O-01381, ST&C 1A OP
FOP O-01381, ST&C 3B(i) OP
Permit 2501A, Special Condition 2 PERMIT

Description: Failure to operate the fourth stage separator of the Tail Gas incinerator without visible emissions.

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
FOP O-01381, ST&C 19 OP
Permit 2501A, Special Condition 20F PERMIT
Permit 48982, Special Condition 5F PERMIT

Description: Failure to paint storage tanks the required colors.

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 122, SubChapter B 122.143(4)
5C THC Chapter 382, SubChapter D 382.085(b)
FOP O-01381, ST&C 1D OP

Description: Late Submittal of operating Permit Amendment.

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 115, SubChapter H 115.725(a)(1)(C)
30 TAC Chapter 122, SubChapter B 122 143(4)
5C THC Chapter 382, SubChapter D 382.085(b)
FOP O-01381, ST&C 1(J)(ii) OP
FOP O-01381, ST&C 1A OP

Description: Failure to comply with Initial HRVOC Stack Test limits.

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)

40 CFR Chapter 60, SubChapter C, PT 60, SubPT A 60.18(c)(2)
5C THC Chapter 382, SubChapter D 382.085(b)
FOP O-01381, ST&C 19 OP
FOP O-01381, ST&C 1A OP
Permit 2501A, Special Condition 10 B PERMIT

Description: Failure to maintain pilot lights on flares.

Self Report? NO Classification: Minor

Citation:
30 TAC Chapter 117, SubChapter B 117.219(f)(6)(B)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THC Chapter 382, SubChapter D 382.085(b)
FOP O-01381, ST&C 1A OP
FOP O-01381, ST&C 9D OP

Description: Failure to maintain emergency engine operations records.

Self Report? NO Classification: Minor

Citation:
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THC Chapter 382, SubChapter D 382.085(b)
FOP O-01381, ST&C 19 OP
Permit 19637, Special Condition 1 OP

Description: Failure to comply with the permitted emissions limits for carbon monoxide.

Self Report? NO Classification: Moderate

Citation:
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THC Chapter 382, SubChapter D 382.085(b)
FOP O-01381, ST&C 19 OP
Permit 2501A, Special Condition 1 PERMIT

Description: Failure to comply with permitted emissions limits for nitrogen oxides.

Self Report? NO Classification: Minor

Citation:
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THC Chapter 382, SubChapter D 382.085(b)
FOP O-01381, ST&C 19 OP
Permit 2507A, Special Condition 1 PERMIT

Description: Failure to comply with with SO2 permitted limits.

Self Report? NO Classification: Minor

Citation:
30 TAC Chapter 115, SubChapter B 115.132(a)(2)
30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT QQQ 60.692-3(a)(4)
5C THC Chapter 382, SubChapter D 382.085(b)
FOP O-01381, ST&C 1A OP

Description: Failure to operate the API Separator without VOC leaks.

Self Report? NO Classification: Minor

Citation:
30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT A 63.7(g)(1)
5C THC Chapter 382, SubChapter D 382.085(b)
FOP O-01381, ST&C 14D OP
FOP O-01381, ST&C 1A OP

Description: Late submittals of NOC Status Reports.

Self Report? NO Classification: Minor

Citation:
30 TAC Chapter 115, SubChapter B 115.112(a)(2)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THC Chapter 382, SubChapter D 382.085(b)
FOP O-01381, ST&C 1A OP

Description: Failure to operate Tank 924 with leak free conditions.

Self Report? NO Classification: Minor

Citation:
30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT QQQ 60.692-2(b)(2)
5C THC Chapter 382, SubChapter D 382.085(b)
FOP O-01381, ST&C 11B OP
FOP O-01381, ST&C 1A OP

Description: Leaking Sewer Junction Box seals.

Self Report? NO Classification: Minor

Citation:
30 TAC Chapter 115, SubChapter H 115.781(b)(5)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THC Chapter 382, SubChapter A 382.085(b)
FOP O-01381, ST&C 1(J)(iv) OP

FOP O-01381, ST&C 1A OP
Description: Failure to perform daily visual inspections of water seals.
Self Report? NO Classification: Minor
Citation: 30 TAC Chapter 115, SubChapter H 115.725(b)(1)(B)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THC Chapter 382, SubChapter D 382.085(b)
FOP O-01381, ST&C 1(J)(iv) OP
FOP O-01381, ST&C 1A OP
Description: Failure to perform fuel flow gas meter calibrations.
Date: 02/04/2008 (609016) CN600127468
Self Report? NO Classification: Minor
Citation: 30 TAC Chapter 305, SubChapter F 305.125(1)
Other Requirements, pg. 12, no. 2 PERMIT
Description: Failure to calculate loading values correctly. Zero was being used in the loading calculations for parameters other than chromium, cyanide, and zinc when the values were less than the Minimum Analytical Level (MAL). The permit allows zero to be used in the loading calculations for chromium, cyanide, and zinc when the values are less than the MAL. The permit does not allow a zero to be used in the loading calculations for all other parameters. Therefore, the loading was being calculated incor
Date: 08/31/2008 (710570) CN600127468
Self Report? YES Classification: Moderate
Citation: 2D TWC Chapter 26, SubChapter A 26.121(a)
30 TAC Chapter 305, SubChapter F 305.125(1)
Description: Failure to meet the limit for one or more permit parameter
Date: 12/31/2008 (768253) CN600127468
Self Report? YES Classification: Moderate
Citation: 2D TWC Chapter 26, SubChapter A 26.121(a)
30 TAC Chapter 305, SubChapter F 305.125(1)
Description: Failure to meet the limit for one or more permit parameter
Date: 01/31/2009 (750098) CN600127468
Self Report? YES Classification: Moderate
Citation: 2D TWC Chapter 26, SubChapter A 26.121(a)
30 TAC Chapter 305, SubChapter F 305.125(1)
Description: Failure to meet the limit for one or more permit parameter
Date: 05/31/2009 (804278) CN600127468
Self Report? YES Classification: Moderate
Citation: 2D TWC Chapter 26, SubChapter A 26.121(a)
30 TAC Chapter 305, SubChapter F 305.125(1)
Description: Failure to meet the limit for one or more permit parameter
Date: 06/30/2009 (750101) CN600127468
Self Report? YES Classification: Moderate
Citation: 2D TWC Chapter 26, SubChapter A 26.121(a)
30 TAC Chapter 305, SubChapter F 305.125(1)
Description: Failure to meet the limit for one or more permit parameter
Date: 07/31/2009 (804279) CN600127468
Self Report? YES Classification: Moderate
Citation: 2D TWC Chapter 26, SubChapter A 26.121(a)
30 TAC Chapter 305, SubChapter F 305.125(1)
Description: Failure to meet the limit for one or more permit parameter
Date: 08/21/2009 (749699) CN600127468
Self Report? NO Classification: Minor
Citation: 30 TAC Chapter 106, SubChapter K 106.263(e)(3)
5C THSC Chapter 382 382.085(b)
Description: Failure to record and/or maintain continuous temperature measurements to demonstrate compliance.
Self Report? NO Classification: Minor
Citation: 30 TAC Chapter 115, SubChapter F 115.541(a)(1)(B)
5C THSC Chapter 382 382.085(b)
Description: Failure to maintain at least a 90% DRE during degassing operations.
Self Report? NO Classification: Minor
Citation: 30 TAC Chapter 115, SubChapter F 115.545
5C THSC Chapter 382 382.085(b)
Description: Failure to prove use of approved test methods.

Date: 08/31/2009 (804280) CN600127468

Self Report? YES Classification: Moderate

Citation: 2D TWC Chapter 26, SubChapter A 26.121(a)
30 TAC Chapter 305, SubChapter F 305.125(1)

Description: Failure to meet the limit for one or more permit parameter

Date: 08/31/2009 (747447) CN600127468

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Special Condition 1 PERMIT
Special Condition 21 OP

Description: Failure to maintain firing rates below permitted levels on vacuum tower heaters 23BA301 and 23BA302.

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 115, SubChapter D 115.352(4)
30 TAC Chapter 115, SubChapter H 115.783(5)
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT H 63.167(a)(1)
5C THSC Chapter 382 382.085(b)
General Terms & Conditions OP
Special Condition 1A OP
Special Condition 1I (iv) OP
Special Condition 21 OP
Special Condition 3E PERMIT
Special Condition 4E PERMIT
Special Condition 6E PERMIT
Special Condition 7E PERMIT

Description: Failure to seal open ended lines in VOC service.

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT A 60.18(c)(3)(ii)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT A 63.11(b)(6)(ii)
5C THSC Chapter 382 382.085(b)
Special Condition 10A PERMIT
Special Condition 1A OP
Special Condition 21 OP

Description: Failure to maintain net heating value on flares 30FL-2 and 30FL-5 above permitted limits.

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(b)(2)(F)
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Special Condition 1 PERMIT
Special Condition 21 OP

Description: Failure to control excess emissions.

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 115, SubChapter B 115.132(a)(2)
30 TAC Chapter 115, SubChapter B 115.142(1)(B)
30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT QQQ 60.692-3(a)(3)
5C THSC Chapter 382 382.085(b)
General Terms & Conditions OP
Special Terms and Conditions 1A OP

Description: Failure to operate API Separator with closed hatches.

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Special Condition 2 PERMIT
Special Condition 21 OP

Description: Failure to maintain H2S concentration limits below permitted limits.

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Special Condition 21 OP
Special Condition 4 PERMIT

Description: Failure to maintain ROSE heater firing rates below permitted levels.

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 122, SubChapter B 122.143(4)
30 TAC Chapter 122, SubChapter B 122.145(1)(C)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT A 60.7(c)
5C THSC Chapter 382 382.085(b)
General Terms & Conditions OP
Special Condition 10A OP

Description: Failure to submit semi-annual CEMS report within 30 days after semi-annual period.

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT Kb 60.113b(a)(5)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT G 63.120(b)(10)(ii)
5C THSC Chapter 382 382.085(b)
General Terms & Conditions OP
Special Condition 1A OP

Description: Failure to notify the Agency 30 days before a tank seal inspection.

Date: 09/30/2009 (804281) CN600127468

Self Report? YES Classification: Moderate

Citation: 2D TWC Chapter 26, SubChapter A 26.121(a)
30 TAC Chapter 305, SubChapter F 305.125(1)

Description: Failure to meet the limit for one or more permit parameter

Date: 10/31/2009 (804282) CN600127468

Self Report? YES Classification: Moderate

Citation: 2D TWC Chapter 26, SubChapter A 26.121(a)
30 TAC Chapter 305, SubChapter F 305.125(1)

Description: Failure to meet the limit for one or more permit parameter

Date: 11/20/2009 (781553) CN600127468

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Special Condition 1 PERMIT
Special Condition 21 OP

Description: Failure to maintain firing rates below permitted levels on vacuum tower heaters 23BA301 and 23BA302.

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT A 60.18(c)(3)(ii)
40 CFR Chapter 63, SubChapter C, PT 63, SubPT A 63.11(b)(6)(ii)
5C THSC Chapter 382 382.085(b)
Special Condition 10A PERMIT
Special Condition 1A OP
Special Condition 21 OP

Description: Failure to maintain net heating value on flares 30FL-2 and 30FL-5 above permitted limits.

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Special Condition 21 OP
Special Condition 4 PERMIT

Description: Failure to maintain ROSE heater firing rates below permitted levels.

Date: 12/31/2009 (804284) CN600127468

Self Report? YES Classification: Moderate

Citation: 2D TWC Chapter 26, SubChapter A 26.121(a)
30 TAC Chapter 305, SubChapter F 305.125(1)

Description: Failure to meet the limit for one or more permit parameter

Date: 01/31/2010 (804277) CN600127468

Self Report? YES Classification: Moderate

Citation: 2D TWC Chapter 26, SubChapter A 26.121(a)
30 TAC Chapter 305, SubChapter F 305.125(1)

Description: Failure to meet the limit for one or more permit parameter

Date: 02/28/2010 (830736) CN600127468

Self Report? YES Classification: Moderate

Citation: 2D TWC Chapter 26, SubChapter A 26.121(a)
30 TAC Chapter 305, SubChapter F 305.125(1)

Description: Failure to meet the limit for one or more permit parameter

Date: 03/31/2010 (830737) CN600127468

Self Report? YES Classification: Moderate

Citation: 2D TWC Chapter 26, SubChapter A 26.121(a)
30 TAC Chapter 305, SubChapter F 305.125(1)

Description: Failure to meet the limit for one or more permit parameter

Date: 08/31/2010 (803066) CN600127468

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Spec. Cond. 21 OP
Spec. Cond. 9K PERMIT

Description: Failure to maintain firebox temperatures above permitted levels. (Category B19(g)(1) Violation)

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Spec. Cond. 21 OP
Spec. Cond. 9E PERMIT

Description: Failure to maintain one hour SO2 concentrations below permitted limits on Tail Gas Incinerators (TGI) 39CB2001 and 46CB6301. (Category B14 Violation.)

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT QQQ 60.692-1(a)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT QQQ 60.692-3(a)(5)
5C THSC Chapter 382 382.085(b)
Spec. Cond. 11A OP

Description: Failure to repair seal gaps within 15 days of discovery on API Separator 47GF5401. (Category B1 violation).

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 115, SubChapter D 115.352(4)
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Spec. Cond. 21 OP
Spec. Cond. 3E PERMIT
Spec. Cond. 4E PERMIT
Spec. Cond. 6E PERMIT
Spec. Cond. 7E PERMIT

Description: Failure to seal open ended lines in VOC service. (Category C10 Violation)

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter F 116.615(2)
30 TAC Chapter 116, SubChapter F 116.617(b)(1)(F)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Spec. Cond. 23B OP

Description: Failure to control excess SO2 emissions on FCCU Scrubber Stack 42CB2001. (Category B14 Violation)

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Spec. Cond 21 OP
Spec. Cond. 1 PERMIT

Description: Failure to control excess emissions from Package Boilers. (Category B14 Violation)
Self Report? NO Classification: Moderate
Citation: 30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT QQQ 60.692-1(a)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT QQQ 60.692-3(a)(3)
5C THSC Chapter 382 382.085(b)
Spec. Cond. 11A OP

Description: Failure to operate API Separator with closed hatches. (Category B18 Violation)
Self Report? NO Classification: Moderate
Citation: 30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT QQQ 60.692-1(b)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT QQQ 60.696(d)(1)
5C THSC Chapter 382 382.085(b)
Spec. Cond. 11A OP

Description: Failure to conduct a seal gap re-inspection on the API Separator within 60 days after installation of the primary seal. (Category B1 Violation)
Self Report? NO Classification: Minor
Citation: 30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT Kb 60.113b(b)(1)(i)
5C THSC Chapter 382 382.085(b)
Spec. Cond. 1A OP

Description: Failure to conduct 5 year seal gap inspection on storage tanks. (Category B1 Violation)
Self Report? NO Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Spec. Cond. 1 PERMIT
Spec. Cond. 21 OP

Description: Failure to account for all emissions from lift station and associated tank. (Category B18 Violation)
Self Report? NO Classification: Moderate
Citation: 30 TAC Chapter 115, SubChapter B 115.142
5C THSC Chapter 382 382.085(b)

Description: Failure to control process wastewater. (Category B14 Violation)
Self Report? NO Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Spec. Cond. 2 PERMIT
Spec. Cond. 21 OP

Description: Failure to maintain H2S concentrations below permitted limits on 22AI001. (Category B14 Violation)
Self Report? NO Classification: Minor
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT A 60.18(c)(3)(ii)
5C THSC Chapter 382 382.085(b)
Spec. Cond. 10A PERMIT
Spec. Cond. 21 OP

Description: Failure to maintain net heating value above 300 Btu/scf on Flare 30FL-1. (Category B19 (g)(1) violation)
Self Report? NO Classification: Minor
Citation: 30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT QQQ 60.692-1(a)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT QQQ 60.692-2(a)(2)
5C THSC Chapter 382 382.085(b)
Spec. Cond. 11B OP

Description: Failure to include process sewer drains in monthly inspection program. (Category B1 violation)
Self Report? NO Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Spec. Cond. 17B PERMIT

Spec. Cond. 21 OP

Description: Failure to collect weekly ammonia samples from Package Boilers 81BF5601, 81BF5602, and 81BF5603. (Category B1 violation)

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Spec. Cond. 21 OP
Spec. Cond. 9I PERMIT

Description: Failure to conduct daily oil/water interface sampling on 45TK7402 and 45TK7403. (Category B1 violation.)

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 115, SubChapter C 115.244
5C THSC Chapter 382 382.085(b)

Description: Failure to conduct daily Stage 2 vapor recovery system inspections. (Category B1 violation)

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 117, SubChapter G 117.8100(a)(1)(A)
30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT A 60.13(e)(2)
5C THSC Chapter 382 382.085(b)
Spec. Cond. 10F OP

Description: Failure to operate CEMS continuously on 23AI201 and 42CB2001 during the reporting period. (Category C4 Violation)

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Spec. Cond. 14 PERMIT
Spec. Cond. 21 OP

Description: Failure to maintain oxygen concentrations above the permitted limit on tail gas incinerator Unit No. 46CB6301. (Category B14 Violation)

Date: 02/28/2011 (916296) CN600127468

Self Report? YES Classification: Moderate

Citation: 2D TWC Chapter 26, SubChapter A 26.121(a)
30 TAC Chapter 305, SubChapter F 305.125(1)

Description: Failure to meet the limit for one or more permit parameter

Date: 10/20/2011 (922584) CN600127468

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT J 60.104(a)(1)
5C THSC Chapter 382 382.085(b)
Special Condition 3 PERMIT
Special Term & Condition 1A OP
Special Term & Condition 21 OP

Description: Failure to control the concentration of H2S in fuel gas to 162 ppm on May 27, 2010 from 1700 through 1800 hours. [Category C3 Violation]

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 115, SubChapter D 115.352(4)
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT VV 60.482-6(a)(1)
5C THSC Chapter 382 382.085(b)
Special Condition 2E PERMIT
Special Condition 4E PERMIT
Special Condition 7E PERMIT
Special Term & Condition 1A OP
Special Term & Condition 21 OP

Description: Failure to cap or plug 33 open-ended lines that were discovered on during the certification period of March 28, 2010 through March 27, 2011 on Units 21 through 23, 30, and 41 through 44. [Category C10 Violation]

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT QQQ 60.692-2(a)(2)
5C THSC Chapter 382 382.085(b)

Special Term & Condition 11B OP
Special Term & Condition 1A OP

Description: Failure to perform monthly visual inspections of water seals on 19 process sewer drains from July through October 2010 on Units 23 and 42. [Category C4 Violation]

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Special Condition 13 PERMIT
Special Term & Condition 21 OP

Description: Failure to maintain the 4.8% minimum oxygen level in the Tail Gas Incinerator (EPN 46CB6301) from June 13, 2010 at 1006 hours through June 14, 2010 at 0354 hours. [Category C3 Violation]

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Special Condition 13 PERMIT
Special Term & Condition 21 OP

Description: Failure to maintain the minimum required temperature of 1284 degrees Fahrenheit in the C-Train Tail Gas Incinerator (TGI) (EPN 39CB2001) for a total of 318 minutes on four occasions from December 29, 2010 through February 10, 2011. [Category C3 Violation]

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 115, SubChapter H 115.725(a)(2)(D)
30 TAC Chapter 116, SubChapter B 116.115(c)
30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT J 60.104(a)(2)(i)
5C THSC Chapter 382 382.085(b)
Special Condition 8E PERMIT
Special Term & Condition 21 OP

Description: Failure to operate the Tail Gas Incinerator (EPN 46CB6301) within the permitted SO2 emissions limit of 250 ppm on three occasions from March 31, 2010 through February 10, 2011. [Category C3 Violation]

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 115, SubChapter H 115.725(a)(2)(D)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Special Term & Condition 1A OP

Description: Failure to regulate the HRVOC content of the fuel gas to Boiler BF03 (EPN 50BF5603) to the required limit of 7992 million standard cubic feet per day (mscf/day) on three occasions from June 7, 2010 through November 8, 2010. [Category C4 Violation]

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 115, SubChapter E 115.412(1)(C)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Special Term & Condition 1A OP

Description: Failure to equip two degreasers, from July 20 through September 22, 2010, with a label which summarizes the operational requirements of the degreasers. [Category C4 Violation]

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 106, SubChapter T 106.452(1)(B)(B)
30 TAC Chapter 116, SubChapter B 116.110(a)(4)
30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
Special Term & Condition 22 OP

Description: Failure to prevent visible emissions, on October 22, 2010 from 1545 through 1600 hours, during sandblasting operations to the DAO Stripper Tank (EPN 44FUG), when the sandblasting enclosure failed. [Category C4 Violation]

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Part 60, Subpart QQQ 60.692-2(c)(1)
5C THSC Chapter 382 382.085(b)
Special Term & Condition 1A OP

Description: Failure to maintain, during wastewater operations, one man way (EPN 47JB290) and one flange (EPN 22JB210) in a closed and sealed state on 12/20/2010 and June 29, 2011. [Category C4 Violation]

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 122, SubChapter B 122.143(4)
5C THSC Chapter 382 382.085(b)
General Terms and Conditions OP
Special Term & Condition 3(A)(iv)(1) OP

Description: Failure to perform quarterly visual observations, from March 28, 2010 through March 27, 2011, on two tail gas incinerators (EPNs 46CB6301 & 39CB2001). [Category B3 Violation]

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 122, SubChapter B 122.143(4)
30 TAC Chapter 122, SubChapter B 122.145(2)
5C THSC Chapter 382 382.085(b)
General Terms and Conditions OP

Description: Failure to include all deviations in the deviation reports dated October 26, 2010 and April 26, 2011. [Category B3 Violation]

Date: 10/27/2011 (952279) CN600127468

Self Report? NO Classification: Minor

Citation: 30 TAC Chapter 122, SubChapter B 122.143(4)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT A 60.18(c)(3)(ii)
5C THSC Chapter 382 382.085(b)
Special Condition 8 OP
Special Term and Condition 10 OP

Description: Failure to maintain minimum required net heating value for flare 30FL6 (Category B18 violation).

Date: 12/05/2011 (964139) CN600127468

Self Report? NO Classification: Moderate

Citation: 30 TAC Chapter 335, SubChapter H 335.261
40 CFR Chapter 273, SubChapter I, PT 273, SubPT B 273.14(e)

Description: Failure to label universal waste-lamps properly.

Date: 12/31/2011 (990555) CN600127468

Self Report? YES Classification: Moderate

Citation: 2D TWC Chapter 26, SubChapter A 26.121(a)
30 TAC Chapter 305, SubChapter F 305.125(1)

Description: Failure to meet the limit for one or more permit parameter

F. Environmental audits.

Notice of Intent Date: 09/19/2007 (598153)
No DOV Associated

Notice of Intent Date: 02/26/2009 (740048)
No DOV Associated

Notice of Intent Date: 07/09/2009 (848687)
Disclosure Date: 10/26/2009

Viol. Classification: Moderate
Citation: 40 CFR Chapter 60, SubChapter C, PT 60, SubPT QQQ 60.696(d)(1)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT QQQ 60.696(d)(2)

Description: Failure to conduct API Separator floating cover initial primary seal gap measurements after replacing the seals.

Viol. Classification: Minor
Citation: 40 CFR Chapter 60, SubChapter C, PT 60, SubPT K 60.113(b)

Description: Failure to provide required primary seal gap measurements afterthe initial fill in 12/08 for tank 90FB511.

Viol. Classification: Minor
Citation: 40 CFR Chapter 60, SubChapter C, PT 60, SubPT QQQ 60.692-2(a)(2)

Description: Failure to incorporate controls indentified with QQQ applicable sewer drains into the monthly inspection program.

Viol. Classification: Moderate
Citation: 30 TAC Chapter 116, SubChapter B 116.115(b)(2)(F)
Rqmt Prov: PERMIT Permit no. 48982

Description: Failure to update Water 9 model. Failure to comply with and maintain authorized levels of emissions from Waste Water Treatment Plant.

Disclosure Date: 08/09/2011

Viol. Classification: Moderate

Citation: 40 CFR Chapter 60, SubChapter C, PT 60, SubPT QQQ 60.696(d)(1)
40 CFR Chapter 60, SubChapter C, PT 60, SubPT QQQ 60.696(d)(2)

Description: Failure to conduct API Separator floating cover initial primary seal gap measurements after replacing the seals.

Viol. Classification: Minor

Citation: 40 CFR Chapter 60, SubChapter C, PT 60, SubPT K 60.113(b)

Description: Failure to provide required primary seal gap measurements afterthe initial fill in 12/08 for tank 90FB511.

Viol. Classification: Minor

Citation: 40 CFR Chapter 60, SubChapter C, PT 60, SubPT QQQ 60.692-2(a)(2)

Description: Failure to incorporate controls indentified with QQQ applicable sewer drains into the monthly inspection program.

Viol. Classification: Moderate

Citation: 30 TAC Chapter 116, SubChapter B 116.115(b)(2)(F)

Rqmt Prov: PERMIT Permit no. 48982

Description: Failure to update Water 9 model. Failure to comply with and maintain authorized levels of emissions from Waste Water Treatment Plant.

Notice of Intent Date: 02/18/2011 (905306)

No DOV Associated

G. Type of environmental management systems (EMSs).

H. Voluntary on-site compliance assessment dates.

N/A

I. Participation in a voluntary pollution reduction program.

N/A

J. Early compliance.

N/A

Sites Outside of Texas

N/A

TCEQ Interoffice Memorandum

To: Industrial Permits Team
Wastewater Permitting Section

Thru: John Treviño, Standards Implementation Team Peer Review
Water Quality Assessment Section
Water Quality Division

From: Lili Murphy, Standards Implementation Team
Water Quality Assessment Section
Water Quality Division

Date: April 23, 2012

Subject: Valero Refining; Permit no. 00535-000
Amendment; Application received: September 30, 2011

This memo supersedes memo dated November 7, 2011.

The discharge route for the above referenced permit via outfalls 001-003, 005, 006, and 008 is directly to Houston Ship Channel/Buffalo Bayou Tidal and via 007 to the tidal portion of Sims Bayou (which is part of the Houston Ship Channel/ Buffalo Bayou Tidal) in Segment 1007 of the San Jacinto River Basin. The designated uses and dissolved oxygen criterion as stated in Appendix A of the Texas Surface Water Quality Standards (30 Texas Administrative Code (TAC) §307.10) for Segment 1007 are navigation and industrial water supply, and 1.0 mg/L dissolved oxygen.

In accordance with §307.5 and the TCEQ implementation procedures (January 2003) for the Texas Surface Water Quality Standards, an antidegradation review of the receiving waters was performed. A Tier 1 antidegradation review has preliminarily determined that existing water quality uses will not be impaired by this permit action. Numerical and narrative criteria to protect existing uses will be maintained. A Tier 2 review is not required since no exceptional, high, or intermediate aquatic life use water bodies have been identified in the discharge route. Existing uses will be maintained and protected. The preliminary determination can be reexamined and may be modified if new information is received.

The discharge from this permit action is not expected to have an effect on any federal endangered or threatened aquatic or aquatic dependent species or proposed species or their critical habitat. This determination is based on the United States Fish and Wildlife Service's (USFWS) biological opinion on the State of Texas authorization of the Texas Pollutant Discharge Elimination System (TPDES; September 14, 1998; October 21, 1998 update). To make this determination for TPDES permits, TCEQ and EPA only considered aquatic or aquatic dependent species occurring in watersheds of critical concern or high priority as listed in Appendix A of the USFWS biological opinion. The determination is subject to reevaluation due to subsequent updates or amendments to the biological opinion. The permit does not require EPA review with respect to the presence of endangered or threatened species.

TCEQ Interoffice Memorandum

To: Industrial Permits Team
Wastewater Permitting Section

From: Michael B. Pfeil, Standards Implementation Team
MBP
Water Quality Assessment Section
Water Quality Division

Date: November 15, 2011

Subject: Valero Refining - Texas
Houston Refinery
Permit No. WQ0000535000

WHOLE EFFLUENT TOXICITY (WET) TESTING (BIOMONITORING)

The following applies to Outfall 001. We recommend saltwater chronic and 24-hour acute testing using the mysid shrimp and the inland silverside as test species. For chronic testing, we recommend a testing frequency of once per quarter for both test species for at least the first year of testing, after which they may be eligible for a testing frequency reduction. We recommend a dilution series of 3%, 5%, 6%, 8%, and11%, with 8% being the critical dilution. The critical dilution is in accordance with the "Aquatic Life Criteria" of the "Water Quality Based Effluent Limitations/Conditions" section.

For 24-hour acute testing, we recommend a testing frequency of once per six months.

REASONABLE POTENTIAL (RP) DETERMINATION

In the past five years, the permittee performed twenty-two chronic tests, with zero demonstrations of significant toxicity (i.e., zero failures) by either test species.

In the past five years, the permittee has performed twelve valid 24-hour acute tests, with zero demonstrations of significant mortality by either test species.

Species	Date of Failure	Result (NOEC)	Endpoint
Mysid shrimp	n/a		
Inland silverside	n/a		

A reasonable potential determination was performed in accordance with 40 CFR §122.44(d)(1)(ii) to determine whether the discharge will reasonably be expected to cause or contribute to an exceedance of a state water quality standard or criterion within that standard. Each test species is evaluated separately. The RP determination is based on representative data from the previous five years of chronic WET testing. The table below identifies the thresholds for the number of test failures required to necessitate that a WET limit be placed in the permit or the consideration of additional Best Professional Judgment (BPJ) factors, such as the duration and magnitude of the failures.

WET Reasonable Potential Determination Thresholds
More than 3 failures in the past five years = WET limit
3 failures with 2 or 3 occurring in the past 3 years = WET limit
1 to 3 failures in the past five years but 1 or less in last 3 years = BPJ
0 failures = No limit

With zero failures in the past five years, a determination of no RP was made. If RP is not demonstrated, WET limits are not required and the test species are eligible for the testing frequency reduction.

All of the test results were used for this determination.

5-Year History

00535-000 Valero Refining

Outfall 001

7-Day Chronic/ 48-Hour Acute Test

Species	Test date	Lethal Results	NOE	Sub-Lethal Results	NOE	Comment
Menidia beryllina	Number of Tests	11				
	3/2/2009	Pass	11	Pass	11	
	6/1/2009	Pass	11	Pass	11	
	8/10/2009	Pass	11	Pass	11	
	11/16/2009	Pass	11	Pass	11	
	3/1/2010	Pass	11	Pass	11	
	6/14/2010	Pass	11	Pass	11	
	9/14/2010	Pass	11	Pass	11	
	11/1/2010	Pass	11	Pass	11	
	1/10/2011	Pass	11	Pass	11	
	5/16/2011	Pass	11	Pass	11	
	9/12/2011	Pass	11	Pass	11	
Mysidopsis bahia	Number of Tests	11				
	3/2/2009	Pass	11	Pass	11	
	6/1/2009	Pass	11	Pass	11	
	8/10/2009	Pass	11	Pass	11	
	11/16/2009	Pass	11	Pass	11	
	3/1/2010	Pass	11	Pass	11	
	6/14/2010	Pass	11	Pass	11	
	9/14/2010	Pass	11	Pass	11	
	11/1/2010	Pass	11	Pass	11	
	1/10/2011	Pass	11	Pass	11	
	5/16/2011	Pass	11	Pass	11	
	9/12/2011	Pass	11	Pass	11	

24-Hour Acute Test

Species	Test date	Results	LC50	Comments
Menidia beryllina	**Number of Tests**		6	
	3/4/2009	Pass	>100	
	8/12/2009	Pass	>100	
	3/3/2010	Pass	>100	
	8/25/2010	Pass	>100	
	1/12/2011	Pass	>100	
	9/14/2011	Pass	>100	
Mysidopsis bahia	**Number of Tests**		6	
	3/4/2009	Pass	>100	
	8/12/2009	Pass	>100	
	3/3/2010	Pass	>100	
	8/25/2010	Pass	>100	
	1/12/2011	Pass	>100	
	9/14/2011	Pass	>100	

TCEQ Interoffice Memorandum

To: Industrial Permits Team, Wastewater Permitting Section

From: Charlie Marshall, Water Quality Assessment Team
Water Quality Assessment Section

Date: November 15, 2011

Subject: Valero Refining-Texas, LP Wastewater Permit Amendment, 00535 (TX0002976)
Discharge to the Houston Ship Channel/Buffalo Bayou Tidal (Segment 1007)

Model Used, Flow, Location

The above referenced is authorized to discharge 2.88 MGD boiler blowdown, cooling tower blowdown, treated process wastewater, and process area stormwater from outfall 001. Outfalls 002, 003, 005, 006, 007, and 008 discharges intermittent and flow variable stormwater and utility wastewater. The permittee is seeking to increase the effluent limitations and the addition of waste streams at outfall 001. A calibrated Qual-Tx model was used to evaluate outfall 001 impacts. The discharger is located in Harris County.

Model Results

Based on model results, the existing waste loading of 294 lb/day $CBOD_5$ and 186 lb/day NH_3-N is adequate to ensure that the 1.0 mg/L dissolved oxygen criterion of the Houston Ship Channel/Buffalo Bayou Tidal (Segment 1007) will be maintained. Due to the intermittent nature and limited oxygen demanding constituents from outfalls 002, 003, 005, 006, 007, and 008, these discharges are not expected to substantially affect the 1.0 mg/L dissolved oxygen criterion of Segment 1007.

303(d) Listings

The Houston Ship Channel/Buffalo Bayou Tidal (Segment 1007) is currently listed on the State's inventory of impaired and threatened waters, the 2008 Clean Water Act Section 303(d) list. The listing is specifically for elevated levels of bacteria, dioxin in blue crab and catfish tissue, and PCBs and pesticides in fish tissue. The impairment is segment wide for Segment 1007 of the HSC (AU 1007_01). Sims Bayou Tidal is also listed for elevated levels of dioxin in blue crab and catfish tissue, and PCBs and pesticides in fish tissue (AU 1007_02).

Completed TMDLs

Segment 1007 is included in the agency's document *Fourteen Total Maximum Daily Loads for Nickel in the Houston Ship Channel System* (TMDL Project No.1). The discharge was screened using the methods outlined in the documents, *Procedures to Implement the Texas Surface Water Quality Standards* (IPs), TCEQ January 2003; and *Implementation Plan for Dissolved Nickel in the Houston Ship Channel* (TMDL Implementation Plan), TCEQ, July 2001. The discharge authorized in this draft permit was considered during the development of the TMDL and included in the waste load allocation. The TMDL indicates that the water quality criteria for dissolved nickel are generally being met in the Houston Ship Channel and a specific limit for nickel is not needed for this facility.

Water Quality Management Plan

A Waste Load Evaluation (WLE) for dissolved oxygen has been prepared for Segment 1007.

TCEQ Interoffice Memorandum

To: Industrial Permits Team
Wastewater Permitting Section

From: NV Nancy Vignali, Water Quality Assessment Team
Water Quality Assessment Section

Date: November 8, 2011

Subject: Valero Refining - Texas, L.P. Wastewater Permit No. 00535-000
TEXTOX, Critical Conditions, and Mixing Zone Definition

The following information applies to **Outfalls 001, 002, and 008** entering Segment No. 1007.

The TEXTOX menu number is **5**.

The chronic effluent percentage for aquatic life protection is 8%, which applies at the edge of the MZ. The acute effluent percentage for aquatic life protection is 30%, which applies at the edge of the ZID. These percentages are based on the effluent flow of <10 MGD.

Human Health criteria apply for Saltwater Fish Tissue using 4% effluent. This effluent percentage is based on the effluent flow of <10 MGD.

The mixing zone is defined as a volume within a radius of 200 feet from the point of discharge. Chronic toxic criteria apply at the edge of the mixing zone.

The width of Houston Ship Channel / Buffalo Bayou Tidal at the point of discharge is greater than or equal to 400 feet. The ZID is defined as a volume within a radius of 50 feet from the point of discharge. The human health mixing zone is defined as a volume within a radius of 400 feet from the point of discharge.

The following information applies to **Outfalls 003, 005, 006, and 007** entering Segment No. 1007, which authorizes the discharge of predominantly storm water on an intermittent and variable basis. Typically, critical conditions are not developed for storm water outfalls. If the permit writer determines that water quality based limits are necessary then critical conditions can be calculated upon request.

TCEQ Interoffice Memorandum

To: Industrial Permits Team
Wastewater Permitting Section

Thru: John Treviño, Standards Implementation Team Peer Review
Water Quality Assessment Section
Water Quality Division

From: Lili Murphy, Standards Implementation Team
Water Quality Assessment Section
Water Quality Division

Date: November 7, 2011

Subject: Valero Refining; Permit no. 00535-000
Amendment; Application received: September 30, 2011

The discharge route for the above referenced permit via outfalls 001-003, 005, and 006 is directly to Houston Ship Channel/Buffalo Bayou Tidal and via 007 to the tidal portion of Sims Bayou (which is part of the Houston Ship Channel/ Buffalo Bayou Tidal) in Segment 1007 of the San Jacinto River Basin. The designated uses and dissolved oxygen criterion as stated in Appendix A of the Texas Surface Water Quality Standards (30 Texas Administrative Code (TAC) §307.10) for Segment 1007 are navigation and industrial water supply, and 1.0 mg/L dissolved oxygen.

In accordance with §307.5 and the TCEQ implementation procedures (January 2003) for the Texas Surface Water Quality Standards, an antidegradation review of the receiving waters was performed. A Tier 1 antidegradation review has preliminarily determined that existing water quality uses will not be impaired by this permit action. Numerical and narrative criteria to protect existing uses will be maintained. A Tier 2 review is not required since no exceptional, high, or intermediate aquatic life use water bodies have been identified in the discharge route. Existing uses will be maintained and protected. The preliminary determination can be reexamined and may be modified if new information is received.

The discharge from this permit action is not expected to have an effect on any federal endangered or threatened aquatic or aquatic dependent species or proposed species or their critical habitat. This determination is based on the United States Fish and Wildlife Service's (USFWS) biological opinion on the State of Texas authorization of the Texas Pollutant Discharge Elimination System (TPDES; September 14, 1998; October 21, 1998 update). To make this determination for TPDES permits, TCEQ and EPA only considered aquatic or aquatic dependent species occurring in watersheds of critical concern or high priority as listed in Appendix A of the USFWS biological opinion. The determination is subject to reevaluation due to subsequent updates or amendments to the biological opinion. The permit does not require EPA review with respect to the presence of endangered or threatened species.

Bryan W. Shaw, Ph.D., *Chairman*
Buddy Garcia, *Commissioner*
Carlos Rubinstein, *Commissioner*
Mark R. Vickery, P.G., *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

October 6, 2011

Mr. Chris Hendrix
Valero Refining-Texas, L.P.
9701 Manchester
Houston, Texas 77012

RE: Declaration of Administrative Completeness
Name: Valero Refining-Texas, L.P.
Permit Number: WQ0000535000 (EPA I.D. No. TX0002976)
CN600127468; RN100219310
Type of Authorization: Major Amendment

Dear Mr. Hendrix:

The executive director has declared the above referenced application, received on September 30, 2011, administratively complete on October 6, 2011.

You are now required to publish notice of your proposed activity and make a copy of the application available for public review. The following items are included to help you meet the regulatory requirements associated with this notice:

- Instructions for Public Notice
- Notice for Newspaper Publication
- Public Notice Verification Form
- Publisher's Affidavits

You must follow all the directions in the enclosed instructions. The most common mistakes are the unauthorized changing of notice, wording, or font. If you fail to follow these instructions, you may be required to republish the notices.

The following requirements are also described in the enclosed instructions. However, due to their importance, they are highlighted here as well.

1. Publish the enclosed notice within **30 calendar days** after your application is declared administratively complete. (See this letter's first paragraph for the declaration date.) **You may be required to publish the notice in more than one newspaper, including a newspaper published in an alternative language, to satisfy all of the notice requirements.**

2. On or before the date you publish notice, place a copy of your permit application in a public place in the county where the facility is or will be located. This copy must be accessible to the public for review and copying, must be updated to reflect changes to the application, and must remain in place throughout the comment period.

3. For each publication, return an original clipping of the newspaper notice that shows the publication date and newspaper name to the Office of the Chief Clerk within **10 business days** after notice is published in the newspaper.

4. Return the original enclosed Public Notice Verification and the Publisher's Affidavits to the Office of the Chief Clerk within **30 calendar days** after the notice is published in the newspaper.

If you do not comply with all the requirements described in the instructions, further processing of your application may be suspended or the agency may take other actions.

If you have any questions regarding publication requirements, please contact the Office of the Chief Clerk at 512-239-3300. If you have any questions regarding the content of the notice, please contact Stephanie Ross at 512-239-1104.

Sincerely,

Deirdre Shepphard, Team Leader
Applications Review and Processing Team (MC-148)
Water Quality Division

DS/sr

Enclosures

cc: TCEQ Region 12, Water Program Manager

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INSTRUCTIONS FOR PUBLIC NOTICE
For Water Quality Permit
(Renewal/Amendment/New)

NOTICE OF RECEIPT OF APPLICATION AND INTENT TO OBTAIN PERMIT (NORI)

Your application has been declared administratively complete and now you must comply with the following instructions:

Please Review Notice

Included in the notice is all of the necessary information. Please read it carefully and notify Stephanie Baker at (512) 239-1104 immediately if it contains any errors or omissions. You are responsible for ensuring the accuracy of all information published. You may not change the text or formatting of the notice without prior approval from the TCEQ. Changing the text or formatting of the notice may require new publication at your expense and delay processing of your application. There are nine steps involved in publishing notice. Complete each step.

Newspaper Notice

1. **You must publish the enclosed Notice of Receipt of Application and Intent to Obtain Permit within 30 calendar days after the date of administrative completeness. Refer to the cover letter for the date of administrative completeness.**

   - You must publish the enclosed Notice of Receipt of Application and Intent to Obtain Permit at your expense, at least once in the newspaper of largest circulation within each county where the facility is or will be located or, if the facility is located or will be located in a municipality, at least once in a newspaper of general circulation in the municipality.

   - If the discharge point or potential discharge point is located in a different county than the facility, you must publish the enclosed Notice of Receipt of Application and Intent to Obtain Permit at your expense, in a newspaper that is of the largest circulation within each county.

   - These requirements may be satisfied by one publication if the newspaper meets all of the above requirements.

- The bold text of the enclosed notice must be printed in the newspaper in a font style or size that distinguishes it from the rest of the notice (i.e., **bold**, *italics*). **Failure to do so may require re-notice.**

Alternative Language Notice

2. You must publish notice in an alternative language if the following criteria are met:

- If either the elementary or middle school nearest to the facility or proposed facility is required to provide a "bilingual education program" (BEP), as required by Texas Education Code (TEC), Chapter 29, Subchapter B, and 19 TAC §89.1205(a) and one of the following conditions is met:

  1. students are enrolled in a program at that school;

  2. students from that school attend a bilingual education program at another location; or

  3. the school that otherwise would be required to provide a bilingual education program has been granted an exception from the requirements to provide the program as provided for in 19 TEX. ADMIN. CODE §89.1207(a).

- A "bilingual education program" as required by the TEC is different from an "English as a second language program" (ESL). An ESL program alone will not require public notice in an alternative language.

- If triggered, you must publish the notice in the alternative language taught in the bilingual education program. You must publish this notice in a newspaper or publication primarily published in that alternative language. The newspaper or publication must be of general circulation in the county in which the facility is located or proposed to be located. If the facility is located or proposed to be located in a municipality, and there exists a newspaper or publication of general circulation in the municipality, you must publish the notice only in the newspaper or publication in the municipality.

- You must demonstrate a good faith effort to identify a newspaper or publication in the required language. If there is no general circulation newspaper or publication printed in such language, then publishing in that language is not required. Publication in an alternative language section or insert within a large publication which is not printed primarily in that alternative language does not satisfy these requirements.

- You have the burden to demonstrate compliance with these requirements. To assist you in meeting these requirements, the TCEQ has provided a Public Notice Verification Form (enclosed). You must fill out the attached Public Notice Verification Form indicating your compliance with the requirements regarding publication in an alternative language.

- If you are required to publish notice in Spanish, you must translate the site-specific information in the notice that is specific to your application, at your own expense. You may then insert the Spanish translation of your site-specific information into a Spanish template developed by the TCEQ. You may obtain the electronic version of the Spanish template from the TCEQ website at www.tceq.state.tx.us/nav/permits/wqspanish_nori.html

- If you are required to publish notice in a language other than Spanish, you must translate the entire public notice, at your own expense.

Proof of Publication

Check each publication to ensure that the notices were accurately published. If a notice was not published correctly you may have to republish.

3. **You must submit an original newspaper clipping of the published notice for each newspaper. You must submit the original newspaper clipping to the Office of the Chief Clerk within 10 business days after the date of publication. The original newspaper clipping must show the date of publication and the name of the newspaper.**

4. **For each newspaper notice, you must submit an original Publisher's Affidavit to the Office of the Chief Clerk within 30 calendar days after the date of publication. For each required published notice, you must use the appropriate Publisher's Affidavit form that is enclosed with these instructions. The affidavit must clearly identify the applicant's name and permit number. Note: On occasion, newspapers have attempted to provide applicants their own affidavit. The newspaper's affidavit will not be accepted by the Office of the Chief Clerk.**

   - You are encouraged to submit the Publisher's Affidavit with the original newspaper clipping within 10 business days after the date of publication. However, the affidavit must be submitted no later than **30 calendar days** after publication of notice.

5. **You must fill out the attached Public Notice Verification form. This form must be submitted with the Publisher's Affidavit within 30 calendar days after publication of the notice.**

6. **The originals of the Publisher's Affidavit, the Public Notice Verification form, and the newspaper clippings of the published notice must be mailed to:**

   TCEQ
   Office of the Chief Clerk, MC 105
   Attn: Notice Team
   P.O. Box 13087
   Austin, Texas 78711-3087

- Please ensure that the affidavit and newspaper clipping you send to the Office of the Chief Clerk are originals and that all blanks on the affidavit are filled in correctly. Photocopies of newspaper clippings and affidavits will not be accepted.

Failure to Publish and Submit Proof of Publication

If you fail to publish the notice or submit proof of publication by the deadlines set forth above, the TCEQ may suspend further processing of your application or take other action.

Application in a Public Place

7. **You must put a copy of the administratively complete application in a public place for review and copying by the public. This public place must be located in the county where the facility is or proposed to be located, and was previously identified by you as the viewing location. (Note: The viewing location is set forth in the enclosed notice.)**

   - A public place is one that is publicly owned or operated (ex: libraries, county courthouses, or city halls).

   - The administratively complete application must be available *beginning on the first day of newspaper publication and remain available for the publication's designated comment period.*

8. **During the technical review, you must update the publicly available application so that it includes all application revisions within 10 business days from the date the revision is transmitted to the TCEQ.**

9. **If the application was submitted to the TCEQ with information marked as confidential, you must indicate in the public copy of the application that there is additional information in a confidential file. These portions of the application must be accompanied with the following statement: "Any request for portions of this application that are marked as confidential must be submitted in writing, pursuant to the Public Information Act, to the TCEQ Public Information Coordinator, MC 197, P.O. Box 13087, Austin, Texas 78711-3087".**

General Information

When contacting the Commission regarding this application, please refer to the permit number at the top of the Notice of Receipt and Intent to Obtain Permit.

If you have any questions regarding publication requirements, please contact the Office of the Chief Clerk at 512-239-3300. If you have any questions regarding the content of the notice, please contact Stephanie Baker at (512) 239-1104.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

NOTICE OF RECEIPT OF APPLICATION AND INTENT TO OBTAIN WATER QUALITY PERMIT AMENDMENT

PERMIT NO. WQ0000535000

APPLICATION. Valero Refining-Texas, L.P., 9701 Manchester, Houston, Texas 77012, which operates a petroleum refinery, has applied to the Texas Commission on Environmental Quality (TCEQ) to amend Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0000535000 (EPA I.D. No. TX0002976) to authorize an increase in the effluent limitations and the addition of waste streams at Outfall 001. The facility is located at 9701 Manchester, 0.5 mile east of Loop 610, one mile north of State Highway 225, and bordered on the north by the Houston Ship Channel, in the City of Houston in Harris County, Texas 77012. The discharge route is from the plant site via Outfalls 001, 002, 003, 005, 006, and 008 to Houston Ship Channel Tidal/Buffalo Bayou Tidal, and via Outfall 007 to tidal portion of Sims Bayou, which is part of the Houston Ship Channel/Buffalo Bayou Tidal. TCEQ received this application on September 30, 2011. The permit application is available for viewing and copying at Melcher Neighborhood Library, 7200 Keller, Houston, Texas. This link to an electronic map of the site or facility's general location is provided as a public courtesy and not part of the application or notice. For exact location, refer to application.
http://www.tceq.texas.gov/assets/public/hb610/index.html?lat=29.723333&lng=-95.253055&zoom=13&type=r

The application is subject to the goals and policies of the Texas Coastal Management Program and must be consistent with the applicable Coastal Management Program goals and policies.

ADDITIONAL NOTICE. TCEQ's Executive Director has determined the application is administratively complete and will conduct a technical review of the application. After technical review of the application is complete, the Executive Director may prepare a draft permit and will issue a preliminary decision on the application. **Notice of the Application and Preliminary Decision will be published and mailed to those who are on the county-wide mailing list and to those who are on the mailing list for this application. That notice will contain the deadline for submitting public comments.**

PUBLIC COMMENT / PUBLIC MEETING. You may submit public comments or request a public meeting on this application. The purpose of a public meeting is to provide the opportunity to submit comments or to ask questions about the application. TCEQ will hold a public meeting if the Executive Director determines that there is a significant degree of public interest in the application or if requested by a local legislator. A public meeting is not a contested case hearing.

OPPORTUNITY FOR A CONTESTED CASE HEARING. After the deadline for submitting public comments, the Executive Director will consider all timely comments and prepare a response to all relevant and material or significant public comments. **Unless the application is directly**

referred for a contested case hearing, the response to comments, and the Executive Director's decision on the application, will be mailed to everyone who submitted public comments and to those persons who are on the mailing list for this application. If comments are received, the mailing will also provide instructions for requesting reconsideration of the Executive Director's decision and for requesting a contested case hearing. A contested case hearing is a legal proceeding similar to a civil trial in state district court.

TO REQUEST A CONTESTED CASE HEARING, YOU MUST INCLUDE THE FOLLOWING ITEMS IN YOUR REQUEST: your name, address, phone number; applicant's name and proposed permit number; the location and distance of your property/activities relative to the proposed facility; a specific description of how you would be adversely affected by the facility in a way not common to the general public; and, the statement "[I/we] request a contested case hearing." If the request for contested case hearing is filed on behalf of a group or association, the request must designate the group's representative for receiving future correspondence; identify an individual member of the group who would be adversely affected by the proposed facility or activity; provide the information discussed above regarding the affected member's location and distance from the facility or activity; explain how and why the member would be affected; and explain how the interests the group seeks to protect are relevant to the group's purpose.

Following the close of all applicable comment and request periods, the Executive Director will forward the application and any requests for reconsideration or for a contested case hearing to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

The Commission will only grant a contested case hearing on disputed issues of fact that are relevant and material to the Commission's decision on the application. Further, the Commission will only grant a hearing on issues that were raised in timely filed comments that were not subsequently withdrawn.

MAILING LIST. If you submit public comments, a request for a contested case hearing or a reconsideration of the Executive Director's decision, you will be added to the mailing list for this specific application to receive future public notices mailed by the Office of the Chief Clerk. In addition, you may request to be placed on: (1) the permanent mailing list for a specific applicant name and permit number; and/or (2) the mailing list for a specific county. If you wish to be placed on the permanent and/or the county mailing list, clearly specify which list(s) and send your request to TCEQ Office of the Chief Clerk at the address below.

AGENCY CONTACTS AND INFORMATION. All written public comments and requests must be submitted to the Office of the Chief Clerk, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 or electronically at www.tceq.state.tx.us/about/comments.html. If you need more information about this permit application or the permitting process, please call the Public Education Program, Toll Free, at 1-800-687-4040. Si desea información en Español, puede llamar al 1-800-687-4040. General information about TCEQ can be found at our web site at www.tceq.state.tx.us.

Further information may also be obtained from Valero Refining-Texas, L.P. at the address stated above or by calling Mr. Chris Hendrix at 713-923-3300.

Issuance Date: October 6, 2011

TCEQ-OFFICE OF THE CHIEF CLERK
MC-105 Attn: Notice Team
P.O. BOX 13087
AUSTIN, TX 78711-3087

Applicant Name: Valero Refining-Texas, L.P.
Permit No.: WQ0000535000
Notice of Intent to Obtain Permit

PUBLISHER'S AFFIDAVIT
FOR WATER QUALITY PERMITS

STATE OF TEXAS §
COUNTY OF _____ §

Before me, the undersigned authority, on this day personally appeared

_____, who being by me duly sworn, deposes
(name of newspaper representative)

and says that **(s)**he is the _____
(title of newspaper representative)

of the _____; that this newspaper is a newspaper of
(name of newspaper)

largest circulation in _____ County, Texas or is
(Name of County)
a newspaper of general circulation in _____,
(Name of Municipality)
Texas; and that the attached notice was published in said newspaper on the following date**(s)**:

_____.

_____
Newspaper Representative's Signature

Subscribed and sworn to before me this the _____ day of _____,

20_____.

(Seal)

_____
Notary Public in and for the State of Texas

_____
Print or Type Name of Notary Public

My Commission Expires _____

TCEQ-OFFICE OF THE CHIEF CLERK
MC-105 Attn: Notice Team
P.O. BOX 13087
AUSTIN, TX 78711-3087

Applicant Name: Valero Refining-Texas, L.P.
Permit No.: WQ0000535000
Notice of Intent to Obtain Permit

ALTERNATIVE LANGUAGE PUBLISHER'S AFFIDAVIT

STATE OF TEXAS §
COUNTY OF _____§

Before me, the undersigned notary public, on this day personally appeared

_____, who being by me duly sworn, deposes
(name of newspaper representative)

and says that (s)he is the _____of the
(title of newspaper representative)

_____; that said newspaper is
(name of newspaper)

generally circulated in _____ County, Texas and
(same county as proposed facility)

is published primarily in _____ language; that the
(alternative language)
attached notice was published in said newspaper on the following date(s):

_____.

Subscribed and sworn to before me this the _____ day of _____,

20_____, by _____.
(Newspaper Representative's Signature)

(Seal)

_____
Notary Public in and for the State of Texas

_____
Print or Type Name of Notary Public

My Commission Expires _____

Comisión de Calidad Ambiental del Estado de Texas

AVISO DE RECIBO DE LA SOLICITUD Y
EL INTENTO DE OBTENER PERMISO PARA LA CALIDAD DEL AGUA
MODIFICACION

PERMISO NO. WQ0000535000

SOLICITUD. _____ *[Applicant's name and address, and description of business]* ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para modificar el Permiso No. WQ0000535000 (EPA I.D. No. TX0002976) del Sistema de Eliminación de Descargas de Contaminantes de Texas (TPDES) para autorizar [*activity or facility being authorized]* la descarga de aguas residuales tratadas en un volumen que no sobrepasa un flujo promedio diario de _____ galones por día]. La planta de *[type of facility; choose appropriate:* tratamiento de agua potable, or *if industrial facility—state "The facility"]* está ubicada _____ [*plant site location]* en el Condado de _____, Texas. La ruta de descarga es del sitio de la planta a _____ [descripción escrita de la ruta de descarga]. La TCEQ recibió esta solicitud el _____ *[date received]*. La solicitud para el permiso está disponible para leerla y copiarla en _____ *[street address of public place in county in which facility is located]*. Este enlace a un mapa electrónico de la ubicación general del sitio o de la instalación es proporcionado como una cortesía y no es parte de la solicitud o del aviso. Para la ubicación exacta, consulte la solicitud.
http://www.tceq.texas.gov/assets/public/hb610/index.html?lat=29.723333&lng=-95.253055&zoom=13&type=r

La solicitud está sujeto a las metas y políticas del Programa de Administración Costero de Texas y debe ser constante con las metas y políticas aplicables del Programa de Administración Costero.

AVISO ADICIONAL. El Director Ejecutivo de la TCEQ ha determinado que la solicitud es administrativamente completa y conducirá una revisión técnica de la solicitud. Después de completar la revisión técnica, el Director Ejecutivo puede preparar un borrador del permiso y emitirá una Decisión Preliminar sobre la solicitud. **El aviso de la solicitud y la decisión preliminar serán publicados y enviado a los que están en la lista de correo de las personas a lo largo del condado que desean recibir los avisos y los que están en la lista de correo que desean recibir avisos de esta solicitud. El aviso dará la fecha límite para someter comentarios públicos.**

COMENTARIO PUBLICO / REUNION PUBLICA. Usted puede presentar comentarios públicos o pedir una reunión pública sobre esta solicitud. El propósito de una reunión pública es dar la oportunidad de presentar comentarios o hacer preguntas acerca de la solicitud. La TCEQ realiza una reunión pública si el Director Ejecutivo determina que hay un grado de interés público suficiente en la solicitud o si un legislador local lo pide. Una reunión

pública no es una audiencia administrativa de lo contencioso.

OPORTUNIDAD DE UNA AUDIENCIA ADMINISTRATIVA DE LO CONTENCIOSO. Después del plazo para presentar comentarios públicos, el Director Ejecutivo considerará todos los comentarios apropiados y preparará una respuesta a todo los comentarios públicos esenciales, pertinentes, o significativos. **A menos que la solicitud haya sido referida directamente a una audiencia administrativa de lo contencioso, la respuesta a los comentarios y la decisión del Director Ejecutivo sobre la solicitud serán enviados por correo a todos los que presentaron un comentario público y a las personas que están en la lista para recibir avisos sobre esta solicitud. Si se reciben comentarios, el aviso también proveerá instrucciones para pedir una reconsideración de la decisión del Director Ejecutivo y para pedir una audiencia administrativa de lo contencioso.** Una audiencia administrativa de lo contencioso es un procedimiento legal similar a un procedimiento legal civil en un tribunal de distrito del estado.

PARA PEDIR UNA AUDIENCIA ADMINISTRATIVA DE LO CONTENCIOSO, USTED DEBE INCLUIR EN SU PEDIDO LOS SIGUIENTES DATOS: su nombre; dirección; teléfono; nombre del solicitante y número del permiso; la ubicación y la distancia de su propiedad/actividad con respecto a la instalación; una descripción específica de la forma cómo usted sería afectado adversamente por el sitio de una manera no común al público en general; y la declaración "[Yo/nosotros] solicito/solicitamos un/a audiencia administrativa de lo contencioso". Si presenta por parte de un grupo o asociación el pedido para una audiencia administrativa de lo contencioso, debe identificar el nombre y la dirección de una persona que representa al grupo para recibir correspondencia en el futuro; debe identificar un miembro del grupo que sería afectado adversamente por la planta o la actividad propuesta; debe proveer la información ya indicada anteriormente con respecto a la ubicación del miembro afectado y la distancia de la planta o actividad propuesta; debe explicar como y porqué el miembro sería afectado y como los intereses que el grupo desea proteger son pertinentes al propósito del grupo.

Después del cierre de los períodos para los pedidos y comentarios, el Director Ejecutivo enviará la solicitud y los pedidos para reconsideración o por una audiencia administrativa de lo contenciosos a los Comisionados de la TCEQ para su consideración en una reunión programada de la Comisión.

La Comisión otorgará solamente un audiencia administrativa de lo contencioso sobre los hechos reales disputados del caso que son pertinentes y esenciales para la decisión de la Comisión sobre la solicitud. Además, la Comisión sólo otorgará una audiencia administrativa de lo contencioso sobre los asuntos que fueron presentados antes del plazo de vencimiento y que no fueron retirados posteriormente.

LISTA DE CORREO. Si somete comentarios públicos, un pedido para una audiencia administrativa de lo contencioso o una reconsideración de la decisión del Director Ejecutivo, la Oficina del Secretario Principal enviará por correo los avisos públicos en relación con la solicitud. Ademas, puede pedir que la TCEQ ponga su nombre en una or mas de las listas correos siguientes (1) la lista de correo permanente para recibir los avisos de el solicitante indicado por nombre y número del permiso específico y/o (2) la lista de correo de todas las solicitudes en un condado especifico. Si desea que se agrega su nombre en una de las listas designe cual lista(s) y envia por correo su pedido a la Oficina del Secretario Principal de la TCEQ.

CONTACTOS E INFORMACIÓN DE LA TCEQ. Todos los comentarios escritos del público y los pedidos para una reunión deben ser presentados a la Oficina del Secretario Principal, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 o por el internet at www.tceq.state.tx.us/about/comments.html. Si necesita más información en Español sobre esta solicitud para un permiso o el proceso del permiso, por favor llame a El Programa de Educación Pública de la TCEQ, sin cobro, al 1-800-687-4040. La información general sobre la TCEQ puede ser encontrada en nuestro sitio de la red: www.tceq.state.tx.us.

También se puede obtener información adicional del _____ *[nombre del solicitante]* a la dirección indicada arriba o llamando a _____ *[nombre del representante del solicitante]* al _____ *[número telefónico del solicitante].*

Fecha de emisión _____

CHECK LIST FOR INITIAL REVIEW OF INDUSTRIAL/MUNICIPAL APPLICATIONS FOR PERMIT

Permit No. WQ00 00535	Review Date: 10/4/11
CN 600127468	Region: 12
RN 100219310	TX: 0002976

MUNICIPAL | **INDUSTRIAL** 1007

☐ MINOR
☐ MAJOR (Facility - Amendment - New Permit)
  ☐ Pre-tech received
  ☐ RWA - New/ Major amendment for TPDES

☑ All applications
☐ RWA is included – new/major applications that propose surface water discharge

COASTAL ZONE ☐ YES ☐ NO

ANNUAL FEES ☐ YES ☑ NO

APPLICATION FEES:

MUN Application fees

Proposed/Final Flow	New/MA	Renewals
< .05 MGD	☐ $350.00	☐ $315.00
≥ .05 but < .10 MGD	☐ $550.00	☐ $515.00
≥ .10 but < .25 MGD	☐ $850.00	☐ $815.00
≥ .25 but < .50 MGD	☐ $1,250.00	☐ $1,215.00
≥ .50 but < 1.0 MGD	☐ $1,650.00	☐ $1,615.00
≥ 1.0 MGD	☑ $2,050.00	☐ $2,015.00

IND Application fees

EPA Class.	New	Major Amend.	Renewal
Minor	☐ $350	☐ $350	☐ $315
Minor	☐ $1,250	☐ $1,250	☐ $1,215
Major	N/A *	☐ $2,050	☐ $2,015

All new IND facilities are minors until classified by EPA

☑ The type of application is indicated & provided.
☑ Reason for major amendment is given in the box provided

1. APPLICANT INFORMATION

☑ Corporation: ☑ verify status/ charter number with SOS ☐ print page ☐ Check spelling against Item 1.a.
☑ verify status/ TAX ID number with the Comptroller
☐ Individual: ☐ all info provided
☐ Utility District: ☐ I-WUD - verify district is not dissolved (inactive is O.K. to process)
☐ Trust: ☐ copy of an executed trust agreement is provided by the applicant – each trustee or person on the estate must be listed on permit.
☐ Partnership: ☐ Verify w/ SOS ☐ Check against 1.a. ☐ Print page OR ☐ a copy of partnership agreement - each partner must be listed on permit (if partnership not registered with SOS).
☐ Governmental Agency: Confirm legal name of agency when possible, using TNL City official book, State Directory.

☑ Verify address to be used on the permit is provided. ☐ Verify w/USPS ☐ print page
☑ Verify operator information if required to apply as co-permittee with facility owner.

2. BILLING CONTACT INFORMATION

☑ Contact information provided and ☑ Update made to database

3. APPLICATION CONTACT INFORMATION

☑ Contact information provided

5. PERMIT CONTACT INFORMATION

☑ Contact information provided

6. NOTICE INFORMATION

☑ a. Name **AND** phone number of one person responsible for publishing Notice is provided.
☑ b. Method of sending Notice is provided ☐ MAIL ☐ FAX ☑ EMAIL Chris.Hendrix@valero.com
☑ c. Contact in the Notice: Name & Phone number of contact to be in NORI is provided.
☑ d. Public Place: Verify public viewing location provided
☑ e. Bi-Lingual Notice: Is bilingual notice required? ☑ YES ☐ NO

7. REGULATED ENTITY and PERMITTED SITE INFORMATION

- ☒ Name of the project or site is provided
- ☒ Facility/outfall subject to Edward Aquifer rules
- ☒ Is the location description same
- ☒ Provided physical address or corrected location description ☒ Physical (911) address to be added?
- ☒ Provided City name where site is located
- ☒ Zip Code for the site is provided
- ☒ County for the site is provided
- ☒ Longitude & Latitude provided
- ☒ Owner of the facility same as Item 1.a. and ☒ Identified ownership as public/ private/ both
- ☒ Owner of the **land** SAME as Item 1.a.
  - ☐ Owner of the land DIFFERENT from the owner of the facility &:
    - ____The treatment facility IS a fixture of land the owner of the land has applied as a co-permittee ***OR***
    - ____The treatment facility is NOT a fixture of the land - provided a copy of a lease agreement
- ☐ Owner of the **effluent disposal site** SAME as Item 1.a.

Irrigation Site Owner:

☒ N/A - (no irrigation proposed) ☐ Applicant OWNS land ☐ Applicant DOES NOT OWN land where irrigation site is located, long-term Lease agreement is provided which includes ☐ a term of at least 5 years, ☐ & is current or if the lease term has passed it includes an option to renew the term, ☐ is between the current applicant & the landowner.

Sewage Site Owner:

☒ N/A - (no sludge disposal proposed) ☐ Owner of the **sludge site** SAME as Item 1.a.

8. DISCHARGE/ DISPOSAL INFORMATION

TPDES

- ☒ a. Point of discharge and discharge route in the existing permit correct
- ☒ b. City or Town outfall(s) located
- ☒ c. County outfall(s) located
- ☒ d. Outfall(s) Latitude and Longitude provided
- ☒ e. If discharge over 5 MGD counties within 100 miles downstream listed

TLAP

- ☐ f. Effluent disposal site in existing permit correct
- ☐ g. City or Town disposal site is located in
- ☐ h. County disposal site is located in
- ☐ i. Disposal Site Latitude and Longitude provided
- ☐ k. Nearest water course provided

USGS MAP

- ☒ m. USGS map is provided & labeled
- ☒ n. Discharge into a City, County, State right-of-way or flood control district ditch?
  - YES - New/major - ☐ a copy of letter requesting authorization to discharge
- ☒ o. Is facility located /effluent cross Indian Land?

9. MISCELLANEUOS INFORMATION

- ☒ a. Listed any former TCEQ/TCEQ employees who represented applicant or was paid for services regarding the application

10. SIGNATURE PAGE

☒ Owner Original ☐ Operator Original ☐ A letter auth another person to sign

SPIF

☒ The SPIF provided with all items completed including USGS map & photographs for Federal Agencies

Core Data Form - ☐ For new applications or if changing the core data

Facility Inactive/ Active

☒ ACTIVE ☐ INACTIVE

TECHNICAL REPORT REVIEW

MUNICIPAL MINOR RENEWAL APPLICATIONS

☒ 4. The existing permitted design flow (including all permit phases) is indicated
- ☐ Flow greater than permitted = major amendment ☐ Flow less than permitted - confirm request to reduce
- ☐ Operation dates provided for all phases/ phase currently operating in

☐ 3. a. Type of treatment plant/ treatment process listed in space provided

☐ 3.f. Flow diagram provided

☐ 3.g. List of units & dimensions

☐ 4. Grab sample test results provided (if plant is operational)

☐ 6. Sludge disposal method identified
- ☐ Sludge disposal and/or land application authorized in the permit on property owned or under their control ☐ a complete Sewage Sludge Technical Report is provided check for ☐ required signatures ☐ site acreage ☐ application area acreage ☐ site boundaries on USGS map ☐ if not authorized, a major amendment is required

☐ Worksheet 2.0 for all TPDES facilities

☐ Worksheet 3.0 for all TLAP facilities

☐ Worksheet 4.0 (flow is => 1 MGD)

☐ Worksheet 6.0 for DOM listed as public / both

SADDS APPLICATIONS

☐ Worksheet 3.3

☐ Worksheet 7.0

☐ Addendum

INDUSTRIAL APPLICATIONS

☒ Description of type of activity & general nature of business

☐ The existing permitted design flow for all outfalls is indicated Item 4
- ☐ Flow greater = major amendment ☐ Flow less = confirm reduce flow

☐ Worksheet 3.0 for all TLAP facilities

ADMINISTRATIVE REPORT 1.1

1. AFFECTED LANDOWNER INFORMATION

☒ Applicant's complete property boundaries

☒ DOM - buffer zone and landowners within the buffer zone.

☒ Landowners surrounding the applicant's property *OR* ☐ If the applicant owns a large tract of land, the map must show location of facility and show landowners adjacent to the applicant's property line within the 1 mile distance.

☒ Location of the facility within applicant's property is shown.

TPDES applications:

☒ Point(s) of discharge & route(s) is highlighted

☒ Scale provided

☒ Property boundaries of landowners adjacent to DR for 1 mi ds **OR** If discharge to lake/stream affected by tidal ☐ landowners ½ mile up & downstream & those across lake along the shore line that fall within a ½ mile radius of the point of discharge are clearly delineated on the map.

TLAP applications (proposing or adding additional acreage for irrigation)

☐ The boundaries of the irrigation site within the applicant's property

☐ The boundaries of landowners surrounding the property boundaries where the irrigation site located. If applicant owns a large tract of land where irrigation is proposed: ☐ the irrigation site clearly delineated w/in the applicant's property ☐ a 1 mi radius from site is indicated ☐ scale provided ☐ landowners immediately adjacent to the applicant's boundaries that fall w/in 1 mile radius is indicated

☒ b. Disk or 4 sets of labels were provided.

☒ c. Cross-referenced list of landowners is provided.

☒ d. Provided source of landowners' info

☒ e. permanent school fund land (if filled out on GLO) "yes' on contact sheet.

2. BUFFER ZONE MAP

☐ a. Buffer Zone Map provided

2. ORIGINAL PHOTOGRAPHS

☐ The original ground level photographs were provided

TEXAS SECRETARY of STATE
HOPE ANDRADE

UCC | Business Organizations | Trademarks | Notary | Account | Help/Fees | Briefcase | Logout

BUSINESS ORGANIZATIONS INQUIRY - VIEW ENTITY

Filing Number:	800023619	**Entity Type:**	Domestic Limited Partnership (LP)
Original Date of Filing:	October 30, 2001	**Entity Status:**	In existence
Formation Date:	N/A		
Tax ID:	17418349407	**FEIN:**	
Duration:	Perpetual		

Name: Valero Refining-Texas, L.P.

Address: One Valero Way
San Antonio, TX 78249-1616 USA

REGISTERED AGENT | FILING HISTORY | NAMES | MANAGEMENT | ASSUMED NAMES | ASSOCIATED ENTITIES

Name	Address	Inactive Date
CT CORPORATION SYSTEM	350 N. St. Paul St., Ste. 2900 Dallas, TX 75201-4234 USA	

Order | Return to Search

Instructions:

- To place an order for additional information about a filing press the 'Order' button.

Taxable Entity Search Results

Franchise Tax Certification of Account Status

This Certification Not Sufficient for Filings with Secretary of State

Do **not** include a certificate from this Web site as part of a filing with the Secretary of State for dissolution, merger, withdrawal, or conversion. The Secretary of State will reject a filing that uses the certification from this site.

To obtain a certificate that is sufficient for dissolution, merger, or conversion, see Publication 98-336d, Requirements to Dissolve, Merge or Convert a Texas Entity.

Certification of Account Status | Officers And Directors Information

Entity Information:	**VALERO REFINING-TEXAS, L.P.** PO BOX 696000 SAN ANTONIO, TX 78269-6000
Status:	**IN GOOD STANDING NOT FOR DISSOLUTION OR WITHDRAWAL through November 15, 2011**
Registered Agent:	CT CORPORATION SYSTEM 350 N. ST. PAUL ST. STE. 2900 DALLAS, TX 75201
Registered Agent Resignation Date:	
State of Formation:	TX
File Number:	0800023619
SOS Registration Date:	October 31, 2001
Taxpayer Number:	17418349407

Look Up a ZIP Code™

By Address By Company Cities by ZIP Code™

Overnight.
Not Overpriced.
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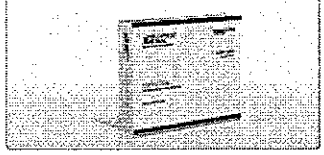

You entered:

Look up another ZIP Code™ ›

9701 MANCHESTER
HOUSTON TX

Here's the full address, using standard abbreviations and formatting...

9701 MANCHESTER ST
HOUSTON TX **77012-2408**

Show Mailing Industry Details

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Coastal Zone Determination

(To Be Verified Upon Receipt Of The Application)

Permit Number 00535 **County** Harris

Indicate Type of Application:

☐ **Renewal** ☐ **Minor Amendment** ☑ **Major Amendment**

Is the facility on the Coastal Zone list?

☑ YES (Coastal Zone statement will be included in the "Notice of Draft Permit") (If a major amendment - statement will be included in the "Notice of Receipt")

☐ NO (Do not include statement in any notice)

☐ **New** ☑ **Major Amendment**

Is the facility located in one of the following counties?

☐ Aransas	☐ Galveston	☐ Kleberg	☐ San Patricio
☐ Brazoria	☑ Harris	☐ Matagorda	☐ Victoria
☐ Calhoun	☐ Jackson	☐ Nueces	☐ Willacy
☐ Cameron	☐ Jefferson	☐ Orange	
☐ Chambers	☐ Kenedy	☐ Refugio	

☑ YES Send the application to Water Quality Assessment Team for Coastal Zone Determination.

☐ NO No further review needed (Do not include statement in any notice)

Water Quality Assessment Team's determination:

Is the discharge in the Coastal Zone?

NW 10/5/11

☑ YES Coastal Zone statement shall be included in the Admin Complete Notice

☐ NO Do not include statement in the Admin Complete Notice

Return to Applications Team by _____

COPY

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

TCEQ INDUSTRIAL WASTEWATER PERMIT APPLICATION
INDUSTRIAL ADMINISTRATIVE REPORT

Submit this checklist with the application. Do not submit the instructions with the application. Indicate if the following are included in the application.

Applicant Valero Refining-Texas, L.P.

Permit Number 00535

WORKSHEET	Y	N	WORKSHEET	Y	N
Administrative Report 1.0	✔		Worksheet 7.0	✔	
Administrative Report 1.1	✔		Worksheet 8.0		✔
SPIF	✔		Worksheet 9.0		✔
Technical Report 1.0	✔		Worksheet 10.0		✔
Worksheet 1.0	✔		Original USGS Map	✔	
Worksheet 2.0	✔		Affected Landowners Map	✔	
Worksheet 3.0		✔	Landowner Disk or Labels	✔	
Worksheet 3.1		✔	Copy of Application Fee Check	✔	
Worksheet 3.2		✔	All fees owed TCEQ are paid	✔	
Worksheet 3.3		✔	Flow Diagram	✔	
Worksheet 4.0	✔		Site Drawing	✔	
Worksheet 4.1		✔	Original Photographs	✔	
Worksheet 5.0		✔	Solids Management Plan		✔
Worksheet 6.0		✔	Water Balance	✔	

Please indicate by a check mark the amount submitted for the application fee:

EPA Classification	New	Major Amend. (With or Without Renewal)	Renewal Only	Minor Amend. /Mod.
Minor facility not subject to categorical standards promulgated by the EPA (40 CFR Part 400-471)	_____$350	_____$350	_____$315	_____$150
Minor facility subject to categorical standards promulgated by the EPA (40 CFR Part 400-471)	_____$1,250	_____$1250	_____$1215	_____$150
Major facility	N/A *	✔ $2,050	_____$2,015	_____$450

* All facilities are designated as minors until formally classified as a major by EPA.

For Commission Use Only:
Segment Number:_____ County:_____ Expiration Date:_____
Proposed/Current Permit Number: _____ Region: _____

RECEIVED
SEP 30 2011
WATER QUALITY DIVISION
Applications Team

COPY

ARTIFICIAL WATERMARK ON BACK OF DOCUMENT. HOLD AT AN ANGLE TO VIEW. DO NOT CASH IF NOT PRESENT.

VALERO REFINING-TEXAS,LP
P.O. Box 696000
San Antonio, TX 78269-6000

JPMorgan Chase Bank, N.A.
Syracuse, NY

52910754

60-937
213

Date
07/25/2011

$**2,050.00**

TWO THOUSAND FIFTY USD

PAY TO THE ORDER OF
STATE OF TEXAS
TX COMMISSION ON ENVIRON QUALITY
DBA TCEQ
PO BOX 13089
AUSTIN TX 78711-3089

VEC A/P DISBURSEMENTS

VOID AFTER SIX MONTHS
Authorized Signature

⑈52910754⑈ ⑆021309379⑆ 601855950⑈

"PAYMENT SUBJECT TO VERIFICATION AND RIGHT TO RECOVER IMPROPER CHARGES"

THE ATTACHED CHECK IS IN FULLPAYMENT OF ITEMS STATED. ENDORSEMENT MUST BE IDENTICAL WITH THE PAYEE DESIGNATED.

DETACH AT PERFORATION BEFORE DEPOSITING AND RETAIN FOR YOUR FILES

VALERO REFINING-TEXAS,LP
PO BOX 696000
SAN ANTONIO, TX 78269-6000

Company: 0057
Vendor: 2009042 STATE OF TEXAS
TX COMMISSION ON ENVIRON QUALITY

OUR PAYMENT DOCUMENT	CHECK DATE	CHECK NUMBER
2003986762	07/25/2011	**52910754**

CHECK AMOUNT	USD	**$2,050.00**

YOUR INVOICE NUMBER	INVOICE DATE	OUR REFERENCE NUMBER	GROSS AMOUNT	DEDUCTIONS	NET AMOUNT PAID
CK10001962	07/21/2011	6400000087	2,050.00	0.00	2,050.00

TPDES PERMIT NO: 00535 APPLICATION FOR RENEWAL

Security enhanced document. See back for details.

TISCHLER-KOCUREK
107 S MAYS 512-244-9058
ROUND ROCK, TX 78664

FIRST TEXAS BANK
512-251-2501 • P.O. BOX 5 • ROUND ROCK, TEXAS 78680

5960

88-474/1149
01

Security features are included. Details on back.

DATE 9-30-11

PAY TO THE ORDER OF Texas Commission on Environmental Quality $ 50.00

fifty and 00/100 DOLLARS

TPDES application #00535
Velero Houston Refinery

THIS CHECK IS DELIVERED FOR PAYMENT ON ACCOUNTS SHOWN

MP

⑈005960⑈ ⑆114904746⑆ ⑈06⑈175⑈4⑈

©Carte American

GUARDIAN ® SAFETY

TOTAL	$2,050.00	$0.00	$2,050.00

THE ATTACHED CHECK IS IN PAYMENT FOR ITEMS DESCRIBED ABOVE

HH

INDUSTRIAL ADMINISTRATIVE REPORT 1.0

The following is required for all applications--Renewal, New, And Amendment

Type of application:

- ☐ New TPDES
- ☑ Major amendment with Renewal
- ☐ Renewal of existing permit
- ☐ Minor amendment to permit
- ☐ New TLAP
- ☐ Major Amendment without Renewal
- ☐ Storm water only discharge
- ☐ Minor modification to permit

If applying for an amendment to a permit, please describe the request in detail.

Increase in Outfall 001 limits based on planned production increases
Add additional utility wastewaters to the description of Outfall 001

1. APPLICANT INFORMATION (Instructions, Page 18)

a. Facility Owner (Owner of the facility must apply for the permit.)

What is the Legal Name of the entity (applicant) applying for this permit?
Valero Refining-Texas, L.P.

(The legal name must be spelled exactly as filed with the Texas Secretary of State, County, or in the legal document forming the entity.)

If the applicant is currently a customer with TCEQ, what is the Customer Number (CN)? Search for your CN at:
http://www12.tceq.texas.gov/crpub/index.cfm?fuseaction=cust.CustSearch

CN 600127468

What is the name and title of the person signing the application?
(The person must be an executive official meeting signatory requirements in TAC 305.43(a).)

Prefix (Mr. Ms, Miss): Mr.
First/Last Name: Mark Skobel
Suffix:
Title: Vice President and General Manager Credential:

What is the applicant's mailing address as recognized by the **US Postal Service**?
You may verify the address at: http://zip4.usps.com/zip4/welcome.jsp
Organization Name: Valero Refining-Texas, L.P.
Mailing Address: 9701 Manchester
Internal Routing (Mail Code, Etc.):
City: Houston State: TX ZIP Code: 77012
Mailing Information if outside USA
Territory: Country Code: Postal Code:
Phone No.: Extension:
Fax No.: E-mail Address:

Indicate the type of Customer:

- ☐ Individual
- ☑ Limited Partnership
- ☐ Trust
- ☐ Federal Government
- ☐ County Government
- ☐ Other Government
- ☐ Sole Proprietorship-D.B.A.
- ☐ Corporation
- ☐ Estate
- ☐ State Government
- ☐ City Government
- ☐ Other: _____

Independent entity

- ☐ Yes
- ☑ No *(If governmental entity, subsidiary, or part of a larger corporation)*
  Valero Refining-Texas, L.P. operates as a subsidiary of Valero Energy Corp.

Number of Employees:

☐ 0-20; ☐ 21-100; ☐ 101-250; ☑ 251-500; or ☐ 501 or higher

Customer Business Tax and Filing Numbers
(Not applicable to individuals, governments, general partnerships or sole proprietors. ***REQUIRED*** *for corporations and limited partnerships)*

State Franchise Tax ID Number: **17418349407**
TX SOS Charter (filing) Number: **0800023619**
Federal Tax ID: **74-1834940**
DUNS Number (if known): **07-939-1280**

b. Co-Permittee information (complete only if the operator must be a co-permittee)
What is the Legal Name of the entity (operator) applying for this permit?

Operator **N/A**

(The legal name must be spelled exactly as filed with the Texas Secretary of State, County, or in the legal document forming the entity.)

If the operator is currently a customer with TCEQ, what is the Customer Number (CN)? Search for your CN at:
http://www12.tceq.texas.gov/crpub/index.cfm?fuseaction=cust.CustSearch

CN_____

What is the name and title of the person signing the application?
(The person must be an executive official meeting signatory requirements in TAC 305.43(a).)
Prefix (Mr. Ms, Miss): _____
First/Last Name: _____
Suffix: _____
Title: _____ Credential: _____
What is the applicant's mailing address as recognized by the **US Postal Service**?
You may verify the address at: http://zip4.usps.com/zip4/welcome.jsp

Organization Name:_____

Mailing Address:_____

Internal Routing (Mail Code, Etc.):_____

City:_____State:_____ZIP Code:_____

Mailing Information if outside USA

Territory: _____Country Code: _____Postal Code: _____

Phone No.: _____Extension:_____

Fax No.:_____E-mail Address:_____

Indicate the type of Customer:

- ☐ Individual
- ☐ Limited Partnership
- ☐ Trust
- ☐ Federal Government
- ☐ County Government
- ☐ Other Government
- ☐ Sole Proprietorship-D.B.A.
- ☐ Corporation
- ☐ Estate
- ☐ State Government
- ☐ City Government
- ☐ Other: _____

Independent entity

- ☐ Yes
- ☐ No *(If governmental entity, subsidiary, or part of a larger corporation)*

Number of Employees:

☐ 0-20; ☐ 21-100; ☐ 101-250; ☐ 251-500; or ☐ 501 or higher

Customer Business Tax and Filing Numbers
(Not applicable to individuals, governments, general partnerships or sole proprietors. ***REQUIRED*** *for corporations and limited partnerships)*

State Franchise Tax ID Number:_____

TX SOS Charter (filing) Number:_____

Federal Tax ID:_____

DUNS Number (if known):_____

Provide a brief description of the need for a co-permittee:

c. Individual information (*complete only if the facility owner or co-permittee is an individual*)

What is the Legal Name of the owner/co-permittee applying for this permit?
N/A

If the owner/co-permittee is currently a customer with TCEQ, what is the Customer Number (CN)? Search for your CN at:
http://www12.tceq.texas.gov/crpub/index.cfm?fuseaction=cust.CustSearch

CN_____

What is the name and title of the person signing the application?
(The person must be the individual. See signatory requirements in TAC 305.43(a).)

Prefix (Mr. Ms, Miss): _____
First/Last Name: _____
Suffix: _____
State Identification Number: _____
Date of Birth: _____
Assumed business or professional name: _____
Business name: _____

What is the applicant's mailing address as recognized by the **US Postal Service**?
You may verify the address at: http://zip4.usps.com/zip4/welcome.jsp

Mailing Address: _____
Internal Routing (Mail Code, Etc.): _____
City: _____ State: TX ZIP Code: _____
Mailing Information if outside USA
Territory: _____ Country Code: _____ Postal Code: _____
Phone No.: _____ Extension: _____
Fax No.: _____ E-mail Address: _____

2. BILLING CONTACT (Instructions Page 21)

a. Billing Contact and Address Information

The permittee is responsible for paying the annual fee. The annual fee will be assessed to permits ***active on September 1 of each year.*** *TCEQ will send a bill to the address provided in this section. The permittee is responsible for terminating the permit when it is no longer needed.*

Is the billing address the same as the permittee or co-permittee?

☑ Permittee ☐ Co-permittee ☐ No, fill out this section

Prefix (Mr. Ms, Miss): Mr.
First/Last Name: Chris Abshire
Suffix: _____
Title: Environmental Engineering Manager Credential: _____
Organization Name: Valero Refining-Texas, L.P.
Billing Mailing Address: 9701 Manchester

Internal Routing (Mail Code, Etc.):
City: Houston State: TX ZIP Code: 77012
Mailing Information if outside USA.
Territory: Country Code: Postal Code:
Phone No.: (713) 923-3300 Extension:
Fax No.: (713) 923-3561 E-mail Address: Chris.Abshire@valero.com

3. APPLICATION CONTACT INFORMATION (Instructions, Page 21)

If TCEQ needs additional information regarding this application, who should be contacted?

a. Application Contact

Prefix (Mr. Ms, Miss): Mr.
First/Last Name: Chris Hendrix
Suffix:
Title: Environmental Engineer Credential:
Organization Name: Valero Refining-Texas, L.P.
Mailing Address: 9701 Manchester
Internal Routing (Mail Code, Etc.):
City: Houston State: TX ZIP Code: 77012
Mailing Information if outside USA.
Territory: Country Code: Postal Code:
Phone No.: (713) 923-3300 Extension:
Fax No.: (713) 923-3561 E-mail Address: Chris.Hendrix@valero.com
Check one or both: ☑ Administrative contact ☑ Technical Contact

b. Application Contact

Prefix (Mr. Ms, Miss):
First/Last Name: N/A
Suffix:
Title: Credential:
Organization Name:
Mailing Address:
Internal Routing (Mail Code, Etc.):
City: State: ZIP Code:
Mailing Information if outside USA.
Territory: Country Code: Postal Code:
Phone No.: Extension:
Fax No.: E-mail Address:
Check one or both: : ☐ Administrative contact ☐ Technical Contact

4. DMR CONTACT INFORMATION (Instructions Page 21)

Contact Responsible for Discharge Monitoring Reports (EPA 3320-1) Provide the name of the person and their complete mailing address delegated to receive and submit Discharge Monitoring Report Forms.

Prefix (Mr. Ms, Miss): Mr.
First/Last Name: Chris Hendrix
Suffix:
Title: Environmental Engineer Credential:
Organization Name: Valero Refining-Texas, L.P.
Mailing Address: 9701 Manchester
Internal Routing (Mail Code, Etc.):
City: Houston State: TX ZIP Code: 77012

Mailing Information if outside USA.

Territory: Country Code: Postal Code:

Phone No.: (713) 923-3300 Extension:
Fax No.: (713) 923-3561 E-mail Address: Chris.Hendrix@valero.com

Did you know you can submit DMR data on line?
Go to Sign up now at:
http://www.tceq.tceq.gov/permitting/steers/steers.html
Establish an electronic reporting account when you get your permit number.

5. PERMIT CONTACT INFORMATION (Instructions, Page 22)

Provide two names of individuals that can be contacted throughout the permit term.

Prefix (Mr. Ms, Miss): Mr.
First/Last Name: Mark Skobel
Suffix:
Title: Vice President and General Manager Credential:
Organization Name: Valero Refining-Texas, L.P.
Mailing Address: 9701 Manchester
Internal Routing (Mail Code, Etc.):
City: Houston State: TX ZIP Code: 77012

Mailing Information if outside USA.

Territory: Country Code: Postal Code:

Phone No.: (713) 923-3527 Extension:
Fax No.: (713) 923-3399 E-mail Address: Mark.Skobel@valero.com

Prefix (Mr. Ms, Miss): Mr.
First/Last Name: Robert L. Gross
Suffix:
Title: Director, Environmental/Safety Affairs Credential:
Organization Name: Valero Refining-Texas, L.P.
Mailing Address: 9701 Manchester
Internal Routing (Mail Code, Etc.):
City: Houston State: TX ZIP Code: 77012
Mailing Information if outside USA.
Territory: Country Code: Postal Code:
Phone No.: (713) 923-3300 Extension:
Fax No.: (713) 923-3561 E-mail Address: Chip.Gross@valero.com

6. NOTICE INFORMATION (Instructions, Page 22)

a. Individual publishing the notices

Prefix (Mr. Ms, Miss): Mr.
First/Last Name: Chris Hendrix
Suffix:
Title: Environmental Engineer Credential:
Organization Name: Valero Refining-Texas, L.P.
Mailing Address: 9701 Manchester
Internal Routing (Mail Code, Etc.):
City: Houston State: TX ZIP Code: 77012
Mailing Information if outside USA.
Territory: Country Code: Postal Code:
Phone No.: (713) 923-3300 Extension:
Fax No.: (713) 923-3561 E-mail Address: Chris.Hendrix@valero.com

b. Method for receiving Notice of Receipt and Intent to Obtain a Water Quality Permit Package

Indicate by a check mark the preferred method for receiving the first notice and instructions:

- [x] E-mail Address: Chris.Hendrix@valero.com
- [ ] Fax No.:
- [ ] Overnight/Priority mail: (self addressed, prepaid envelope required)
- [ ] Regular Mail:

Mailing Address:
Internal Routing (Mail Code, Etc.):
City: State: ZIP Code:

c. Contact in the Notice

Prefix (Mr. Ms, Miss): Mr.
First/Last Name: Chris Hendrix
Suffix:
Title: Environmental Engineer Credential:
Organization Name: Valero Refining-Texas, L.P.
Phone No.: (713) 923-3300 Extension:

d. Public Place Information

If the facility and/or outfall are located in more than one county, a public viewing place for each county must be provided.

Public Building name: Melcher Neighborhood Library
Location within the building:
Physical address of building: 7200 Keller
City: Houston, TX 77012 County: Harris
Contact Name:
Phone No.: (832) 393-2480 Extension:

e. Bilingual Notice Requirements:

For new permit, major amendment and renewal applications. Not applicable for minor amendment or minor modification applications. Please call the bilingual/ESL coordinator at the nearest elementary and middle schools and obtain the following information to determine if an alternative language notice is required:

1. Is a bilingual education program required by the Texas Education Code at the nearest elementary or middle school to the facility or proposed facility?
   ☒ Yes ☐ No (If No, alternative language notice publication is not required; skip to item 7. SITE INFORMATION.)
2. Are the students who attend either the elementary school or the middle school enrolled in a bilingual education program at that school?
   ☒ Yes ☐ No
3. Do the students at these schools attend a bilingual education program at another location?
   ☐ Yes ☒ No
4. Would the school be required to provide a bilingual education program but the school has waived out of this requirement under 19 TAC §89.1205(g)?
   ☐ Yes ☒ No
5. If the answer is yes to 1, 2, 3, or 4, public notice in an alternative language is required. Which language is required by the bilingual program?
   Spanish

This section of the application is only used to determine if alternative language notice will be needed. Complete instructions on publishing the alternative language notice will be in your public notice package.

7. REGULATED ENTITY AND PERMITTED SITE INFORMATION (Instructions Page 23)

If the site of your business is part of a larger business site, a Regulated Entity Number (RN) may already be assigned for the larger site. Use the RN assigned for the larger site. Search TCEQ's Central Registry to see if the larger site may already be registered as a regulated site at:
http://www12.tceq.texas.gov/crpub/index.cfm?fuseaction=regent.RNSearch

If the site is found, provide the assigned Regulated Entity Reference Number and provide the information for the site to be authorized through this application below. The site information for this authorization may vary from the larger site information.

TCEQ issued RE Reference Number (RN): **RN** 100219310

a. State/TPDES Permit No.: 00535 Expiration date: 04/01/2012

EPA Identification No. (TPDES Permits only): TX 0002976

b. Name of project or site (the name known by the community where located):
Valero Refining Houston Refinery

c. Is the facility located in Bexar, Comal, Hays, Kinney, Medina, Travis, Uvalde, or Williamson County? ☐ Yes ☑ No

(If Yes, additional information concerning protection of the Edwards Aquifer may be required.)

d. Is the location of the facility used in the existing permit correct? ☑ Yes ☐ No

e. Does the site have a physical address?
- ☑ If Yes, complete Section A for a physical address.
- ☐ If No (the location description is not accurate or this is a new permit application, complete), complete Section B for site location information.

Section A: Enter the physical address for the site.

Verify the address with USPS. If the address is not recognized as a delivery address, provide the address as identified for overnight mail delivery, 911 emergencies, or other online map tool to confirm an address.

Physical Address of Project or Site:

Street Number: 9701 Street Name: Manchester

City: Houston ZIP Code: 77012

Section B: Enter the site location information.

If no physical address (Street Number & Street Name), provide a written location access description to the site:

0.5 miles east of Loop 610, one-mile north of State Highway 225, and bordered on the north by the Houston Ship Channel, in the City of Houston, Harris County, Texas

(Ex.: located 2 miles west from intersection of Hwy 290 & IH35 accessible on Hwy 290 South)

f. City where the site is located or, if not in a city, what is the nearest city:

Houston

g. ZIP Code where the site is located: 77012

h. County where the site is located Harris

i. Latitude: 29° 43' 24" Longitude: -95° 15' 11"

j. In your own words, briefly describe the primary business of the Regulated Entity: *(Do not repeat the SIC and NAICS code)*

Petroleum refining and petrochemical production

k. Owner of treatment facility: Valero Refining-Texas, L.P.

Ownership of Facility: ☐ Public ☑ Private ☐ Both ☐ Federal

l. Owner of land where treatment facility is/will be: Valero Refining-Texas, L.P.

(If not the same as the facility owner, there must be a long term lease agreement in effect for at least six years. In some cases, a lease may not suffice - see instructions.)

m. Owner of effluent disposal site: N/A

(If not the same as the facility owner, there must be a long term lease agreement in effect for at least six years.)

n. Owner of sewage sludge disposal site: N/A

(Required only if authorization is sought in the permit for sludge disposal on property owned/controlled by the applicant.)

8. DISCHARGE/ DISPOSAL INFORMATION (Instructions, Page 26)

a. Is the point of discharge and discharge route in the existing permit correct?

☑ Yes ☐ No If no, or a new or amendment permit application, please give an accurate description.

b. City or Town in which the outfall(s) is or will be located Houston

c. County the outfall(s) is located: Harris

d. Outfall Latitude: There are multiple outfalls. Please see the outfall tables in the Technical Report. Longitude:

e. For all applications involving an average daily discharge of 5 million gallons per day or more, provide the names of all counties located within 100 statute miles downstream of the point(s) of discharge. N/A, discharge < 5 MGD

f. If a TLAP, is the location of the effluent disposal site in the existing permit accurate?

☐ Yes ☐ No If no, or a new or amendment permit application, please give an accurate description.

g. City or Town in which the disposal site is or will be located_____

h. County the disposal site is located:_____

i. Disposal Site Latitude:_____Longitude:_____

j. If a TLAP, describe the routing of effluent from the treatment facility to the effluent disposal site:

k. For TLAP applications please identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained: _____

l. Is the location of the sewage sludge disposal site in the existing permit accurate?

☐ Yes ☐ No If no, or a new permit application, please give an accurate description.

m. Provide an **original** full size USGS Topographic Map with all required information. Indicate by a check mark that the information is provided. **See USGS maps (Park Place, Pasadena).**

- ■ Applicant's property boundary
- ■ Treatment facility boundaries
- ■ Labeled point of discharge and highlighted discharge route
- ☐ Sewage sludge disposal site
- ☐ Effluent disposal site boundaries
- ☐ New and future construction
- ■ 1 mile radius and 3 miles downstream information
- ■ All ponds

n. Is/will the treated wastewater discharge to a city, county, or state highway right-of-way, or a flood control district drainage ditch? ☐ Yes ■ No

If Yes, indicate by a check mark if:

☐ Authorization granted ☐ Authorization pending

(For new and amendments, provide copies of letters that show proof of contact and the approval letter upon receipt.)

f. If a TLAP, is the location of the effluent disposal site in the existing permit accurate?

☐ Yes ☐ No If no, or a new or amendment permit application, please give an accurate description.

g. City or Town in which the disposal site is or will be located_____

h. County the disposal site is located:_____

i. Disposal Site Latitude:_____Longitude:_____

j. If a TLAP, describe the routing of effluent from the treatment facility to the effluent disposal site:

k. For TLAP applications please identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained: _____

l. Is the location of the sewage sludge disposal site in the existing permit accurate?

☐ Yes ☐ No If no, or a new permit application, please give an accurate description.

m. Provide an **original** full size USGS Topographic Map with all required information. Indicate by a check mark that the information is provided. **See USGS maps (Park Place, Pasadena).**

- ■ Applicant's property boundary
- ■ Treatment facility boundaries
- ■ Labeled point of discharge and highlighted discharge route
- ☐ Sewage sludge disposal site
- ☐ Effluent disposal site boundaries
- ☐ New and future construction
- ■ 1 mile radius and 3 miles downstream information
- ■ All ponds

n. Is/will the treated wastewater discharge to a city, county, or state highway right-of-way, or a flood control district drainage ditch? ☐ Yes ■ No

If Yes, indicate by a check mark if:

☐ Authorization granted ☐ Authorization pending

(For new and amendments, provide copies of letters that show proof of contact and the approval letter upon receipt.)

o. Is the facility located on or does the treated effluent cross American Indian Land?

☐ Yes ☒ No

9. MISCELLANEOUS INFORMATION (Instructions, Pages 29)

a. List each person formerly employed by the TCEQ who represented your company and was paid for service regarding the application:

None

b. Do you owe fees to the TCEQ? ☐ Yes ☒ No

If yes, please provide:

Account number:_____ Amount past due: N/A

c. Do you owe any penalties to the TCEQ? ☐ Yes ☒ No

If yes, please provide:

Enforcement order number_____ Amount past due N/A

10. SIGNATURE PAGE (Instructions, Page 30)

Permit Number: 00535

Applicant: Valero Refining-Texas, L.P.

Certification:

I, Mark Skobel — Vice President and General Manager

Typed or printed name — *Title*

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 there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I further certify that I am authorized under **30 Texas Administrative Code §305.44** to sign and submit this document, and can provide documentation in proof of such authorization upon request.

Signature: Mark Skobel (Use blue ink) Date: 9-23-11

Subscribed and Sworn to before me by the said Mark Skobel

on this 23rd day of September, 20 11.

My commission expires on the 12th day of December, 20 14.

Carole L. Davidson

Notary Public

HARRIS

County, Texas

[SEAL]

CAROLE L. DAVIDSON
NOTARY PUBLIC STATE OF TEXAS
COMMISSION EXPIRES:
12-19-2014

If co-permittees are necessary, each entity must submit an original, separate signature page.

INDUSTRIAL ADMINISTRATIVE REPORT 1.1

The following is required for new and amendment applications.

1. AFFECTED LANDOWNER INFORMATION (Instructions, Page 31)

a. Indicate by a check mark that the landowners map or drawing, with scale, includes the following, as applicable.

- ■ The applicant's property boundaries
- ■ The facility site boundaries within the applicant's property boundaries
- ☐ The distance the buffer zone falls into adjacent properties and the property boundaries of the landowners located within the buffer zone
- ■ The property boundaries of all landowners surrounding the applicant's property
- ■ The point(s) of discharge and highlighted discharge route clearly shown for one mile downstream
- ☐ The property boundaries of the landowners located on both sides of the discharge route for one full stream mile downstream of the point of discharge
- ■ The property boundaries of the landowners along the watercourse for a one-half mile radius from the point of discharge if the point of discharge is into a lake, bay estuary, or affected by tides
- ☐ The boundaries of the effluent disposal site (for example, irrigation area or subsurface drainfield site), all evaporation/holding ponds within the applicant's property
- ☐ The property boundaries of all landowners surrounding the applicant's property boundaries where the effluent disposal site is located
- ☐ The boundaries of the sludge land application site (for land application of sewage sludge for beneficial use) and the property boundaries of landowners surrounding the applicant's property boundaries where the sewage sludge land application site is located
- ☐ The property boundaries of landowners within one-half mile in all directions from the applicant's property boundaries where the sewage sludge disposal site (for example, sludge surface disposal site or sludge monofill) is located

b. Indicate by a check mark in which format the landowners list is submitted:
■ Read/Writeable CD or Disk ☐ 4 sets of labels

c. Indicate by a check mark that a separate list with the landowners' names and mailing address cross-referenced to the landowners map has been provided. ■

d. Provide the source of the landowners' names and mailing addresses.

Harris County Appraisal District

e. As required by Texas Water Code §5.115, is any permanent school fund land affected by this application? ☐ Yes ☒ No

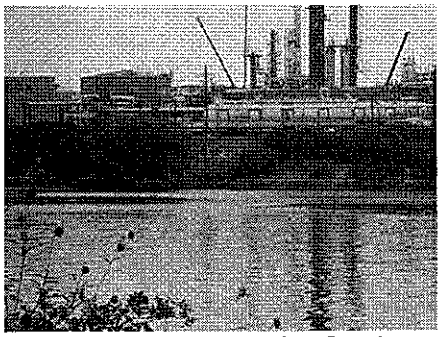
If yes, provide the location and foreseeable impacts and effects this application has on the land(s).

2. ORIGINAL PHOTOGRAPHS (Instructions, Page 33)

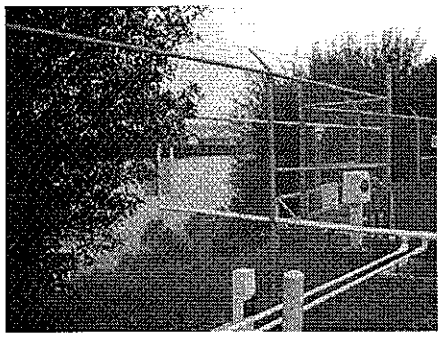
Provide original ground level photographs. Indicate by checking that the following information is provided.

- ☐ At least one original photograph of the new or expanded treatment unit location
- ☒ At least two photographs of the existing/proposed point of discharge and as much area downstream (photo 1) and upstream (photo 2) as can be captured. **See pg. 16a.**
- ☒ If the discharge is to an open water body (e.g., lake, bay), the point of discharge should be in the right or left edge of each photograph showing the open water and with as much area on each respective side of the discharge as can be captured.
- ☐ At least one photograph of the existing/proposed effluent disposal site
- ☐ A plot plan or map showing the location and direction of each photograph

Outfall Photos
Valero Refining-Texas, L.P.
Houston Refinery

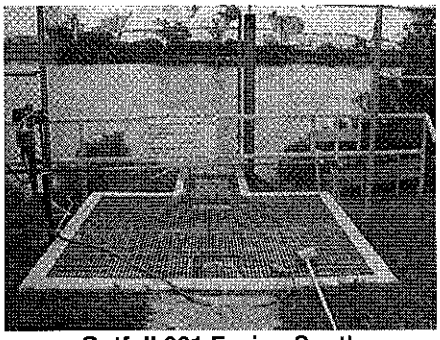


Treatment Plant Facing South



Outfall 001 Facing Northeast

Downstream of Outfall 001 Facing Northwest



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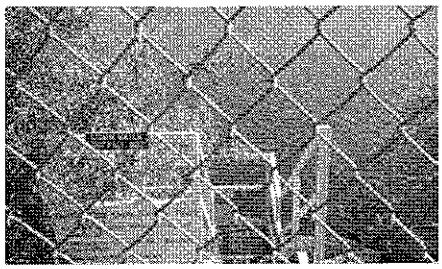
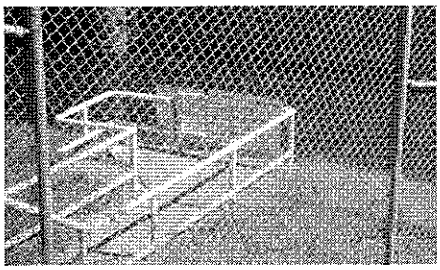
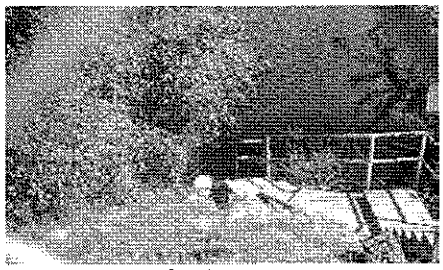


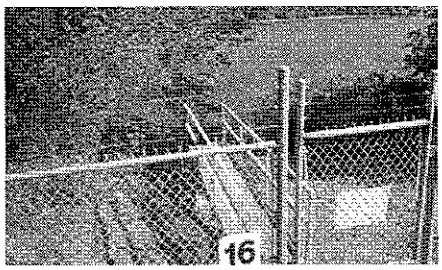
Outfall 002



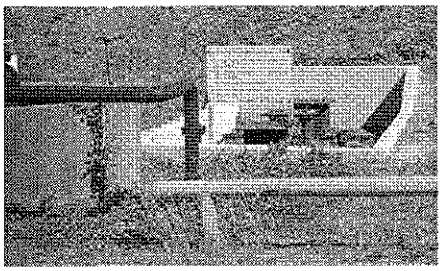
Outfall 003



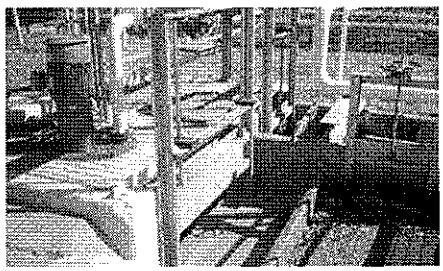
Outfall 005



Outfall 006



Outfall 007



Outfall 008

List of Adjacent Landowners
TPDES Application 2011
Valero Houston Refinery

MAPID	Name	Address	City, ST zip
1	ACOSTA FERNANDO	9231 E AVENUE L	HOUSTON TX 77012-2727
2	ALANIZ JOSE GUADALUPE	10313 BURMAN ST	HOUSTON TX 77029-2649
3	ALEJANDRO FERNANDO	9416 E AVENUE O	HOUSTON TX 77012-2428
4	AMERIGAS PROPANE LP	460 N GULPH RD	KING OF PRUSSIA PA 19406-2815
5	BANDA RAUL G	5132 PEASE ST	HOUSTON TX 77023-2036
6	BARRAGAN BEATRICE L	610 CENTRAL ST	HOUSTON TX 77012-2234
7	BROCKSMITH C E	24810 STASSI RD	PLAQUEMINE LA 70764-5914
8	BROCKSMITH K H	RR 3 BOX 1445	PLAQUEMINE LA 70764
9	BURDGE ADELBERT D III	1004 96TH ST	HOUSTON TX 77012-2814
10	CAMPOS JOSE JR	9403 E AVENUE N	HOUSTON TX 77012-2421
11	CANALES ESEQUIEL R	9635 E AVENUE J	HOUSTON TX 77012-2839
12	CARDENAS JAVIER & SORINA	9442 E AVENUE L	HOUSTON TX 77012-2848
13	CARREON MARIA ANTONIA	9620 E AVENUE L	HOUSTON TX 77012-2852
14	CARRIZAL GERARDO & IRMA	9427 E AVENUE N	HOUSTON TX 77012-2421
15	CARROLL FREDDIE	9547 E AVENUE J	HOUSTON TX 77012-2837
16	CASTILLO JOSEFA &	9629 E AVENUE K	HOUSTON TX 77012-2845
17	CAVAZOS IRENE	7213 WINFREE DR	HOUSTON TX 77087-3546
18	CENTERPOINT ENERGY HOU ELE	PO BOX 1475	HOUSTON TX 77251-1475
19	CHAPA JOSE JUAN	9503 E AVENUE I	HOUSTON TX 77012-2831
20	CHARTER INTL OIL CO	51 W 52ND ST	NEW YORK NY 10019-6119
21	CITY OF HOUSTON	PO BOX 1562	HOUSTON TX 77251-1562
22	CONTRERAS PEDRO F	4618 POLK ST	HOUSTON TX 77023-1208
23	CRANDALL WILLIAM J & ELSA	9428 MANCHESTER ST	HOUSTON TX 77012
24	DE ALEJANDRO LEONARDO	7247 RIMWOOD RD	HOUSTON TX 77049-2200
25	DELBOSQUE DOMINGO JR	9541 E AVENUE K	HOUSTON TX 77012-2843
26	DELOS SANTOS AURORA	9439 E AVENUE N	HOUSTON TX 77012-2421
27	DIAZ GLORIA ESTATE OF	12420 SILENT CREEK DR	PEARLAND TX 77584-1675
28	DOMINGO CHRISTOPHER LYNN	12211 WHITE RIVER DR	TOMBALL TX 77375-7788
29	DURAN FELIPE & ROSEMARY	9420 E AVENUE N	HOUSTON TX 77012-2422
30	FLORES HUBERTO & GUMECINDA	9345 E AVENUE N	HOUSTON TX 77012-2219
31	FRAGOSO CARLOS R	9611 E AVENUE J	HOUSTON TX 77012-2839
32	FRANCO JUAN D JR	1331 GLOBE ST	HOUSTON TX 77034-1001
33	GARCIA ELEODORA CALETRE	9510 E AVENUE K	HOUSTON TX 77012-2844
34	GARCIA FLOR E	9344 E AVENUE N	HOUSTON TX 77012-2220
35	GARCIA MOISES	9430 E AVENUE N	HOUSTON TX 77012-2422
36	GARZA AMPARO	15003 WEIL PL	HOUSTON TX 77060-5145
37	GARZA DOMINGA E	9517 E AVENUE L	HOUSTON TX 77012-2849
38	GOMEZ GONZALO & ROSALINDA	14103 WHITLOCK DR	HOUSTON TX 77062-8013
39	GOMEZ RAMON JR	9624 E AVENUE J	HOUSTON TX 77012-2840
40	GONZALES JOSE	9625 E AVENUE J	HOUSTON TX 77012-2839
41	GONZALEZ CLAUDIA E	9601 E AVENUE J	HOUSTON TX 77012-2839
42	GOODYEAR TIRE & RUBBER CO	1144 E MARKET ST	AKRON OH 44316-0001
43	GUERRA MARIA G	9618 E AVENUE J	HOUSTON TX 77012-2840
44	GUTEIRREZ ANTONIO A	9131 E AVENUE P	HOUSTON TX 77012-2227
45	GUTHIER FRED	9522 E AVENUE I	HOUSTON TX 77012-2832
46	GUTIERREZ ANTONIO	PO BOX 11908	HOUSTON TX 77293-1908
47	HERNANDEZ ANA &	9624 E AVENUE L	HOUSTON TX 77012-2852
48	HERNANDEZ ELSIE	1301 96TH ST	HOUSTON TX 77012-2819
49	HERNANDEZ MARIA	9442 MANCHESTER ST	HOUSTON TX 77012-2450
50	HERRERA ISAIAS	7839 BELLE PARK DR	HOUSTON TX 77072-3404
51	HOFFMAN BRIAN J	PO BOX 25418	HOUSTON TX 77265-5418
52	HOUSTON CEMENT COMPANY	11011 CODY ST STE 300	OVERLAND PARK KS 66210-1430
53	HOUSTON LAND & TRUST CO %BANK OF AMERICA	525 N TRYON ST	CHARLOTTE NC 28255-0001
54	HUERTA PATRICK	5953 SOUTHCREST ST	HOUSTON TX 77033-1019
55	IBARRA RIGOBERTO F	9620 E AVENUE J	HOUSTON TX 77012-2840
56	IGLESIA EVANGELISTICA HOUSTON	12910 CRYSTAL COVE DR	HOUSTON TX 77044-1802
57	J & P LANDERS MANAGEMENT INC	PO BOX 19949	HOUSTON TX 77224-1949
58	JIMENEZ DIONICIA G	9410 E AVENUE N	HOUSTON TX 77012-2422
59	JOE VITELA JR	9448 E AVENUE J	HOUSTON TX 77012-2836

List of Adjacent Landowners
TPDES Application 2011
Valero Houston Refinery

60	LEOS FORKLIFT ET AL	9429 MANCHESTER ST	HOUSTON TX 77012-2449
61	LOPEZ GILBERTO S	8634 WETHERILL ST	HOUSTON TX 77093-7233
62	MADDOX GARY B ET AL	9525 KATY FWY STE 215	HOUSTON TX 77024-1431
63	MANCHESTER TERMINAL CORP	10000 MANCHESTER ST	HOUSTON TX 77012-2411
64	MARROQUIN EMETERIO &	9404 E AVENUE L	HOUSTON TX 77012-2848
65	MARTINEZ JAVIER & MARIBEL	1122 COUNTY ROAD 607	ANGLETON TX 77515-9272
66	MARTINEZ SALOMON	9606 E AVENUE I	HOUSTON TX 77012-2834
67	MAYLONGSHORE RUBY D ET AL	7927 PIN OAK RD	ALVIN TX 77511-9023
68	MEDRANO MARIA Y MEDRANO C V ESTATE OF	9534 E AVENUE L	HOUSTON TX 77012-2850
69	MELENDEZ ALBERTO & MARIA L	9519 E AVENUE H	HOUSTON TX 77012-2827
70	MENA GERMAN & REYNA	9523 E AVENUE L	HOUSTON TX 77012-2849
71	MORALES MARGARET S	9514 E AVENUE I	HOUSTON TX 77012-2832
72	MUNDZ CARLOS J	10407 SAGEFOREST DR	HOUSTON TX 77089-3310
73	ONEAL STEEL INC ATTN: JODY PURYEAR	PO BOX 671287	DALLAS TX 75367-1287
74	ORTA MARIBEL N	9545 E AVENUE I	HOUSTON TX 77012-2831
75	PABLO VERA	9521 E AVENUE H	HOUSTON TX 77012-2827
76	PADGETT ROBERT T MRS	9610 E AVENUE J	HOUSTON TX 77012-2840
77	PATEL BHAVNA & GHANSHYAM	9345 MANCHESTER ST	HOUSTON TX 77012-2255
78	PAULSON PAUL D	4315 LUCIAN LN	FRIENDSWOOD TX 77546-4216
79	PHILIPSON INGRID	876 STREY LN UNIT 574	HOUSTON TX 77024-4377
80	PORT OF HOUSTON AUTHORITY	PO BOX 2562	HOUSTON TX 77252-2561
81	PROLER SOUTHWEST LP	90 HIRSCH RD	HOUSTON TX 77020-6332
82	RAMIREZ JOHN	9446 E AVENUE L	HOUSTON TX 77012-2848
83	RAMIREZ RAY GARZA	9819 SAGEDOWNE LN	HOUSTON TX 77089-3517
84	RAMON JESUS G	9510 E AVENUE I	HOUSTON TX 77012-2832
85	REYES GUADALUPE A ESTATE OF F L REYES	9540 E AVENUE I	HOUSTON TX 77012-2832
86	RHODIA INC % CONTROLLERS GROUP	8 CEDARBROOK DR	CRANBURY NJ 08512-3612
87	RIOS SAMUEL % SAMUEL RIOS	1302 95TH ST	HOUSTON TX 77012-2810
88	ROBLES JUAN A & CONSEPCION A	9507 E AVENUE H	HOUSTON TX 77012-2827
89	ROBLES SEDELIA	9503 E AVENUE L	HOUSTON TX 77012-2849
90	ROBLES VICTOR & IRMA P	9507 E AVENUE L	HOUSTON TX 77012-2849
91	ROCHA GREGORIA	9429 E AVENUE L	HOUSTON TX 77012-2847
92	RODRIGUEZ BENITO S	814 95TH ST	HOUSTON TX 77012-2406
93	RODRIGUEZ BERTHA F	11703 POPLARWOOD DR	HOUSTON TX 77089-6032
94	RODRIGUEZ GILBERTO	9607 E AVENUE K	HOUSTON TX 77012-2845
95	RODRIGUEZ LEONEL	9411 E AVENUE K	HOUSTON TX 77012-2841
96	RODRIGUEZ LEONEL & ALMA	9411 E AVENUE N	HOUSTON TX 77012-2421
97	ROSALES ALFREDO & NANCY	7217 DAHLIA ST	HOUSTON TX 77012-2954
98	SILVA HUMBERTO V	9546 E AVENUE I	HOUSTON TX 77012-2832
99	SILVA RODOLFO C & MARTHA C	9532 E AVENUE I	HOUSTON TX 77012-2832
100	SOLIS ANGELO SAUCEDO	9631 E AVENUE J	HOUSTON TX 77012-2839
101	SOUTHERN PACIFIC RAILROAD COMPANY UNION PACIFIC RA	1400 DOUGLAS ST STOP 1640	OMAHA NE 68179-1640
102	SUZANNE WILLIAMS BECK	9510 E AVENUE L	HOUSTON TX 77012-2850
103	TEXAS PORT RECYCLING LP	4400 PINEMONT DR	HOUSTON TX 77018-1040
104	TORRES ANCIRA	501 PECAN DR	SOUTH HOUSTON TX 77587-5133
105	TORRES CESAREO	9433 E AVENUE N	HOUSTON TX 77012-2421
106	TORRES CESAREO & PAULA	9533 E AVENUE K	HOUSTON TX 77012-2843
107	TREVINO TEOFILO EST	518 BROADWAY ST	HOUSTON TX 77012-1710
108	UNITED STATES GYPSUM CO	125 S FRANKLIN ST	CHICAGO IL 60606-4647
109	UNITED STATES OF AMERICA	819 TAYLOR ST	FORT WORTH TX 76102-6124
110	VALDEZ ANDREW & LUCY	310 CENTRAL ST	HOUSTON TX 77012-2304
111	VALDEZ EVELIA & JOSE	9502 E AVENUE I	HOUSTON TX 77012-2832
112	VARELA RENEE % FIRST CAPITAL INT LLC	9439 MANCHESTER ST	HOUSTON TX 77012-2449
113	VASQUEZ MARY L TRUST & ESTATE OF % JIMMY VASQUEZ	7810 BURLESON RD	AUSTIN TX 78744-3304
114	VILLANUEVA JOSE L	9422 E AVENUE O	HOUSTON TX 77012-2428
115	VILLANUEVA JOSE M	9632 E AVENUE K	HOUSTON TX 77012-2846
116	VITILA JOE R	9445 E AVENUE I	HOUSTON TX 77012-2829
117	WESTWAY TRADING CORP	365 CANAL ST STE 2900	NEW ORLEANS LA 70130
118	WINFREE BESSIE	7677 BONITA ST	HOUSTON TX 77016-6328
119	ZEPEDA JOSE D & JOVAN G	9638 E AVENUE K	HOUSTON TX 77012-2846

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

FOR AGENCIES REVIEWING INDUSTRIAL TPDES WASTEWATER PERMIT APPLICATIONS

TCEQ USE ONLY:
Application type: _____Renewal _____Major Amendment _____Minor Amendment _____New
County:_____ Segment Number_____Admin Complete Date:_____
Agency Receiving SPIF:
_____ Texas Historical Commission _____ U.S. Fish and Wildlife
_____ Texas Parks and Wildlife Department _____ U.S. Army Corps of Engineers

This form applies to TPDES permit applications only. (Instructions, Page 34)

The SPIF must be completed as a separate document. The TCEQ will mail a copy of the SPIF to each agency as required by the TCEQ agreement with EPA. If any of the items are not completely addressed and/or further information is needed, you will be contacted to provide the information before the permit is issued. Each item must be completely addressed.

Do not refer to a response of any item in the permit application form. Each attachment must be provided with this form separately from the administrative report of the application. The application will not be declared administratively complete without this form being completed in its entirety including all attachments.

The following applies to all applications:

1. Permittee: Valero Refining-Texas, L.P.
2. Permit No. WQ00 00535 (EPA ID No.) TX 0002976
3. Address of the project (location description that includes street/highway, city/vicinity, & county)
   9701 Manchester, 0.5 miles east of Loop 610, one-mile north of State Highway 225, and bordered on the north by the Houston Ship Channel, in the City of Houston, Harris County, Texas
4. Provide the name, address, phone and fax number of an individual that can be contacted to answer specific questions about the property.
   Name: Chris Hendrix Company: Valero Refining-Texas, L.P.
   Phone number: (713) 923-3359 Fax number: (713) 923-3561
   Street No.: 9701 Street name: Manchester Street type: Street
   P.O. Box: N/A City: Houston State: TX ZIP code: 77012
   Email: Chris.Hendrix@valero.com

5. List the county in which the facility is located: Harris

6. If the property is publicly owned and the owner is different than the permittee/applicant, please list the owner of the property.

   N/A

7. Provide a description of the effluent discharge route. The discharge route must follow the flow of effluent from the point of discharge to the nearest major watercourse (from the point of discharge to a classified segment as defined in 30 TAC Chapter 307). If known, please identify the Segment Number.

   Via Outfalls 001, 002, 003, 005, and 008 to the Houston Ship Channel/Buffalo Bayou Tidal and via Outfall 007 to the tidal portion of Sims Bayou, which is part of the Houston Ship Channel/Buffalo Bayou Tidal in Segment No. 1007 of the San Jacinto River Basin

8. Please provide a separate 7.5 minute USGS quadrangle map with the project boundaries plotted and a general location map showing the project area. Please highlight the discharge route from the point of discharge for a distance of one mile downstream. (This map is required **in addition to** the map in the administrative report). See attached USGS maps (Park Place), Pasadena).

9. Provide original photographs of any structures 50 years or older on the property. There are no buildings that are more than 50 years old. (There may be some process equipment remaining that is more than 50 years old.)

10. Does your project involve any of the following? Check all that apply.

None
- ☐ a. Proposed access roads, utility lines, construction easements
- ☐ b. Visual effects that could damage or detract from a historic property's integrity
- ☐ c. Vibration effects during construction or as a result of project design
- ☐ d. Additional phases of development that are planned for the future
- ☐ e. Sealing caves, fractures, sinkholes, other karst features
- ☐ f. Disturbance of vegetation or wetlands

11. List proposed construction impact (surface acres to be impacted, depth of excavation, sealing of caves, or other karst features).

    Any construction will occur within the main refinery complex and is not expected to have significant impacts.

12. Describe existing disturbances, vegetation and land use.

    This is a site of a petroleum refinery, with production and material storage/transfer areas, and wastewater treatment system.

THE FOLLOWING ITEMS APPLY ONLY TO APPLICATIONS FOR NEW TPDES PERMITS AND MAJOR AMENDMENTS TO TPDES PERMITS

13. List construction dates of all buildings and structures on the property.

    Commissioned in 1942, with later multiple upgrades.

14. Provide a brief history of the property, and name of the architect/builder, if known.

    Valero acquired the refinery when it purchased Basis Petroleum from Salomon Inc. in 1997.

TECHNICAL REPORT 1.0
INDUSTRIAL

THE FOLLOWING IS REQUIRED FOR ALL APPLICATIONS RENEWAL, NEW, AND AMENDMENT

1. FACILITY/SITE INFORMATION (Instructions, page 35)

a. Describe the type of activity and general nature of your business.

The Valero Houston Refinery is a fuels petroleum refinery with some petrochemicals production.

b. SIC Code(s) 2911 , _____ , _____ , _____

NAICS Code(s) 324110 , _____ , _____ , _____

c. Describe the wastewater generating processes.

See "Facility Description."

d. Provide a list of raw materials, major intermediates, and products handled at your facility.

Raw Materials	Intermediate Products	Final Products
crude oil	naphtha	gasoline
chemical feedstock	gaseous products	middle distillates
gas oil	reformate	fuel oils
residuum	alkylates	gaseous products
sulfuric acid	gas oils	sulfur
molybdenum catalyst		isooctane
palladium catalyst		flux

e. Indicate by a check mark that an attached facility map with the following information was provided with the application:

☑ Production areas, maintenance areas, materials handling areas, and waste disposal areas.

☑ The location of each unit of the wastewater treatment plant including the location of wastewater collection sumps and impoundments.

Attachment #: Site Map, Houston Refinery, Fig. A-3

f. Is this a new permit application for an existing facility? ☐ Yes ☑ No

If yes, provide background discussion below.

N/A

g. Is the treatment facility/disposal site located above the 100-year frequency flood level?

☑ Yes ☐ No

List source(s) used to determine 100-year frequency flood plain:

Flood Insurance Rate Map, Harris County, Panels 290 and 390, FEMA map no. 48201C0290H, Rev 9/30/92

If **no**, provide the elevation of the 100-year frequency flood plain and describe what protective measures are in use or planned to be used to prevent flooding of the treatment facility/disposal area.

N/A

h. For **new or amendment** permit applications, will there be discharge of fill material into a water in the state for construction of the proposed outfall structure? ☐ Yes ☑ No

If **no,** proceed to Item No. 2. If **yes,** has the applicant applied for a U.S. Corps of Engineers 404 Dredge and Fill permit? ☐ Yes ☐ No

If **yes,** provide the permit number: _____

If **no,** provide the approximate date you anticipate submitting your application to the Corps._____

2. TREATMENT SYSTEM (Instructions, page 36)

a. List any physical, chemical, an/or biological treatment process that you use for the treatment of wastewater at your facility. Include a description of each treatment process starting with initial treatment and finishing with the discharge point.

Major processes in the treatment system are oil/water separation, dissolved air flotation (DAF), equalization, activated sludge biological treatment, clarification, and sludge thickening and dewatering.

See "Facility Description" for additional information.

b. ☑ Indicate by a check mark that an attached flow schematic with a water balance was provided with the applications showing each treatment unit and all sources of wastewater flow into the treatment plant and to each outfall/point of disposal.

Attachment #: Facility Description

3. IMPOUNDMENTS (Instructions, pages 36)

Do you use or plan to use any wastewater lagoons, ponds, or impoundments

☐ Yes ☑ No

If **yes**, complete item **3(a)** for **existing** impoundments and items **3(a)-3(f)** for **new or proposed** impoundments. If **no**, proceed to Item No. 4.

a. Provide the following information in the table provided:

Designation: Indicate the appropriate use designation for each pond [Treatment **(T)**, Disposal **(D)**, Containment **(C)**, or Evaporation **(E)**]

Discharge Point: If a discharge occurs from the impoundments, designate the outfall associated with the impoundment.

Liner Information: If the impoundments are lined to comply with specifications outlined for **1) a compacted clay liner (C), 2) an in-situ clay liner (I), or 3) a synthetic/plastic/rubber liner (S)**, indicate the liner type with the appropriate letter designation **(see instructions for further detail on liner specifications)**. If not, provide a reference to the attachment that provides a description of the alternate liner and any additional technical information necessary for an evaluation.

Dimensions: Provide the dimensions(s), freeboard, surface area, and storage volume capacity of the impoundments. For impoundments with irregular shapes, submit surface area (instead of length and width), the average depth, and the maximum depth below natural ground level.

N/A. There are no existing or planned impoundments.

Impoundment Information Table

	Pond # _____	Pond # _____	Pond # _____	Pond # ____	Pond # ____
Designation					
(T) (D) (C) or (E)					
Discharge Point					
Outfall Number					
Liner Information					
Liner Type (C) (I) or (S)					
Alt. Liner Attachment Reference					
Dimensions					
Length (feet)	_____ft	_____ft	_____ft	_____ft	_____ft
Width (feet)	_____ft	_____ft	_____ft	_____ft	_____ft
Depth from Water Surface	_____ft	_____ft	_____ft	_____ft	_____ft
Depth from Nat. Ground Level	___avg ___max	___avg ___max	___avg ___max	___avg ___max	___avg ___max
Freeboard (feet)	_____ft	_____ft	_____ft	_____ft	_____ft
Surface Area (acres)	_____ acres	_____ acres	_____ acres	_____ acres	_____ acres
Storage Capacity (gallons)	_____ gal	_____ gal	_____ gal	_____ gal	_____ gal

	Pond # _____	Pond # _____	Pond # _____	Pond # ____	Pond # ____
Designation					
(T) (D) (C) or (E)					
Discharge Point					
Outfall Number					
Liner Information					
Liner Type (C) (I) or (S)					
Alt. Liner Attachment Reference					
Dimensions					
Length (feet)	_____ft	_____ft	_____ft	_____ft	_____ft
Width (feet)	_____ft	_____ft	_____ft	_____ft	_____ft
Depth from Water Surface	_____ft	_____ft	_____ft	_____ft	_____ft
Depth from Nat. Ground Level (avg/max) (feet)	___/___	___/___	___/___	___/___	___/___
Freeboard (feet)	_____ft	_____ft	_____ft	_____ft	_____ft
Surface Area (acres)	_____ acres	_____ acres	_____ acres	_____ acres	_____ acres
Storage Capacity (gallons)	_____ gal	_____ gal	_____ gal	_____ gal	_____ gal

N/A. There are no existing or planned impoundments.

THE FO LLOWING I TEMS A RE R EQUIRED O NLY FO R N EW O R PR OPOSED IMPOUNDMENTS.

b. Indicate by a check mark if any of the following data was provided with the application:

☐ Synthetic/plastic/rubber liner data

☐ In-situ clay liner data

Attachment #:_____

c. Are there any leak detection systems or ground water monitoring wells in place or planned? ☐ Yes ☐ No

☐ If **yes**, indicate by a check mark that a separate attachment was provided with the leak detection system information for each pond and/or gr ound water monitoring well data.

Attachment #:_____

d. Is t he b ottom of the p ond a bove t he s easonal h igh w ater t able in t he shallowest water bearing zone?

☐ Yes ☐ No

☐ If **no**, i ndicate by a check m ark that additional information was provided describing the depth of the seasonal high water table in the shallowest water bearing zone in relation to the depth of the bottom of the new or proposed impoundment and how this may or may not impact groundwater.

e. Indicate by a check mark that the following information was provided:

☐ A USGS quadrangle map or a color copy of original quality and scale which accurately locates and identifies water supply wells and/or monitor wells within ½ mile radius of the impoundments.

☐ Copies of State Water Well Reports (driller's logs, completion data), and data on depths to g round w ater fo r water supply w ells in cluding a d escription o f h ow t he d epths t o ground water were obtained.

For TLAP permit applications:

☐ Indicate by a check mark t hat t he new or proposed impoundment(s) and the land application disposal area are located in the same general area and the information for this item is provided in Worksheet 3.0 (item 8).

f. ☐ Indicate by a check m ark id any data w as p rovided w ith t he ap plication p ertaining t o the ground water, s oils, geology, etc. used t o assess t he p otential for m igration of w astes from the impoundments and/or the potential for contamination of ground water or surface water.

4. OUTFALL/DISPOSAL METHOD INFORMATION (Instructions, pages 39)

Complete the following tables to describe the location and wastewater discharge or disposal operations f or each outfall for discharge operations and for each point of disposal f or TLAP operations.

For TLAP permit applications: Indicate the disposal method and each individual **irrigation** area **(I)**, **evaporation pond (E)**, or **subsurface drainage system (S)** by providing the appropriate letter designation f or the disposal method f ollowed by a numerical designation f or each disposal area (e.g. evaporation pond, application area) in the space p rovided f or " Outfall" designation (e.g. "E1" for evaporation pond 1 , "I2" for irrigation area No. 2, etc.).

OUTFALL: 001

Latitude			Longitude			Location Description
29	43	25.9	95	15	9.7	Adjacent to the treatment plant, at the North property boundary on the Houston Ship Channel
Permitted Flow (MGD)			Proposed Flow (MGD)			
Dly Avg	Dly Max		Dly Avg	Dly Max		Discharge Duration
2.88	3.50		2.88	3.50		24 (hrs./day) 31 (days/mo.) 12 (mo./year)
☐ Pumped ☑ Gravity			Measurement Device: mag meter			☐ Intermittent ☐ Seasonal ☑ Continuous

Contributing Wastestreams:	Volume (MGD)	% of Total Flow
Treated process wastewater	1.10	56
Utility wasteawaters (cooling tower blowdown,	0.77	40
boiler blowdown, reverse osmosis reject, water softening		
wastewaters)		
Process area storm water	0.07	4
Note: Flow volumes are averages.		

OUTFALL: 002

Latitude			Longitude			Location Description
29	43	27.7	95	15	11.8	Located at the north boundary of the plant site, on the Houston Ship Channel, next to the wastewater treatment plant
Permitted Flow (MGD)			Proposed Flow (MGD)			
Dly Avg	Dly Max		Dly Avg	Dly Max		Discharge Duration
N/A	N/A		N/A	N/A		N/A (hrs./day) N/A (days/mo.) N/A (mo./year)
☐ Pumped ☑ Gravity			Measurement Device: estimate			X Intermittent ___ Seasonal ___ Continuous

Contributing Wastestreams:	Volume (MGD)	% of Total Flow
Post first-flush storm water runoff	variable	~100%
Steam condensate		
Fire water		
Cooling tower overspray		
Heat exchanger cooling water		

OUTFALL: 003

Latitude			Longitude			Location Description
29	43	14.43	95	14	58.87	Far northeast corner of the plant site, next to dock, on the Houston Ship Channel
Permitted Flow (MGD)			Proposed Flow (MGD)			
Dly Avg	Dly Max		Dly Avg	Dly Max		Discharge Duration
N/A	N/A		N/A	N/A		N/A (hrs./day) N/A (days/mo.) N/A (mo./year)
☐ Pumped ☑ Gravity			Measurement Device: estimate			X Intermittent ___ Seasonal ___ Continuous

Contributing Wastestreams:	Volume (MGD)	% of Total Flow
Storm water runoff	variable	~100%
Steam condensate	negligible	
Fire water		
Hydrostatic test water (may include colored dye)	intermittent	

OUTFALL: 005

Latitude			Longitude			Location Description
29	43	32.8	95	15	26.1	Northwest corner of the plant site on the Houston Ship Channel, approximately 500 feet from Outfall 006.
Permitted Flow (MGD)			Proposed Flow (MGD)			
Dly Avg	Dly Max		Dly Avg	Dly Max		Discharge Duration
N/A	N/A		N/A	N/A		N/A (hrs./day) N/A (days/mo.) N/A (mo./year)
☐ Pumped ☑ Gravity			Measurement Device: estimate			X Intermittent ___ Seasonal ___ Continuous

Contributing Wastestreams:	Volume (MGD)	% of Total Flow
Storm water runoff	variable	~100%
Steam condensate	negligible	
Fire water		
Hydrostatic test water	intermittent	

OUTFALL: 006

Latitude			Longitude			Location Description
29	43	33.1	95	15	35.3	Far northwest corner of the plant site on the Houston Ship Channel
Permitted Flow (MGD)			Proposed Flow (MGD)			
Dly Avg	Dly Max		Dly Avg	Dly Max		Discharge Duration
N/A	N/A		N/A	N/A		N/A (hrs./day) N/A (days/mo.) N/A (mo./year)
☐ Pumped ☑ Gravity			Measurement Device: estimate			X Intermittent ___ Seasonal ___ Continuous

Contributing Wastestreams:	Volume (MGD)	% of Total Flow
Storm water runoff	variable	~100%
Steam condensate	negligible	
Fire water		
Hydrostatic test water	intermittent	

OUTFALL: 007

Latitude			Longitude			Location Description
29	42	48.8	95	15	3.2	Southeast corner of the plant site, discharging to Sims Bayou, after the last weir prior to the end-pipe
Permitted Flow (MGD)			Proposed Flow (MGD)			
Dly Avg	Dly Max		Dly Avg	Dly Max		Discharge Duration
N/A	N/A		N/A	N/A		N/A (hrs./day) N/A (days/mo.) N/A (mo./year)
☐ Pumped ☑ Gravity			Measurement Device: estimate			X Intermittent ___ Seasonal ___ Continuous

Contributing Wastestreams:	Volume (MGD)	% of Total Flow
Storm water runoff	variable	~100%
Steam condensate	negligible	
Fire water		
Hydrostatic test water	intermittent	

OUTFALL: 008

Latitude			Longitude			Location Description
29	43	25.4	95	15	8.4	At the north boundary of the plant site on the Houston Ship Channel, approximately 100 feet east of Outfall 001
Permitted Flow (MGD)			Proposed Flow (MGD)			
Dly Avg	Dly Max		Dly Avg	Dly Max		Discharge Duration
N/A	N/A		N/A	N/A		N/A (hrs./day) N/A (days/mo.) N/A (mo./year)
☐ Pumped ☑ Gravity			Measurement Device: estimate			X Intermittent ___ Seasonal ___ Continuous

Contributing Wastestreams:	Volume (MGD)	% of Total Flow
Non-process area storm water	variable	~100%
Steam condensate	negligible	
Fire water		
Cooling tower overspray	negligible	
Heat exchanger cooling water backwash		
Hydrostatic test water	intermittent	

OUTFALL: _____

Latitude			Longitude			Location Description
Permitted Flow (MGD)			Proposed Flow (MGD)			
Dly Avg	Dly Max		Dly Avg	Dly Max		Discharge Duration
						_____ (hrs./day) _____ (days/mo.) _____ (mo./year)
___ Pumped ___ Gravity			Measurement Device: _____			___ Intermittent ___ Seasonal ___ Continuous

Contributing Wastestreams:	Volume (MGD)	% of Total Flow

5. BLOWDOWN AND ONCE-THROUGH COOLING WATER DISCHARGES (Instructions, page 40)

a. Does your facility use any cooling towers or boilers that discharge blowdown or other wastestreams to the outfall(s)? ☑ Yes ☐ No

b. Does your facility discharge once-through cooling water to the outfall(s)? ☐ Yes ☑ No

c. If **yes** to either item **a** or **b**, indicate with a check mark that the appropriate MSDS with the following information for each chemical additive was submitted with the application.

- ☑ Manufacturers Product Identification Number.
- ☑ Product use. (e.g., biocide, fungicide, corrosion inhibitor, etc.)
- ☑ Chemical Composition including Chemical Abstracts System (CAS) number for each ingredient.
- ☐ Classify product as non-persistent, persistent, or bioaccumulative.
- ☐ Product or active ingredient half-life.
- ☑ Frequency of product use (e.g., 2 hr/day once every two weeks).
- ☑ Product toxicity data specific to fish and aquatic invertebrate organisms.
  - ☐ Concentration of whole product in wastestream (if above item is for whole product)
  - ☐ Concentration of active ingredient in wastestream (if above item is for active ingredient)

Please provide a summary of this information in addition to the submittal of the MSDS for each specific wastestream and the associated chemical additives and specify which outfalls are affected.

Attachment: Treatment Chemicals and MSDSs

d. Cooling Towers and Boilers

	Number of Units	Daily Avg. Blowdown	Daily Max Blowdown
Cooling Towers	6 cooling towers	Daily Avg: _____ gallons/day	Daily Max: _____ gallons/day
Boilers	13 boilers	Daily Avg: _____ gallons/day	Daily Max: _____ gallons/day

6. STORM WATER MANAGEMENT (Instructions, page 41)

Are there any existing or proposed outfalls which discharge storm water runoff commingled with other wastestreams?

☑ Yes ☐ No. If **yes**, provide the following information. If **no**, proceed to Item No. 7.

a. Provide a brief narrative description of the industrial processes and activities that occur outdoors or in some manner that may result in exposure of the materials to precipitation or runoff in areas where runoff is generated.

See Figures A-4 and A-5 for the areas drained by each outfall and see "Facility Description" for a description of the refinery's storm water management procedures for its storm water outfalls.

Storm water is potentially exposed to tanks, piping, and process equipment in the main process areas, which is managed through Outfalls 001 and 002. First-flush storm water from the process areas is treated and discharged through Outfall 001. Post first-flush storm water is discharged through Outfall 002. Storm water is also potentially exposed to raw material and product tanks, which would discharge to Outfalls 003, 005, 006, 007, and 008. The major raw materials, intermediate products, and final products handled at the refinery are listed in Item 1d on pg. 1.

All raw material and products are stored/processed in tanks and process equipment designed to prevent release of material to storm water pathways. Any spilled material is promptly removed.

7. DOMESTIC SEWAGE, SEWAGE SLUDGE, AND/OR SEPTAGE MANAGEMENT AND DISPOSAL (Instructions, page 41)

a. Please check the appropriate method(s) of domestic sewage and domestic sewage sludge treatment/disposal and complete Attachment F if directed.

☐ Domestic sewage is not generated on-site. **PROCEED TO ITEM NO. 8.**

☐ Both domestic and industrial treatment sludge **ARE commingled** prior to use or disposal. **PROCEED TO ITEM NO. 8.**

☐ Industrial wastewater and domestic sewage are treated separately and the respective sludge **IS NOT commingled** prior to sludge use or disposal **COMPLETE WORKSHEET 5.0 OF THIS APPLICATION.**

☐ If your facility is a POTW, **COMPLETE WORKSHEET 5.0 OF THIS APPLICATION.**

☑ Facility is connected to a wastewater treatment plant permitted to receive domestic sewage, or the domestic sewage is transported off-site to a permitted facility for treatment and/or disposal. **COMPLETE ITEM NO. 7.B.**

☐ Domestic sewage is disposed of by an on-site septic tank. **COMPLETE ITEM 7.B.**

☐ Other: Please provide a detailed description below.

b. Provide the name and TCEQ, NPDES, and/or TPDES Permit No. of the waste disposal facility which receives the domestic sewage/septage. If hauled by motorized vehicle, provide the name and TCEQ Registration No. of the hauler.

Plant/Hauler Name	Permit/Registration No.
City of Houston, Sims Bayou Plant	TPDES 10495-002

8. IMPROVEMENTS OR COMPLIANCE/ENFORCEMENT REQUIREMENTS (Instructions, page 42)

Is the permittee currently required to meet any implementation schedule for compliance or enforcement? ☐ Yes ☑ No

If **yes**, provide a brief summary of the requirements and a status update.

N/A

9. TOXICITY TESTING (Instructions, page 42)

Have any biological tests for acute or chronic toxicity been made on any of your discharges or on a receiving water in relation to your discharge within the last three (3) years?
☑ Yes ☐ No

If **yes**, identify the tests and describe their purposes below. Please attach a copy of all tests performed that have not been previously sent to the TCEQ and/or EPA.

Valero conducts biomonitoring as required by permit at Outfall 001 for chronic marine toxicity (once per quarter for mysid shrimp and inland silverside) and 24-hr acute marine toxicity (once per 6 months for mysid shrimp and inland silverside). Reports of these tests are submitted to the TCEQ as required by the permit.

10. OFF-SITE/THIRD PARTY WASTES (Instructions, page 42)

Do you receive wastes from off-site sources for treatment in your facility, disposal on-site via land application, and/or discharge via a permitted outfall ☐ Yes ☑ No

If **no**, proceed to Item No. 11. If **yes**, proceed as directed.

a. Indicate with a check mark that a detailed attachment with the following information was provided with the application:

- ☐ List of wastes received
- ☐ Characterization of wastes received
- ☐ Volumes of each waste received
- ☐ Info. on compatibility with on-site wastes
- ☐ Identified sources of wastes received
- ☐ Name and addresses of generators
- ☐ Description of the relationship of waste source(s) with your facility's activities.

Attachment: _____

b. Is wastewater from a TCEQ, NPDES, and/or TPDES permitted facility commingled with your wastewater after your final treatment and prior to discharge via your final outfall/point of disposal? ☐ Yes ☐ No

If **yes**, provide the name, address, and TCEQ, NPDES, and/or TPDES permit number of the contributing facility and a copy of any agreements and/or contracts relating to this activity.

c. Is your facility a Publicly Owned Treatment Works (POTW) that accepts process wastewater from any Significant Industrial User (SIU) and has or is required to have an approved pretreatment program under the NPDES/TPDES program? ☐ Yes ☐ No

If **yes**, complete **Worksheet 6.0** of this application.

11. RADIOACTIVE MATERIALS (Instructions, page 43)

Are radioactive materials mined, used, stored, or processed at this facility? ☐ Yes ☑ No

If **yes,** Provide alist of the materials and the results of one analysis of your effluent in picocuries per liter (pCi/L) for all radioactive parameters which may be present.

Radioactive Materials	Conc. (pCi/L)

THE FOLLOWING ITEMS ARE ONLY REQUIRED FOR EXISTING PERMITTED FACILITIES.

12. MAJOR AMENDMENT REQUESTS (Instructions, pages 43)

Are you requesting a major amendment of an existing permit? ☑ Yes ☐ No

If **yes**, list each specific request and provide discussion on the scope of any requested permit changes.

Valero is requesting n increase in Outfall 001 effluent limits based on planned production increases during the next 5-year permit term. Production data are provided in Worksheet 1.

Add additional utility wastewaters to the description of Outfall 001: reverse osmosis reject water and water softening wastewaters. On the effluent table for Outfall 001 in the permit, list the Outfall 001 wastewaters as: treated process wastewater, process area storm water, and utility wastewater. Add a listing of utility wastewaters in the Other Requirements section of the permit to include: cooling tower blowdown, boiler blowdown, reverse osmosis reject water, and water softening wastewaters).

If necessary, provide supplemental information or additional data that will support the request.

13. MINOR MODIFICATION REQUESTS (Instructions, page 43)

Are you requesting any minor modifications to the permit? ☐ Yes ☑ No **Note:** see the instructions for an exclusive list of changes considered as minor modifications.

If **yes**, list and discuss the requested changes.

N/A

14. MINOR AMENDMENT REQUESTS (Instructions, page 44)

Are you requesting any minor amendments to the permit? ____Yes _✔_ No

If **yes**, list and discuss the requested changes.

N/A

WORKSHEETS
TO THE INDUSTRIAL WASTEWATER PERMIT APPLICATION TECHNICAL REPORT

Please review the worksheet requirements in the instructions and indicate by checking either yes or no which worksheets are required, completed, and submitted with the technical report. Worksheets that are not applicable do not need to be submitted with the technical report.

WORKSHEET	COMPLETED AND SUBMITTED WITH THE TECHNICAL REPORT:	
	YES	NO
1.0: EPA EFFLUENT CATEGORICAL GUIDELINES	✔	☐
2.0: POLLUTANT ANALYSES REQUIREMENTS	✔	☐
3.0: LAND DISPOSAL OF EFFLUENT	☐	✔
3.1: SURFACE LAND DISPOSAL OF EFFLUENT	☐	✔
3.2: SUBSURFACE LAND DISPOSAL OF EFFLUENT	☐	✔
3.3: SUBSURFACE AREA DRIP DISPERSAL SYSTEM LAND DISPOSAL OF EFFLUENT	☐	✔
4.0: RECEIVING WATERS	✔	☐
4.1: STREAM PHYSICAL CHARACTERISTICS WORKSHEET	☐	✔
5.0: SEWAGE SLUDGE MANAGEMENT AND DISPOSAL	☐	✔
6.0: INDUSTRIAL WASTE CONTRIBUTION	☐	✔
7.0: STORM WATER RUNOFF	✔	☐
8.0: AQUACULTURE	☐	✔
9.0: CLASS V INJECTION WELL	☐	✔
10.0: QUARRIES IN THE JOHN GRAVES SCENIC RIVERWAY	☐	✔

WORKSHEET 1.0
EPA EFFLUENT CATEGORICAL GUIDELINES

REQUIRED FOR ALL APPLICATIONS FOR TPDES PERMITS FOR DISCHARGES OF WASTEWATERS SUBJECT TO EPA EFFLUENT LIMITATION GUIDELINES.

1. CATEGORICAL INDUSTRIES (Instructions, pages 47)

Is your facility subject to any of the 40 CFR effluent guidelines outlined in Table 1?
☑ Yes ☐ No

If **yes**, provide the appropriate information in the table below. If **no**, this worksheet is not required.

Industry	CFR
Petroleum Refining	**40 CFR 419**

2. PRODUCTION/PROCESS DATA (Instructions, page 48)

a. Production data: Provide the appropriate data for effluent guidelines with production based effluent limitations.

Subcategory	Actual Quantity/Day	Design Quantity/Day	Units
See "Facility Description."			

b. Organic Chemicals, Plastics, and Synthetic Fibers Manufacturing Data (40 CFR Part 414): Provide each appropriate subpart and the percent of total production. Also provide the appropriate data for metal bearing wastestreams as required in 40 CFR Part 414, Appendices A and B.

Subcategory	**% of total production**	**Appendix A and B**	
		Metal	**Process**
N/A			

c. **Refineries (40 CFR Part 419):** Provide the applicable subcategory and a brief justification for each.

Subpart C - Petrochemical Subcategory
The facility produces fuels and some petrochemicals. The products produced include gasoline, middle distillates, fuel oils, gaseous products, sulfur, and isooctane.

3. PROCESS/NON-PROCESS WASTEWATER FLOWS: Provide a breakdown of process wastewater flow(s) and non-process wastewater flow(s) as directed. (Instructions, page 48)

See "Facility Descrption."

4. NEW SOURCE DETERMINATION: Provide a list of wastewater generating processes subject to effluent guidelines and the appropriate information. (Instructions, page 48)

Process	EPA Guideline		Date Process/ Construction Commenced
	Part	Subpart	
Petroleum refining	419	C	1942

WORKSHEET 2.0
POLLUTANT ANALYSES REQUIREMENTS

REQUIRED FO R A PPLICATIONS S UBMITTED FO R A T PDES PER MIT. N OT REQUIRED FO R APPLICATIONS F OR A PER MIT T O D ISPOSE O F ALL WASTEWATER BY LAND DISPOSAL OR FOR DISCHARGES SOLELY OF STORM WATER RUNOFF. (General Requirements: Instructions, Pages 49-51)

1. TABLE 1: Complete table required for all external outfalls.

Outfall No.:001 ■C □G	Effluent Concentration (mg/l)				
Pollutants	**Samp.**	**Samp.**	**Samp.**	**Samp.**	**Average**
BOD (5-day)	<2	<2	<2	4.9	2.0
CBOD (5-day)	2	<2	<2	5	2.2
Chemical Oxygen Demand	68.8	52.6	40.5	62.7	56.1
Total Organic Carbon	17.1	16	14.2	16.6	16.0
Dissolved Oxygen (grab)	4.5	2.7	4.78	5.45	4.4
Ammonia Nitrogen	0.59	0.38	<0.1	0.13	0.29
Total Suspended Solids	22	14	9	19.3	16.1
Nitrate Nitrogen	24.7	48.3	70.2	69.5	53.2
Total Organic Nitrogen	10.3	10.9	11.3	11.3	11.0
Total Phosphorus	0.32	0.32	0.57	0.45	0.42
Oil and Grease (grab)	<2.1	<2.1	<2.1	<2.1	<2.1
Total Residual Chlorine (grab)	0.1	0.1	0.1	0.1	0.1
Total Dissolved Solids	4150	4720	5920	7220	5502
Sulfate	1990	3080	3370	3820	3065
Chloride	692	530	651	492	591
Fluoride	1.1	1.3	<2.5	1.2	1.2
Fecal Coliform	N/A. See enterococcus analysis, Table 3.				
Temperature (°F) (grab)	97.5	95.6	95.8	97.1	96.5
pH (Standard Units; min/max) (grab)	8.3	8.2	8.5	8.5	8.4

	Effluent Concentration (µg/l)					MAL (µg/l)
Total Aluminum	283	204	199	3080	942	30
Total Antimony	29.6	16.3	21	21.8	22.2	30
Total Arsenic	7.7	7.8	12	8.1	8.9	10
Total Barium	143	110	134	94.5	120	10
Total Beryllium	<0.5	<0.5	<0.5	<0.5	<0.5	5
Total Cadmium	<0.5	<0.5	<0.5	<0.5	<0.5	1
Total Chromium	<4	<4	<4	<4	<4	10
Trivalent Chromium	<14	<14	<14	<14	<14	N/A
Hexavalent Chromium	<10	<10	11	<10	6.5	10
Total Copper	<4	<4	<4	16.7	5.7	10
Cyanide (EPA 335.4)	13	33	44	34	31	20
Total Lead	5.8	9.6	<0.5	7.1	5.7	5
Total Mercury	<0.2	<0.2	<0.2	<0.2	<0.2	0.2
Total Nickel	7.6	7.7	7.7	<4	6.2	10
Total Selenium	36.9	46.7	38.7	57.1	44.8	10
Total Silver	<2	<2	<2	<2	<2	2.0
Total Thallium	<0.5	<0.5	<0.5	<0.5	<0.5	10
Total Zinc	97.3	134	151	52	109	5

2. TABLE 2:

Complete table required for all external outfalls which discharge process wastewater. Partial table required for all external outfalls with nonprocess wastewater discharges. Stormwater runoff discharges commingled with other wastestreams shall complete the table as instructed (Instructions, Pages 49-51).

Outfall No.: 001 ■C □G		Effluent Concentration (µg/l) (*1)				
Pollutants	**Samp. 1**	**Samp. 2**	**Samp 3.**	**Samp. 4**	**Average**	**MAL (µg/l)**
Benzene	<1	<1	<1	<1	<1	10
Benzidine	<25	<36	<25	<25	<28	50
Benzo(a)anthracene	<5	<7	<5	<5	<6	10
Benzo(a)pyrene	<5	<7	<5	<5	<6	10
Carbon Tetrachloride	<1	<1	<1	<1	<1	10
Chlorobenzene	<1	<1	<1	<1	<1	10
Chloroform	23.4	25.4	23.2	9.7	20.4	10
Chrysene	<5	<7	<5	<5	<6	10
Cresols	<10	<14	<10	<10	<11	(*2)
Dibromochloromethane	1.4	1.8	0.77	0.79	1.19	10
1,2-Dibromoethane	<1	<1	<1	<1	<1	2
1,4-Dichlorobenzene	<5	<7	<5	<5	<6	10
1,2-Dichloroethane	<1	<1	<1	<1	<1	10
1,1-Dichloroethylene	<1	<1	<1	<1	<1	10
Fluoride	1100	1300	<2500	1200	1200	500
Hexachlorobenzene	<5	<7	<5	<5	<6	10
Hexachlorobutadiene	<5	<7	<5	<5	<6	10
Hexachloroethane	<5	<7	<5	<5	<6	20
Methyl Ethyl Ketone	<10	<10	<10	<10	<10	50
Nitrobenzene	<5	<7	<5	<5	<6	10
n-Nitrosodiethylamine	<5	<7	<5	<5	<6	20
n-Nitroso-di-n-Butylamine	<5	5	<5	<5	3	20
PCB's, Total (*3)	<0.5	<0.85	<0.25	<0.5	<0.5	1
Pentachlorobenzene	<5	<7	<5	<5	<6	20
Pentachlorophenol	<25	<36	<25	<25	<28	50
Phenanthrene	<5	<7	<5	<5	<6	10
Pyridine	<5	<7	<5	<5	<6	20
1,2,4,5-Tetrachlorobenzene	<5	<7	<5	<5	<6	20
Tetrachloroethylene	<1	<1	<1	<1	<1	10
Trichloroethylene	<1	<1	<1	<1	<1	10
1,1,1-Trichloroethane	<1	<1	<1	<1	<1	10
2,4,5-Trichlorophenol	<5	<7	<5	<5	<6	50
TTHM (Total Trihalmethanes)	27.6	31.52	26.47	11.79	24.34	10
Vinyl Chloride	<1	<1	<1	<1	<1	10

(*1) Indicates units if different from µg/l.
(*2) MAL's for Cresols: p-Chloro-m-Creso 10 µg/l; 4,6-Dinitro-o-Cresol 50 µg/l; p-Cresol 10 µg/l.
(*3) Total PCB-1242, PCB-1254, PCB-1221, PCB-1232, PCB-1248, PCB-1260, PCB-1016.

a. LABORATORY ACCREDITATION:

Effective July 1, 2008, all laboratory tests performed must meet the requirements of 30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification with the following general exemptions:

i. The laboratory is an in-house laboratory and is:
   1. periodically inspected by the TCEQ; or
   2. located in another state and is accredited or inspected by that state; or
   3. performing work for another company with a unit located in the same site; or
   4. performing pro bono work for a governmental agency or charitable organization.

ii. The laboratory is accredited under federal law.

iii. The data are needed for emergency-response activities, and a laboratory accredited under the Texas Laboratory Accreditation Program is not available.

iv. The laboratory supplies data for which the TCEQ does not offer accreditation.

The applicant should review 30 TAC Chapter 25 for specific requirements. The following certification statement shall be signed and submitted with very application. See Instructions, Page 30, for a list of designated representatives who may sign the certification.

I, Mark Skibel certify that all laboratory tests submitted with this application meet the requirements of 30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.

3. TABLE 3:

Partial table (only those pollutants which are required by the conditions specified) required for each external outfall. Not required for internal outfalls. (Instructions, Pages 49-51)

a. TRIBUTYLTIN:

Is your facility or will your proposed facility be an industrial/commercial facility which directly disposes of wastewater from the types of operations listed below or a domestic facility which receive wastewater from the types of industrial/commercial operations listed below? ☐ Yes ☑ No

If **yes**, indicate with a check mark all of the following criteria which apply and provide the appropriate testing results in the table below.

- ☐ Manufacturers and formulators of tributyltin or related compounds.
- ☐ Painting of ships, boats and marine structures.
- ☐ Ship and boat building and repairing.
- ☐ Ship and boat cleaning, salvage, wrecking and scaling.
- ☐ Operation and maintenance of marine cargo handling facilities and marinas
- ☐ Facilities engaged in wood preserving
- ☐ Any other industrial/commercial facility for which tributyltin is known to be present, or for which there is any reason to believe that tributyltin may be present in the effluent.

b. ENTEROCOCCI

Does your facility or will your proposed facility discharge directly into saltwater receiving waters?

☑ Yes ☐ No

If **yes**, provide the appropriate testing results in the table below.

TABLE 3

Outfall No.:	☐C ■G	**Effluent Concentration (µg/l)**					
Pollutants		**Samp. 1**	**Samp.**	**Samp.**	**Samp.**	**Averag**	**MAL**
Tributyltin		N/A	N/A	N/A	N/A	N/A	0.010
Enterococci		14.7	19.5	1732.9	33.4	64	N/A

4. TABLE 4:

Complete table r equired f or all external outfalls which discharge process wastewater and other wastewaters, which way contain pesticides or herbicides, from a facility which manufactures or formulates pesticides or herbicides. Not required for internal outfalls. (Instructions, Page 52)

Does your facility manufacture or formulate pesticides or herbicides? ☐ Yes ☑ No

If **yes**, provide the appropriate testing results.

Not Applicable

TABLE 4

Outfall No.: ☐C ☐G	Effluent Concentration (µg/l) (*1)					MAL (µg/l)
Pollutants	Samp. 1	Samp. 2	Samp. 3	Samp. 4	Avg.	
Beta-hexachlorocyclohexane						0.05
Carbaryl						5
Chlordane						0.15
Chlorpyrifos						0.05
2,4-D						10
Danitol						----
4,4'-DDD						0.1
4,4'-DDE						0.1
4,4'-DDT						0.1
Demeton						0.2
Diazinon						0.5
Dicofol						20
Dieldrin						0.1
Diuron						0.09
Endosulfan I (alpha)						0.1
Endosulfan II (beta)						0.1
Endosulfan Sulfate						0.1
Endrin						0.1
Gamma - Hexachlorocyclohexane (Lindane)						0.05
Guthion						0.10
Heptachlor						0.05
Heptachlor Epoxide						1.0
Hexachlorophene						10
Malathion						0.10
Methoxychlor						2.0
Mirex						0.2
Parathion						0.1
Toxaphene						5
2,4,5-TP (Silvex)						2

* Indicate units if different from mg/L.

5. TABLE 5:

Complete table required for all external outfalls. Not required for internal outfalls. (Instructions, Page 52)

TABLE 5

Outfall No.: 001 ■C □G	Believed Present	Believed Absent	Effluent Concentration (mg/l)		
Pollutants			Average	Maximum	No. of Samples
Bromide	x		1.03	<2.5	4
Color(PCU)	x		50	60	4
Nitrate-Nitrite(as N)	x		56.3	74.9	4
Sulfide(as S) (grab)		x	<0.2	<0.2	4
Sulfite(as SO_3) (grab)	x		1.1	1.4	4
Surfactants	x		0.36	0.68	3
Total Antimony	x		0.022	0.0296	4
Total Beryllium		x	<0.0005	<0.0005	4
Total Boron	x		0.334	0.375	4
Total Cobalt	x		0.0015	0.0022	4
Total Iron	x		0.89	3.07	4
Total Magnesium	x		9.9	11.1	4
Total Molybdenum	x		0.12	0.176	4
Total Manganese	x		0.043	0.0532	4
Total Thallium		x	<0.0005	<0.0005	4
Total Tin		x	<0.005	<0.005	4
Total Titanium	x		0.0023	0.0029	4

6. TABLE 6:

Indicate with a check mark any of the industrial caategories applicable to your facility. If testing is required, indicate with a check mark in the box provided that the testing results for the appropriate parameters in Table B-7 are provided with the application. (Instructions, Page 52)

N/A	GC/MS Testing Required			
	Volatile	**Acid**	**Base/Neutral**	**Pesticides**
____ Adhesives and Sealants	Yes ☐	Yes ☐	Yes ☐	No
____ Aluminum Forming	Yes ☐	Yes ☐	Yes ☐	No
____ Auto and Other Laundries	Yes ☐	Yes ☐	Yes ☐	Yes ☐
____ Battery Manufacturing	Yes ☐	No	Yes ☐	No
____ Coal Mining	No	No	No	No
____ Coil Coating	Yes ☐	Yes ☐	Yes ☐	No
____ Copper Forming	Yes ☐	Yes ☐	Yes ☐	No
____ Electric and Electronic Components	Yes ☐	Yes ☐	Yes ☐	Yes ☐
____ Electroplating	Yes ☐	Yes ☐	Yes ☐	No
____ Explosives Manufacturing	No	Yes ☐	Yes ☐	No
____ Foundries	Yes ☐	Yes ☐	Yes ☐	No
____ Gum and Wood Chemicals				
____ Subparts A,B,C,E	Yes ☐	Yes ☐	No	No
____ Subparts D,F	Yes ☐	Yes ☐	Yes ☐	No
____ Inorganic Chemicals	Yes ☐	Yes ☐	Yes ☐	No
____ Iron and Steel Manufacturing	Yes ☐	Yes ☐	Yes ☐	No
____ Leather Tanning/Finishing	Yes ☐	Yes ☐	Yes ☐	No
____ Mechanical Products Manufacturing	Yes ☐	Yes ☐	Yes ☐	No
____ Nonferrous Metals Mfg.	Yes ☐	Yes ☐	Yes ☐	Yes ☐
____ Ore Mining(Subpart B)	No	Yes ☐	No	No
____ Organic Chemicals, Plastics, and Synthetic Fibers	Yes ☐	Yes ☐	Yes ☐	Yes ☐
____ Paint and Ink Formulation	Yes ☐	Yes ☐	Yes ☐	No
____ Pesticides	Yes ☐	Yes ☐	Yes ☐	Yes ☐
✔ Petroleum Refining	Yes ☑	No	No	No
____ Pharmaceutical Preparations	Yes ☐	Yes ☐	Yes ☐	No
____ Photographic Equipment and Supplies	Yes ☐	Yes ☐	Yes ☐	No
____ Plastic and Synthetic Materials Manufacturing	Yes ☐	Yes ☐	Yes ☐	Yes ☐
____ Plastic Processing	Yes ☐	No	No	No
____ Porcelain Enameling	No	No	No	No
____ Printing and Publishing	Yes ☐	Yes ☐	Yes ☐	Yes ☐
____ Pulp and Paperboard Mills				
____ Subparts A	* ☐	Yes ☐	* ☐	Yes ☐
____ Subparts B, C, D, R	* ☐	Yes ☐	* ☐	* ☐
____ Subparts F, G, H, I, K, L, M, N, O, P	Yes ☐	Yes ☐	* ☐	* ☐
____ Subparts E, Q, S, T	Yes ☐	Yes ☐	* ☐	Yes ☐
____ Subparts J, U	Yes ☐	Yes ☐	Yes ☐	* ☐
____ Rubber Processing	Yes ☐	Yes ☐	Yes ☐	No
____ Soap and Detergent Manufacturing	Yes ☐	Yes ☐	Yes ☐	No
____ Steam Electric Power Plants	Yes ☐	Yes ☐	No	No
____ Textile Mills (Not Subpart C)	Yes ☐	Yes ☐	Yes ☐	No
____ Timber Products Processing	Yes ☐	Yes ☐	Yes ☐	Yes ☐

* Test if "believed present"

7. TABLE 7:

Please complete as directed and only for those parameters specified in Table 6 . Required for all external outfalls which contain process wastewater. Not required for internal outfalls. Testing may be required for types of industry not specified in Table 6 for specific parameters if believed present (Instructions, Pages 52-53).

TABLE 7

Outfall No.: 001 ■C ☐G	Effluent Concentration (µg/l)*			
Pollutants VOLATILE COMPOUNDS	Average	Maximum	Number of Samples	MAL (µg/l)
Acrolein	<20	<20	4	50
Acrylonitrile	<5	<5	4	50
Benzene	<1	<1	4	10
Bromoform	<1	<1	4	10
Carbon Tetrachloride	<1	<1	4	10
Chlorobenzene	<1	<1	4	10
Chlorodibromomethane	1.2	1.8	4	10
Chloroethane	<1	<1	4	50
2-Chloroethylvinyl Ether	<5	<5	4	10
Chloroform	20.4	25.4	4	10
Dichlorobromomethane	2.5	3.5	4	10
1,1-Dichloroethane	<1	<1	4	10
1,2-Dichloroethane	<1	<1	4	10
1,1-Dichloroethylene	<1	<1	4	10
1,2-Dichloropropane	<1	<1	4	10
1,3-Dichloropropylene	<1	<1	4	10
Ethylbenzene	<1	<1	4	10
Methyl Bromide	<1	<1	4	50
Methyl Chloride	<1	0.38	4	50
Methylene Chloride	<5	<5	4	20
1,1,2,2-Tetrachloroethane	<1	<1	4	10
Tetrachloroethylene	<1	<1	4	10
Toluene	<1	<1	4	10
1,2-Trans-Dichloroethylene	<1	<1	4	10
1,1,1-Trichloroethane	<1	<1	4	10
1,1,2-Trichloroethane	<1	<1	4	10
Trichloroethylene	<1	<1	4	10
Vinyl Chloride	<1	<1	4	10

Pollutants	Effluent Concentration (µg/l)*			
	Average	Maximum	Number of Samples	MAL (µg/l)
ACID COMPOUNDS				
2-Chlorophenol	<6	<7	4	10
2,4-Dichlorophenol	<6	<7	4	10
2,4-Dimethylphenol	<6	<7	4	10
4,6-Dinitro-o-Cresol	<11	<14	4	50
2,4-Dinitrophenol	<28	<36	4	50
2-Nitrophenol	<6	<7	4	20
4-Nitrophenol	<28	<36	4	50
P-Chloro-m-Cresol	<6	<7	4	10
Pentalchlorophenol	<28	<36	4	50
Phenol	<6	<7	4	10
2,4,6-Trichlorophenol	<6	<7	4	10
BASE/NEUTRAL COMPOUNDS				
Acenaphthene	<6	<7	4	10
Acenaphthylene	<6	<7	4	10
Anthracene	<6	<7	4	10
Benzidine	<28	<36	4	50
Benzo(a)Anthracene	<6	<7	4	10
Benzo(a)Pyrene	<6	<7	4	10
3,4-Benzofluoranthene	<6	<7	4	10
Benzo(ghi)Perylene	<6	<7	4	20
Benzo(k)Fluoranthene	<6	<7	4	10
Bis(2-Chloroethoxy)Methane	<6	<7	4	10
Bis(2-Chloroethyl)Ether	<6	<7	4	10
Bis(2-Chloroisopropyl)Ether	<6	<7	4	10
Bis(2-Ethylhexyl)Phthalate	6	16.7	4	10
4-Bromophenyl Phenyl Ether	<6	<7	4	10
Butylbenzyl Phthalate	<6	<7	4	10
2-chloronaphthalene	<6	<7	4	10
4-chlorophenyl phenyl ether	<6	<7	4	10
Chrysene	<6	<7	4	10
Dibenzo(a,h)Anthracene	<6	<7	4	20
1,2-Dichlorobenzene	<6	<7	4	10
1,3-Dichlorobenzene	<6	<7	4	10
1,4-Dichlorobenzene	<6	<7	4	10
3,3-Dichlorobenzidine	<11	<14	4	50
Diethyl Phthalate	<6	<7	4	10
Dimethyl Phthalate	<6	<7	4	10
Di-n-Butyl Phthalate	<6	<7	4	10
2,4-Dinitrotoluene	<6	<7	4	10
2,6-Dinitroluene	<6	<7	4	10
Di-n-Octyl Phthalate	<6	<7	4	10

Pollutants	Effluent Concentration (µg/l)*			
	Average	Maximum	No. of Samples	MAL (µg/l)
BASE/NEUTRAL COMPOUNDS (cont.)				
1,2-Diphenyl Hydrazine (as Azobenzene)	<6	<7	4	20
Fluoranthene	<6	<7	4	10
Fluorene	<6	<7	4	10
Hexachlorobenzene	<6	<7	4	10
Hexachlorobutadiene	<5	<7	4	10
Hexachlorocyclopentadiene	<11	<14	4	10
Hexachloroethane	<6	<7	4	20
Indeno(1,2,3-cd)pyrene	<6	<7	4	20
Isophorone	<6	<7	4	10
Naphthalene	<6	<7	4	10
Nitrobenzene	<6	<7	4	10
N-Nitrosodimethylamine	<6	<7	4	50
N-Nitrosodi-n-Propylamine	<6	<7	4	20
N-Nitrosodiphenylamine	<6	<7	4	20
Phenanthrene	<6	<7	4	10
Pyrene	<6	<7	4	10
1,2,4-Trichlorobenzene	<6	<7	4	10
PESTICIDES				
Aldrin			0	0.05
alpha-BHC			0	0.05
beta-BHC			0	0.05
gamma-BHC			0	0.05
delta-BHC			0	0.05
Chlordane			0	0.15
4,4-DDT			0	0.1
4,4-DDE			0	0.1
Dieldrin			0	0.1
alpha-Endosulfan			0	0.1
beta-Endosulfan			0	0.1
Endosulfan Sulfate			0	0.1
Endrin			0	0.1
Endrin Aldehyde			0	0.1
Heptachlor			0	0.05
Heptachlor Epoxide			0	
PCB-1254	<0.5	<0.85	4	1.0
PCB-1221	<0.5	<0.85	4	1.0
PCB-1242	<0.5	<0.85	4	
PCB-1232	<0.5	<0.85	4	1.0
PCB-1248	<0.5	<0.85	4	1.0
PCB-1260	<0.5	<0.85	4	1.0
PCB-1016	<0.5	<0.85	4	1.0
Toxaphene			0	5.0

* Indicate units if different from µg/l

8. TABLE 8 (DIOXINS/FURAN COMPOUNDS):

Please complete as directed. Not required for internal outfalls. (Instructions, Pages 53-54)

a. Are any of the following compounds manufactured and/or u sed in a process at t he facility? ☐ Yes ☑ No

If **yes**, i ndicate w ith a ch eck mark the compound(s) which apply and provide a brief description of the conditions of its/their presence at the facility.

☐ 2,4,5-trichlorophenoxy acetic acid (2,4,5-T) CAS #93-76-5
☐ 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5-TP) CAS #93-72-1
☐ 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate (Erbon) CAS #136-25-4
☐ 0,0-dimethyl 0-(2,4,5-trichlorophenyl) phosphorothioate (Ronnel) CAS #299-84-3
☐ 2,4,5-trichlorophenol (TCP) CAS #95-95-4
☐ Hexachlorophene (HCP) CAS #70-30-4

N/A

b. Do y ou k now or have a ny reason to b elieve that 2, 3,7,8 Te trachlorodibenzo-P-Dioxin (TCDD) or any congeners of TCDD may be present in your effluent? ☑ Yes ☐ No

If **yes,** provide a brief description of the conditions for its presence.

The petroleum refinery operated a catalytic reforming unit until 2007. Regeneration of these units may generate small quantities of polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans.

c. If your responded **yes** to <u>either</u> item **a** or **b**, complete **Table 8** as instructed.

TABLE 8

Outfall No. 001	☐C ☐G	Wastewater		Sludge		MAL (ppq)
Compound	Equivalent Factors	Concentration (ppq)	Equivalents (ppq)	Concentration (ppt)	Equivalents (ppt)	
2,3,7,8-TCDD	1	<12.3	0	<27.7	0	10.0
1,2,3,7,8-PeCDD	0.5	<30.9	0	<69.2	0	50.0
2,3,7,8-HxCDDs	0.1	<30.9	0	<69.2	0	50.0
2,3,7,8-TCDF	0.1	<12.3	0	<27.7	0	10.0
1,2,3,7,8-PeCDF	0.05	<30.9	0	<69.2	0	50.0
2,3,4,7,8-PeCDF	0.5	<30.9	0	<69.2	0	50.0
2,3,7,8-HxCDFs	0.1	<30.9	0	<69.2	0	50.0
Total		<30.9	0	<69.2	0	

9. TABLE 9 (HAZARDOUS SUBSTANCES):

Proceed complete as directed. Not required for internal outfalls. (Instructions, Pages 55)

a. Are there any pollutants listed in the instructions (page 55) believed present in the discharge?

☑Yes ☐No

b. Are there pollutants listed in Item No. 1.d. on Page No. 1 of this technical report which are believed present in the discharge and have not been analytically quantified elsewhere in this application?

☑Yes ☐No

If your responded **yes** to <u>either</u> item, complete **Table 9** as instructed.

TABLE 9

Pollutant & CAS Number	Average (µg/l)	Maximum (µg/l)	No. of Samples	Analytical Method
cyclohexane [110-82-7]	<1	<1	4	EPA 624
xylene, total [1330-20-7]	<3	<3	4	EPA 624
vanadium, total [7440-62-2]	26.5	42.6	4	EPA 200.8

Laboratories Providing Analyses

Sample period	July 13 – August 2, 2011
Parameters	Laboratory
Chlorine, dissolved oxygen, pH, sulfite, temperature	Permittee Valero Refining-Texas, L.P.
Metals	Accutest Laboratories 2235 US Highway 130 Dayton, NJ 08810 732.329.0200
Dioxins	Columbia Analytical Services 19408 Park Row Dr. Suite 320 Houston, TX 77084 713.266.1599
All others	Accutest Laboratories 10165 Harwin Drive, Suite 150 Houston, TX 77036 713.271.4700

WORKSHEET 4.0
RECEIVING WATERS

THE FOLLOWING IS REQUIRED FOR ALL TPDES PERMIT APPLICATIONS

1. DOMESTIC DRINKING WATER SUPPLY (Instructions, Page 70)

Is there a surface water intake for domestic drinking water supply located within 5 (five) miles downstream from the point/proposed point of discharge?

☐ Yes ☑ No

If yes, identify owner of the drinking water supply, the distance and direction to the intake, and locate and identify the intake on the USGS map. Indicate by a check mark that the requested information is provided: ☐

2. DISCHARGE INTO TIDALLY INFLUENCED WATERS (Instructions, Page 70)

a. Width of the receiving water at the outfall? 400 feet

b. Are there oyster reefs in the vicinity of the discharge? ☐ Yes ☑ No

If yes, indicate approximate distance and direction from outfall(s):

_____

c. Are there any sea grasses within the vicinity of the point of discharge?

☐ Yes ☑ No

If yes, provide the distance and direction to the grasses:

_____

3. CLASSIFIED SEGMENT (Instructions, Page 70)

Is the discharge directly into (or within 300 feet of) a classified segment?

☑ Yes ☐ No

If yes , stop here. It is not necessary to complete items 4 and 5 and it is not necessary to complete Worksheet 2.1. **If no**, complete items 4 and 5.

4. DESCRIPTION OF IMMEDIATE RECEIVING WATERS (Instructions, Page 71)

Name of the immediate receiving waters: _____

a. Check the appropriate description of the receiving waters

☐ Man-made Channel or Ditch
☐ Stream or creek
☐ Lake or Pond
Surface area _____acres
Average depth of the entire water body _____ feet
Average depth of water body within a 500-foot radius or the discharge point _____ feet
☐ Freshwater Swamp or Marsh
☐ Tidal Stream, Bayou, or Marsh
☐ Open Bay
☐ Other: _____

If a man-made channel, ditch or stream was checked above, provide the following:

WORKSHEET 7.0
STORM WATER RUNOFF WORKSHEET

REQUIRED FOR ALL TPDES PERMIT APPLICATIONS APPLYING FOR INDIVIDUAL PERMIT COVERAGE FOR DISCHARGES OF STORM WATER RUNOFF.

1. Do discharges from any of the proposed or existing outfalls consist of storm water runoff only or storm water runoff and any of the listed non-storm water discharges? (See Instructions, Page 79)

☐ Yes ☑ No

The outfalls listed here discharge primarily storm water, with very minor components of non-storm water discharges. Discharges from the outfalls generally occur only when there is sufficient rainfall.

If **yes**, proceed as directed. If **no**, stop here.

2. Indicate by a check mark which type of authorization covers or is proposed to cover discharges from each storm water outfall. (See Instructions, Page 79)

Outfall	Coverage Under MSGP	Coverage Under Individual Permit	Outfall	Coverage Under MSGP	Coverage Under Individual Permit
002	no	yes	007	no	yes
003	no	yes	008	no	yes
005	no	yes			
006	no	yes			

If you have indicated that all existing or proposed storm water outfalls are covered under the MSGP, **stop here.** If you have indicated that you are seeking authorization under an individual permit, **proceed as directed.**

THE FOLLOWING ITEMS ARE REQUIRED FOR EACH OUTFALL THAT DISCHARGES STORM WATER, AND FOR WHICH YOU ARE SEEKING INDIVIDUAL AUTHORIZATION UNDER THIS PERMIT APPLICATION.

3. Site Map (Instructions, pages 79)

Indicate by a check mark that a site map(s) of the entire facility has been provided with the following information. **See Figures A-4 and A-5.**

- ☑ the location of each storm water outfall to be covered by the permit;
- ☑ an outline of the drainage area that is within the facility's boundary and that contributes storm water to each outfall to be covered by the permit;
- ☑ connections or discharge points to municipal separate storm sewer systems;
- ☑ locations of all structures (e.g. buildings, garages, storage tanks);
- ☑ structural control devices that are designed to reduce pollution in storm water runoff;
- ☑ process wastewater treatment units (including ponds);
- ☐ bag house and other air treatment units exposed to precipitation or runoff;
- ☑ landfills; scrapyards; surface water bodies (including wetlands);

- ☑ vehicle and equipment maintenance areas;
- ☑ physical features of the site that may influence storm water runoff or contribute a dry weather flow;
- ☑ locations where spills or leaks of reportable quality (as defined in 30 TAC §327.4) have occurred during the three years before this application was submitted to obtain coverage under an individual permit; and
- ☑ processing areas, storage area, material loading/unloading areas, and other locations where significant materials are exposed to precipitation or runoff.

4. FACILITY/SITE INFORMATION (Instructions, page 80)

a. Provide an inventory, or list, of materials currently handled at the facility that may be exposed to precipitation.

See materials listed in the Technical Report, Item 1.d, pg. 1.

b. Provide narrative descriptions of the industrial processes and activities involving the materials in the above-listed inventory that occur outdoors or in some manner that may result in exposure of the materials to precipitation or runoff.

See Figures A-4 and A-5 for the areas drained by each outfall and see Facility Description for a description of the refinery's storm water management procedures.

Storm water is potentially exposed to tanks, piping and process equipment in the main process areas, which is managed through Outfalls 001 and 002. First-flush storm water from the process areas is treated and discharged through Outfall 001. Post first-flush storm water is discharged through Outfall 002. Storm water is also potentially exposed to raw material and product tanks, which would discharge to Outfalls 003, 005, 006, 007, and 008.

c. Describe any best management practices and controls that you are using to prevent or effectively reduce pollution in storm water discharges from the facility.

Drainage of the process areas is routed to storm water storage tanks 47FB504 and 47FB509 for storage and processing of the first-flush storm water in the refinery wastewater plant. Drainage of the A and B Tank Farms is collected and routed through corrugated plate interceptors (CPI) for removal of any free oil that may be present. Drainage of the 16-acre and crude tank farms is generally to the southeast, where a CPI is also provided.

Good housekeeping practices for the operating areas and tank farms include:

· Routine inspections of work areas for leaks or conditions that could lead to a discharge.
· Water drainage systems are routinely inspected and cleaned.
· Spills are promptly cleaned up.
· Garbage, trash, and waste materials are collected for temporary storage in dedicated containers. Wastes are regularly collected from these containers and transferred to a covered roll-off container.

Best management practices for operating areas and tank farms include:

· Oily areas, such as pump bases and areas under compressors, are segregated and are routed to the oily water sewer.
· Water drainage systems are routinely inspected and cleaned.
· The majority of the operating areas is covered in concrete to control erosion and to protect soil and groundwater from leaks and spills.
· Garbage, trash, and waste materials are collected for temporary storage in dedicated containers.

Operations personnel conduct periodic visual inspections of their work areas and record the results of their inspections. Recommendations from the inspections are tracked. The inspections focus on the following items:

· Housekeeping,
· Identification of dry weather flow, and
· Integrity of process water / storm water segregation systems and containment systems.

5. POLLUTANT ANALYSIS (Instructions, pages 80)

a. TABLE 1-SW: Please complete the table as directed.

Outfall _____	MAXIMUM VALUES (mg/L)		AVERAGE VALUES (mg/L)			
Pollutant	Grab Sample Taken During First 30 Minutes	Flow Weighted Composite Sample	Grab Sample Taken During First 30 Minutes	Flow Weighted Composite Sample	Number of Storm Events Sampled	MAL (mg/L)
pH (Standard Units)	(min)	(max)	(min)	(max)		-------
Total Suspended Solids						-------
Chemical Oxygen Demand						-------
Total Organic Carbon						-------
Oil and Grease						-------
Total Arsenic						0.010
Total Barium						0.010
Total Cadmium						0.001
Total Chromium						0.010
Trivalent Chromium						-------
Hexavalent Chromium						0.010
Total Copper						0.010
Total Lead						0.005
Total Mercury						0.0002
Total Nickel						0.010
Total Selenium						0.010
Total Silver						0.002
Total Zinc						0.005

Note: Due to drought conditions in the area, there have not been no discharges through the storm water outfalls for several months. Samples will be collected when discharges begin again.

b. **TABLE 2-SW:** Please complete the table as directed. (Instructions, Pages 80)

Outfall _____	MAXIMUM VALUES (mg/L)		AVERAGE VALUES (mg/L)		Number of Storm Events Sampled
Pollutant	Grab Sample Taken During First 30 Minutes	Flow Weighted Composite Sample	Grab Sample Taken During First 30 Minutes	Flow Weighted Composite Sample	

6. STORM EVENT DATA (Instructions, page 83)

Please provide the following data for the storm event(s) which resulted in the maximum values for the analytical data submitted:

a. Date of storm event: _____

b. Duration of storm event (in minutes): _____

c. Total rainfall during storm event (in inches): _____

d. Number of hours between beginning of storm measured and end of previous measurable rain event: _____ hours

e. Maximum flow rate during rain event (gallons/minute):_____

f. Total storm water flow from rain event (in gallons):_____

g. Provide a description of the method of flow measurement or estimate:

Rainfall data is obtained from Harris County Office of Emergency Management. Storm flow is calculated using civil engineering runoff calculations for outfall drainage areas.

FACILITY DESCRIPTION
VALERO REFINING-TEXAS, L.P.
[HOUSTON REFINERY]

TPDES Application 2011

WASTEWATER SYSTEM AND OUTFALLS 1
OUTFALLS 001 AND 002 1
OUTFALLS 003, 005, 006, 007, 008 4
CATEGORICAL EFFLUENT GUIDELINES 5

ATTACHMENTS
WATER BALANCE
WASTEWATER TREATMENT SYSTEM

FACILITY DESCRIPTION
VALERO REFINING-TEXAS, L.P.
[HOUSTON REFINERY]

This report describes the wastewater system at the Valero Refining-Texas, LP (Houston Refinery) located in Houston, Texas. It includes a description of wastewater sources, collection and treatment, discharge outfalls, and categorical effluent standards applicable to process wastewaters.

WASTEWATER SYSTEM AND OUTFALLS

Wastewaters generated at the Houston Refinery include refining process wastewater, utility wastewaters, storm water, groundwater recovery wastewater, and hydrostatic test water. Sanitary wastewater is sent a City of Houston treatment facility (POTW). As described in the following sections, there are seven (7) outfalls authorized under wastewater discharge permit TPDES 00535. The flow rates that are shown for various treatment units are typical and are not meant to represent fixed operating set points.

Outfalls 001 and 002

Outfall 001 is the primary process outfall at the facility, discharging treated process wastewaters, utility wastewaters, and storm water. Refining process wastewaters also include storm water from process areas, Belco scrubber blowdown, and wastewater from the groundwater/hydrocarbon recovery system. Utility wastewaters include cooling tower blowdown, steam boiler blowdown, reverse osmosis system (RO) reject water, and water softening wastewaters.

Wastewater Treatment System

The refinery Wastewater Treatment Unit (WWT) receives contaminated process and storm waters collected from inside the refinery's battery limits, and storm water from storage tank spill containment areas. The WWT process includes:

- Oil/water separation (API separator)
- Dissolved air flotation (DAF)
- Equalization storage and pretreatment (tanks)
- Biological treatment (activated sludge, secondary clarification)
- Dewatering (bio-sludge processing)
- BELCO process water pretreatment

Primary treatment occurs in the API Separator, which receives oily process water collected in the refinery sewer systems:

- Combo desalter effluent
- East sewer
- West sewer
- Central sewer
- FCC process unit sewer
- Crude combo unit sewer
- Platformer unit sewer
- Groundwater recovery wells

Occasional wastewater feed sources include:

- Tanker ballast line (from the tank farm during period cleanings)
- Storm water collection/containment (spill containment dike)

The sewer wastewaters contain free oils, oily solids, and other impurities such as sulfides, ammonia, phenols, and metals. Contaminant levels and flow rates may vary based on crude feedstock composition, production rates, or maintenance activities within individual process units generating the water. The API separator removes oil and solids from the water through gravity separation at an average flow rate of 700 gallons per minute (gpm).

The recovered oil from the API separator is pumped to slop oil tanks (FB-321/323) for reprocessing in the refinery. The effluent water gravity drains to a diversion pit where it is then pumped to equalization tanks (FB-503/509) to equalize flow and contaminant levels. Wastewater from these tanks is routed to the DAF unit.

Process area storm water is collected and routed through separate drain systems to a common storm water sump and equalization tank (FB-504). Wastewater from Tank FB-504 is usually routed directly to the DAF unit, but it may also be routed to equalization tanks FB-503/509 and thence to the DAF.

Wastewater directed to the DAF unit is chemically treated with a polymer, injected upstream of the flow control valve, to help separate liquids and solids. The effluent gravity flows to a flocculation pit that uses a mixer to increase the rate of solids agglomeration. The effluent gravity flows from the flocculation pit to the DAF. The DAF uses pressurized air injection to help remove free-phase oil, grease, and suspended flocculent (float) prior to biological treatment. The flocculent is skimmed by a mechanical rake and transferred to the DAF float dewatering tank. Flow rate ranges from 400 to 900 gpm at the DAF.

The DAF effluent is pumped to an aerated equalization tank (FA-005). The purpose of this aerated tank is to normalize flow and reduce contaminant concentrations to levels sufficient for discharge at Outfall 001, or further biological treatment in Tank FA-1. Aeration blowers in the equalization tank support limited biological pretreatment activity and sulfide removal. Water quality is carefully monitored to ensure continuous compliance with permit effluent limits under the different operating scenarios.
The WWT supports a biological activated sludge process to remove soluble organic materials. Tank FA-1 is an aerated, open tank where organic compounds are biologically degraded. Microbial activity reduces organic contaminants through biological and oxidation processes. The aeration required to support biological activity in Tank FA-1 is supplied by an atmospheric

blower system and submerged diffuser. The tank is equipped with a mechanical mixer and weir overflow to the secondary clarifier.

Effluent from the activated sludge tank gravity flows to the secondary clarifier where the biosolids/sludge settle. The majority of the thickened biosolids from the clarifier are recycled back to the aeration tank (return activated sludge, RAS) while the remaining portion is wasted (waste activated sludge, WAS). The waste sludge is transferred to a dewatering box where polymer is added to aid in dewatering prior to disposal.

The BELCO wet scrubber system reduces flue gas particulates, sulfur dioxide (SO_2), and nitrogen oxide (NOx) stack gas emissions from the fluidized catalytic cracking (FCC) unit in the refinery. BELCO scrubber bottoms (wastewater) are transferred to a clarifier mixing tank to settle entrained solids. The clarified purge water overflows to a series of three oxidation tanks where treatment occurs to reduce the COD level. Caustic is added to the tank contents to maintain and control pH. Overflow from the final tank is routed to a disk filter unit before being pumped to an equalization tank (FB-508). The equalization tank discharges by gravity flow to an internal sump (referred to as Outfall 101; however, this is not an internal outfall in the TPDES permit), mixing BELCO scrubber water with treated process waters, cooling tower blowdown, and RO reject. The mixed effluent is pumped to Outfall 001. BELCO blowdown averages 40 gpm and may be routed for additional treatment or as makeup to the WWT.

During periods of planned WWT unit maintenance, start-up or shutdown, wastewaters may be temporarily impounded in designated tank systems for treatment at a later time. Process upset conditions or unplanned WWT system outages may also require a temporary routing around some of the treatment units (biological treatment, DAF, or API separator) directly to process Outfall 001. During these periods, water quality parameters are carefully monitored to ensure continuous compliance with permit effluent limits.

Storm water in the Outfall 001/002 drainage area is routed to a storm water collection pit. Minor quantities of other wastewaters are also routed there, including heat exchanger backwash, fire system hydraulic test water, steam condensate, and cooling tower overspray. The dry weather flow wastewaters are pumped to the API separator. During wet weather, the first-flush of storm water entering the pit is routed to Tank FB-504. Transfer to FB-504 continues until an inspection of the collection pit indicates that the storm water would be acceptable for discharge to Outfall 002. At that point, the pump(s) to FB-504 are shut off and waters in the collection pit are allowed to gravity-flow to Outfall 002. The storage capacity of the storm water collection system is equivalent to the runoff in the Outfall 001/002 drainage area from five inches of rain in a one-hour period.

Additional water may be discharged from the fire fighting water system in the plant. The water is comprised of boiler blowdown, cooling tower blowdown, and clarified raw water that commingle in a concrete mixing basin. What volume is not needed is diverted to Outfall 101, where it is mixed with the effluent from the WWT and BELCO units. The combined flow is discharged to Outfall 001.

Each of the blowdown wastewaters (boilers, cooling tower, and BELCO scrubber) may be routed for other purposes elsewhere in the wastewater system including the API separator, DAF, or biological treatment system.

Outfalls 003, 005, 006, 007, 008

Outfalls 003, 005, 006, 007, and 008 discharge primarily storm water from non-process areas. They also receive minor quantities of fire water discharge during system testing along with steam condensate and hydrostatic test waters that occur as part of the refinery operation. In addition to these wastewaters, Outfall 008 also receives heat exchanger cooling water backwash and cooling tower overspray.

Each of the drainage areas of Outfalls 003, 005, 006, and 007 contains a corrugated plate interceptor (CPI) to remove incidental oils and particulate matter. The CPI may not be used if water quality is sufficient to meet permit limits. Water is held and tested prior to discharge through the outfalls and may be redirected to the wastewater treatment plant if needed. Hydrostatic test water is processed through filter media for removal of particulates prior to discharge. Waters collected in the Outfall 008 drainage area receive no treatment, except during discharge of hydrostatic test water, which is processed through filter media. The effluent from the Outfall 007 CPI flows over a weir system prior to entering the end-pipe into Sims Bayou. Because the end-pipe is typically submerged, compliance samples are collected after the last weir prior to the end-pipe. Two electric pumps may also be used for outfall discharge when water is not routed to the CPI. This allows for water quality sampling at the pump bleeders during discharge.

CATEGORICAL EFFLUENT GUIDELINES

National EPA categorical effluent guidelines for petroleum refineries apply to process wastewater and process area storm water discharged through Outfall 001. Specific guidelines that apply are those at 40 CFR 419, Subpart C, Petrochemical Subcategory.

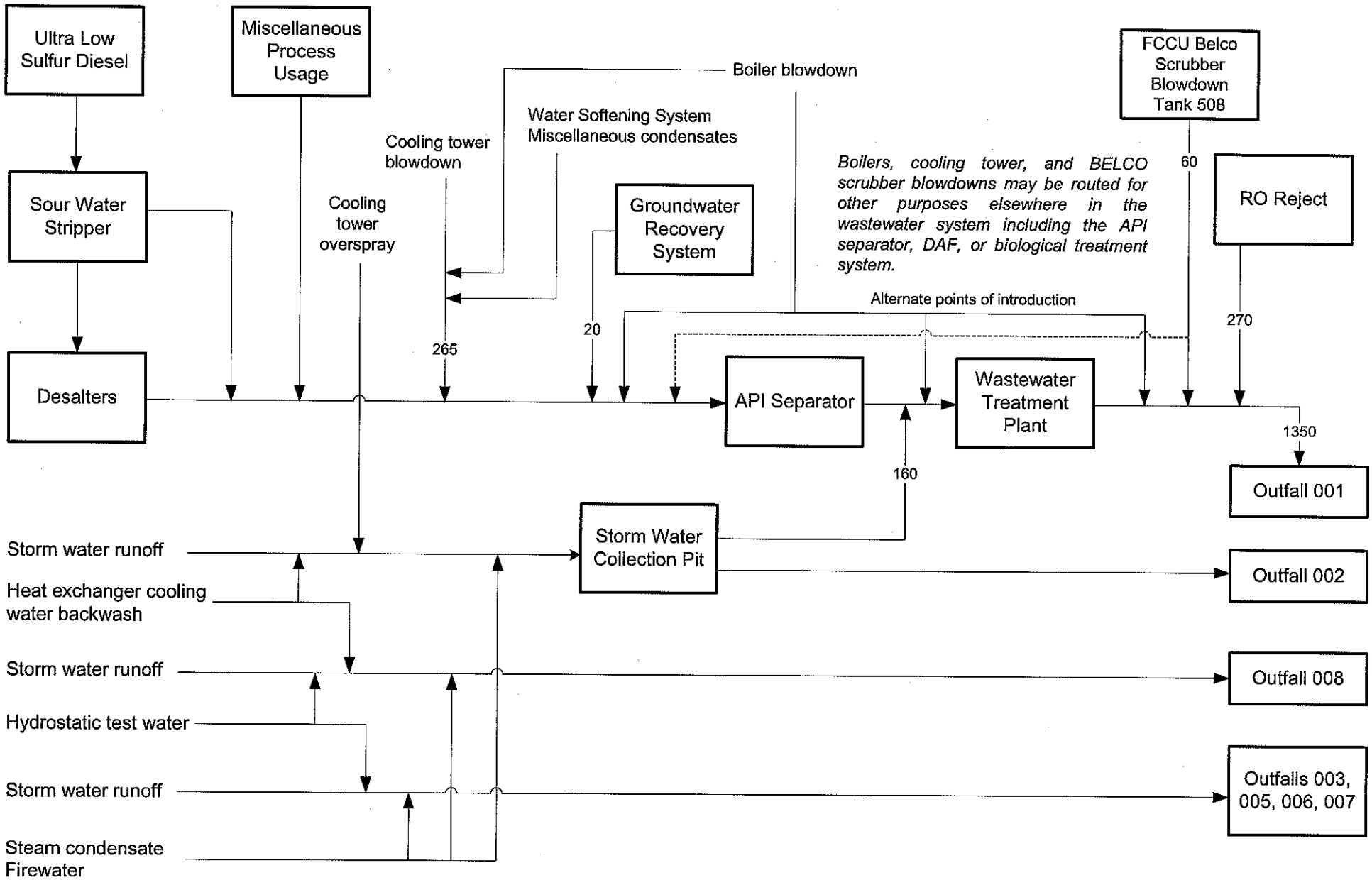
Current and planned future production rates are shown in the table below.

Process	Actual Production (bpsd)*	Planned Increase in Production	
		Production Capacity	Year
Crude Processes			
Atmospheric crude distillation	95,736	100,000	2012
Crude desalting	125,736	130,000	2012
Vacuum crude distillation	35,000	40,000	2017
Cracking and Coking Processes			
Fluid catalytic cracking	67,132	70,000	2012
Hydrocracking	64,860	72,000	2013
Hydrotreating	49,914	61,000	2013
Reforming and Alkylation Processes			
H2SO4 alkylation	14,487	16,000	2012
Catalytic reforming	0	0	N/A
*30-day maximum average last 3 years.			

Wastewater flows associated with Outfall 001 are summarized in the following table and water balance diagram. A wastewater flow diagram is also shown, providing additional detail on the wastewater treatment system.

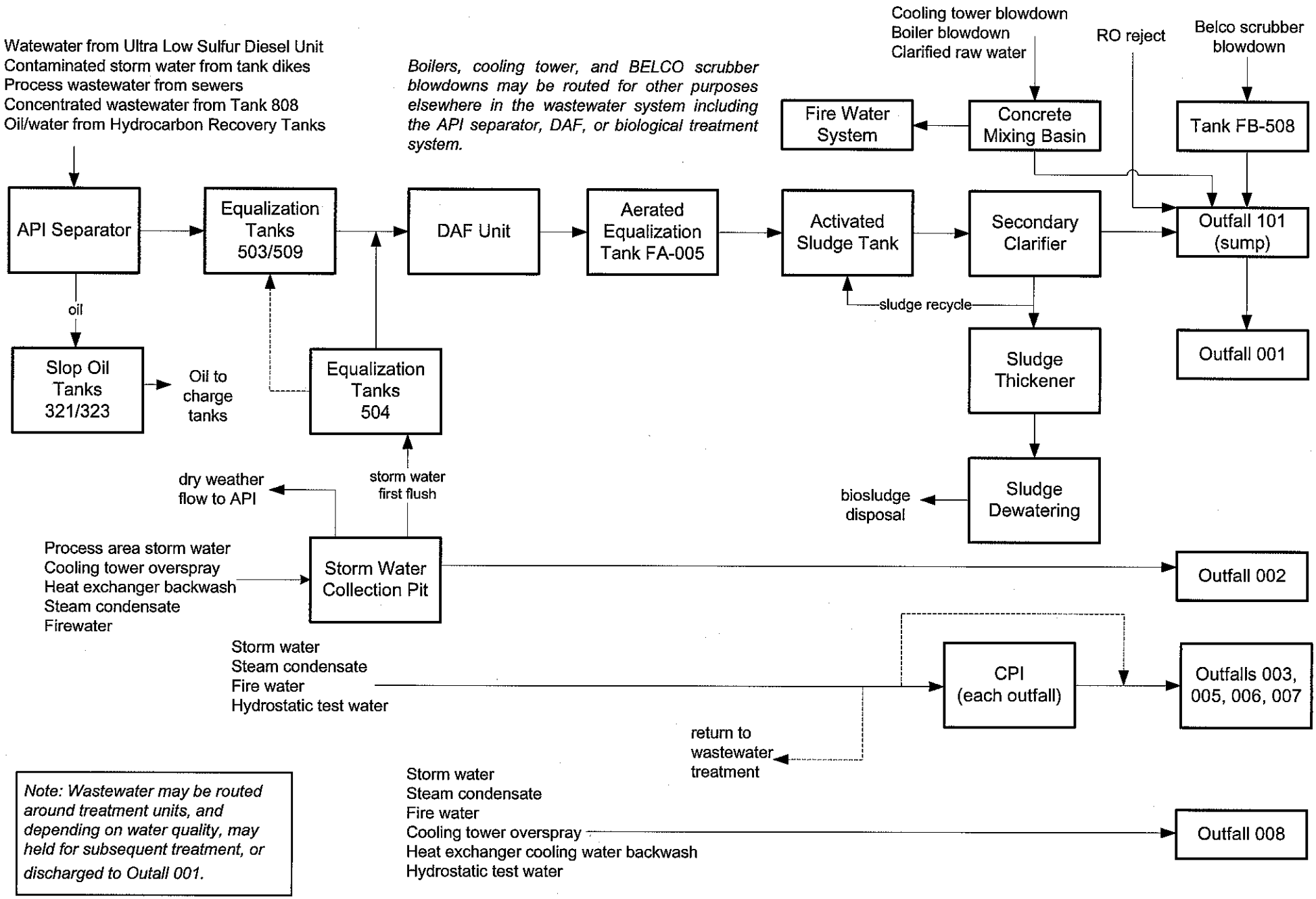
Outfall 001 Average Wastewater Flows		
	gpm	MGD
Refining process wastewater	575	0.83
Belco scrubber	60	0.09
Cooling tower blowdown, boiler blowdown, water softening system, condensates	265	0.38
Storm water collection pit (storm water, heat exchanger cooling water backwash, cooling tower overspray)	160	0.23
RO reject	270	0.39
Groundwater recovery system	20	0.03
Total	1350	1.94

Valero Houston Refinery – Water Balance



9-27-11

Valero Houston Refinery – Wastewater Treatment System



9-27-11

Valero Houston Refiney
Water Treatment Chemicals

Manufacturer's Product I.D.	Product Use	Chemical Composition [CAS]	Toxicity	Concentration in Blowdown	Frequency of Use
GE Betz Continuum AEC3157	Cooling water dispersant	Chlorotolyltriazole sodium salt [202420-04-0] Sodium molybdate [7631-95-0]	See MSDS	81 ppm	Daily
GE Betz AF 1440	Antifoam	Petroleum distillates, straight run middle [64741-44-2]	See MSDS	10-20 ppm	When needed
GE Betz Flogard MS6210	Cooling water corrosion inhibitor	Phosphoric acid [7664-38-2] Zinc sulfate [7733-02-0] Zinc oxide [1314-13-2]	See MSDS	26 ppm	Daily
GE Betz NX 1100	Microbiological control	2-Bromo-2-nitropropane-1,3-diol [52-51-7] Magnesium nitrate [10377-60-3] 5-Chloro-2-methyl-4-isothiazolin-3-one [26172-55-4] Magnesium chloride [7786-30-3]	See MSDS	50 ppm	When needed
GE Betz BD1501	Bio-surfactant	Nonylphenoxypoly (ethyleneoxy) ethanol [9016-45-9]	See MSDS	10-15 ppm	When needed
Chlorine	Microbiological control	Chlorine [7782-50-5]	See MSDS	2.5 - 3.9 lbs/1000 gpm of recirc. rate	Daily
Sulfuric Acid	Cooling tower pH control	Sulfuric Acid [7664-93-9]	See MSDS	pH control: 8.0 - 8.5 (64 gpd)	As needed to maintain 8.0 - 8.5 pH.
GE BETZ CE2660	Wastewater coagulant	Poly (oxy-1,2-ethanediyl) [24938-91-8]	See MSDS	2.5 - 4.0 ppm	Daily
GE BETZ CDP1337	Wastewater floculant	Methanamine, n-methyl-polymer with (chloromethyl) oxirant [25988-97-0]	See MSDS	12 - 14 ppm	Daily
Sodium bromide (GE Betz OX1201) (not used yet)	Microbiological control	Sodium bromide [7647-15-6]	See MSDS	3.6 lbs of OX1201 per 1 lbs of chlorine	Daily for two weeks and then 2 times a week
GE Betz AP0300	Boiler treatment	Sodium nitrate [7631-99-4]	See MSDS	60 ppm	Daily
GE Betz IS3000	Boiler treatment	Sodium bisulfite [7631-90-5]	See MSDS	40 ppm	Daily
GE Betz NA0660	Boiler treatment	Cyclohexylamine [108-91-8]	See MSDS	28 ppm	Daily
GE Betz MCA624	Boiler treatment	Diethylaminoethanol [100-37-8]	See MSDS	46 ppm	Daily
GE Betz MCA620	Boiler treatment	Morpholine [110-91-8]	See MSDS	46 ppm	Daily
GE Betz PC1192	Influent treatment	2-propen-1-aminium, n,n-dimethyl-n-2-propenyl-, chloride, homopolymer [26062-79-3]	See MSDS	5-10 ppm	Daily

9/23/11

GE
Water & Process Technologies

Material Safety Data Sheet

Issue Date: 05-MAY-2011
Supercedes: 13-JUL-2009

CONTINUUM AEC3157

1 Identification

Identification of substance or preparation
CONTINUUM AEC3157

Product Application Area
Water-based corrosion inhibitor/deposit control agent.

Company/Undertaking Identification
GE Betz, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355-3300, F 215 953 5524

Emergency Telephone
(800) 877-1940

Prepared by Product Stewardship Group: T 215-355-3300 Prepared on: 05-MAY-2011

2 Hazard(s) identification

****

EMERGENCY OVERVIEW

CAUTION

May cause slight irritation to the skin. May cause moderate irritation to the eyes. Mists/aerosols may cause irritation to upper respiratory tract.

DOT hazard: Corrosive to aluminum, RQ
Odor: Mild; Appearance: Amber To Dark Brown, Liquid

Fire fighters should wear positive pressure self-contained breathing apparatus(full face-piece type). Proper fire-extinguishing media: dry chemical, carbon dioxide, foam or water

****

POTENTIAL HEALTH EFFECTS

ACUTE SKIN EFFECTS:
Primary route of exposure; May cause slight irritation to the skin.

ACUTE EYE EFFECTS:
May cause moderate irritation to the eyes.

ACUTE RESPIRATORY EFFECTS:
Mists/aerosols may cause irritation to upper respiratory tract.

INGESTION EFFECTS:
May cause gastrointestinal irritation.

TARGET ORGANS:
No evidence of potential chronic effects.

MEDICAL CONDITIONS AGGRAVATED:
Not known.

SYMPTOMS OF EXPOSURE:
May cause redness or itching of skin.

3 Composition / information on ingredients

Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this MSDS for our assessment of the potential hazards of this formulation.

HAZARDOUS INGREDIENTS:

Cas#	Chemical Name	Range(w/w%)
1310-73-2	SODIUM HYDROXIDE Corrosive; toxic (by ingestion)	1-5
202420-04-0	CHLOROTOLYLTRIAZOLE SODIUM SALT Potential irritant	1-5
7631-95-0	SODIUM MOLYBDATE (MOLYBDIC ACID,DISODIUM SALT) Potential irritant (respiratory); potential lung toxicity	1-5

4 First-aid measures

SKIN CONTACT:
Wash thoroughly with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

EYE CONTACT:
Remove contact lenses. Hold eyelids apart. Immediately flush eyes with plenty of low-pressure water for at least 15 minutes. Get immediate medical attention.

INHALATION:
If nasal, throat or lung irritation develops - remove to fresh air and get medical attention.

INGESTION:
Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Immediately contact physician. Dilute contents of stomach using 2-8 fluid ounces (60-240 mL) of milk or water.

NOTES TO PHYSICIANS:
No special instructions

5 Fire-fighting measures

FIRE FIGHTING INSTRUCTIONS:
Fire fighters should wear positive pressure self-contained breathing apparatus (full face-piece type).
EXTINGUISHING MEDIA:
dry chemical, carbon dioxide, foam or water
HAZARDOUS DECOMPOSITION PRODUCTS:
oxides of carbon, nitrogen, and sulfur; and hydrogen chloride
FLASH POINT:
> 200F > 93C P-M(CC)

6 Accidental release measures

PROTECTION AND SPILL CONTAINMENT:
Ventilate area. Use specified protective equipment. Contain and absorb on absorbent material. Place in waste disposal container. Flush area with water. Wet area may be slippery. Spread sand/grit.
DISPOSAL INSTRUCTIONS:
Water contaminated with this product may be sent to a sanitary sewer treatment facility,in accordance with any local agreement,a permitted waste treatment facility or discharged under a permit. Product as is - Incinerate or land dispose in an approved landfill.

7 Handling and storage

HANDLING:
Alkaline. Do not mix with acidic material.
STORAGE:
Keep containers closed when not in use. Avoid moisture contamination. Store at ambient temperatures. Protect from freezing. If frozen, thaw completely and mix thoroughly prior to use. Store away from acids. Do not store in aluminum containers.

8 Exposure controls / personal protection

EXPOSURE LIMITS

CHEMICAL NAME

SODIUM HYDROXIDE
PEL (OSHA): 2 MG/M3
TLV (ACGIH): TWA (Ceiling) = 2 MG/M3

CHLOROTOLYLTRIAZOLE SODIUM SALT
PEL (OSHA): LIMITS HAVE NOT BEEN ESTABLISHED BY US OSHA.
TLV (ACGIH): LIMITS HAVE NOT BEEN ESTABLISHED BY ACGIH.

SODIUM MOLYBDATE (MOLYBDIC ACID,DISODIUM SALT)
PEL (OSHA): 5 MG/M3(AS Mo)
TLV (ACGIH): 0.5 MG/M3(AS Mo) RESPIRABLE FRACTION

ENGINEERING CONTROLS:
adequate ventilation
PERSONAL PROTECTIVE EQUIPMENT:
Use protective equipment in accordance with 29CFR 1910 Subpart I
RESPIRATORY PROTECTION:
A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER

WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
USE AIR PURIFYING RESPIRATORS WITHIN USE LIMITATIONS ASSOCIATED WITH THE EQUIPMENT OR ELSE USE SUPPLIED AIR-RESPIRATORS.
If air-purifying respirator use is appropriate, use any of the following particulate respirators: N95, N99, N100, R95, R99, R100, P95, P99 or P100.

SKIN PROTECTION:
rubber, butyl, viton or neoprene gloves -- Wash off after each use. Replace as necessary.

EYE PROTECTION:
splash proof chemical goggles

9 Physical and chemical properties

Spec. Grav.(70F,21C)	1.223	Vapor Pressure (mmHG)	~ 18.0
Freeze Point (F)	21	Vapor Density (air=1)	< 1.00
Freeze Point (C)	-6		
Viscosity(cps 70F,21C)	34	% Solubility (water)	100.0

Odor		Mild
Appearance		Amber To Dark Brown
Physical State		Liquid
Flash Point	P-M(CC)	> 200F > 93C
pH As Is (approx.)		> 13.0
Evaporation Rate (Ether=1)		< 1.00
Percent VOC:		0.0

NA = not applicable ND = not determined

10 Stability and reactivity

CHEMICAL STABILITY:
Stable under normal storage conditions.

POSSIBILITY OF HAZARDOUS REACTIONS:
Contact with strong acids may cause a violent reaction releasing heat. Contact with water reactive compounds may cause fire or explosion.

INCOMPATIBILITIES:
May react with acids or strong oxidizers.

DECOMPOSITION PRODUCTS:
oxides of carbon, nitrogen, and sulfur; and hydrogen chloride

11 Toxicological information

Oral LD50 RAT: >5000 mg/kg
NOTE - Calculated value according to GHS additivity formula
Dermal LD50 RABBIT: >5000 mg/kg
NOTE - Calculated value according to GHS additivity formula

12 Ecological information

AQUATIC TOXICOLOGY

Daphnia magna 48 Hour Acute Toxicity (Estimated)
LC50= 910; No Effect Level= 590 mg/L
Fathead Minnow 96 Hour Acute Toxicity (Estimated)
LC50= 330; No Effect Level= 130 mg/L

BIODEGRADATION

BOD-28 (mg/g): 24
BOD-5 (mg/g): 14
COD (mg/g): 246
TOC (mg/g): 101

13 Disposal considerations

If this undiluted product is discarded as a waste, the US RCRA hazardous waste identification number is :
D002=Corrosive(pH).

Please be advised; however, that state and local requirements for waste disposal may be more restrictive or otherwise different from federal regulations. Consult state and local regulations regarding the proper disposal of this material.

14 Transport information

Transportation Hazard: Corrosive to aluminum, RQ
DOT: CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.(SODIUM HYDROXIDE SOLUTION)
8, UN 3266, PG III, RQ
DOT EMERGENCY RESPONSE GUIDE #: 154
Note: Some containers may be DOT exempt, please check BOL for exact container classification
IATA: CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.(SODIUM HYDROXIDE SOLUTION)
8, UN 3266, PG III
IMDG: CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.(SODIUM HYDROXIDE SOLUTION)
8, UN 3266, PG III

15 Regulatory information

TSCA:
All components of this product are included on or are in compliance with the U.S. TSCA regulations.
CERCLA AND/OR SARA REPORTABLE QUANTITY (RQ):
4,301 gallons due to SODIUM HYDROXIDE;
NSF Registered and/or meets USDA (according to 1998 Guidelines):
Registration number: Not Registered
SARA SECTION 312 HAZARD CLASS:
Immediate(acute)
SARA SECTION 302 CHEMICALS:
No regulated constituent present at OSHA thresholds
SARA SECTION 313 CHEMICALS:
No regulated constituent present at OSHA thresholds
CALIFORNIA REGULATORY INFORMATION

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):

No regulated constituents present

MICHIGAN REGULATORY INFORMATION

No regulated constituent present at OSHA thresholds

16 Other information

HMIS vII		**CODE TRANSLATION**
Health	1	Slight Hazard
Fire	1	Slight Hazard
Reactivity	0	Minimal Hazard
Special	ALK	pH above 12.0
(1) Protective Equipment	B	Goggles,Gloves

(1) refer to section 8 of MSDS for additional protective equipment recommendations.

CHANGE LOG

	EFFECTIVE DATE	REVISIONS TO SECTION:	SUPERCEDES
MSDS status:	24-NOV-1998		** NEW **
	08-APR-1999	15	24-NOV-1998
	26-APR-1999	;EDIT:9	08-APR-1999
	29-APR-1999	12	26-APR-1999
	18-APR-2002	2,4,8	29-APR-1999
	24-MAR-2005	2	18-APR-2002
	19-MAR-2008	2,4,5,8,10,15	24-MAR-2005
	13-JUL-2009	14	19-MAR-2008
	05-MAY-2011	7,10	13-JUL-2009

GE
Water & Process Technologies

Material Safety Data Sheet

Issue Date: 14-SEP-2010
Supercedes: 02-JUL-2010

FOAMTROL AF1440

1 Identification

Identification of substance or preparation
FOAMTROL AF1440

Product Application Area
Antifoam.

Company/Undertaking Identification
GE Betz, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355-3300, F 215 953 5524

Emergency Telephone
(800) 877-1940

Prepared by Product Stewardship Group: T 215-355-3300 Prepared on: 14-SEP-2010

2 Hazard(s) identification

****

EMERGENCY OVERVIEW

CAUTION

May cause slight irritation to the skin. May cause dermatitis. May cause moderate irritation to the eyes. May cause irritation to the upper respiratory tract. Exposure may cause dizziness, headache, CNS depression and chemical pneumonitis.

DOT hazard is not applicable
Odor: Hydrocarbon; Appearance: Amber, Liquid

Fire fighters should wear positive pressure self-contained breathing apparatus(full face-piece type). Proper fire-extinguishing media: dry chemical, carbon dioxide, foam or water

****

POTENTIAL HEALTH EFFECTS

ACUTE SKIN EFFECTS:
Primary route of exposure; May cause slight irritation to the skin. May cause dermatitis.

ACUTE EYE EFFECTS:
May cause moderate irritation to the eyes.

ACUTE RESPIRATORY EFFECTS:

May cause irritation to the upper respiratory tract. Exposure may cause dizziness, headache, CNS depression and chemical pneumonitis.

INGESTION EFFECTS:
May cause gastrointestinal irritation with possible nausea, vomiting, abdominal discomfort and diarrhea. Small amounts aspirated during ingestion or vomiting may cause lung injury, possibly leading to death.

TARGET ORGANS:
Prolonged or repeated exposures may cause defatting-type dermatitis. Lifetime skin painting studies in mice have produced skin tumors.

MEDICAL CONDITIONS AGGRAVATED:
Not known.

SYMPTOMS OF EXPOSURE:
Prolonged exposure may cause drying and cracking of skin.

3 Composition / information on ingredients

Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this MSDS for our assessment of the potential hazards of this formulation.

HAZARDOUS INGREDIENTS:

Cas#	Chemical Name	Range(w/w%)
64741-44-2	DISTILLATES, PETROLEUM, STRAIGHT-RUN MIDDLE IARC=3 (carcinogen status not classifiable); potential lung toxin; similar petroleum oils have been shown to cause skin tumors in laboratory animals	60-100

4 First-aid measures

SKIN CONTACT:
Wash thoroughly with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

EYE CONTACT:
Remove contact lenses. Hold eyelids apart. Immediately flush eyes with plenty of low-pressure water for at least 15 minutes. Get immediate medical attention.

INHALATION:
Remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get immediate medical attention.

INGESTION:
Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Immediately contact physician. Dilute contents of stomach using 2-8 fluid ounces (60-240 mL) of

milk or water.

NOTES TO PHYSICIANS:

This product contains a hydrocarbon solvent. Aspiration into the lungs will result in chemical pneumonia and may be fatal.

5 Fire-fighting measures

FIRE FIGHTING INSTRUCTIONS:

Fire fighters should wear positive pressure self-contained breathing apparatus (full face-piece type).

EXTINGUISHING MEDIA:

dry chemical, carbon dioxide, foam or water

HAZARDOUS DECOMPOSITION PRODUCTS:

oxides of carbon

FLASH POINT:

> 200F > 93C P-M(CC)

6 Accidental release measures

PROTECTION AND SPILL CONTAINMENT:

Ventilate area. Use specified protective equipment. Contain and absorb on absorbent material. Place in waste disposal container. Flush area with water. Wet area may be slippery. Spread sand/grit.

DISPOSAL INSTRUCTIONS:

Water contaminated with this product may be sent to a sanitary sewer treatment facility,in accordance with any local agreement,a permitted waste treatment facility or discharged under a permit. Product as is - Incinerate or land dispose in an approved landfill.

7 Handling and storage

HANDLING:

Vent carefully before opening.

STORAGE:

Keep containers closed when not in use. Store between 90-110F (32-43C) to prevent crystallization. If storage is below 90F (32C), warm and mix prior to use to ensure homogeneity. Store away from oxidizers.

8 Exposure controls / personal protection

EXPOSURE LIMITS

CHEMICAL NAME

DISTILLATES, PETROLEUM, STRAIGHT-RUN MIDDLE

PEL (OSHA): 5 MG/M3 (Oil mist, mineral)

TLV (ACGIH): TWA = 5 MG/M3; STEL = 10 MG/M3 (Oil mist, mineral)

ENGINEERING CONTROLS:

Adequate ventilation to maintain air contaminants below exposure limits.

PERSONAL PROTECTIVE EQUIPMENT:

Use protective equipment in accordance with 29CFR 1910 Subpart I

RESPIRATORY PROTECTION:

A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR

1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
USE AIR PURIFYING RESPIRATORS WITHIN USE LIMITATIONS ASSOCIATED WITH THE EQUIPMENT OR ELSE USE SUPPLIED AIR-RESPIRATORS.
If air-purifying respirator use is appropriate, use organic vapor cartridges and any of the following particulate respirators: R95, R99, R100, P95, P99 or P100.

SKIN PROTECTION:
viton gloves-- Wash off after each use. Replace as necessary.

EYE PROTECTION:
splash proof chemical goggles

9 Physical and chemical properties

Spec. Grav.(70F,21C)	0.867	Vapor Pressure (mmHG)	< 1.0
Freeze Point (F)	18	Vapor Density (air=1)	> 1.00
Freeze Point (C)	-8		
Viscosity(cps 70F,21C)	11	% Solubility (water)	0.0

Odor		Hydrocarbon
Appearance		Amber
Physical State		Liquid
Flash Point	P-M(CC)	> 200F > 93C
pH 5% Emulsion (approx.)		5.6
Evaporation Rate (Ether=1)		< 1.00
Percent VOC:		53.9

NA = not applicable ND = not determined

10 Stability and reactivity

CHEMICAL STABILITY:
Stable under normal storage conditions.

POSSIBILITY OF HAZARDOUS REACTIONS:
Contact with oxidizers may cause fire.

INCOMPATIBILITIES:
May react with strong oxidizers.

DECOMPOSITION PRODUCTS:
oxides of carbon

11 Toxicological information

Oral LD50 RAT: >2,000 mg/kg
NOTE - Estimated value
Dermal LD50 RABBIT: >2,000 mg/kg

12 Ecological information

AQUATIC TOXICOLOGY
Daphnia magna 48 Hour Static Acute Bioassay
LC50= 720; No Effect Level= 250 mg/L
Rainbow Trout 96 Hour Static Acute Bioassay
LC50= 353; No Effect Level= 250 mg/L

BIODEGRADATION

BOD-28 (mg/g): 285
BOD-5 (mg/g): 138
COD (mg/g): 1486
TOC (mg/g): 500

13 Disposal considerations

If this undiluted product is discarded as a waste, the US RCRA hazardous waste identification number is :
Not applicable.

Please be advised; however, that state and local requirements for waste disposal may be more restrictive or otherwise different from federal regulations. Consult state and local regulations regarding the proper disposal of this material.

14 Transport information

Transportation Hazard: Not Applicable
DOT: Not Regulated

DOT EMERGENCY RESPONSE GUIDE #: Not applicable
Note: Some containers may be DOT exempt, please check BOL for exact container classification
IATA: Not Regulated

IMDG: Not Regulated

15 Regulatory information

TSCA:

All components of this product are included on or are in compliance with the U.S. TSCA regulations.

CERCLA AND/OR SARA REPORTABLE QUANTITY (RQ):

Treat as oil spill

FOOD AND DRUG ADMINISTRATION:

21 CFR 176.210 (defoaming agents used in the manufacture of paper and paperboard)
When used in this specified application, all ingredients comprising this product are authorized by FDA for the manufacture of paper and paperboard that may contact aqueous and fatty foods as per 21 CFR 176.170(a)(4).

NSF Registered and/or meets USDA (according to 1998 Guidelines):

Registration number: Not Registered
G7, L1

SARA SECTION 312 HAZARD CLASS:

Immediate(acute);Delayed(Chronic)

SARA SECTION 302 CHEMICALS:

No regulated constituent present at OSHA thresholds

SARA SECTION 313 CHEMICALS:

No regulated constituent present at OSHA thresholds

CALIFORNIA REGULATORY INFORMATION

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):

This product contains one or more ingredients at trace levels known to the state of California to cause cancer and reproductive toxicity.

MICHIGAN REGULATORY INFORMATION

No regulated constituent present at OSHA thresholds

16 Other information

HMIS vII		**CODE TRANSLATION**
Health	1	Slight Hazard
Fire	1	Slight Hazard
Reactivity	0	Minimal Hazard
Special	NONE	No special Hazard
(1) Protective Equipment	B	Goggles,Gloves

(1) refer to section 8 of MSDS for additional protective equipment recommendations.

CHANGE LOG

	EFFECTIVE DATE	REVISIONS TO SECTION:	SUPERCEDES
MSDS status:	29-JAN-1997		** NEW **
	01-JUL-1997	15	29-JAN-1997
	30-APR-1998	;EDIT:9	01-JUL-1997
	09-MAR-2000	15	30-APR-1998
	20-SEP-2000	2,15	09-MAR-2000
	06-OCT-2000	3,4	20-SEP-2000
	06-MAY-2003	4	06-OCT-2000
	03-APR-2007	3,8,15	06-MAY-2003
	10-DEC-2007	4,5,8,10	03-APR-2007
	02-JUL-2010	2,4,10,14	10-DEC-2007
	14-SEP-2010	12	02-JUL-2010

GE
Water & Process Technologies

Material Safety Data Sheet

Issue Date: 01-MAY-2009
Supercedes: 30-NOV-2006

FLOGARD MS6210

1 Identification

Identification of substance or preparation
FLOGARD MS6210

Product Application Area
Water-based corrosion inhibitor.

Company/Undertaking Identification
GE Betz, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355-3300, F 215 953 5524

Emergency Telephone
(800) 877-1940

Prepared by Product Stewardship Group: T 215-355-3300 Prepared on: 01-MAY-2009

2 Hazard(s) identification

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EMERGENCY OVERVIEW

DANGER

Severe irritant to the skin. Corrosive to the eyes. Mists/aerosols cause irritation to the upper respiratory tract.

DOT hazard: Corrosive to aluminum, RQ
Odor: None; Appearance: Colorless, Liquid

Fire fighters should wear positive pressure self-contained breathing apparatus(full face-piece type). Proper fire-extinguishing media: dry chemical, carbon dioxide, foam or water

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POTENTIAL HEALTH EFFECTS

ACUTE SKIN EFFECTS:
Primary route of exposure; Severe irritant to the skin.

ACUTE EYE EFFECTS:
Corrosive to the eyes.

ACUTE RESPIRATORY EFFECTS:
Primary route of exposure;Mists/aerosols cause irritation to the upper respiratory tract.

INGESTION EFFECTS:
May cause severe gastrointestinal irritation.

TARGET ORGANS:
Prolonged or repeated exposures may cause primary irritant dermatitis. Product or product component may cause reproductive toxicity at maternal toxic levels (based on animal testing.

MEDICAL CONDITIONS AGGRAVATED:
Not known.

SYMPTOMS OF EXPOSURE:
Inhalation may cause irritation of mucous membranes and respiratory tract. Skin contact causes severe irritation or burns.

3 Composition / information on ingredients

Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this MSDS for our assessment of the potential hazards of this formulation.

HAZARDOUS INGREDIENTS:

Cas#	Chemical Name	Range(w/w%)
13598-37-3	PHOSPHORIC ACID, ZINC SALT (2:1) Irritant	10-20
7664-38-2	PHOSPHORIC ACID Corrosive	10-20
7733-02-0	ZINC SULFATE Severe irritant; potential reproductive toxin	7-13

4 First-aid measures

SKIN CONTACT:
Wash thoroughly with soap and water. Remove contaminated clothing. Thoroughly wash clothing before reuse. Get medical attention if irritation develops or persists.

EYE CONTACT:
URGENT! Immediately flush eyes with plenty of low-pressure water for at least 20 minutes while removing contact lenses. Hold eyelids apart. Get immediate medical attention.

INHALATION:
Remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get immediate medical attention.

INGESTION:
Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Immediately contact physician. Dilute contents of stomach using 2-8 fluid ounces (60-240 mL) of milk or water.

NOTES TO PHYSICIANS:
No special instructions

5 Fire-fighting measures

FIRE FIGHTING INSTRUCTIONS:
Fire fighters should wear positive pressure self-contained breathing apparatus (full face-piece type).
EXTINGUISHING MEDIA:
dry chemical, carbon dioxide, foam or water
HAZARDOUS DECOMPOSITION PRODUCTS:
oxides of phosphorus and sulfur
FLASH POINT:
> 200F > 93C P-M(CC)
MISCELLANEOUS:
Corrosive to aluminum, RQ
UN 3264;Emergency Response Guide #154

6 Accidental release measures

PROTECTION AND SPILL CONTAINMENT:
Ventilate area. Use specified protective equipment. Contain and absorb on absorbent material. Place in waste disposal container. Flush area with water. Wet area may be slippery. Spread sand/grit.
DISPOSAL INSTRUCTIONS:
Water contaminated with this product may be sent to a sanitary sewer treatment facility,in accordance with any local agreement,a permitted waste treatment facility or discharged under a permit. Product as is - Incinerate or land dispose in an approved landfill.

7 Handling and storage

HANDLING:
Acidic. Corrosive(Eyes). Do not mix with alkaline material.
STORAGE:
Keep containers closed when not in use. Protect from freezing. If frozen, thaw and mix completely prior to use. Atmospheric exposure should be minimized. Avoid high temperature storage.

8 Exposure controls / personal protection

EXPOSURE LIMITS

CHEMICAL NAME

PHOSPHORIC ACID, ZINC SALT (2:1)
PEL (OSHA): NOT DETERMINED
TLV (ACGIH): NOT DETERMINED

PHOSPHORIC ACID
PEL (OSHA): 1 MG/M3
TLV (ACGIH): 1 MG/M3

ZINC SULFATE
PEL (OSHA): NOT DETERMINED
TLV (ACGIH): NOT DETERMINED

ENGINEERING CONTROLS:
Adequate ventilation to maintain air contaminants below exposure

limits.

PERSONAL PROTECTIVE EQUIPMENT:

Use protective equipment in accordance with 29CFR 1910 Subpart I

RESPIRATORY PROTECTION:

A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
USE AIR PURIFYING RESPIRATORS WITHIN USE LIMITATIONS ASSOCIATED WITH THE EQUIPMENT OR ELSE USE SUPPLIED AIR-RESPIRATORS.
If air-purifying respirator use is appropriate, use a respirator with HEPA cartridges.

SKIN PROTECTION:

rubber, butyl, viton or neoprene gloves -- Wash off after each use. Replace as necessary.

EYE PROTECTION:

splash proof chemical goggles

9 Physical and chemical properties

Specific Grav.(70F,21C)	1.351	Vapor Pressure (mmHG)	~ 17.0
Freeze Point (F)	~ ~ 5	Vapor Density (air=1)	< 1.00
Freeze Point (C)	~ -15		
Viscosity(cps 70F,21C)	18	% Solubility (water)	100.0

Odor		None
Appearance		Colorless
Physical State		Liquid
Flash Point	P-M(CC)	> 200F > 93C
pH As Is (approx.)		< 1.0
Evaporation Rate (Ether=1)		< 1.00
Percent VOC:		0.0

NA = not applicable ND = not determined

10 Stability and reactivity

CHEMICAL STABILITY:

Stable under normal storage conditions.

POSSIBILITY OF HAZARDOUS REACTIONS:

Contact with strong bases may cause a violent reaction releasing heat.

INCOMPATIBILITIES:

May react with strong oxidizers.

DECOMPOSITION PRODUCTS:

oxides of phosphorus and sulfur

11 Toxicological information

Oral LD50 RAT:	>2,000 mg/kg
NOTE - Estimated value	
Dermal LD50 RABBIT:	>2,000 mg/kg
NOTE - Estimated value	

12 Ecological information

AQUATIC TOXICOLOGY

Daphnia magna 48 Hour Static Acute Bioassay
LC50= 3.8; No Effect Level= 3.2 mg/L
Fathead Minnow 96 Hour Acute Toxicity (Estimated)
LC50= 16; No Effect Level= 6.3 mg/L
Rainbow Trout 96 Hour Static Acute Bioassay
LC50= 21.3; No Effect Level= 15.5 mg/L

BIODEGRADATION

Product contains only inorganics that are not subject to typical biological degradation. Assimilation by microbes may occur in waste treatment or the environment.

13 Disposal considerations

If this undiluted product is discarded as a waste, the US RCRA hazardous waste identification number is :
D002=Corrosive(pH); D006=Cadmium.

Please be advised; however, that state and local requirements for waste disposal may be more restrictive or otherwise different from federal regulations. Consult state and local regulations regarding the proper disposal of this material.

14 Transport information

DOT HAZARD:	Corrosive to aluminum, RQ
PROPER SHIPPING NAME:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(PHOSPHORIC ACID SOLUTION) 8, UN 3264, PG III, (ZINC SULFATE) RQ
DOT EMERGENCY RESPONSE GUIDE #:	154

Note: Some containers may be DOT exempt, please check BOL for exact container classification

15 Regulatory information

TSCA:

All components of this product are included on or are in compliance with the U.S. TSCA regulations.

CERCLA AND/OR SARA REPORTABLE QUANTITY (RQ):

3,747 gallons due to PHOSPHORIC ACID;966 gallons due to ZINC SULFATE;

NSF Registered and/or meets USDA (according to 1998 Guidelines):

Registration number: Not Registered

SARA SECTION 312 HAZARD CLASS:

Immediate(acute);Delayed(Chronic)

SARA SECTION 302 CHEMICALS:

No regulated constituent present at OSHA thresholds

SARA SECTION 313 CHEMICALS:

CAS#	CHEMICAL NAME	RANGE
13598-37-3	PHOSPHORIC ACID, ZINC SALT (2:1)	11.0-15.0%
7733-02-0	ZINC SULFATE	6.0-10.0%

CALIFORNIA REGULATORY INFORMATION

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):

This product contains one or more ingredients at trace levels known to the state of California to cause cancer and reproductive toxicity.

MICHIGAN REGULATORY INFORMATION

CAS#	CHEMICAL NAME
7733-02-0	ZINC SULFATE

16 Other information

HMIS vII		CODE TRANSLATION
Health	3	Serious Hazard
Fire	0	Minimal Hazard
Reactivity	0	Minimal Hazard
Special	CORR	DOT corrosive
(1) Protective Equipment	B	Goggles,Gloves

(1) refer to section 8 of MSDS for additional protective equipment recommendations.

CHANGE LOG

	EFFECTIVE DATE	REVISIONS TO SECTION:	SUPERCEDES
MSDS status:	30-JAN-1997		** NEW **
	30-JUN-1998		30-JAN-1997
	14-JUL-2000	15	30-JUN-1998
	04-JAN-2002	3,4,7	14-JUL-2000
	29-MAY-2002	12	04-JAN-2002
	01-APR-2004	15	29-MAY-2002
	24-JAN-2006	3,5,14	01-APR-2004
	30-NOV-2006	3,5,14	24-JAN-2006
	01-MAY-2009	3,4,5,8,10	30-NOV-2006

GE
Water & Process Technologies

Material Safety Data Sheet

Issue Date: 21-JUN-2011
Supercedes: 12-AUG-2010

SPECTRUS NX1100

1 Identification

Identification of substance or preparation
SPECTRUS NX1100

Product Application Area
Biocide

Company/Undertaking Identification
GE Betz, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355-3300, F 215 953 5524

Emergency Telephone
(800) 877-1940

Prepared by Product Stewardship Group: T 215-355-3300 Prepared on: 21-JUN-2011

2 Hazard(s) identification

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EMERGENCY OVERVIEW

DANGER

Corrosive to skin. Skin sensitizer with delayed onset of symptoms. Corrosive to the eyes. Mists/aerosols cause irritation to the upper respiratory tract.

DOT hazard: Corrosive to skin/steel
Odor: None; Appearance: Colorless To Yellow Green, Liquid

Fire fighters should wear positive pressure self-contained breathing apparatus(full face-piece type). Proper fire-extinguishing media: dry chemical, carbon dioxide, foam or water

****

POTENTIAL HEALTH EFFECTS

ACUTE SKIN EFFECTS:
Primary route of exposure; Corrosive to skin. Skin sensitizer with delayed onset of symptoms.

ACUTE EYE EFFECTS:
Corrosive to the eyes.

ACUTE RESPIRATORY EFFECTS:
Mists/aerosols cause irritation to the upper respiratory tract.

INGESTION EFFECTS:
May cause severe irritation or burning of the gastrointestinal tract.

TARGET ORGANS:
Prolonged or repeated exposures may cause tissue necrosis and/or skin sensitization.

MEDICAL CONDITIONS AGGRAVATED:
Not known.

SYMPTOMS OF EXPOSURE:
Direct contact with skin will cause severe delayed skin reactions or burns if not washed off immediately- follow first aid instructions.

3 Composition / information on ingredients

Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this MSDS for our assessment of the potential hazards of this formulation.

HAZARDOUS INGREDIENTS:

Cas#	Chemical Name	Range(w/w%)
52-51-7	2-BROMO-2-NITROPROPANE-1,3-DIOL Toxic (by ingestion); irritant (eyes); potential sensitizer (skin)	5-10
10377-60-3	MAGNESIUM NITRATE Oxidizer; irritant (eyes and skin)	1-5
55965-84-9	5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE MIXTURE WITH 2-METHYL-4-ISOTHIAZOLIN-3-ONE Corrosive (eyes and skin); sensitizer	1-5
7786-30-3	MAGNESIUM CHLORIDE Potential irritant	1-5

4 First-aid measures

SKIN CONTACT:
URGENT! Wash thoroughly with soap and water. Remove contaminated clothing. Get immediate medical attention. Thoroughly wash clothing before reuse.

EYE CONTACT:
URGENT! Immediately flush eyes with plenty of low-pressure water for at least 20 minutes while removing contact lenses. Hold eyelids apart. Get immediate medical attention.

INHALATION:
Remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get immediate medical attention.

INGESTION:
Do not feed anything by mouth to an unconscious or convulsive

victim. Do not induce vomiting. Immediately contact physician. Dilute contents of stomach using 2-8 fluid ounces (60-240 mL) of milk or water.

NOTES TO PHYSICIANS:

Material is corrosive. It may not be advisable to induce vomiting. Possible mucosal damage may contraindicate the use of gastric lavage.

5 Fire-fighting measures

FIRE FIGHTING INSTRUCTIONS:

Fire fighters should wear positive pressure self-contained breathing apparatus (full face-piece type).

EXTINGUISHING MEDIA:

dry chemical, carbon dioxide, foam or water

HAZARDOUS DECOMPOSITION PRODUCTS:

oxides of carbon, nitrogen, and sulfur; hydrogen chloride; and hydrogen bromide

FLASH POINT:

> 200F > 93C P-M(CC)

MISCELLANEOUS:

Corrosive to skin/steel
UN 3265;Emergency Response Guide #153

6 Accidental release measures

PROTECTION AND SPILL CONTAINMENT:

Ventilate area. Use specified protective equipment. Contain and absorb on absorbent material. Place in waste disposal container. Do not add decontaminant solution to waste drum containing biocide or adsorbent. Decontaminate floor residual with 10% metabisulfite solution. Use 10 volumes of solution to one volume of spill.

DISPOSAL INSTRUCTIONS:

Water contaminated with this product may be sent to a sanitary sewer treatment facility,in accordance with any local agreement,a permitted waste treatment facility or discharged under a permit. Product as is - Dispose of in approved pesticide facility or according to label instructions.

7 Handling and storage

HANDLING:

Corrosive to skin. Corrosive to eyes.

STORAGE:

Keep containers closed when not in use. Protect from freezing. If frozen, thaw and mix completely prior to use. Shelf life 360 days. Do not store in steel or aluminum containers.

8 Exposure controls / personal protection

EXPOSURE LIMITS

CHEMICAL NAME

2-BROMO-2-NITROPROPANE-1,3-DIOL
PEL (OSHA): LIMITS HAVE NOT BEEN ESTABLISHED BY US OSHA.

TLV (ACGIH): LIMITS HAVE NOT BEEN ESTABLISHED BY ACGIH.

MAGNESIUM NITRATE
PEL (OSHA): LIMITS HAVE NOT BEEN ESTABLISHED BY US OSHA.
TLV (ACGIH): LIMITS HAVE NOT BEEN ESTABLISHED BY ACGIH.

5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE MIXTURE WITH
2-METHYL-4-ISOTHIAZOLIN-3-ONE
PEL (OSHA): LIMITS HAVE NOT BEEN ESTABLISHED BY US OSHA.
TLV (ACGIH): LIMITS HAVE NOT BEEN ESTABLISHED BY ACGIH.
MISC: Manufacturer's recommended exposure limit: TWA = 0.1 mg/m3;
STEL = 0.3 mg/m3 (total isothiazoline)

MAGNESIUM CHLORIDE
PEL (OSHA): LIMITS HAVE NOT BEEN ESTABLISHED BY US OSHA.
TLV (ACGIH): LIMITS HAVE NOT BEEN ESTABLISHED BY ACGIH.

8) EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

ENGINEERING CONTROLS:
Adequate ventilation to maintain air contaminants below exposure limits.

PERSONAL PROTECTIVE EQUIPMENT:
Use protective equipment in accordance with 29CFR 1910 Subpart I

RESPIRATORY PROTECTION:
A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
USE AIR PURIFYING RESPIRATORS WITHIN USE LIMITATIONS ASSOCIATED WITH THE EQUIPMENT OR ELSE USE SUPPLIED AIR-RESPIRATORS.
If air-purifying respirator use is appropriate, use organic vapor cartridges and any of the following particulate respirators: N95, N99, N100, R95, R99, R100, P95, P99 or P100.

SKIN PROTECTION:
gauntlet-type rubber, butyl or neoprene gloves, chemical resistant apron -- Wash off after each use. Replace as necessary.

EYE PROTECTION:
splash proof chemical goggles, face shield

9 Physical and chemical properties

Spec. Grav.(70F,21C)	1.107	Vapor Pressure (mmHG)	~ 18.0
Freeze Point (F)	24	Vapor Density (air=1)	< 1.00
Freeze Point (C)	-4		
Viscosity(cps 70F,21C)	10	% Solubility (water)	100.0

Odor		None
Appearance		Colorless To Yellow Green
Physical State		Liquid
Flash Point	P-M(CC)	> 200F > 93C
pH As Is (approx.)		3.0
Evaporation Rate (Ether=1)		< 1.00
Percent VOC:		0.0

NA = not applicable ND = not determined

10 Stability and reactivity

CHEMICAL STABILITY:
Stable under normal storage conditions.

POSSIBILITY OF HAZARDOUS REACTIONS:
Contact with strong bases may cause a violent reaction releasing heat. Contact with water reactive compounds may cause fire or explosion.

INCOMPATIBILITIES:
May react with strong reducing agents.

DECOMPOSITION PRODUCTS:
oxides of carbon, nitrogen, and sulfur; hydrogen chloride; and hydrogen bromide

11 Toxicological information

Oral LD50 RAT:	1030 mg/kg
Dermal LD50 RABBIT:	>5000 mg/kg
NOTE - Calculated value according to GHS additivity formula	
Skin Irritation Score RABBIT:	CORROSIVE
Eye Irritation Score RABBIT:	CORROSIVE
Skin Sensitization G.PIG:	NEGATIVE

12 Ecological information

AQUATIC TOXICOLOGY

Ceriodaphnia 48 Hour Static Renewal Bioassay
LC50= 4.7; No Effect Level= .63 mg/L
Daphnia magna 48 Hour Static Renewal Bioassay
LC50= 5; No Effect Level= 2.5 mg/L
Fathead Minnow 96 Hour Static Renewal Bioassay
LC50= 3.5; No Effect Level= 1.8 mg/L
Mysid Shrimp 48 Hour Static Renewal Bioassay
LC50= 40.5; No Effect Level= 18 mg/L
Rainbow Trout 96 Hour Static Renewal Bioassay
LC50= 7.2; No Effect Level= 3.1 mg/L
Sheepshead Minnow 96 Hour Static Renewal Bioassay
LC50= 26.7; No Effect Level= 15.5 mg/L

BIODEGRADATION

BOD-28 (mg/g): 4
BOD-5 (mg/g): 2
COD (mg/g): 78
TOC (mg/g): 29

13 Disposal considerations

If this undiluted product is discarded as a waste, the US RCRA hazardous waste identification number is :
D002=Corrosive(steel).

Please be advised; however, that state and local requirements for waste disposal may be more restrictive or otherwise different from federal regulations. Consult state and local regulations regarding the proper disposal of this material.

14 Transport information

Transportation Hazard: Corrosive to skin/steel
DOT: CORROSIVE LIQUID, ACIDIC, ORGANIC,
N.O.S.(5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE)
8, UN 3265, PG II
DOT EMERGENCY RESPONSE GUIDE #: 153
Note: Some containers may be DOT exempt, please check BOL for exact container classification
IATA: CORROSIVE LIQUID, ACIDIC, ORGANIC,
N.O.S.(5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE)
8, UN 3265, PG II
IMDG: CORROSIVE LIQUID, ACIDIC, ORGANIC,
N.O.S.(5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE)
8, UN 3265, PG II

15 Regulatory information

TSCA:
This is an EPA registered biocide and is exempt from TSCA inventory requirements.
CERCLA AND/OR SARA REPORTABLE QUANTITY (RQ):
No regulated constituent present at OSHA thresholds
FIFRA REGISTRATION NUMBER:
3876- 151
FOOD AND DRUG ADMINISTRATION:
21 CFR 176.300 & 176.170 (slimicides and as a preservative) When used in this specified application, all ingredients comprising this product are authorized by FDA for the manufacture of paper and paperboard that may contact aqueous and fatty foods as per 21 CFR 176.170(a)(4).
NSF Registered and/or meets USDA (according to 1998 Guidelines):
Registration number: 141064
Category Code(s):
G5 Cooling and retort water treatment products - all food processing areas
G7 Boiler treatment products - all food processing areas/nonfood contact
SARA SECTION 312 HAZARD CLASS:
Immediate(acute);Delayed(Chronic)
SARA SECTION 302 CHEMICALS:
No regulated constituent present at OSHA thresholds
SARA SECTION 313 CHEMICALS:

CAS#	CHEMICAL NAME	RANGE
10377-60-3	MAGNESIUM NITRATE	2.0-5.0%

CALIFORNIA REGULATORY INFORMATION

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):
No regulated constituents present
MICHIGAN REGULATORY INFORMATION

No regulated constituent present at OSHA thresholds

16 Other information

HMIS vII **CODE TRANSLATION**

Health	3	Serious Hazard
Fire	0	Minimal Hazard
Reactivity	0	Minimal Hazard
Special	CORR	DOT corrosive
(1) Protective Equipment	D	Goggles,Face Shield,Gloves,Apron

(1) refer to section 8 of MSDS for additional protective equipment recommendations.

CHANGE LOG

	EFFECTIVE DATE	REVISIONS TO SECTION:	SUPERCEDES
MSDS status:	24-SEP-1997		** NEW **
	26-FEB-1998	12	24-SEP-1997
	20-MAY-1998	15	26-FEB-1998
	22-MAY-1998	2	20-MAY-1998
	07-JUL-1998	12	22-MAY-1998
	15-DEC-1998	7	07-JUL-1998
	01-APR-1999	12	15-DEC-1998
	05-NOV-1999	12	01-APR-1999
	11-MAY-2001	4	05-NOV-1999
	17-JAN-2002	10	11-MAY-2001
	12-OCT-2004	15	17-JAN-2002
	17-NOV-2004	15	12-OCT-2004
	14-JUN-2005	3.9	17-NOV-2004
	04-JAN-2007	2,5,7,10	14-JUN-2005
	25-JAN-2007	5,9,13	04-JAN-2007
	22-MAR-2007	5,9,13	25-JAN-2007
	29-JUN-2007	6,8,16	22-MAR-2007
	02-JUL-2008	4,8	29-JUN-2007
	15-MAY-2009	15	02-JUL-2008
	17-JUN-2009	15	15-MAY-2009
	05-FEB-2010	6	17-JUN-2009
	12-AUG-2010	3,7,8	05-FEB-2010
	21-JUN-2011	10,12	12-AUG-2010

GE
Water & Process Technologies

Material Safety Data Sheet

Issue Date: 04-JAN-2011
Supercedes: 14-JUN-2001

SPECTRUS BD1501

1 Identification

Identification of substance or preparation
SPECTRUS BD1501

Product Application Area
Water-based deposit control agent.

Company/Undertaking Identification
GE Betz, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355-3300, F 215 953 5524

Emergency Telephone
(800) 877-1940

Prepared by Product Stewardship Group: T 215-355-3300 Prepared on: 04-JAN-2011

2 Hazard(s) identification

****

EMERGENCY OVERVIEW

CAUTION

May cause slight irritation to the skin. May cause moderate irritation to the eyes. Mists/aerosols may cause irritation to upper respiratory tract.

DOT hazard is not applicable
Odor: Mild; Appearance: Colorless, Liquid

Fire fighters should wear positive pressure self-contained breathing apparatus(full face-piece type). Proper fire-extinguishing media: dry chemical/CO2/foam or water--slippery condition; use sand/grit.

****

POTENTIAL HEALTH EFFECTS

ACUTE SKIN EFFECTS:
Primary route of exposure; May cause slight irritation to the skin.

ACUTE EYE EFFECTS:
May cause moderate irritation to the eyes.

ACUTE RESPIRATORY EFFECTS:
Mists/aerosols may cause irritation to upper respiratory tract.

INGESTION EFFECTS:
May cause slight gastrointestinal irritation.

TARGET ORGANS:
Prolonged or repeated exposures may cause primary irritant dermatitis.

MEDICAL CONDITIONS AGGRAVATED:
Not known.

SYMPTOMS OF EXPOSURE:
May cause redness or itching of skin.

3 Composition / information on ingredients

Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this MSDS for our assessment of the potential hazards of this formulation.

HAZARDOUS INGREDIENTS:

Cas#	Chemical Name	Range(w/w%)
9016-45-9	NONYLPHENOXYPOLY(ETHYLENEOXY)ETHANOL Irritant (eyes and skin)	10-20

4 First-aid measures

SKIN CONTACT:
Wash thoroughly with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

EYE CONTACT:
Remove contact lenses. Hold eyelids apart. Immediately flush eyes with plenty of low-pressure water for at least 15 minutes. Get immediate medical attention.

INHALATION:
If nasal, throat or lung irritation develops - remove to fresh air and get medical attention.

INGESTION:
Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Immediately contact physician. Dilute contents of stomach using 2-8 fluid ounces (60-240 mL) of milk or water.

NOTES TO PHYSICIANS:
No special instructions

5 Fire-fighting measures

FIRE FIGHTING INSTRUCTIONS:
Fire fighters should wear positive pressure self-contained breathing apparatus (full face-piece type).
EXTINGUISHING MEDIA:
dry chemical/CO2/foam or water--slippery condition; use sand/grit.
HAZARDOUS DECOMPOSITION PRODUCTS:
oxides of carbon
FLASH POINT:
> 200F > 93C SETA(CC)

6 Accidental release measures

PROTECTION AND SPILL CONTAINMENT:
Ventilate area. Use specified protective equipment. Contain and absorb on absorbent material. Place in waste disposal container. Flush area with water. Wet area may be slippery. Spread sand/grit.
DISPOSAL INSTRUCTIONS:
Water contaminated with this product may be sent to a sanitary sewer treatment facility,in accordance with any local agreement,a permitted waste treatment facility or discharged under a permit. Product as is - Incinerate or land dispose in an approved landfill.

7 Handling and storage

HANDLING:
Normal chemical handling.
STORAGE:
Keep containers closed when not in use. Protect from freezing. If frozen, thaw completely and mix thoroughly prior to use.

8 Exposure controls / personal protection

EXPOSURE LIMITS

CHEMICAL NAME

NONYLPHENOXYPOLY(ETHYLENEOXY)ETHANOL
PEL (OSHA): NOT DETERMINED
TLV (ACGIH): NOT DETERMINED

ENGINEERING CONTROLS:
adequate ventilation
PERSONAL PROTECTIVE EQUIPMENT:
Use protective equipment in accordance with 29CFR 1910 Subpart I
RESPIRATORY PROTECTION:
A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
USE AIR PURIFYING RESPIRATORS WITHIN USE LIMITATIONS ASSOCIATED WITH THE EQUIPMENT OR ELSE USE SUPPLIED AIR-RESPIRATORS.
If air-purifying respirator use is appropriate, use any of the following particulate respirators: N95, N99, N100, R95, R99, R100, P95, P99 or P100.
SKIN PROTECTION:
rubber, butyl or viton gloves -- Wash off after each use.

Replace as necessary.

EYE PROTECTION:

splash proof chemical goggles

9 Physical and chemical properties

Spec. Grav.(70F,21C)	1.029	Vapor Pressure (mmHG)	~ 18.0
Freeze Point (F)	31	Vapor Density (air=1)	< 1.00
Freeze Point (C)	-1		
Viscosity(cps 70F,21C)	110	% Solubility (water)	100.0

Odor		Mild
Appearance		Colorless
Physical State		Liquid
Flash Point	SETA(CC)	> 200F > 93C
pH As Is (approx.)		6.7
Evaporation Rate (Ether=1)		< 1.00
Percent VOC:		0.0

NA = not applicable ND = not determined

10 Stability and reactivity

CHEMICAL STABILITY:

Stable under normal storage conditions.

POSSIBILITY OF HAZARDOUS REACTIONS:

Contact with water reactive compounds may cause fire or explosion.

INCOMPATIBILITIES:

May react with strong oxidizers.

DECOMPOSITION PRODUCTS:

oxides of carbon

11 Toxicological information

Oral LD50 RAT: >5,000 mg/kg

NOTE - Estimated value

Dermal LD50 RABBIT: >5,000 mg/kg

NOTE - Estimated value

12 Ecological information

AQUATIC TOXICOLOGY

Daphnia magna 48 Hour Static Acute Bioassay

LC50= 21.8 mg/L

Fathead Minnow 96 Hour Static Acute Bioassay

LC50= 34.8; No Effect Level= 15.5 mg/L

BIODEGRADATION

BOD-28 (mg/g): 74

BOD-5 (mg/g): 10

COD (mg/g): 460

TOC (mg/g): 158

13 Disposal considerations

If this undiluted product is discarded as a waste, the US RCRA hazardous waste identification number is :
Not applicable.

Please be advised; however, that state and local requirements for waste disposal may be more restrictive or otherwise different from federal regulations. Consult state and local regulations regarding the proper disposal of this material.

14 Transport information

Transportation Hazard: Not Applicable
DOT: Not Regulated

DOT EMERGENCY RESPONSE GUIDE #: Not applicable
Note: Some containers may be DOT exempt, please check BOL for exact container classification
IATA: Not Regulated

IMDG: Not Regulated

15 Regulatory information

TSCA:
All components of this product are included on or are in compliance with the U.S. TSCA regulations.
CERCLA AND/OR SARA REPORTABLE QUANTITY (RQ):
No regulated constituent present at OSHA thresholds
FOOD AND DRUG ADMINISTRATION:
21 CFR 176.170 (components of paper and paperboard in contact with aqueous and fatty foods)
NSF Registered and/or meets USDA (according to 1998 Guidelines):
Registration number: Not Registered
This product contains ingredients that have been determined as safe for use in systems for cooking or cooling containers of meat and/or poultry and in systems with no food contact. (G5, G7)
SARA SECTION 312 HAZARD CLASS:
Immediate(acute);Delayed(Chronic)
SARA SECTION 302 CHEMICALS:
No regulated constituent present at OSHA thresholds
SARA SECTION 313 CHEMICALS:
No regulated constituent present at OSHA thresholds
CALIFORNIA REGULATORY INFORMATION

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):
This product contains one or more ingredients at trace levels known to the state of California to cause cancer and reproductive toxicity.
MICHIGAN REGULATORY INFORMATION

No regulated constituent present at OSHA thresholds

16 Other information

HMIS vII		CODE TRANSLATION
Health	1	Slight Hazard
Fire	1	Slight Hazard
Reactivity	0	Minimal Hazard
Special	NONE	No special Hazard
(1) Protective Equipment	B	Goggles,Gloves

(1) refer to section 8 of MSDS for additional protective equipment recommendations.

CHANGE LOG

	EFFECTIVE DATE	REVISIONS TO SECTION:	SUPERCEDES
MSDS status:	04-JAN-2011		** NEW **

GE
Water & Process Technologies

Material Safety Data Sheet

Issue Date: 27-FEB-2009
Supercedes: 26-FEB-2009

NOVUS CE2660

1 Identification

Identification of substance or preparation
NOVUS CE2660

Product Application Area
Flocculant.

Company/Undertaking Identification
GE Betz, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355-3300, F 215 953 5524

Emergency Telephone
(800) 877-1940

Prepared by Product Stewardship Group: T 215-355-3300 Prepared on: 27-FEB-2009

2 Hazard(s) identification

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                                EMERGENCY OVERVIEW

  CAUTION

        May cause moderate irritation to the skin. May cause dermatitis.
        May cause moderate irritation to the eyes. Mists/aerosols may cause
        irritation to upper respiratory tract.

        DOT hazard is not applicable
        Odor: Slight Hydrocarbon; Appearance: White To Off-White, Emulsion

        Fire fighters should wear positive pressure self-contained breathing
        apparatus(full face-piece type). Proper fire-extinguishing media:
        dry chemical, carbon dioxide, foam or water
*******************************************************************************

                          POTENTIAL HEALTH EFFECTS

     ACUTE SKIN EFFECTS:
        Primary route of exposure; May cause moderate irritation to the
        skin. May cause dermatitis.

     ACUTE EYE EFFECTS:
        May cause moderate irritation to the eyes.

     ACUTE RESPIRATORY EFFECTS:
        Mists/aerosols may cause irritation to upper respiratory tract.
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INGESTION EFFECTS:

May cause gastrointestinal irritation with possible nausea, vomiting, diarrhea, mental confusion, dizziness and lethargy. Small amounts aspirated during ingestion or vomiting may cause lung injury, possibly leading to death.

TARGET ORGANS:

Prolonged or repeated exposures may cause CNS depression and/or defatting-type dermatitis.

MEDICAL CONDITIONS AGGRAVATED:

Not known.

SYMPTOMS OF EXPOSURE:

May cause redness or itching of skin.

3 Composition / information on ingredients

Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this MSDS for our assessment of the potential hazards of this formulation.

HAZARDOUS INGREDIENTS:

Cas#	Chemical Name	Range(w/w%)
64742-47-8	ISOPARAFFINIC PETROLEUM DISTILLATE Combustible liquid; irritant; CNS depressant; IARC=3 (carcinogen status not classifiable)	15-40
12125-02-9	AMMONIUM CHLORIDE Irritant (eyes)	1-5
24938-91-8	POLY(OXY-1,2-ETHANEDIYL), ALPHA-TRIDECYL-OMEGA-HYDROXY- Severe eye irritant; respiratory irritant; slight skin irritant	1-5

4 First-aid measures

SKIN CONTACT:

Wash thoroughly with soap and water. Remove contaminated clothing. Thoroughly wash clothing before reuse. Get medical attention if irritation develops or persists.

EYE CONTACT:

Remove contact lenses. Hold eyelids apart. Immediately flush eyes with plenty of low-pressure water for at least 15 minutes. Get immediate medical attention.

INHALATION:

Remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get immediate medical attention.

INGESTION:

Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Immediately contact physician.

Dilute contents of stomach using 2-8 fluid ounces (60-240 mL) of milk or water.

NOTES TO PHYSICIANS:

This product contains a hydrocarbon solvent. Aspiration into the lungs will result in chemical pneumonia and may be fatal.

5 Fire-fighting measures

FIRE FIGHTING INSTRUCTIONS:

Fire fighters should wear positive pressure self-contained breathing apparatus (full face-piece type).

EXTINGUISHING MEDIA:

dry chemical, carbon dioxide, foam or water

HAZARDOUS DECOMPOSITION PRODUCTS:

oxides of carbon, nitrogen and sulfur; hydrogen chloride; ammonia and volatile amines

FLASH POINT:

> 200F > 93C P-M(CC)

6 Accidental release measures

PROTECTION AND SPILL CONTAINMENT:

Ventilate area. Use specified protective equipment. Contain and absorb on absorbent material. Place in waste disposal container. Flush area with water. Wet area may be slippery. Spread sand/grit.

DISPOSAL INSTRUCTIONS:

Water contaminated with this product may be sent to a sanitary sewer treatment facility,in accordance with any local agreement,a permitted waste treatment facility or discharged under a permit. Product as is - Incinerate or land dispose in an approved landfill.

7 Handling and storage

HANDLING:

Normal chemical handling.

STORAGE:

Keep containers closed when not in use. Protect from freezing. Product forms an unusable solid that can not be thawed, even at room temperature, if subjected to freezing conditions. Shelf life 240 days.

8 Exposure controls / personal protection

EXPOSURE LIMITS

CHEMICAL NAME

ISOPARAFFINIC PETROLEUM DISTILLATE
PEL (OSHA): NOT DETERMINED
TLV (ACGIH): 200 MG/M3-A3

AMMONIUM CHLORIDE
PEL (OSHA): NOT DETERMINED
TLV (ACGIH): 10 MG/M3; STEL-20MG/M3 (AS FUME)

POLY(OXY-1,2-ETHANEDIYL), ALPHA-TRIDECYL-OMEGA-HYDROXY-

PEL (OSHA): NOT DETERMINED
TLV (ACGIH): NOT DETERMINED
MISC: toxic to aquatic organisms;

ENGINEERING CONTROLS:
Adequate ventilation to maintain air contaminants below exposure limits.

PERSONAL PROTECTIVE EQUIPMENT:
Use protective equipment in accordance with 29CFR 1910 Subpart I

RESPIRATORY PROTECTION:
A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
USE AIR PURIFYING RESPIRATORS WITHIN USE LIMITATIONS ASSOCIATED WITH THE EQUIPMENT OR ELSE USE SUPPLIED AIR-RESPIRATORS.
If air-purifying respirator use is appropriate, use a respirator with organic vapor cartridges.

SKIN PROTECTION:
nitrile gloves-- Wash off after each use. Replace as necessary.

EYE PROTECTION:
splash proof chemical goggles

9 Physical and chemical properties

Specific Grav.(70F,21C)	1.025	Vapor Pressure (mmHG)	~ 18.0
Freeze Point (F)	< 23	Vapor Density (air=1)	> 1.00
Freeze Point (C)	< -5		
Viscosity(cps 70F,21C)	2400	% Solubility (water)	5.0

Odor		Slight Hydrocarbon
Appearance		White To Off-White
Physical State		Emulsion
Flash Point	P-M(CC)	> 200F > 93C
pH 0.5% Sol. (approx.)		4.1
Evaporation Rate (Ether=1)		< 1.00
Percent VOC:		30.0

NA = not applicable ND = not determined

10 Stability and reactivity

CHEMICAL STABILITY:
Stable under normal storage conditions.

POSSIBILITY OF HAZARDOUS REACTIONS:
No known hazardous reactions.

INCOMPATIBILITIES:
May react with strong oxidizers.

DECOMPOSITION PRODUCTS:
oxides of carbon, nitrogen and sulfur; hydrogen chloride; ammonia and volatile amines

11 Toxicological information

Oral LD50 RAT: >2,000 mg/kg
NOTE - Estimated value
Dermal LD50 RABBIT: >2,000 mg/kg
NOTE - Estimated value

12 Ecological information

AQUATIC TOXICOLOGY

Daphnia magna 48 Hour Static Acute Bioassay
LC50= 5; 5% Mortality= 2 mg/L
Fathead Minnow 96 Hour Static Acute Bioassay
LC50= 11.3; No Effect Level= 3.1 mg/L

BIODEGRADATION

No Data Available.

13 Disposal considerations

If this undiluted product is discarded as a waste, the US RCRA hazardous waste identification number is :
Not applicable.

Please be advised; however, that state and local requirements for waste disposal may be more restrictive or otherwise different from federal regulations. Consult state and local regulations regarding the proper disposal of this material.

14 Transport information

DOT HAZARD: Not Applicable
PROPER SHIPPING NAME:

DOT EMERGENCY RESPONSE GUIDE #: Not applicable
Note: Some containers may be DOT exempt, please check BOL for exact container classification

15 Regulatory information

TSCA:

All components of this product are included on or are in compliance with the U.S. TSCA regulations.

CERCLA AND/OR SARA REPORTABLE QUANTITY (RQ):

Treat as oil spill

FOOD AND DRUG ADMINISTRATION:

No FDA approval for paper or paperboard having food contact.

NSF Registered and/or meets USDA (according to 1998 Guidelines):

Registration number: Not Registered

SARA SECTION 312 HAZARD CLASS:

Immediate(acute);Delayed(Chronic)

SARA SECTION 302 CHEMICALS:

No regulated constituent present at OSHA thresholds

SARA SECTION 313 CHEMICALS:

CAS#	CHEMICAL NAME	RANGE
12125-02-9	AMMONIUM CHLORIDE	2.0-5.0%

CALIFORNIA REGULATORY INFORMATION

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):

This product contains one or more ingredients at trace levels known to the state of California to cause cancer.

MICHIGAN REGULATORY INFORMATION

No regulated constituent present at OSHA thresholds

16 Other information

HMIS vII		**CODE TRANSLATION**
Health	2	Moderate Hazard
Fire	1	Slight Hazard
Reactivity	0	Minimal Hazard
Special	NONE	No special Hazard
(1) Protective Equipment	B	Goggles,Gloves

(1) refer to section 8 of MSDS for additional protective equipment recommendations.

CHANGE LOG

	EFFECTIVE DATE	REVISIONS TO SECTION:	SUPERCEDES
MSDS status:	30-JAN-1997		** NEW **
	26-MAY-1999	12	30-JAN-1997
	18-AUG-2000	3,4	26-MAY-1999
	05-JUN-2001	15	18-AUG-2000
	13-SEP-2001	15	05-JUN-2001
	01-APR-2004	15	13-SEP-2001
	02-AUG-2004	2	01-APR-2004
	26-FEB-2009	2,8	02-AUG-2004
	27-FEB-2009	5,7,10	26-FEB-2009

GE
Water & Process Technologies

Material Safety Data Sheet

Issue Date: 24-SEP-2009
Supercedes: 09-NOV-2007

KLARAID CDP1337

1 Identification

Identification of substance or preparation
KLARAID CDP1337

Product Application Area
Coagulant.

Company/Undertaking Identification
GE Betz, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355-3300, F 215 953 5524

Emergency Telephone
(800) 877-1940

Prepared by Product Stewardship Group: T 215-355-3300 Prepared on: 24-SEP-2009

2 Hazard(s) identification

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*******************************************************************************
                                EMERGENCY OVERVIEW

  CAUTION

        May cause slight irritation to the skin. May cause moderate
        irritation to the eyes. Mists/aerosols may cause irritation to
        upper respiratory tract.

        DOT hazard is not applicable
        Odor: Mild; Appearance: Colorless To Amber, Liquid

        Fire fighters should wear positive pressure self-contained breathing
        apparatus(full face-piece type). Proper fire-extinguishing media:
        dry chemical, carbon dioxide, foam or water
*******************************************************************************

                          POTENTIAL HEALTH EFFECTS

     ACUTE SKIN EFFECTS:
        Primary route of exposure; May cause slight irritation to the skin.

     ACUTE EYE EFFECTS:
        May cause moderate irritation to the eyes.

     ACUTE RESPIRATORY EFFECTS:
        Mists/aerosols may cause irritation to upper respiratory tract.
```

INGESTION EFFECTS:
May cause gastrointestinal irritation.

TARGET ORGANS:
Repeated skin contact may cause sensitization.

MEDICAL CONDITIONS AGGRAVATED:
Not known.

SYMPTOMS OF EXPOSURE:
May cause redness or itching of skin.

3 Composition / information on ingredients

Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this MSDS for our assessment of the potential hazards of this formulation.

HAZARDOUS INGREDIENTS:

Cas#	Chemical Name	Range(w/w%)
12042-91-0	ALUMINUM CHLORHYDROXIDE Irritant (eyes)	30-60
25988-97-0	METHANAMINE, N-METHYL-, POLYMER WITH (CHLOROMETHYL) OXIRANE Irritant (eyes)	7-13

4 First-aid measures

SKIN CONTACT:
Wash thoroughly with soap and water. Get medical attention if irritation develops or persists.

EYE CONTACT:
Remove contact lenses. Hold eyelids apart. Immediately flush eyes with lukewarm gently flowing water for 20-60 minutes. Get immediate medical attention.

INHALATION:
If nasal, throat or lung irritation develops - remove to fresh air and get medical attention.

INGESTION:
Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Immediately contact physician. Dilute contents of stomach using 2-8 fluid ounces (60-240 mL) of milk or water.

NOTES TO PHYSICIANS:
No special instructions

5 Fire-fighting measures

FIRE FIGHTING INSTRUCTIONS:
Fire fighters should wear positive pressure self-contained breathing apparatus (full face-piece type).
EXTINGUISHING MEDIA:
dry chemical, carbon dioxide, foam or water
HAZARDOUS DECOMPOSITION PRODUCTS:
oxides of carbon and nitrogen, hydrogen chloride
FLASH POINT:
> 200F > 93C P-M(CC)

6 Accidental release measures

PROTECTION AND SPILL CONTAINMENT:
Ventilate area. Use specified protective equipment. Contain and absorb on absorbent material. Place in waste disposal container. Flush area with water. Wet area may be slippery. Spread sand/grit.
DISPOSAL INSTRUCTIONS:
Water contaminated with this product may be sent to a sanitary sewer treatment facility,in accordance with any local agreement,a permitted waste treatment facility or discharged under a permit. Product as is - Incinerate or land dispose in an approved landfill.

7 Handling and storage

HANDLING:
Normal chemical handling.
STORAGE:
Keep containers closed when not in use. Store between 40-100F (5-38C). Store away from oxidizers.

8 Exposure controls / personal protection

EXPOSURE LIMITS

CHEMICAL NAME

ALUMINUM CHLORHYDROXIDE
PEL (OSHA): NOT DETERMINED
TLV (ACGIH): TWA = 1 MG/M3; A4 (Aluminum metal and insoluble compounds, respirable fraction)

METHANAMINE, N-METHYL-, POLYMER WITH (CHLOROMETHYL) OXIRANE
PEL (OSHA): NOT DETERMINED
TLV (ACGIH): NOT DETERMINED

ENGINEERING CONTROLS:
Adequate ventilation to maintain air contaminants below exposure limits.
PERSONAL PROTECTIVE EQUIPMENT:
Use protective equipment in accordance with 29CFR 1910 Subpart I
RESPIRATORY PROTECTION:
A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
USE AIR PURIFYING RESPIRATORS WITHIN USE LIMITATIONS ASSOCIATED WITH THE EQUIPMENT OR ELSE USE SUPPLIED AIR-RESPIRATORS.
If air-purifying respirator use is appropriate, use any of

the following particulate respirators: N95, N99, N100, R95, R99, R100, P95, P99 or P100.

SKIN PROTECTION:

rubber, butyl, viton or neoprene gloves -- Wash off after each use. Replace as necessary.

EYE PROTECTION:

splash proof chemical goggles

9 Physical and chemical properties

Spec. Grav.(70F,21C)	1.286	Vapor Pressure (mmHG)	~ 18.0
Freeze Point (F)	29	Vapor Density (air=1)	< 1.00
Freeze Point (C)	-2		
Viscosity(cps 70F,21C)	77	% Solubility (water)	100.0

Odor		Mild
Appearance		Colorless To Amber
Physical State		Liquid
Flash Point	P-M(CC)	> 200F > 93C
pH As Is (approx.)		3.6
Evaporation Rate (Water=1)		< 1.00
Percent VOC:		0.0

NA = not applicable ND = not determined

10 Stability and reactivity

CHEMICAL STABILITY:

Stable under normal storage conditions.

POSSIBILITY OF HAZARDOUS REACTIONS:

No known hazardous reactions.

INCOMPATIBILITIES:

May react with strong oxidizers.

DECOMPOSITION PRODUCTS:

oxides of carbon and nitrogen, hydrogen chloride

11 Toxicological information

Oral LD50 RAT:	>1,000 mg/kg
NOTE - Estimated value	
Dermal LD50 RABBIT:	>2,000 mg/kg
NOTE - Estimated value	

12 Ecological information

AQUATIC TOXICOLOGY

Daphnia magna 48 Hour Static Renewal Bioassay
LC50= 8; No Effect Level= 3.2 mg/L

Fathead Minnow 96 Hour Static Renewal Bioassay
LC50= 16; No Effect Level= 6.2 mg/L

BIODEGRADATION

No Data Available.

13 Disposal considerations

If this undiluted product is discarded as a waste, the US RCRA hazardous waste identification number is :
Not applicable.

Please be advised; however, that state and local requirements for waste disposal may be more restrictive or otherwise different from federal regulations. Consult state and local regulations regarding the proper disposal of this material.

14 Transport information

DOT HAZARD: Not Applicable
PROPER SHIPPING NAME:

DOT EMERGENCY RESPONSE GUIDE #: Not applicable
Note: Some containers may be DOT exempt, please check BOL for exact container classification

15 Regulatory information

TSCA:
All components of this product are included on or are in compliance with the U.S. TSCA regulations.
CERCLA AND/OR SARA REPORTABLE QUANTITY (RQ):
No regulated constituent present at OSHA thresholds
FOOD AND DRUG ADMINISTRATION:
21 CFR 176.170 (components of paper and paperboard in contact with aqueous and fatty foods)
NSF Registered and/or meets USDA (according to 1998 Guidelines):
Registration number: Not Registered
SARA SECTION 312 HAZARD CLASS:
Immediate(acute);Delayed(Chronic)
SARA SECTION 302 CHEMICALS:
No regulated constituent present at OSHA thresholds
SARA SECTION 313 CHEMICALS:
No regulated constituent present at OSHA thresholds
CALIFORNIA REGULATORY INFORMATION

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):
This product contains one or more ingredients at trace levels known to the state of California to cause cancer and reproductive toxicity.
MICHIGAN REGULATORY INFORMATION

No regulated constituent present at OSHA thresholds

16 Other information

HMIS vII		CODE TRANSLATION
Health	1	Slight Hazard
Fire	0	Minimal Hazard
Reactivity	0	Minimal Hazard
Special	NONE	No special Hazard

(1) Protective Equipment B Goggles,Gloves

(1) refer to section 8 of MSDS for additional protective equipment recommendations.

CHANGE LOG

	EFFECTIVE DATE	REVISIONS TO SECTION:	SUPERCEDES
MSDS status:	16-MAY-1997		** NEW **
	27-MAY-1999	15	16-MAY-1997
	30-AUG-2000	4,16	27-MAY-1999
	13-FEB-2002	12	30-AUG-2000
	12-NOV-2002	3	13-FEB-2002
	09-NOV-2007	4,5,8,10	12-NOV-2002
	24-SEP-2009	3,8,15	09-NOV-2007

GE
Water & Process Technologies

Material Safety Data Sheet

Issue Date: 19-OCT-2009
Supercedes: 17-JUN-2009

SPECTRUS OX1201

1 Identification

Identification of substance or preparation
SPECTRUS OX1201

Product Application Area
Water-based microbial control agent.

Company/Undertaking Identification
GE Betz, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355-3300, F 215 953 5524

Emergency Telephone
(800) 877-1940

Prepared by Product Stewardship Group: T 215-355-3300 Prepared on: 19-OCT-2009

2 Hazard(s) identification

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                                EMERGENCY OVERVIEW

  CAUTION

        Non-hazardous to skin. May cause moderate irritation to the eyes.
        Mists/aerosols may cause irritation to upper respiratory tract.

        DOT hazard is not applicable
        Odor: Slight; Appearance: Colorless, Liquid

        Fire fighters should wear positive pressure self-contained breathing
        apparatus(full face-piece type). Proper fire-extinguishing media:
        dry chemical, carbon dioxide, foam or water
*******************************************************************************

                          POTENTIAL HEALTH EFFECTS

     ACUTE SKIN EFFECTS:
        Primary route of exposure; Non-hazardous to skin.

     ACUTE EYE EFFECTS:
        May cause moderate irritation to the eyes.

     ACUTE RESPIRATORY EFFECTS:
        Mists/aerosols may cause irritation to upper respiratory tract.

     INGESTION EFFECTS:
```

May cause gastrointestinal irritation.

TARGET ORGANS:
No evidence of potential chronic effects.

MEDICAL CONDITIONS AGGRAVATED:
Not known.

SYMPTOMS OF EXPOSURE:
May cause redness or itching of skin.

3 Composition / information on ingredients

Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this MSDS for our assessment of the potential hazards of this formulation.

HAZARDOUS INGREDIENTS:

Cas#	Chemical Name	Range(w/w%)
7647-15-6	SODIUM BROMIDE Irritant	30-60

4 First-aid measures

SKIN CONTACT:
Wash thoroughly with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

EYE CONTACT:
Remove contact lenses. Hold eyelids apart. Immediately flush eyes with plenty of low-pressure water for at least 15 minutes. Get immediate medical attention.

INHALATION:
If nasal, throat or lung irritation develops - remove to fresh air and get medical attention.

INGESTION:
Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Immediately contact physician. Dilute contents of stomach using 2-8 fluid ounces (60-240 mL) of milk or water.

NOTES TO PHYSICIANS:
Probable mucosal damage may contraindicate the use of gastric lavage.

5 Fire-fighting measures

FIRE FIGHTING INSTRUCTIONS:
Fire fighters should wear positive pressure self-contained breathing apparatus (full face-piece type).
EXTINGUISHING MEDIA:
dry chemical, carbon dioxide, foam or water
HAZARDOUS DECOMPOSITION PRODUCTS:
hydrogen bromide
FLASH POINT:
> 200F > 93C P-M(CC)

6 Accidental release measures

PROTECTION AND SPILL CONTAINMENT:
Ventilate area. Use specified protective equipment. Contain and absorb on absorbent material. Place in waste disposal container. Contaminated area may be washed down with water.
DISPOSAL INSTRUCTIONS:
Water contaminated with this product may be sent to a sanitary sewer treatment facility,in accordance with any local agreement,a permitted waste treatment facility or discharged under a permit. Product as is - Dispose of in approved pesticide facility or according to label instructions.

7 Handling and storage

HANDLING:
Normal chemical handling.
STORAGE:
Keep containers closed when not in use. Protect from freezing. Do not store at elevated temperatures. Shelf life 360 days.

8 Exposure controls / personal protection

EXPOSURE LIMITS

CHEMICAL NAME

SODIUM BROMIDE
PEL (OSHA): NOT DETERMINED
TLV (ACGIH): NOT DETERMINED

ENGINEERING CONTROLS:
adequate ventilation
PERSONAL PROTECTIVE EQUIPMENT:
Use protective equipment in accordance with 29CFR 1910 Subpart I
RESPIRATORY PROTECTION:
A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
USE AIR PURIFYING RESPIRATORS WITHIN USE LIMITATIONS ASSOCIATED WITH THE EQUIPMENT OR ELSE USE SUPPLIED AIR-RESPIRATORS.
If air-purifying respirator use is appropriate, use any of the following particulate respirators: N95, N99, N100, R95, R99, R100, P95, P99 or P100.
SKIN PROTECTION:
rubber, butyl, viton or neoprene gloves -- Wash off after

each use. Replace as necessary.

EYE PROTECTION:

splash proof chemical goggles

9 Physical and chemical properties

Spec. Grav.(70F,21C)	1.403	Vapor Pressure (mmHG)	~ 18.0
Freeze Point (F)	< -30	Vapor Density (air=1)	< 1.00
Freeze Point (C)	< -34		
Viscosity(cps 70F,21C)	12	% Solubility (water)	100.0

Odor		Slight
Appearance		Colorless
Physical State		Liquid
Flash Point	P-M(CC)	> 200F > 93C
pH As Is (approx.)		7.5
Evaporation Rate (Ether=1)		< 1.00
Percent VOC:		0.0

NA = not applicable ND = not determined

10 Stability and reactivity

CHEMICAL STABILITY:

Stable under normal storage conditions.

POSSIBILITY OF HAZARDOUS REACTIONS:

No known hazardous reactions.

INCOMPATIBILITIES:

Solid sodium bromide may react with easily oxidizable materials.

DECOMPOSITION PRODUCTS:

hydrogen bromide

11 Toxicological information

Oral LD50 RAT:	>5,000 mg/kg
Reproductive Toxicity RAT:	4,800 mg/kg/day
NOTE - 3-Generation: decreased	fertility
Dermal LD50 RABBIT:	>2,000 mg/kg
Skin Irritation Score RABBIT:	0
Eye Irritation Score RABBIT:	16

12 Ecological information

AQUATIC TOXICOLOGY

Bluegill Sunfish 96 Hour Static Acute Bioassay (As Bromine)
LC50= .52; No Effect Level= .3 mg/L
Bluegill Sunfish 96 Hour Static Acute Bioassay (Product as is)
LC50 Greater Than= 1000 mg/L
Daphnia magna 48 Hour Static Acute Bioassay (As Bromine)
LC50= .71; No Effect Level= .41 mg/L
Daphnia magna 48 Hour Static Acute Bioassay (Product as is)
LC50= 27500 mg/L

Mysid Shrimp 96 Hour Flow-Thru Bioassay (As Bromine)
LC50= .17 mg/L
Rainbow Trout 96 Hour Static Acute Bioassay (As Bromine)
LC50= .23 mg/L
Rainbow Trout 96 Hour Static Acute Bioassay (Product as is)
LC50 Greater Than= 1000 mg/L
Sheepshead Minnow 96 Hour Flow-Thru Bioassay (As Bromine)
LC50= .19; No Effect Level= .11 mg/L

No Data Available.

BIODEGRADATION

Product contains only inorganics that are not subject to typical biological degradation. Assimilation by microbes may occur in waste treatment or the environment.

13 Disposal considerations

If this undiluted product is discarded as a waste, the US RCRA hazardous waste identification number is :
Not applicable.

Please be advised; however, that state and local requirements for waste disposal may be more restrictive or otherwise different from federal regulations. Consult state and local regulations regarding the proper disposal of this material.

14 Transport information

DOT HAZARD: Not Applicable
PROPER SHIPPING NAME:

DOT EMERGENCY RESPONSE GUIDE #: Not applicable
Note: Some containers may be DOT exempt, please check BOL for exact container classification

15 Regulatory information

TSCA:
This is an EPA registered biocide and is exempt from TSCA inventory requirements.

CERCLA AND/OR SARA REPORTABLE QUANTITY (RQ):
No regulated constituent present at OSHA thresholds

FIFRA REGISTRATION NUMBER:
3876- 159

FOOD AND DRUG ADMINISTRATION:
The ingredients in this product are approved by FDA under 21 CFR 176.300.

NSF Registered and/or meets USDA (according to 1998 Guidelines):
Registration number: 141071
Category Code(s):
G5 Cooling and retort water treatment products - all food processing areas
G7 Boiler treatment products - all food processing areas/nonfood contact

SARA SECTION 312 HAZARD CLASS:
Immediate(acute)

SARA SECTION 302 CHEMICALS:

No regulated constituent present at OSHA thresholds

SARA SECTION 313 CHEMICALS:

No regulated constituent present at OSHA thresholds

CALIFORNIA REGULATORY INFORMATION

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):

No regulated constituents present

MICHIGAN REGULATORY INFORMATION

No regulated constituent present at OSHA thresholds

16 Other information

HMIS vII		**CODE TRANSLATION**
Health	1	Slight Hazard
Fire	0	Minimal Hazard
Reactivity	0	Minimal Hazard
Special	NONE	No special Hazard
(1) Protective Equipment	A	Safety Glasses

(1) refer to section 8 of MSDS for additional protective equipment recommendations.

CHANGE LOG

	EFFECTIVE DATE	REVISIONS TO SECTION:	SUPERCEDES
MSDS status:	20-OCT-1997		** NEW **
	02-DEC-1997	15	20-OCT-1997
	09-SEP-1998	15	02-DEC-1997
	05-NOV-2001	3,4,8,10	09-SEP-1998
	27-JAN-2003	7	05-NOV-2001
	02-SEP-2005	16	27-JAN-2003
	16-OCT-2006	16	02-SEP-2005
	28-JAN-2009	4,5,7,8,10	16-OCT-2006
	17-JUN-2009	15	28-JAN-2009
	19-OCT-2009	15	17-JUN-2009

GE
Water & Process Technologies

Material Safety Data Sheet

Issue Date: 25-JUN-2009
Supercedes: 15-MAY-2009

OPTISPERSE AP0300

1 Identification

Identification of substance or preparation
OPTISPERSE AP0300

Product Application Area
Water based internal boiler treatment chemical.

Company/Undertaking Identification
GE Betz, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355-3300, F 215 953 5524

Emergency Telephone
(800) 877-1940

Prepared by Product Stewardship Group: T 215-355-3300 Prepared on: 25-JUN-2009

2 Hazard(s) identification

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                                EMERGENCY OVERVIEW

  WARNING

        May cause slight irritation to the skin. Severe irritant to the
        eyes. Mists/aerosols may cause irritation to upper respiratory
        tract.

        DOT hazard: Corrosive to aluminum, RQ
        Odor: Slight; Appearance: Yellow To Amber, Liquid

        Fire fighters should wear positive pressure self-contained breathing
        apparatus(full face-piece type). Proper fire-extinguishing media:
        dry chemical, carbon dioxide, foam or water
*******************************************************************************

                          POTENTIAL HEALTH EFFECTS

     ACUTE SKIN EFFECTS:
        Primary route of exposure; May cause slight irritation to the skin.

     ACUTE EYE EFFECTS:
        Severe irritant to the eyes.

     ACUTE RESPIRATORY EFFECTS:
        Mists/aerosols may cause irritation to upper respiratory tract.
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INGESTION EFFECTS:
May cause gastrointestinal irritation.

TARGET ORGANS:
Prolonged or repeated exposures may cause CNS depression and/or toxicity to the blood.

MEDICAL CONDITIONS AGGRAVATED:
Not known.

SYMPTOMS OF EXPOSURE:
May cause redness or itching of skin, irritation, and/or tearing of eyes (direct contact).

3 Composition / information on ingredients

Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this MSDS for our assessment of the potential hazards of this formulation.

HAZARDOUS INGREDIENTS:

Cas#	Chemical Name	Range(w/w%)
7631-99-4	SODIUM NITRATE Oxidizer; potential blood toxin	3-7
1310-73-2	SODIUM HYDROXIDE Corrosive; toxic (by ingestion)	1-5

4 First-aid measures

SKIN CONTACT:
Wash thoroughly with soap and water. Get medical attention if irritation develops or persists.

EYE CONTACT:
URGENT! Remove contact lenses. Hold eyelids apart. Immediately flush eyes with lukewarm gently flowing water for 60 minutes. Get immediate medical attention.

INHALATION:
Remove to fresh air. Get medical attention if cough or other symptoms develop.

INGESTION:
Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Immediately contact physician. Dilute contents of stomach using 2-8 fluid ounces (60-240 mL) of milk or water.

NOTES TO PHYSICIANS:
No special instructions

5 Fire-fighting measures

FIRE FIGHTING INSTRUCTIONS:
Fire fighters should wear positive pressure self-contained breathing apparatus (full face-piece type).

EXTINGUISHING MEDIA:
dry chemical, carbon dioxide, foam or water
HAZARDOUS DECOMPOSITION PRODUCTS:
oxides of carbon and nitrogen
FLASH POINT:
> 200F > 93C P-M(CC)
MISCELLANEOUS:
Corrosive to aluminum, RQ
UN 3266;Emergency Response Guide #154

6 Accidental release measures

PROTECTION AND SPILL CONTAINMENT:
Ventilate area. Use specified protective equipment. Contain and absorb on absorbent material. Place in waste disposal container. Flush area with water. Wet area may be slippery. Spread sand/grit.
DISPOSAL INSTRUCTIONS:
Water contaminated with this product may be sent to a sanitary sewer treatment facility,in accordance with any local agreement,a permitted waste treatment facility or discharged under a permit. Product as is - Incinerate or land dispose in an approved landfill.

7 Handling and storage

HANDLING:
Contains an oxidizer. Avoid all contact with reducing agents, oils, greases, organics and acids. Do not allow to dry.
STORAGE:
Keep containers closed when not in use. Do not freeze. If frozen, thaw and mix completely prior to use.

8 Exposure controls / personal protection

EXPOSURE LIMITS

CHEMICAL NAME

SODIUM NITRATE
PEL (OSHA): NOT DETERMINED
TLV (ACGIH): NOT DETERMINED

SODIUM HYDROXIDE
PEL (OSHA): 2 MG/M3
TLV (ACGIH): TWA (Ceiling) = MG/M3

ENGINEERING CONTROLS:
Adequate ventilation to maintain air contaminants below exposure limits.
PERSONAL PROTECTIVE EQUIPMENT:
Use protective equipment in accordance with 29CFR 1910 Subpart I
RESPIRATORY PROTECTION:
A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
USE AIR PURIFYING RESPIRATORS WITHIN USE LIMITATIONS ASSOCIATED WITH THE EQUIPMENT OR ELSE USE SUPPLIED AIR-RESPIRATORS.
If air-purifying respirator use is appropriate, use any of the following particulate respirators: N95, N99, N100, R95,

R99, R100, P95, P99 or P100.

SKIN PROTECTION:

neoprene gloves-- Wash off after each use. Replace as necessary.

EYE PROTECTION:

splash proof chemical goggles

9 Physical and chemical properties

Spec. Grav.(70F,21C)	1.095	Vapor Pressure (mmHG)	~ 18.0
Freeze Point (F)	22	Vapor Density (air=1)	< 1.00
Freeze Point (C)	-6		
Viscosity(cps 70F,21C)	16	% Solubility (water)	100.0

Odor		Slight
Appearance		Yellow To Amber
Physical State		Liquid
Flash Point	P-M(CC)	> 200F > 93C
pH As Is (approx.)		> 13.0
Evaporation Rate (Ether=1)		< 1.00
Percent VOC:		0.0

NA = not applicable ND = not determined

10 Stability and reactivity

CHEMICAL STABILITY:

Stable under normal storage conditions.

POSSIBILITY OF HAZARDOUS REACTIONS:

Contact with strong acids may cause a violent reaction releasing heat.

INCOMPATIBILITIES:

May react with strong oxidizers.

DECOMPOSITION PRODUCTS:

oxides of carbon and nitrogen

11 Toxicological information

Oral LD50 RAT: >2,000 mg/kg

NOTE - Estimated value

Dermal LD50 RABBIT: >2,000 mg/kg

NOTE - Estimated value

12 Ecological information

AQUATIC TOXICOLOGY

Daphnia magna 48 Hour Acute Toxicity (Estimated)

No Effect Level= 5000 mg/L

Fathead Minnow 96 Hour Acute Toxicity (Estimated)

No Effect Level= 5000 mg/L

BIODEGRADATION

BOD-28 (mg/g): 0

BOD-5 (mg/g): 0
COD (mg/g): 160
TOC (mg/g): 43

13 Disposal considerations

If this undiluted product is discarded as a waste, the US RCRA hazardous waste identification number is :
D002=Corrosive(pH).

Please be advised; however, that state and local requirements for waste disposal may be more restrictive or otherwise different from federal regulations. Consult state and local regulations regarding the proper disposal of this material.

14 Transport information

DOT HAZARD:	Corrosive to aluminum, RQ
PROPER SHIPPING NAME:	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.(SODIUM HYDROXIDE SOLUTION) 8, UN 3266, PG III, RQ

DOT EMERGENCY RESPONSE GUIDE #: 154
Note: Some containers may be DOT exempt, please check BOL for exact container classification

15 Regulatory information

TSCA:
All components of this product are included on or are in compliance with the U.S. TSCA regulations.

CERCLA AND/OR SARA REPORTABLE QUANTITY (RQ):
4,385 gallons due to SODIUM HYDROXIDE;

FOOD AND DRUG ADMINISTRATION:
This product can be used as a boiler water additive in applications requiring compliance with FDA regulation 21CFR173.310

NSF Registered and/or meets USDA (according to 1998 Guidelines):
Registration number: 141531
Category Code(s):
G5 Cooling and retort water treatment products - all food processing areas
G6 Boiler treatment products - all food processing areas/food contact

SARA SECTION 312 HAZARD CLASS:
Immediate(acute);Delayed(Chronic)

SARA SECTION 302 CHEMICALS:
No regulated constituent present at OSHA thresholds

SARA SECTION 313 CHEMICALS:

CAS#	CHEMICAL NAME	RANGE
7631-99-4	SODIUM NITRATE	2.0-5.0%

CALIFORNIA REGULATORY INFORMATION

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):

No regulated constituents present

MICHIGAN REGULATORY INFORMATION

No regulated constituent present at OSHA thresholds

16 Other information

HMIS vII		**CODE TRANSLATION**
Health	2	Moderate Hazard
Fire	1	Slight Hazard
Reactivity	0	Minimal Hazard
Special	ALK	pH above 12.0
(1) Protective Equipment	B	Goggles,Gloves

(1) refer to section 8 of MSDS for additional protective equipment recommendations.

CHANGE LOG

	EFFECTIVE DATE	REVISIONS TO SECTION:	SUPERCEDES
MSDS status:	30-JAN-1997		** NEW **
	18-MAR-1997	15	30-JAN-1997
	15-JUN-1998	15	18-MAR-1997
	05-MAY-2000	15	15-JUN-1998
	15-AUG-2000	15	05-MAY-2000
	26-MAY-2006	8	15-AUG-2000
	09-JUN-2006	3,5,14	26-MAY-2006
	10-AUG-2006	4	09-JUN-2006
	24-AUG-2006	4	10-AUG-2006
	02-JAN-2007	2,5,10	24-AUG-2006
	06-MAY-2009	10	02-JAN-2007
	15-MAY-2009	15	06-MAY-2009
	25-JUN-2009	4,8,15	15-MAY-2009

GE
Water & Process Technologies

Material Safety Data Sheet

Issue Date: 19-JUN-2009
Supercedes: 19-JUN-2009

CORTROL IS3000

1 Identification

Identification of substance or preparation
CORTROL IS3000

Product Application Area
Water based dissolved oxygen scavenger.

Company/Undertaking Identification
GE Betz, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355-3300, F 215 953 5524

Emergency Telephone
(800) 877-1940

Prepared by Product Stewardship Group: T 215-355-3300 Prepared on: 19-JUN-2009

2 Hazard(s) identification

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                                EMERGENCY OVERVIEW

  WARNING

        May cause slight irritation to the skin. Skin sensitizer. Severe
        irritant to the eyes. May cause irritation to mucous membranes.
        Repeated exposure may result in respiratory sensitization.

        DOT hazard: Environmentally hazardous substance: RQ
        Odor: Strong; Appearance: Pink, Liquid

        Fire fighters should wear positive pressure self-contained breathing
        apparatus(full face-piece type). Proper fire-extinguishing media:
        dry chemical, carbon dioxide, foam or water
*******************************************************************************

                          POTENTIAL HEALTH EFFECTS

     ACUTE SKIN EFFECTS:
        Primary route of exposure; May cause slight irritation to the skin.
        Skin sensitizer.

     ACUTE EYE EFFECTS:
        Severe irritant to the eyes.

     ACUTE RESPIRATORY EFFECTS:
        May cause irritation to mucous membranes. Repeated exposure may
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result in respiratory sensitization.

INGESTION EFFECTS:
May cause gastrointestinal irritation. Very large doses may cause diarrhea, depression, colic and death. May also cause severe allergic reactions in sensitive individuals.

TARGET ORGANS:
Prolonged or repeated exposures may cause primary irritant dermatitis, skin sensitization, and/or allergic respiratory reactions.

MEDICAL CONDITIONS AGGRAVATED:
Asthma.

SYMPTOMS OF EXPOSURE:
May cause local irritation or a sensitization reaction upon direct contact with skin or respiratory tract.

3 Composition / information on ingredients

Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this MSDS for our assessment of the potential hazards of this formulation.

HAZARDOUS INGREDIENTS:

Cas#	Chemical Name	Range(w/w%)
7631-90-5	SODIUM BISULFITE May be corrosive in aqueous solutions; irritant; sensitizer (skin and respiratory); may generate SO2; IARC=3 (carcinogen status not classifiable)	30-60

4 First-aid measures

SKIN CONTACT:
Wash thoroughly with soap and water. Remove contaminated clothing. Thoroughly wash clothing before reuse. Get medical attention if irritation develops or persists.

EYE CONTACT:
Remove contact lenses. Hold eyelids apart. Immediately flush eyes with plenty of low-pressure water for at least 15 minutes. Get immediate medical attention.

INHALATION:
Remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get immediate medical attention.

INGESTION:
Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Immediately contact physician. Dilute contents of stomach using 2-8 fluid ounces (60-240 mL) of milk or water.

NOTES TO PHYSICIANS:
No special instructions

5 Fire-fighting measures

FIRE FIGHTING INSTRUCTIONS:
Fire fighters should wear positive pressure self-contained breathing apparatus (full face-piece type).
EXTINGUISHING MEDIA:
dry chemical, carbon dioxide, foam or water
HAZARDOUS DECOMPOSITION PRODUCTS:
elemental oxides
FLASH POINT:
> 200F > 93C P-M(CC)
MISCELLANEOUS:
Environmentally hazardous substance: RQ
NA 3082;Emergency Response Guide #171

6 Accidental release measures

PROTECTION AND SPILL CONTAINMENT:
Ventilate area. Use specified protective equipment. Contain and absorb on absorbent material. Place in waste disposal container. Flush area with water. Wet area may be slippery. Spread sand/grit.
DISPOSAL INSTRUCTIONS:
Water contaminated with this product may be sent to a sanitary sewer treatment facility,in accordance with any local agreement,a permitted waste treatment facility or discharged under a permit. Product as is - Incinerate or land dispose in an approved landfill.

7 Handling and storage

HANDLING:
Vent carefully before opening. Sulfur dioxide can be formed during the normal use and handling of this product.
STORAGE:
Keep containers closed when not in use. Protect from freezing. If frozen, thaw and mix completely prior to use. Shelf life 180 days.

8 Exposure controls / personal protection

EXPOSURE LIMITS

CHEMICAL NAME

SODIUM BISULFITE
PEL (OSHA): NOT DETERMINED
TLV (ACGIH): TWA = 5 MG/M3; A4

ENGINEERING CONTROLS:
Adequate ventilation to maintain air contaminants below exposure limits.
PERSONAL PROTECTIVE EQUIPMENT:
Use protective equipment in accordance with 29CFR 1910 Subpart I
RESPIRATORY PROTECTION:
A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
USE AIR PURIFYING RESPIRATORS WITHIN USE LIMITATIONS ASSOCIATED

WITH THE EQUIPMENT OR ELSE USE SUPPLIED AIR-RESPIRATORS.
If air-purifying respirator use is appropriate, use a respirator with acid gas cartridges and dust/mist prefilters.

SKIN PROTECTION:
gauntlet-type rubber, butyl or neoprene gloves, chemical resistant apron -- Wash off after each use. Replace as necessary.

EYE PROTECTION:
splash proof chemical goggles, face shield

9 Physical and chemical properties

Spec. Grav.(70F,21C)	1.261	Vapor Pressure (mmHG)	~ 18.0
Freeze Point (F)	18	Vapor Density (air=1)	< 1.00
Freeze Point (C)	-8		
Viscosity(cps 70F,21C)	7	% Solubility (water)	100.0

Odor		Strong
Appearance		Pink
Physical State		Liquid
Flash Point	P-M(CC)	> 200F > 93C
pH As Is (approx.)		3.2
Evaporation Rate (Ether=1)		< 1.00
Percent VOC:		0.0

NA = not applicable ND = not determined

10 Stability and reactivity

CHEMICAL STABILITY:
Stable under normal storage conditions.

POSSIBILITY OF HAZARDOUS REACTIONS:
No known hazardous reactions.

INCOMPATIBILITIES:
May react with strong oxidizers.

DECOMPOSITION PRODUCTS:
elemental oxides

11 Toxicological information

Oral LD50 RAT: >2,000 mg/kg
NOTE - Estimated value

Dermal LD50 RABBIT: >2,000 mg/kg
NOTE - Estimated value

Skin Irritation Score RABBIT: 0-2.95
NOTE - Repeated studies indicate little or no irritation; not DOT corrosive

Eye Irritation Score RABBIT: 2.0
NOTE - Maximum score at 1 hour; completely reversible by 48 hours

12 Ecological information

AQUATIC TOXICOLOGY

Daphnia magna 48 Hour Static Screen
100% Mortality= 500; 0% Mortality= 100 mg/L
Fathead Minnow 96 Hour Acute Toxicity (Estimated)
LC50= 210; No Effect Level= 150 mg/L
Rainbow Trout 48 Hour Static Screen
100% Mortality= 1000; 0% Mortality= 500 mg/L

BIODEGRADATION

No Data Available.

13 Disposal considerations

If this undiluted product is discarded as a waste, the US RCRA hazardous waste identification number is :
Not applicable.

Please be advised; however, that state and local requirements for waste disposal may be more restrictive or otherwise different from federal regulations. Consult state and local regulations regarding the proper disposal of this material.

14 Transport information

DOT HAZARD:	Environmentally hazardous substance: RQ
PROPER SHIPPING NAME:	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.(SODIUM BISULFITE SOLUTION) 9, NA 3082, PG III, RQ
DOT EMERGENCY RESPONSE GUIDE #:	171

Note: Some containers may be DOT exempt, please check BOL for exact container classification

15 Regulatory information

TSCA:

All components of this product are included on or are in compliance with the U.S. TSCA regulations.

CERCLA AND/OR SARA REPORTABLE QUANTITY (RQ):

1,443 gallons due to SODIUM BISULFITE;

FOOD AND DRUG ADMINISTRATION:

ALL ingredients in this product are authorized in 21CFR173.310 for use as boiler water additives where the steam may contact food.

NSF Registered and/or meets USDA (according to 1998 Guidelines):

Registration number: 141465
Category Code(s):

G8 Cooling and retort water treatment products - all food processing areas except meat and poultry
G9 Boiler treatment products - all food processing areas except meat and poultry/food contact

SARA SECTION 312 HAZARD CLASS:

Immediate(acute);Delayed(Chronic)

SARA SECTION 302 CHEMICALS:

No regulated constituent present at OSHA thresholds

SARA SECTION 313 CHEMICALS:

No regulated constituent present at OSHA thresholds

CALIFORNIA REGULATORY INFORMATION

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):

No regulated constituents present

MICHIGAN REGULATORY INFORMATION

No regulated constituent present at OSHA thresholds

16 Other information

HMIS vII		**CODE TRANSLATION**
Health	2	Moderate Hazard
Fire	0	Minimal Hazard
Reactivity	0	Minimal Hazard
Special	NONE	No special Hazard
(1) Protective Equipment	D	Goggles,Face Shield,Gloves,Apron

(1) refer to section 8 of MSDS for additional protective equipment recommendations.

CHANGE LOG

	EFFECTIVE DATE	REVISIONS TO SECTION:	SUPERCEDES
MSDS status:	28-JAN-1997		** NEW **
	18-MAR-1997	15	28-JAN-1997
	25-SEP-1997	15	18-MAR-1997
	15-JUN-2000	4	25-SEP-1997
	22-JUN-2004	16	15-JUN-2000
	16-JUN-2006	7,16	22-JUN-2004
	13-JUN-2008	2,5,14	16-JUN-2006
	17-JUN-2009	10,15	13-JUN-2008
	19-JUN-2009	8	17-JUN-2009

GE
Water & Process Technologies

Material Safety Data Sheet

Issue Date: 08-MAY-2006
Supercedes: 08-MAY-2006

STEAMATE NA0660

1 Identification of Product and Company

Identification of substance or preparation
STEAMATE NA0660

Product Application Area
Neutralizing amine.

Company/Undertaking Identification
GE Betz, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355-3300, F 215 953 5524

Emergency Telephone
(800) 877-1940

Prepared by Product Stewardship Group: 215 355-3300

2 Composition / Information On Ingredients

Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this MSDS for our assessment of the potential hazards of this formulation.

HAZARDOUS INGREDIENTS:

Cas#	Chemical Name	Range(w/w%)
5332-73-0	METHOXYPROPYLAMINE,3- Flammable liquid; corrosive	30-60
108-91-8	CYCLOHEXYLAMINE Flammable; corrosive; toxic (by ingestion and skin absorption)	15-40

3 Hazards Identification

****

EMERGENCY OVERVIEW

DANGER

Corrosive to skin. Absorbed by skin. Potential skin sensitizer. Corrosive to the eyes. Vapors, gases, mists and/or aerosols cause irritation to the upper respiratory tract. Prolonged exposure may cause dizziness and headache.

DOT hazard: Corrosive to skin, Flammable
Odor: Amine; Appearance: Colorless To Yellow, Liquid

Fire fighters should wear positive pressure self-contained breathing apparatus(full face-piece type). Proper fire-extinguishing media: dry chemical, carbon dioxide, or foam--Water spray should be used only to cool fire-exposed containers and disperse vapors.

****

POTENTIAL HEALTH EFFECTS

ACUTE SKIN EFFECTS:
Primary route of exposure; Corrosive to skin. Absorbed by skin. Potential skin sensitizer.

ACUTE EYE EFFECTS:
Corrosive to the eyes.

ACUTE RESPIRATORY EFFECTS:
Primary route of exposure;Vapors, gases, mists and/or aerosols cause irritation to the upper respiratory tract. Prolonged exposure may cause dizziness and headache.

INGESTION EFFECTS:
May cause severe irritation or burning of mouth, throat, and gastrointestinal tract with severe chest and abdominal pain, nausea, vomiting, diarrhea, lethargy and collapse. Possible death when ingested in very large doses.

TARGET ORGANS:
Prolonged or repeated exposures may cause CNS depression and/or tissue necrosis.

MEDICAL CONDITIONS AGGRAVATED:
Asthma, allergies, skin disorders, and chronic respiratory disease.

SYMPTOMS OF EXPOSURE:
Inhalation may cause lightheadedness, slurred speech, nausea, and/or vomiting (pulmonary edema may result). Skin contact can cause severe irritation or burns.

4 First Aid Measures

SKIN CONTACT:
URGENT! Wash thoroughly with soap and water. Remove contaminated clothing. Get immediate medical attention. Thoroughly wash clothing before reuse.

EYE CONTACT:
URGENT! Immediately flush eyes with plenty of low-pressure water for at least 20 minutes while removing contact lenses. Hold eyelids apart. Get immediate medical attention.

INHALATION:
Remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get immediate medical attention.

INGESTION:
Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Immediately contact physician. Dilute contents of stomach using 3-4 glasses milk or water.

NOTES TO PHYSICIANS:
Material is corrosive. It may not be advisable to induce vomiting. Possible mucosal damage may contraindicate the use of gastric lavage.

5 Fire Fighting Measures

FIRE FIGHTING INSTRUCTIONS:
Fire fighters should wear positive pressure self-contained breathing apparatus (full face-piece type).

EXTINGUISHING MEDIA:
dry chemical, carbon dioxide, or foam--Water spray should be used only to cool fire-exposed containers and disperse vapors.

HAZARDOUS DECOMPOSITION PRODUCTS:
elemental oxides

FLASH POINT:
117F 47C P-M(CC)

MISCELLANEOUS:
Corrosive to skin, Flammable
UN 2734;Emergency Response Guide #132

6 Accidental Release Measures

PROTECTION AND SPILL CONTAINMENT:
Ventilate area. Use specified protective equipment. Contain and absorb on absorbent material. Place in waste disposal container. Remove ignition sources. Flush area with water. Spread sand/grit.

DISPOSAL INSTRUCTIONS:
Water contaminated with this product may be sent to a sanitary sewer treatment facility,in accordance with any local agreement,a permitted waste treatment facility or discharged under a permit. Product as is - Incinerate or land dispose in an approved landfill.

7 Handling & Storage

HANDLING:
Combustible. Do not use around sparks or flames. Bond containers during filling or discharge when performed at temperatures at or above the product flash point.

STORAGE:
Keep containers closed when not in use. Store in cool ventilated location. Store away from oxidizers.

8 Exposure Controls / Personal Protection

CHEMICAL NAME	EXPOSURE LIMITS
METHOXYPROPYLAMINE,3-	
PEL (OSHA):	NOT DETERMINED
TLV (ACGIH):	NOT DETERMINED
CYCLOHEXYLAMINE	
PEL (OSHA):	10 PPM
TLV (ACGIH):	10 PPM

ENGINEERING CONTROLS:
Adequate ventilation to maintain air contaminants below exposure limits.

PERSONAL PROTECTIVE EQUIPMENT:

Use protective equipment in accordance with 29CFR 1910 Subpart I

RESPIRATORY PROTECTION:

A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
USE AIR PURIFYING RESPIRATORS WITHIN USE LIMITATIONS ASSOCIATED WITH THE EQUIPMENT OR ELSE USE SUPPLIED AIR-RESPIRATORS.
If air-purifying respirator use is appropriate, use a respirator with organic vapor cartridges and dust/mist prefilters.

SKIN PROTECTION:

gauntlet-type neoprene gloves, chemical resistant apron--
Wash off after each use. Replace as necessary.

EYE PROTECTION:

splash proof chemical goggles, face shield

9 Physical & Chemical Properties

Specific Grav.(70F,21C)	0.960	Vapor Pressure (mmHG)	~ 18.0
Freeze Point (F)	< -30	Vapor Density (air=1)	> 1.00
Freeze Point (C)	< -34		
Viscosity(cps 70F,21C)	17	% Solubility (water)	100.0

Odor		Amine
Appearance		Colorless To Yellow
Physical State		Liquid
Flash Point	P-M(CC)	117F 47C
pH As Is (approx.)		13.0
Evaporation Rate (Ether=1)		< 1.00
Percent VOC:		57.0

NA = not applicable ND = not determined

10 Stability & Reactivity

STABILITY:

Stable under normal storage conditions.

HAZARDOUS POLYMERIZATION:

Will not occur.

INCOMPATIBILITIES:

May react with acids.

DECOMPOSITION PRODUCTS:

elemental oxides

INTERNAL PUMPOUT/CLEANOUT CATEGORIES:

"C"

11 Toxicological Information

Oral LD50 RAT: 560 mg/kg
NOTE - Estimated value

Dermal LD50 RABBIT: 1,150 mg/kg
NOTE - Estimated value

Eye Irritation Score RABBIT: CORROSIVE
NOTE - 15% Cyclohexylamine score:101, +/-rinsing, constant irritation, nonnreversible

12 Ecological Information

AQUATIC TOXICOLOGY

Daphnia magna 48 Hour Static Renewal Bioassay
LC50= 600; No Effect Level= 178.5 mg/L
Fathead Minnow 96 Hour Acute Toxicity (Estimated)
LC50= 280; No Effect Level= 130 mg/L

BIODEGRADATION

BOD-28 (mg/g): 45
BOD-5 (mg/g): 1
COD (mg/g): 1279
TOC (mg/g): 316

13 Disposal Considerations

If this undiluted product is discarded as a waste, the US RCRA hazardous waste identification number is : D001=Ignitable;D002=Corrosive(pH).

Please be advised; however, that state and local requirements for waste disposal may be more restrictive or otherwise different from federal regulations. Consult state and local regulations regarding the proper disposal of this material.

14 Transport Information

DOT HAZARD:	Corrosive to skin, Flammable
PROPER SHIPPING NAME:	AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(CYCLOHEXYLAMINE, METHOXYPROPYLAMINE) 8(3), UN 2734 PG II
DOT EMERGENCY RESPONSE GUIDE #:	132

Note: Some containers may be DOT exempt, please check BOL for exact container classification

15 Regulatory Information

TSCA:

All components of this product are listed in the TSCA inventory.

CERCLA AND/OR SARA REPORTABLE QUANTITY (RQ):

6,433 gallons due to CYCLOHEXYLAMINE;

FOOD AND DRUG ADMINISTRATION:

All ingredients in this product are authorized in 21 CFR176.170 for use in boilers where the steam will be used for manufacturing paper or paperboard.

SARA SECTION 312 HAZARD CLASS:

Immediate(acute);Delayed(Chronic);Fire

SARA SECTION 302 CHEMICALS:

CAS#	CHEMICAL NAME
108-91-8	CYCLOHEXYLAMINE

SARA SECTION 313 CHEMICALS:

No regulated constituent present at OSHA thresholds

CALIFORNIA REGULATORY INFORMATION

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):

This product contains one or more ingredients known to the state of California to cause cancer.

MICHIGAN REGULATORY INFORMATION

No regulated constituent present at OSHA thresholds

16 Other Information

NFPA/HMIS		CODE TRANSLATION
Health	3	Serious Hazard
Fire	2	Moderate Hazard
Reactivity	0	Minimal Hazard
Special	CORR	DOT corrosive
(1) Protective Equipment	D	Goggles,Face Shield,Gloves,Apron

(1) refer to section 8 of MSDS for additional protective equipment recommendations.

CHANGE LOG

	EFFECTIVE DATE	REVISIONS TO SECTION:	SUPERCEDES
MSDS status:	29-JAN-1997		** NEW **
	04-JUN-1997	15	29-JAN-1997
	08-MAY-2006	3,4,8,15	04-JUN-1997

GE
Water & Process Technologies

Material Safety Data Sheet

Issue Date: 27-OCT-2008
Supercedes: 19-JUN-2007

OPTIGUARD MCA624

1 Identification

Identification of substance or preparation
OPTIGUARD MCA624

Product Application Area
Internal boiler treatment.

Company/Undertaking Identification
GE Betz, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355-3300, F 215 953 5524

Emergency Telephone
(800) 877-1940

Prepared by Product Stewardship Group: T 215-355-3300 Prepared on: 27-OCT-2008

2 Hazard(s) identification

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                                EMERGENCY OVERVIEW

  WARNING

        May cause moderate irritation to the skin. Absorbed by the skin.
        Potential sensitizer. Severe irritant to the eyes. Mists/aerosols
        may cause irritation to upper respiratory tract.

        DOT hazard is not applicable
        Odor: Strong; Appearance: Colorless To Yellow, Liquid

        Fire fighters should wear positive pressure self-contained breathing
        apparatus(full face-piece type). Proper fire-extinguishing media:
        dry chemical, carbon dioxide, foam or water
*******************************************************************************

                          POTENTIAL HEALTH EFFECTS

     ACUTE SKIN EFFECTS:
        Primary route of exposure; May cause moderate irritation to the
        skin. Absorbed by the skin. Potential sensitizer.

     ACUTE EYE EFFECTS:
        Severe irritant to the eyes.

     ACUTE RESPIRATORY EFFECTS:
        Primary route of exposure;Mists/aerosols may cause irritation to
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upper respiratory tract.

INGESTION EFFECTS:
May cause gastrointestinal irritation with possible nausea, vomiting, diarrhea, incoordination, mental confusion, dizziness and lethargy.

TARGET ORGANS:
Prolonged or repeated exposures may cause skin sensitization and/or toxicity to the nervous system.

MEDICAL CONDITIONS AGGRAVATED:
Not known.

SYMPTOMS OF EXPOSURE:
Inhalation may cause irritation of the respiratory tract. Skin contact may cause itching and/or redness.

3 Composition / information on ingredients

Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this MSDS for our assessment of the potential hazards of this formulation.

HAZARDOUS INGREDIENTS:

Cas#	Chemical Name	Range(w/w%)
10117-38-1	SULFUROUS ACID,DIPOTASSIUM SALT Transient irritant; potential sensitizer (skin and respiratory)	10-20
100-37-8	DIETHYLAMINOETHANOL (DEAE) Combustible liquid; corrosive (eyes and skin); irritant (respiratory); absorbed by skin; potential skin sensitizer	5-10

4 First-aid measures

SKIN CONTACT:
URGENT! Wash thoroughly with soap and water. Remove contaminated clothing. Get immediate medical attention. Thoroughly wash clothing before reuse.

EYE CONTACT:
Remove contact lenses. Hold eyelids apart. Immediately flush eyes with plenty of low-pressure water for at least 15 minutes. Get immediate medical attention.

INHALATION:
If nasal, throat or lung irritation develops - remove to fresh air and get medical attention.

INGESTION:
Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Immediately contact physician.

Dilute contents of stomach using 2-8 fluid ounces (60-240 mL) of milk or water.

NOTES TO PHYSICIANS:

No special instructions

5 Fire-fighting measures

FIRE FIGHTING INSTRUCTIONS:

Fire fighters should wear positive pressure self-contained breathing apparatus (full face-piece type).

EXTINGUISHING MEDIA:

dry chemical, carbon dioxide, foam or water

HAZARDOUS DECOMPOSITION PRODUCTS:

oxides of carbon, nitrogen and sulfur

FLASH POINT:

> 200F > 93C P-M(CC)

6 Accidental release measures

PROTECTION AND SPILL CONTAINMENT:

Ventilate area. Use specified protective equipment. Contain and absorb on absorbent material. Place in waste disposal container. Flush area with water. Wet area may be slippery. Spread sand/grit.

DISPOSAL INSTRUCTIONS:

Water contaminated with this product may be sent to a sanitary sewer treatment facility,in accordance with any local agreement,a permitted waste treatment facility or discharged under a permit. Product as is - Incinerate or land dispose in an approved landfill.

7 Handling and storage

HANDLING:

Clean spill immediately. Wash contaminated skin promptly.

STORAGE:

Keep containers closed when not in use. Do not freeze. If frozen, thaw and mix completely prior to use. Atmospheric exposure should be minimized. Do not store at elevated temperatures. Shelf life 180 days.

8 Exposure controls / personal protection

EXPOSURE LIMITS

CHEMICAL NAME

SULFUROUS ACID,DIPOTASSIUM SALT
PEL (OSHA): NOT DETERMINED
TLV (ACGIH): NOT DETERMINED

DIETHYLAMINOETHANOL (DEAE)
PEL (OSHA): 10 PPM(SKIN)
TLV (ACGIH): 2 PPM(SKIN)

ENGINEERING CONTROLS:

Adequate ventilation to maintain air contaminants below exposure limits.

PERSONAL PROTECTIVE EQUIPMENT:

Use protective equipment in accordance with 29CFR 1910 Subpart I

RESPIRATORY PROTECTION:

A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
USE AIR PURIFYING RESPIRATORS WITHIN USE LIMITATIONS ASSOCIATED WITH THE EQUIPMENT OR ELSE USE SUPPLIED AIR-RESPIRATORS.
If air-purifying respirator use is appropriate, use organic vapor cartridges and any of the following particulate respirators: N95, N99, N100, R95, R99, R100, P95, P99 or P100.

SKIN PROTECTION:

gauntlet-type butyl or rubber gloves, chemical resistant apron-- Wash off after each use. Replace as necessary.

EYE PROTECTION:

splash proof chemical goggles, face shield

9 Physical and chemical properties

Specific Grav.(70F,21C)	1.117	Vapor Pressure (mmHG)	~ 18.0
Freeze Point (F)	13	Vapor Density (air=1)	> 1.00
Freeze Point (C)	-11		
Viscosity(cps 70F,21C)	11	% Solubility (water)	100.0

Odor		Strong
Appearance		Colorless To Yellow
Physical State		Liquid
Flash Point	P-M(CC)	> 200F > 93C
pH As Is (approx.)		11.7
Evaporation Rate (Ether=1)		< 1.00
Percent VOC:		7.0

NA = not applicable ND = not determined

10 Stability and reactivity

STABILITY:

Unstable

HAZARDOUS POLYMERIZATION:

Will not occur.

INCOMPATIBILITIES:

May react with strong oxidizers.

DECOMPOSITION PRODUCTS:

oxides of carbon, nitrogen and sulfur

11 Toxicological information

Oral LD50 RAT: >2,000 mg/kg
NOTE - Estimated value

Dermal LD50 RABBIT: >2,000 mg/kg
NOTE - Estimated value

12 Ecological information

AQUATIC TOXICOLOGY

Daphnia magna 48 Hour Acute Toxicity (Estimated)
LC50= 1680; No Effect Level= 1190 mg/L
Fathead Minnow 96 Hour Acute Toxicity (Estimated)
LC50= 2610; No Effect Level= 740 mg/L

BIODEGRADATION

BOD-28 (mg/g): 35
BOD-5 (mg/g): 0
COD (mg/g): 197
TOC (mg/g): 55

13 Disposal considerations

If this undiluted product is discarded as a waste, the US RCRA hazardous waste identification number is :
Not applicable.

Please be advised; however, that state and local requirements for waste disposal may be more restrictive or otherwise different from federal regulations. Consult state and local regulations regarding the proper disposal of this material.

14 Transport information

DOT HAZARD: Not Applicable
PROPER SHIPPING NAME:

DOT EMERGENCY RESPONSE GUIDE #: Not applicable
Note: Some containers may be DOT exempt, please check BOL for exact container classification

15 Regulatory information

TSCA:
All components of this product are included on or are in compliance with the U.S. TSCA regulations.

CERCLA AND/OR SARA REPORTABLE QUANTITY (RQ):
No regulated constituent present at OSHA thresholds

FOOD AND DRUG ADMINISTRATION:
ALL ingredients in this product are authorized in 21CFR173.310 for use as boiler water additives where the steam may contact food.

NSF Registered and/or meets USDA (according to 1998 Guidelines):
Registration number: Not Registered

SARA SECTION 312 HAZARD CLASS:
Immediate(acute);Delayed(Chronic)

SARA SECTION 302 CHEMICALS:
No regulated constituent present at OSHA thresholds

SARA SECTION 313 CHEMICALS:
No regulated constituent present at OSHA thresholds

CALIFORNIA REGULATORY INFORMATION

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):
This product contains one or more ingredients at trace levels known

to the state of California to cause cancer.

MICHIGAN REGULATORY INFORMATION

No regulated constituent present at OSHA thresholds

16 Other information

HMIS vII		CODE TRANSLATION
Health	2	Moderate Hazard
Fire	1	Slight Hazard
Reactivity	0	Minimal Hazard
Special	NONE	No special Hazard
(1) Protective Equipment	D	Goggles,Face Shield,Gloves,Apron

(1) refer to section 8 of MSDS for additional protective equipment recommendations.

CHANGE LOG

	EFFECTIVE DATE	REVISIONS TO SECTION:	SUPERCEDES
MSDS status:	20-NOV-1997		** NEW **
	26-MAR-1998	12	20-NOV-1997
	19-JUN-2007	4,5,7,10,15	26-MAR-1998
	27-OCT-2008	4,5,8,10,15	19-JUN-2007

GE
Water & Process Technologies

Material Safety Data Sheet

Issue Date: 14-JAN-2009
Supercedes: 14-MAR-2003

OPTIGUARD MCA620

1 Identification

Identification of substance or preparation
OPTIGUARD MCA620

Product Application Area
Internal boiler treatment.

Company/Undertaking Identification
GE Betz, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355-3300, F 215 953 5524

Emergency Telephone
(800) 877-1940

Prepared by Product Stewardship Group: T 215-355-3300 Prepared on: 14-JAN-2009

2 Hazard(s) identification

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                                EMERGENCY OVERVIEW

  WARNING

        May cause moderate irritation to the skin. Absorbed by skin. Severe
        irritant to the eyes. Irritation of the upper respiratory tract.
        Prolonged exposure may cause dizziness and headache.

        DOT hazard is not applicable
        Odor: Strong; Appearance: Yellow To Amber, Liquid

        Fire fighters should wear positive pressure self-contained breathing
        apparatus(full face-piece type). Proper fire-extinguishing media:
        dry chemical, carbon dioxide, foam or water
*******************************************************************************

                          POTENTIAL HEALTH EFFECTS

     ACUTE SKIN EFFECTS:
        Primary route of exposure; May cause moderate irritation to the
        skin. Absorbed by skin.

     ACUTE EYE EFFECTS:
        Severe irritant to the eyes.

     ACUTE RESPIRATORY EFFECTS:
        Primary route of exposure;Irritation of the upper respiratory
```

tract. Prolonged exposure may cause dizziness and headache.

INGESTION EFFECTS:
May cause gastrointestinal irritation with possible nausea, vomiting, diarrhea, incoordination, mental confusion, dizziness and lethargy.

TARGET ORGANS:
Prolonged or repeated exposures may cause toxicity to the liver, kidney and/or nervous system.

MEDICAL CONDITIONS AGGRAVATED:
Not known.

SYMPTOMS OF EXPOSURE:
Inhalation may cause irritation of the respiratory tract. Skin contact may cause itching and/or redness.

3 Composition / information on ingredients

Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this MSDS for our assessment of the potential hazards of this formulation.

HAZARDOUS INGREDIENTS:

Cas#	Chemical Name	Range(w/w%)
10117-38-1	SULFUROUS ACID,DIPOTASSIUM SALT Transient irritant; potential sensitizer (skin and respiratory)	10-20
100-37-8	DIETHYLAMINOETHANOL (DEAE) Combustible liquid; corrosive (eyes and skin); irritant (respiratory); absorbed by skin; potential skin sensitizer	3-7
110-91-8	MORPHOLINE Flammable liquid; corrosive; toxic (by skin absorption); potential liver and kidney toxin; IARC=3 (carcinogen status not classifiable); in vitro mutagen in laboratory animals	1-5

4 First-aid measures

SKIN CONTACT:
URGENT! Wash thoroughly with soap and water. Remove contaminated clothing. Get immediate medical attention. Thoroughly wash clothing before reuse.

EYE CONTACT:
Remove contact lenses. Hold eyelids apart. Immediately flush eyes with plenty of low-pressure water for at least 15 minutes. Get immediate medical attention.

INHALATION:
Remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get immediate

medical attention.

INGESTION:

Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Immediately contact physician. Dilute contents of stomach using 3-4 glasses milk or water.

NOTES TO PHYSICIANS:

No special instructions

5 Fire-fighting measures

FIRE FIGHTING INSTRUCTIONS:

Fire fighters should wear positive pressure self-contained breathing apparatus (full face-piece type).

EXTINGUISHING MEDIA:

dry chemical, carbon dioxide, foam or water

HAZARDOUS DECOMPOSITION PRODUCTS:

elemental oxides

FLASH POINT:

> 200F > 93C P-M(CC)

6 Accidental release measures

PROTECTION AND SPILL CONTAINMENT:

Ventilate area. Use specified protective equipment. Contain and absorb on absorbent material. Place in waste disposal container. Flush area with water. Wet area may be slippery. Spread sand/grit.

DISPOSAL INSTRUCTIONS:

Water contaminated with this product may be sent to a sanitary sewer treatment facility,in accordance with any local agreement,a permitted waste treatment facility or discharged under a permit. Product as is - Incinerate or land dispose in an approved landfill.

7 Handling and storage

HANDLING:

Normal chemical handling.

STORAGE:

Keep containers closed when not in use. Protect from freezing. If frozen, thaw and mix completely prior to use. Atmospheric exposure should be minimized. Avoid high temperature storage.

8 Exposure controls / personal protection

EXPOSURE LIMITS

CHEMICAL NAME

SULFUROUS ACID,DIPOTASSIUM SALT
PEL (OSHA): NOT DETERMINED
TLV (ACGIH): NOT DETERMINED

DIETHYLAMINOETHANOL (DEAE)
PEL (OSHA): 10 PPM(SKIN)
TLV (ACGIH): 2 PPM(SKIN)

MORPHOLINE

PEL (OSHA): 20 PPM (30PPM-STEL)-SKIN
TLV (ACGIH): 20 PPM (30PPM-STEL)-SKIN-A4

ENGINEERING CONTROLS:
Adequate ventilation to maintain air contaminants below exposure limits.

PERSONAL PROTECTIVE EQUIPMENT:
Use protective equipment in accordance with 29CFR 1910 Subpart I

RESPIRATORY PROTECTION:
A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
USE AIR PURIFYING RESPIRATORS WITHIN USE LIMITATIONS ASSOCIATED WITH THE EQUIPMENT OR ELSE USE SUPPLIED AIR-RESPIRATORS.
If air-purifying respirator use is appropriate, use a respirator with organic vapor cartridges and dust/mist prefilters.

SKIN PROTECTION:
gauntlet-type neoprene gloves, chemical resistant apron--
Wash off after each use. Replace as necessary.

EYE PROTECTION:
splash proof chemical goggles, face shield

9 Physical and chemical properties

Specific Grav.(70F,21C)	1.124	Vapor Pressure (mmHG)	~ 18.0
Freeze Point (F)	12	Vapor Density (air=1)	> 1.00
Freeze Point (C)	-11		
Viscosity(cps 70F,21C)	16	% Solubility (water)	100.0

Odor		Strong
Appearance		Yellow To Amber
Physical State		Liquid
Flash Point	P-M(CC)	> 200F > 93C
pH As Is (approx.)		12.1
Evaporation Rate (Ether=1)		< 1.00
Percent VOC:		8.0

NA = not applicable ND = not determined

10 Stability and reactivity

CHEMICAL STABILITY:
Stable under normal storage conditions.

POSSIBILITY OF HAZARDOUS REACTIONS:

INCOMPATIBILITIES:
May react with strong oxidizers.

DECOMPOSITION PRODUCTS:
elemental oxides

11 Toxicological information

Oral LD50 RAT: >2,000 mg/kg
NOTE - Estimated value
Dermal LD50 RABBIT: >2,000 mg/kg
NOTE - Estimated value

12 Ecological information

AQUATIC TOXICOLOGY

Daphnia magna 48 Hour Acute Toxicity (Estimated)
LC50= 790; No Effect Level= 580 mg/L
Fathead Minnow 96 Hour Acute Toxicity (Estimated)
LC50= 1220; No Effect Level= 590 mg/L
Menidia beryllina (Silversides) 96 Hour Static Acute Bioassay
LC50= 1980; No Effect Level= 500 mg/L
Mysid Shrimp 48 Hour Static Acute Bioassay
LC50= 370; No Effect Level= 250 mg/L

BIODEGRADATION

BOD-28 (mg/g): 51
BOD-5 (mg/g): 0
COD (mg/g): 221
TOC (mg/g): 61

13 Disposal considerations

If this undiluted product is discarded as a waste, the US RCRA hazardous waste identification number is :
Not applicable.

Please be advised; however, that state and local requirements for waste disposal may be more restrictive or otherwise different from federal regulations. Consult state and local regulations regarding the proper disposal of this material.

14 Transport information

DOT HAZARD: Not Applicable
PROPER SHIPPING NAME:

DOT EMERGENCY RESPONSE GUIDE #: Not applicable
Note: Some containers may be DOT exempt, please check BOL for exact container classification

15 Regulatory information

TSCA:

All components of this product are included on or are in compliance with the U.S. TSCA regulations.

CERCLA AND/OR SARA REPORTABLE QUANTITY (RQ):

No regulated constituent present at OSHA thresholds

FOOD AND DRUG ADMINISTRATION:

This product can be used as a boiler water additive in applications requiring compliance with FDA regulation

21CFR173.310

NSF Registered and/or meets USDA (according to 1998 Guidelines):

Registration number: Not Registered
This product contains ingredients that have been determined as safe in boilers or steamlines where the steam may contact food or cooling systems where the treated water may not contact food. (G6)

SARA SECTION 312 HAZARD CLASS:

Immediate(acute);Delayed(Chronic)

SARA SECTION 302 CHEMICALS:

No regulated constituent present at OSHA thresholds

SARA SECTION 313 CHEMICALS:

No regulated constituent present at OSHA thresholds

CALIFORNIA REGULATORY INFORMATION

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):

No regulated constituents present

MICHIGAN REGULATORY INFORMATION

No regulated constituent present at OSHA thresholds

16 Other information

HMIS vII		**CODE TRANSLATION**
Health	2	Moderate Hazard
Fire	1	Slight Hazard
Reactivity	0	Minimal Hazard
Special	NONE	No special Hazard
(1) Protective Equipment	D	Goggles,Face Shield,Gloves,Apron

(1) refer to section 8 of MSDS for additional protective equipment recommendations.

CHANGE LOG

	EFFECTIVE DATE	REVISIONS TO SECTION:	SUPERCEDES
MSDS status:	14-FEB-1997		** NEW **
	01-DEC-1997	15	14-FEB-1997
	23-JAN-1998	15	01-DEC-1997
	02-MAY-2000	2	23-JAN-1998
	05-MAY-2000	15	02-MAY-2000
	15-AUG-2000	15	05-MAY-2000
	27-FEB-2002	4	15-AUG-2000
	03-JUL-2002	12	27-FEB-2002
	14-MAR-2003	3,4	03-JUL-2002
	14-JAN-2009	;EDIT:Rebranding	14-MAR-2003

GE
Water & Process Technologies

Material Safety Data Sheet

Issue Date: 07-APR-2011
Supercedes: 21-OCT-2010

KLARAID PC1192

1 Identification

Identification of substance or preparation
KLARAID PC1192

Product Application Area
Coagulant.

Company/Undertaking Identification
GE Betz, Inc.
4636 Somerton Road
Trevose, PA 19053
T 215 355-3300, F 215 953 5524

Emergency Telephone
(800) 877-1940

Prepared by Product Stewardship Group: T 215-355-3300 Prepared on: 07-APR-2011

2 Hazard(s) identification

****

EMERGENCY OVERVIEW

CAUTION

May cause slight irritation to the skin. May cause moderate irritation to the eyes. Mists/aerosols may cause irritation to upper respiratory tract.

DOT hazard is not applicable
Odor: Mild; Appearance: Yellow, Liquid

Fire fighters should wear positive pressure self-contained breathing apparatus(full face-piece type). Proper fire-extinguishing media: dry chemical/CO2/foam or water--slippery condition; use sand/grit.

****

POTENTIAL HEALTH EFFECTS

ACUTE SKIN EFFECTS:
Primary route of exposure; May cause slight irritation to the skin.

ACUTE EYE EFFECTS:
May cause moderate irritation to the eyes.

ACUTE RESPIRATORY EFFECTS:
Mists/aerosols may cause irritation to upper respiratory tract.

INGESTION EFFECTS:
May cause slight gastrointestinal irritation.

TARGET ORGANS:
No evidence of potential chronic effects.

MEDICAL CONDITIONS AGGRAVATED:
Not known.

SYMPTOMS OF EXPOSURE:
May cause redness or itching of skin.

3 Composition / information on ingredients

Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this MSDS for our assessment of the potential hazards of this formulation.

HAZARDOUS INGREDIENTS:

Cas#	Chemical Name	Range(w/w%)
26062-79-3	2-PROPEN-1-AMINIUM, N,N-DIMETHYL-N-2-PROPENYL-, CHLORIDE, HOMOPOLYMER Slight irritant (eyes, skin, and respiratory)	15-40

4 First-aid measures

SKIN CONTACT:
Wash thoroughly with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

EYE CONTACT:
Remove contact lenses. Hold eyelids apart. Immediately flush eyes with plenty of low-pressure water for at least 15 minutes. Get immediate medical attention.

INHALATION:
If nasal, throat or lung irritation develops - remove to fresh air and get medical attention.

INGESTION:
Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Immediately contact physician. Dilute contents of stomach using 2-8 fluid ounces (60-240 mL) of milk or water.

NOTES TO PHYSICIANS:
No special instructions

5 Fire-fighting measures

FIRE FIGHTING INSTRUCTIONS:

Fire fighters should wear positive pressure self-contained breathing apparatus (full face-piece type).

EXTINGUISHING MEDIA:

dry chemical/CO2/foam or water--slippery condition; use sand/grit.

HAZARDOUS DECOMPOSITION PRODUCTS:

oxides of carbon and nitrogen, hydrogen chloride

FLASH POINT:

> 200F > 93C SETA(CC)

6 Accidental release measures

PROTECTION AND SPILL CONTAINMENT:

Ventilate area. Use specified protective equipment. Contain and absorb on absorbent material. Place in waste disposal container. Flush area with water. Wet area may be slippery. Spread sand/grit.

DISPOSAL INSTRUCTIONS:

Water contaminated with this product may be sent to a sanitary sewer treatment facility,in accordance with any local agreement,a permitted waste treatment facility or discharged under a permit. Product as is - Incinerate or land dispose in an approved landfill.

7 Handling and storage

HANDLING:

Normal chemical handling.

STORAGE:

Keep containers closed when not in use. Protect from freezing. If frozen, thaw completely and mix thoroughly prior to use.

8 Exposure controls / personal protection

EXPOSURE LIMITS

CHEMICAL NAME

2-PROPEN-1-AMINIUM, N,N-DIMETHYL-N-2-PROPENYL-, CHLORIDE, HOMOPOLYMER

PEL (OSHA): LIMITS HAVE NOT BEEN ESTABLISHED BY US OSHA.

TLV (ACGIH): LIMITS HAVE NOT BEEN ESTABLISHED BY ACGIH.

ENGINEERING CONTROLS:

adequate ventilation

PERSONAL PROTECTIVE EQUIPMENT:

Use protective equipment in accordance with 29CFR 1910 Subpart I

RESPIRATORY PROTECTION:

A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
USE AIR PURIFYING RESPIRATORS WITHIN USE LIMITATIONS ASSOCIATED WITH THE EQUIPMENT OR ELSE USE SUPPLIED AIR-RESPIRATORS.
If air-purifying respirator use is appropriate, use any of the following particulate respirators: N95, N99, N100, R95, R99, R100, P95, P99 or P100.

SKIN PROTECTION:

rubber, butyl, viton or neoprene gloves -- Wash off after each use. Replace as necessary.

EYE PROTECTION:

splash proof chemical goggles

9 Physical and chemical properties

Spec. Grav.(70F,21C)	1.032	Vapor Pressure (mmHG)	~ 18.0
Freeze Point (F)	30	Vapor Density (air=1)	< 1.00
Freeze Point (C)	-1		
Viscosity(cps 70F,21C)	168	% Solubility (water)	100.0

Odor		Mild
Appearance		Yellow
Physical State		Liquid
Flash Point	SETA(CC)	> 200F > 93C
pH As Is (approx.)		6.3
Evaporation Rate (Ether=1)		< 1.00
Percent VOC:		0.0

NA = not applicable ND = not determined

10 Stability and reactivity

CHEMICAL STABILITY:

Stable under normal storage conditions.

POSSIBILITY OF HAZARDOUS REACTIONS:

Contact with water reactive compounds may cause fire or explosion.

INCOMPATIBILITIES:

May react with strong oxidizers.

DECOMPOSITION PRODUCTS:

oxides of carbon and nitrogen, hydrogen chloride

11 Toxicological information

Oral LD50 RAT: >5000 mg/kg

NOTE - Estimated value based on chemical structure consideration

Dermal LD50 RABBIT: >5000 mg/kg

NOTE - Estimated value based on chemical structure consideration

Skin Irritation Score RABBIT: NEGATIVE

Eye Irritation Score RABBIT: SLIGHT

12 Ecological information

AQUATIC TOXICOLOGY

Ceriodaphnia 48 Hour Static Renewal Bioassay
LC50= .34; No Effect Level= .25 mg/L

Ceriodaphnia 7 Day Chronic Bioassay
Reproduction NOEL= 1; Reproduction LOEC= 2 mg/L

Daphnia magna 48 Hour Static Renewal Bioassay
LC50= 17.5; 20% Mortality= 1.6 mg/L

Fathead Minnow 7 Day Chronic Bioassay
Growth NOEL= 1; Growth LOEL= 2 mg/L

Fathead Minnow 96 Hour Static Renewal Bioassay
LC50= 1.65; No Effect Level= .15 mg/L

Mysid Shrimp 48 Hour Static Renewal Bioassay
LC50= 628.5; No Effect Level= 125 mg/L
Rainbow Trout 96 Hour Static Acute Bioassay
LC50= .49; No Effect Level= .37 mg/L
Sheepshead Minnow 96 Hour Static Renewal Bioassay
No Effect Level= 2000 mg/L
No Data Available.

BIODEGRADATION

BOD-28 (mg/g): 7
BOD-5 (mg/g): 0
COD (mg/g): 270
TOC (mg/g): 90

13 Disposal considerations

If this undiluted product is discarded as a waste, the US RCRA hazardous waste identification number is :
Not applicable.

Please be advised; however, that state and local requirements for waste disposal may be more restrictive or otherwise different from federal regulations. Consult state and local regulations regarding the proper disposal of this material.

14 Transport information

Transportation Hazard: Not Applicable
DOT: Not Regulated

DOT EMERGENCY RESPONSE GUIDE #: Not applicable
Note: Some containers may be DOT exempt, please check BOL for exact container classification
IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID, N.O.S.2-PROPEN-1-AMINIUM, N,N-DIMETHYL-N-2-PROPENYL-, CHLORIDE, HOMOPOLYMER
9, UN3082 PG III, MARINE POLLUTANT
IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID, N.O.S.2-PROPEN-1-AMINIUM, N,N-DIMETHYL-N-2-PROPENYL-, CHLORIDE, HOMOPOLYMER
9, UN3082 PG III, MARINE POLLUTANT

15 Regulatory information

TSCA:
All components of this product are included on or are in compliance with the U.S. TSCA regulations.
CERCLA AND/OR SARA REPORTABLE QUANTITY (RQ):
No regulated constituent present at OSHA thresholds
FOOD AND DRUG ADMINISTRATION:
21 CFR 176.170 (components of paper and paperboard in contact with aqueous and fatty foods)
NSF Registered and/or meets USDA (according to 1998 Guidelines):
Registration number: Not Registered
SARA SECTION 312 HAZARD CLASS:
Immediate(acute)

SARA SECTION 302 CHEMICALS:

No regulated constituent present at OSHA thresholds

SARA SECTION 313 CHEMICALS:

No regulated constituent present at OSHA thresholds

CALIFORNIA REGULATORY INFORMATION

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):

No regulated constituents present

MICHIGAN REGULATORY INFORMATION

No regulated constituent present at OSHA thresholds

16 Other information

HMIS vII		CODE TRANSLATION
Health	1	Slight Hazard
Fire	0	Minimal Hazard
Reactivity	0	Minimal Hazard
Special	NONE	No special Hazard
(1) Protective Equipment	B	Goggles,Gloves

(1) refer to section 8 of MSDS for additional protective equipment recommendations.

CHANGE LOG

	EFFECTIVE DATE	REVISIONS TO SECTION:	SUPERCEDES
MSDS status:	28-JAN-1997		** NEW **
	13-NOV-1998	15	28-JAN-1997
	16-NOV-1998	15	13-NOV-1998
	21-JUL-1999	4	16-NOV-1998
	03-MAY-2000	12	21-JUL-1999
	16-OCT-2000	4,11,16	03-MAY-2000
	07-JUN-2005	12	16-OCT-2000
	13-MAY-2008	4,5,8,10	07-JUN-2005
	18-OCT-2010	3,10	13-MAY-2008
	21-OCT-2010	14	18-OCT-2010
	07-APR-2011	7	21-OCT-2010