

EPA REGION 6 Enforcement Division
INSPECTION REPORT

Inspection Entry Date/Time	05/09/2024 09:36 AM (CT)			Announced: No
Inspection Exit Date/Time	05/09/2024 12:00 PM (CT)			Access: Granted
Regulatory Program	RCRA			
Type of Inspection	Focused Compliance Inspection (FCI)			
Facility or Site Name	Kirby Gate 5 Facility			
Facility/Site Identifier	TXR000080139			
Facility/Site Physical Address	16538 De Zavalla Rd			
City, State, Zip Code	Channelview, TX 77530			
County/Borough	Harris			
Generator Status	Large Quantity Generator (LQG)			
NAICS	483211, 48831, 488310			
Type of Operation	Kirby Gate 5 Facility provides fuel and lubes, cleaning, and pressure control for Kirby Inland Marine owned barges.			
Geographic Coordinates	29.762501, -95.101112			
Additional Persons Participating in Inspection:				
Name	Title	Organization	Email	Phone
Dedriel Gardner	Inspector	EPA REGION 6	Gardner.Dedriel@epa.gov	(281) 983-2133
John Penland	Inspector	EPA REGION 6	Penland.John@epa.gov	(214) 665-9717
Anshul Paripati	Contractor	Eastern Research Group (ERG)	Anshul.Paripati@erg.com	(571) 535-1503
Lead Inspector:				
Cameron Tanaka				07/25/2024
	ERG		Cameron.Tanaka@erg.com	(703) 633-1632 ext. 11632

SECTION I – INTRODUCTION**Site Entry and Purpose of the Inspection**

Type of inspection: Focused Compliance Inspection (FCI)

The Port of Houston and surrounding facilities were selected for inspection based on an Environmental Justice and Regional initiative to evaluate facilities at ports receiving or transporting Resource Conservation and Recovery Act (RCRA)-regulated hazardous wastes, and/or have an International Convention for the Prevention of Pollution from Ships (MARPOL) Annex V Certificate of Adequacy (COA) issued by the U.S. Coast Guard (USCG).

This report is based on information supplied by the facility representatives, inspector observations, port related facilities, and records including photographs taken (see Appendix 1), verbal or written statements made during or after the on-site inspection, and/or materials shown, demonstrated, or submitted to the EPA during or after the on-site inspection. In addition, information gathered prior to or after the inspection from a review of EPA, State, and public records may be included in this report.

Attendees

Title/Organization	Name	Phone	Email	Opening Conf.	Closing Conf.
Lead Inspector/ Contractor/ERG	Cameron Tanaka	(703) 633-1632 ext. 11632	Cameron.Tanaka@erg.com	N/A	N/A
RCRA Inspector/ Contractor/ERG	Anshul Paripati	(571) 535-1503	Anshul.Paripati@erg.com	N/A	N/A
Inspector/Enforcement Officer/EPA Region 6	Dedriel Gardner	(281) 983-2133	Gardner.Dedriel@epa.gov	N/A	N/A
Inspector/Enforcement Officer/EPA Region 6	John Penland	(214) 755-8795	Penland.John@epa.gov	N/A	N/A

Facility General Description

Tenant/Area	Inspection Date	Process Description	Area of Concern
Kirby Gate 5 Facility	05/09/24	Kirby Gate 5 Facility (Kirby) provides fuel and lubes, cleaning, and pressure control for Kirby Inland Marine owned barges. They also do water treatment for their wash water. The only waste they take on site is bilge waste, which is classified as generated waste once the waste is taken off ships. Kirby does not have a MARPOL COA.	Yes

SECTION II – OBSERVATIONS

Tenant: Kirby Gate 5 Facility			
Section: 2.1	Date: 05/09/24, 9:36 AM	Contains AOC: Yes	Contains CBI: No
Lead Inspector: Cameron Tanaka	Attendees: Zachary Harrison (Operations Manager), Morgan Johnson (Kirby Environmental Director), and Matthew Thompson (Environmental Supervisor)		
Kirby is located on the Houston Ship Channel and consists of four main areas. Kirby operates a fuel dock, a cleaning area, a pressure control area, and a water treatment area. The fuel dock provides fuel and lubricants to vessels and removes bilge water from them. Kirby keeps two storage tanks on site for lubricant and fuel. The pressure control area serves to vent pressure from barges and vessels. Kirby also performs ship to barge lightering of cargo. The cleaning area provides stripping, vapor controlling, washing, and degassing services for vessels and barges. The facility only services Kirby Inland Marine owned barges. During servicing, Kirby strips the heels out of bulk tanks in barges. This process involves hooking the barges up to a stripping connection that uses a diaphragm pump to remove the heel material from the barge. The heels that Kirby removes from the barges are managed as products and sold. Before stripping the heels, Kirby has already identified the composition of the heels. After the heels are stripped from the bulk tanks, the barges are flared. Kirby employees will then clean out the rust and scale remaining in the barges. These materials are generally hazardous wastes based on what the barges were originally holding. For example, a barge carrying benzene would generate rust and scale that was characteristically hazardous benzene waste. Rust and scale are collected in buckets on the barges then transferred to roll-off containers for disposal. The roll-off containers are characterized before they are shipped off site. Kirby treats every rust and scale waste as hazardous until it has been analyzed. The inspection team requested a document describing the types of materials, or cargoes, Kirby can accept. In his May 17 follow-up email (see Appendix 2), Mr. Thompson included the facility’s New Source Review (NSR) permit that lists all the cargoes that Kirby accepts (see Appendix 3). The inspection team also requested clarification and standard operating procedures (SOPs) for Kirby’s waste determinations and management which was provided in Mr. Thompson’s May 17 follow-up email (see Appendix 2). Mr. Thompson also sent the facility’s Waste Management Plan and the Hazardous Communication Program, which also briefly mention waste handling (see Appendix 4 and Appendix 5, respectively). The ERG inspection team did not note any issues with these documents. Kirby is a LQG of hazardous waste with EPA ID TXR000080139. The facility generates waste such as rust coming off barges during cleaning processes, wash water from chemical washes, oily rags, used oil from bilges, bilge water, and used batteries. Kirby does not receive or transfer any waste from any barges or vessels. The chemicals used for vessel washing are mostly aromatics, surfactants, and detergents. The facility’s wash waters go to its wastewater treatment plant (WWTP), which operates under a Texas Pollutant Discharge Elimination System (TPDES) permit. Before discharging water from its WWTP, Kirby samples it, using AB Labs to perform biochemical (or biological) oxygen demand (BOD) and chemical oxygen demand (COD) tests. Kirby personnel indicated that they discharge about 10% of their discharge capacity. The facility does not have a MARPOL COA. During the inspection, the inspection team observed the fuel dock, fuel dock temporary central accumulation area (CAA) (see Appendix 1 – Photos 1-4), cleaning area, pressure control area, and water treatment area. The temporary CAA was the only area where the inspection team observed areas of concern (AOCs) during the inspection. Observations and AOCs are organized by section below along with facility responses where			

relevant.

Fuel Dock Temporary CAA

During the inspection, the inspection team observed that Kirby's temporary CAA had insufficient aisle space (see Appendix 1 – Photo 1) [**AOC #1** – Kirby did not maintain sufficient aisle space in its CAA - 40 CFR 262.255]. The facility representatives stated that the drums are in this temporary CAA while work is done in the permanent CAA. The drums were filled and, according to the facility representatives, had been in the temporary CAA for a month at most. The facility representatives indicated that they were staging these drums for a transfer to a roll-off container. In his May 17 follow-up email, Mr. Thompson stated that during the inspection, the waste drums had been temporarily shifted outside the truck rack due to maintenance, which involved hot work, being conducted immediately adjacent to the storage area. Upon completion of the maintenance, the drums were placed back into the designated storage area with adequate aisle spacing (see Appendix 2). Mr. Thompson included photos of the maintenance being conducted on the day of the inspection and the drums placed back in the designated storage area upon completion of the maintenance (see Appendix 6 – Photos 1-4). The inspection team also observed that two drums were in poor condition, being either dented or rusted (see Appendix 1 – Photo 2-4) [**AOC #2** – Kirby did not keep containers holding hazardous waste in good condition or immediately transfer the hazardous waste to a container in good condition – 40 CFR 262.17(a)(1)(ii)]. In his May 17 follow-up email, Mr. Thompson included an attachment that he stated would be reviewed during Kirby's next safety meeting and on an annual basis moving forward (see Appendix 7).

The inspection team did not observe other AOCs at the time of the inspection. A closing conference was conducted at approximately 11:50 AM with Kirby personnel. The AOCs and requested documents were communicated during the closing. The inspection team requested the facility's weekly inspection checklist for its waste storage areas, which is included as Appendix 8.

SECTION III – RECORDS REVIEW

No RCRA regulated records were reviewed during this focused onsite inspection.

SECTION IV – APPARENT AREAS OF CONCERN

The presentation of Area(s) of Concern does not constitute a formal compliance determination or violation.

Tenant: Kirby Gate 5 Facility		
AOC #1 – Kirby did not maintain sufficient aisle space in its CAA.	Citation: 40 CFR 262.255	Section: 2.1
AOC #2 – Kirby did not keep containers holding hazardous waste in good condition or immediately transfer the hazardous waste to a container in good condition.	Citation: 40 CFR 262.17(a)(1)(ii)	Section: 2.1

SECTION V – FOLLOW UP

Follow-Up

Any facility follow-up items are as discussed in each facility's observations in Section II. Documents or files provided by the facilities were transmitted via email and included responses to AOCs or provision of documents requested.

Communication Log

During and after the inspection, additional information was emailed to EPA including:

1. 05/17/24 Kirby Gate 5 Facility email – Austin Taylor sent an email confirming the items the inspection team requested.

SECTION VI – LIST OF APPENDICES

Appendix 1. Photograph Log

Appendix 2. Follow-Up Email from Kirby Gate 5

Appendix 3. Kirby Gate 5 NSR

Appendix 4. Kirby Gate 5 Waste Management Plan

Appendix 5. Kirby Gate 5 Hazard Communication Program

Appendix 6. Kirby Gate 5 Follow-Up Photographs

Appendix 7. Kirby Gate 5 Training Document: Lesson Learned - Waste Container Inspections

Appendix 8. Kirby Gate 5 Weekly Waste Inspection Form

APPENDIX 1.
PHOTOGRAPH LOG



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 1



Photo Name: DSC04184

Date of Photo: 05.09.2024

Time of Photo: 10:50 hrs

Photographer: Anshul Paripati

Description: Overview of Kirby's temporary CAA in the fuel dock area. This area did not have sufficient aisle space.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 2

Location: Kirby Gate 5 Facility		
City: Channelview	County/Parish: Harris	State: Texas



HAZARDOUS WASTE

STATE AND FEDERAL LAW PROHIBITS IMPROPER DISPOSAL. IF FOUND, CONTACT THE NEAREST POLICE, OR PUBLIC SAFETY AUTHORITY, THE U.S. ENVIRONMENTAL PROTECTION AGENCY, OR THE CALIFORNIA DEPT. OF TOXIC SUBSTANCE CONTROL IF IN CALIFORNIA.

Flammable waste
Rustscale
Accumulation date: 4-26-24
Deal - D018
K. 27109. L.S.O
19000.Lbs

HANDLE WITH CARE!
CONTAINS HAZARDOUS OR TOXIC WASTES
GC LABELS 800-997-6966 ITEM# HWL804VINYL

05 09 2024

Photo Name: DSC04185

Date of Photo: 05.09.2024

Time of Photo: 10:50 hrs

Photographer: Anshul Paripati

Description: Close up of a drum label on a rusted drum in the fuel dock temporary CAA.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 3



Photo Name: DSC04186

Date of Photo: 05.09.2024

Time of Photo: 10:54 hrs

Photographer: Anshul Paripati

Description: Close up of a dented drum in the fuel dock temporary CAA.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 4

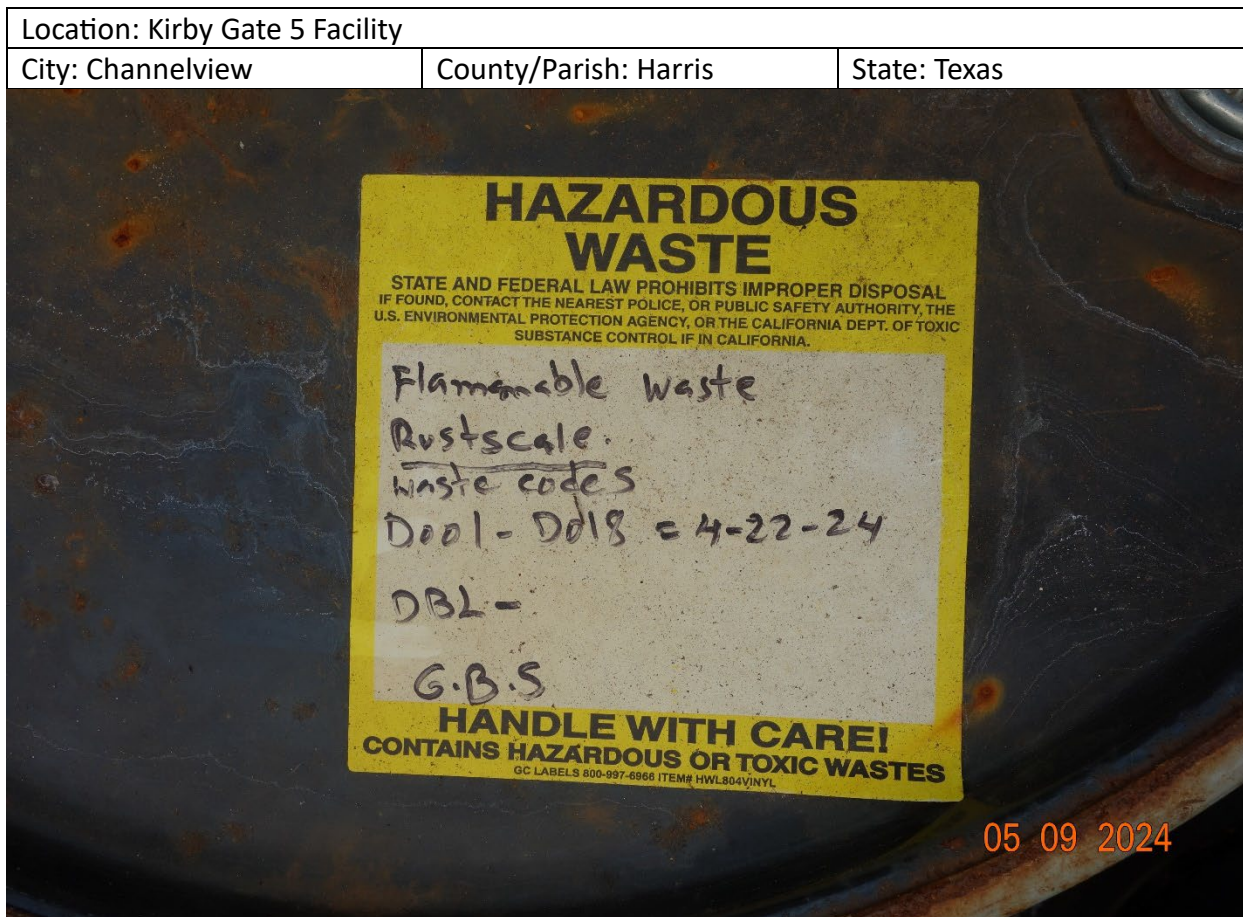


Photo Name: DSC04187

Date of Photo: 05.09.2024

Time of Photo: 10:54 hrs

Photographer: Anshul Paripati

Description: Close up of label on dented drum shown in photo 3 in the fuel dock temporary CAA.

APPENDIX 2.
FOLLOW-UP EMAIL FROM KIRBY GATE 5

Re: Follow-Up from EPA Inspection 5/9/24

Matthew Thompson <Matthew.Thompson@kirbycorp.com>

Fri 2024-05-17 6:42 PM

To: Cameron Tanaka <Cameron.Tanaka@erg.com>

Cc: Anshul Paripati <Anshul.Paripati@erg.com>; Joe Watson <Joe.Watson@erg.com>; Penland, John <Penland.John@epa.gov>;

Steven Caruselle <Steven.Caruselle@kirbycorp.com>; Zachary Harrison <zachary.harrison@kirbycorp.com>; Morgan Johnson

<morgan.johnson@kirbycorp.com>; Gardner, Dedriel <Gardner.Dedriel@epa.gov>; Ramrakha, Jayshika

<Ramrakha.Jayshika@epa.gov>; Pandak, Debra (she/her/hers) <Pandak.Debra@epa.gov>

 9 attachments (5 MB)

NSR 82407 EXP 2029.pdf; Training Document_Lesson Learned - Waste Container Inspections.pdf; Weekly Waste Inspection Form.docx; Kirby Cleaning Facility Waste Management.pdf; Hazard Communication Program Facility Operations.pdf; Maintenance being conducted on the day of inspection.jpg; Completion of filter pot installation in the truck rack.jpg; Drum Storage upon completion of maintenance.jpg; Drum Storage upon completion of maintenance2.jpg;

CAUTION: Don't open links or attachments unless you recognize the sender and know they are safe.

Good evening, Cameron.

Requested Items:

- The permit that includes the cargoes that you accept
 - I have attached our NSR permit, which lists all cargoes we accept.
- SOPs for waste determinations
 - Waste determination is determined by the prior cargo on the barge. If the prior cargo on the barge being cleaned possesses components that may cause waste generated from the process to be hazardous, then the waste is handled as hazardous based on the hazardous components listed in the SDS of the cargo being processed. If the prior cargo on the barge being cleaned does not possess components that could make the waste generated from the process hazardous, the waste is handled as non-hazardous and sampled for verification prior to disposal. All waste determinations are made following the TCEQ Guideline for classification and coding of industrial and hazardous waste, and in compliance with all state and federal regulations.
 - I have attached our Waste Management Plan and our Hazardous Communication Program, which briefly mentions waste handling.
- Any and all SOPs regarding waste management (for hazardous waste drums)
 - See attached Waste Management Plan and Hazardous Communication Program
- A copy of your weekly inspection checklists for your waste drum area
 - I have attached a copy of our Weekly Waste Inspection Form. Edits have been made to the form based on improvements suggested during the inspection, they are highlighted in the document for your convenience.

Observation Responses:

- Aisle spacing was insufficient in the waste storage area
 - During the inspection, the waste drums had been temporarily shifted outside the truck rack due to maintenance, which involved hot work, being conducted immediately adjacent to the storage area. Upon completion of the maintenance, the drums were placed back into the designated storage area with adequate aisle spacing. Photos are attached of both the maintenance being conducted on the day of the inspection and the drums placed back into the storage area upon completion of the maintenance. I would like to note that we have designated pallet and aisle markings painted in the storage area to ensure adequate aisle spacing, which are visible in both the before and after photos.
- Some drums in the waste storage area were dented and not in good condition

- Please see the attachment titled "Training Document_Lesson Learned - Waste Container Inspections". This document will be included in our next safety meeting and reviewed annually.



Matthew Thompson
Environmental Operations Supervisor
Office: (713) 435-1813
Cell: (281) 507-3297
Matthew.Thompson@kirbycorp.com

From: Cameron Tanaka <Cameron.Tanaka@erg.com>
Sent: Thursday, May 9, 2024 8:34 PM
To: Zachary Harrison <zachary.harrison@kirbycorp.com>; Morgan Johnson <morgan.johnson@kirbycorp.com>; Matthew Thompson <matthew.thompson@kirbycorp.com>
Cc: Anshul Paripati <Anshul.Paripati@erg.com>; Joe Watson <Joe.Watson@erg.com>; Penland, John <Penland.John@epa.gov>; Gardner, Dedriel <Gardner.Dedriel@epa.gov>; Ramrakha, Jayshika <Ramrakha.Jayshika@epa.gov>; Pandak, Debra (she/her/hers) <Pandak.Debra@epa.gov>
Subject: Follow-Up from EPA Inspection 5/9/24

CAUTION: External email. Please verify with the sender offline and avoid replying with sensitive information, clicking links, downloading attachments or logging in to unknown sites. Good

evening all,

[Report Suspicious](#)

I am following up with a list of items and notes from our inspection today. We would like you to send us:

- The permit that includes the cargoes that you accept
- SOPs for waste determinations
- Any and all SOPs regarding waste management (for hazardous waste drums)
- A copy of your weekly inspection checklists for your waste drum area

Additionally, we had the following observations. If you have any responses, clarification or documentation of corrective actions, we ask that you provide those to us as soon as possible, and we will incorporate those into the report (ideally within two weeks to be included in the report).

- Aisle spacing was insufficient in the waste storage area
- Some drums in the waste storage area were dented and not in good condition

Again, thank you for taking the time out of your day to meet with us. Please let us know if you have any questions or concerns. Any follow-up can be sent to myself, and the persons attached.

Best,

Cameron Tanaka (he/him)
Eastern Research Group, Inc.
cameron.tanaka@erg.com
Cell: (508) 314-6432

APPENDIX 3.
KIRBY GATE 5 NSR

Jon Niermann, *Chairman*
Emily Lindley, *Commissioner*
Bobby Janecka, *Commissioner*
Toby Baker, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 3, 2022

MR STEVEN CARUSELLE
GENERAL MANAGER
KIRBY INLAND MARINE LP
18350 MARKET ST
CHANNELVIEW TX 77530-3858

Re: Permit Alteration
Permit Number: 82407
Expiration Date: October 11, 2029
Kirby Inland Marine LP
Barge Cleaning Facility
Channelview, Harris County
Regulated Entity Number: RN102204211
Customer Reference Number: CN600611206

Dear Mr. Caruselle:

Kirby Inland Marine LP has requested alteration of the conditions and Maximum Allowable Emission Rates Table (MAERT) of the above-referenced permit.

In accordance with Title 30 Texas Administrative Code §116.116(c), Permit Number 82407 is altered. Enclosed are the new general conditions, altered special conditions, and altered MAERT. Please attach these to your permit.

If you need further information or have any questions, please contact Mr. Alex Berner at (512) 239-0167 or write to the Texas Commission on Environmental Quality, Office of Air, Air Permits Division, MC-163, P.O. Box 13087, Austin, Texas 78711-3087.

Mr. Steven Caruselle
Page 2
February 3, 2022

Re: Permit Number: 82407

Sincerely,

A handwritten signature in black ink, appearing to read 'Samuel Short', followed by a long horizontal line extending to the right.

Samuel Short, Deputy Director
Air Permits Division
Office of Air
Texas Commission on Environmental Quality

Enclosure

cc: Director, Harris County, Pollution Control Services, Pasadena
Air Section Manager, Region 12 - Houston

Project Number: 336788

Special Conditions

Permit Number 82407

Emission Standards

1. This permit authorizes emissions only from those points listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates" and the facilities covered by this permit are authorized to emit subject to the emission rate limits on that table and other operating conditions specified in the special conditions.
2. Non-fugitive emissions from relief valves, safety valves, or rupture discs of gases containing volatile organic compounds (VOC) at a concentration of greater than 1 percent are not authorized by this permit unless authorized on the maximum allowable emission rates table (MAERT). Any releases directly to the atmosphere from relief valves, safety valves, or rupture discs of gases containing VOC at a concentration greater than 1 weight per cent are not consistent with good practice for minimizing emissions.

Federal Program Applicability

3. These facilities shall comply with all applicable requirements of EPA regulations on National Emission Standards for Hazardous Air Pollutants (NESHAPS) promulgated in 40 CFR Part 61, as applicable, for:
 - A. Equipment Leaks (Fugitive Emission Sources) of Benzene, Subparts A and J;
 - B. Equipment Leaks (Fugitive Emission Sources), Subparts A and V;
 - C. Benzene Storage Vessels, Subparts A and Y.

Emission Controls and Operational Limitations

4. The Boiler (EPN B-101) and Tank Heater (EPN T-101) shall be designed and operated in accordance with the following requirements:
 - A. Fuel used in the boiler and heater shall be limited to pipeline-quality, sweet natural gas containing no more than 0.25 grain hydrogen sulfide and 5 grains total sulfur per 100 dry standard cubic feet. Use of any other fuel for normal or standby operation requires approval from The Texas Commission on Environmental Quality (TCEQ) Executive Director unless it can be authorized by a Permit by Rule (PBR).
 - B. Visible emissions shall not exceed 5 percent opacity averaged over a six-minute period as determined by the U.S. Environmental Protection Agency (EPA) Reference Method 9.
5. Emissions from the Tanks T-101, T-1001, T-2001, T-2002, T-2003, T-3001, T-4001, T-5001, T-5002, T-5003 and the Wash Water Treatment System shall be vented through a carbon adsorption system (EPN CARBON-1) consisting of at least two activated carbon canisters that are connected in series or an equivalent control device. **(12/14)**
 - A. The carbon adsorption system (CAS) shall be sampled when loading the waste water tanks to determine breakthrough of volatile organic compounds (VOC). Sampling shall be done daily if tank loading/filling occurs.
 - B. The VOC sampling and analysis shall be performed using an instrument with a flame ionization detector (FID), or a photoionization detector (PID), or other TCEQ approved alternative detector. The instrument must meet all requirements specified in Section 8.1 of EPA Method 21 (40 CFR 60, Appendix A). Sampling and analysis for VOC breakthrough shall be performed as follows:
 - (1) Immediately prior to performing sampling, the instrument shall be calibrated with zero and span calibration gas mixtures. Zero gas shall be certified to contain less than 0.1 ppmv total hydrocarbons. **(7/15)**
 - (a) For an FID, span calibration gas shall be methane at a concentration within ± 10 percent of 100 ppmv, and certified by the manufacturer to be ± 2 percent accurate.
 - (b) For a PID, span calibration gas shall be isobutylene at a concentration specified by the detector's manufacturer, consistent with a leak definition of 100 ppmv. The span calibration gas shall be certified to be ± 2 percent accurate. The permit holder shall retain written manufacturer's specifications for calibration of the PID.

A shelf life must be specified for span calibration gas cylinder standards. Cylinder standards must be either reanalyzed or replaced at the end of the specified shelf life. Calibration error for the zero and span calibration gas checks must be less than ± 5 percent of the span calibration gas value before sampling may be conducted.

- (2) The sampling point shall be at the outlet of the initial canister but before the inlet to the second or final polishing canister. Sample ports or connections must be designed such that air leakage into the sample port does not occur during sampling.
 - (3) During sampling, data recording shall not begin until after two times the instrument response time. The VOC concentration shall be monitored for at least 5 minutes, recording 1-minute averages, during tank loading/filling.
 - C. Breakthrough shall be defined as the highest 1 minute average measured VOC concentration at or exceeding 100 ppmv. When the condition of breakthrough of VOC from the initial saturation canister occurs, the waste gas flow shall be switched to the second canister and a fresh canister shall be placed as the new final polishing canister within one hour. Sufficient new activated carbon canisters shall be maintained at the site to replace spent carbon canisters such that replacements can be done in the above specified time frame.
 - D. Records of the CAS monitoring maintained at the plant site, shall include (but are not limited to) the following:
 - (1) Sample time and date.
 - (2) Monitoring results (ppmv).
 - (3) Corrective action taken including the time and date of that action.
 - (4) Process operations occurring at the time of sampling.
 - E. Alternate monitoring or sampling requirements that are equivalent or better may be approved by the TCEQ Regional Manager. Alternate requirements must be approved in writing before they can be used for compliance purposes.
6. Emissions from point sources containing VOCs with vapor pressures equal or greater than 0.50 psia shall be routed to the Cleaning Plant Flare (EPN CPFLARE) as represented in the application, PI-1 dated July 16, 2007 and subsequent submittals.
7. The Cleaning Plant Flare (EPN CPFLARE) shall be designed and operated in accordance with the following requirements:
 - A. The flare shall be designed such that the combined assist natural gas and waste stream to the flare meets the Title 40 Code of Federal Regulations (40 CFR) § 60.18 specifications of minimum heating value and maximum tip velocity under normal, and maintenance flow conditions.

The heating value and velocity requirements shall be satisfied during operations authorized by this permit. Flare testing per 40 CFR § 60.18(f) may be requested by the appropriate Texas Commission on Environmental Quality (TCEQ) Regional Office to demonstrate compliance with these requirements.
 - B. The flare shall be operated with a flame present at all times when controlling VOC vapors. The pilot flame shall be continuously monitored by a thermocouple or an infrared monitor. The time, date, and duration of any loss of pilot flame shall be recorded when controlling VOC vapors. Each monitoring device shall be accurate to, and shall be calibrated at a frequency in accordance with, the manufacturer's specifications.
 - C. The flare shall be operated with no visible emissions except periods not to exceed a total of five minutes during any two consecutive hours. This shall be assured by the use of steam or air to assist to the flare.
 - D. Six months from the issuance of this permit, the permit holder shall install a continuous flow monitor and a total hydrocarbon analyzer that provide a record of vent stream flow to the flare and concentration of VOC to the flare.

Installation, validation and calibration of the VOC analyzer shall follow the procedures and requirements of 40 CFR Part 60, Appendix B, Performance Specification 8A. Initial monitor validation shall be performed consistent with Section 5 - Performance Specification Test Periods and Section 6 - Performance Specification Test Procedures. A three-point calibration (Section 4.7) error test shall be performed once every calendar quarter to verify accuracy. Calibration drift checks shall initially be performed daily until such time that a successful 7-day drift expectation is documented. Following six successful weekly periods of low drift, the drift check may be relaxed to once per week. If at any time the drift check cannot meet the requirement of less than 3 ppmv propane drift (or less than 3% of span value of 100 ppmv), the drift check frequency shall revert back to daily until an additional 6-week successful drift can be documented.

Calibration gases used for the daily check shall be in accordance with Section 4.1 of PS-8A. Net heating value of the gas combusted in the flare shall be estimated assuming the propane results and the equation given in 40 CFR § 60.18(f)(3). Net heating value of the gas combusted in the flare shall be calculated according to the equation given in 40 CFR § 60.18(f)(3) as amended through October 17, 2000, (65 FR 61744).

The monitors and analyzers shall operate as required by this section at least 95 percent of the time when the flare is operational, averaged over a rolling 12-month period. Flared gas net heating value and actual exit velocity determined in accordance with 40 CFR § 60.18(f)(4) shall be recorded at least once every 15 minutes. Hourly mass emission rates shall be determined and recorded using the above readings and the emission factors used in the permit application, PI-1 dated July 16, 2007 and subsequent submittals.

8. The following requirements apply to waste gas capture systems for the Cleaning Plant Flare:
- A. The control device shall not have a bypass.
 - B. Capture system inspection requirements.
 - (1) Conduct a once a month visual, audible, and/or olfactory inspection of the capture system to verify there are no leaking components in the capture system; or
 - (2) Once a year, verify the capture system is leak-free by inspecting in accordance with 40 CFR Part 60, Appendix A, Test Method 21. Leaks shall be indicated by an instrument reading greater than or equal to 500 ppmv above background.
 - C. If any of the above inspections are not satisfactory, the permit holder shall promptly take necessary corrective action. Records of the inspection, monitoring, and corrective action shall be maintained and kept at the site.

Barge Degassing and Cleaning Operations

9. This permit authorizes emissions from the degassing and cleaning operations of barges containing chemicals listed in the attached "Approved Chemicals", identified in Attachments 1, 2, and 3. Chemicals not listed on these attachments are not authorized for barge degassing and cleaning operations unless prior request had been submitted and approved by the Executive Director of the Texas Commission on Environmental Quality (TCEQ), or by an issued Permit by Rule (PBR). **(7/15)**

These planned barge degassing emissions are subject to the maximum allowable emission rates indicated on the MAERT.

10. Barges previously containing chemicals others than those represented in the permit application dated December 07, 2021 and subsequent submittals, may be processed when the following conditions are met: **(2/22)**
- A. Emissions from degassing the barge with the new chemical shall be from established emission points (CPFLARE, DEGAS and CARBON) as identified on the MAERT and shall not cause the emission rates specified on the MAERT to be exceeded. **(7/15)**
 - B. The Effects Screening Level (ESL) for any new chemical shall not be less than the ESL for an existing chemical and the hourly emission rate (ER) for the new chemical shall not be greater than the hourly emission rate for the current chemical, except if the following condition is met:

Where the new chemical is directly compared to an existing chemical and complies with the following;

$$(ER_{\text{new}}/ESL_{\text{new}}) \leq (ER_{\text{exist}}/ESL_{\text{exist}})$$

Or;

Where the new chemical has different constituents with assigned ESLs:

$$ER_{\text{exist}}/ESL_{\text{exist}} > ER_{\text{new1}}/ESL_{\text{new1}} + ER_{\text{new2}}/ESL_{\text{new2}} + \dots$$

Where:

ER_{exist} is the hourly ER of an existing approved chemical

ER_{new1} is the hourly ER of the first compound of the new chemical

ER_{new2} is the hourly ER of the second compound of the new chemical

Compliance shall be established for emission points CPFLARE and DEGAS.

- C. The permit holder shall obtain the published ESL for the new chemical from the Texas Commission on Environmental Quality (TCEQ) internet site. If no applicable published ESL is available, the permit holder shall contact the Toxicology Division of the TCEQ with the necessary information required to obtain an ESL. The permit holder shall use the ESL that the Toxicology Division provides.
- D. The permit holder shall apply for a permit amendment to authorize the new chemicals that do not qualify under the above conditions or a Permit by Rule and shall provide a site wide modeling and health effects analysis for review of those new materials. The generic modeling performed for the issuance of this permit may be used in the preparation of the required submittal if all modeling parameters are still applicable for the sources.
- E. The number of barges processed annually under this special condition cannot exceed the number of barges allowed for the existing chemical.
- F. Calculations and other data supporting this special condition shall be retained in the permit file and made available to representatives of the TCEQ and local air pollution control programs upon request.

11. The barge degassing and cleaning operations shall comply with the following requirements:

- A. The barge liquid level shall be drained to the maximum extent practicable without entering the barge.
- B. The barge shall not be opened except as necessary to set up for degassing or cleaning.
- C. The occurrence of each barge degassing and cleaning activity and the associated emissions shall be recorded on a monthly basis, and the rolling 12-month barge degassing emissions shall be maintained. These records shall include at least the following information:
 - (1) the identification of the barge, chemicals degassed, method of degassing, and any control devices or recovery systems used to reduce emissions;
 - (2) the date and time of each of the following events: **(7/15)**
 - (a) all liquid was pumped from the barge to the extent practical, or
 - (b) degassing commenced, emissions of chemical with vapor pressure greater than 0.50 psia are routed to the flare,
 - (c) degassing ceased, after the VOC concentrations of the monitoring waste gas have been reduced to the applicable concentration limit specified in Special Condition 12.
 - (d) the barge is pressure washed and/or vented to the atmosphere.
 - (3) the estimated quantity of each air contaminant, or mixture of air contaminants, emitted between Events (a) and (d) shall be documented along with the data and methods used to determine it. The emissions associated with the degassing and cleaning of each barge shall be calculated using the calculation methods represented in the permit application, PI-1 dated July 16, 2007 and the subsequent submittals. **(7/15)**
- D. The maximum number of barrels authorized for the degassing to the atmosphere in a rolling 12-month period for barges containing the following chemicals are:
 - (1) Barge compartments equal in storage capacity to 180,000 barrels containing Butyl Cellosolve.
 - (2) Barge compartments equal in storage capacity to 220,000 barrels containing BTX Mixture.
 - (3) Barge compartments equal in storage capacity to 760,000 barrels containing Pyrolysis Gas. Only 380,000 barrels are authorized to be degassed during the nighttime*.
 - (4) Barge compartments equal in storage capacity to 400,000 barrels containing Methyl Tert-Butyl Ether (MTBE). Only 200,000 barrels are authorized to be degassed during the nighttime*.
 - (5) Barge compartments equal in storage capacity to 760,000 barrels containing Styrene. Only 380,000 barrels are authorized to be degassed during the nighttime*.

* Nighttime hours are defined as starting at 7:00 pm to 8:00 am.
- E. The following condition applies to 30,000 barrel barges containing butyl cellosolve BTX mixtures, pyrolysis gas, and MTBE when processed between the hours starting at 7:00 pm and ending at 8:00 am:
 - (1) 30,000-barrel barges containing butyl cellosolve, BTX mixtures, pyrolysis gas and methyl tert-butyl ether (MTBE) shall be processed by degassing one-half of the compartments to the atmosphere after flaring. After a delay of one hour or more, degassing of the second half of the compartments can commence.

- (2) Degassing to the atmosphere after flaring shall be accomplished using one 4,300 acfm airhorn with no greater than 100 psig operating air pressure for each barge compartment processed.
- F. The following conditions apply to 20,000 and 30,000 barrel barges containing styrene when processed between the hours starting at 7:00 pm and ending at 8:00 am:
 - (1) 20,000-barrel barges containing styrene shall be processed by initial degassing of one-half of the compartments to the atmosphere after flaring. After a delay of two hours or more, degassing of the second half of the compartments can commence.
 - (2) 30,000-barrel barges containing styrene shall be processed by initial degassing of one-third of the compartments to the atmosphere after flaring. After a delay of two hours or more, degassing of a second third of the compartments can commence. After a second delay of two hours from commencement of the second third barge compartments, degassing of the remaining one-third of the compartments can commence.
 - (3) Degassing to the atmosphere after flaring shall be accomplished using one 4,300 acfm airhorn with no greater than 100 psig operating air pressure for each barge compartment processed.
12. In addition to the requirements of Special Conditions 6 and 11, the following requirements shall apply to barge cleaning and degassing operations. Barges shall not be vented to the atmosphere, and barges shall not be pressure washed, unless the requirements of this Special Condition are satisfied. **(7/15)**
 - A. Any wastewater generated from pressure washing activities shall be treated in the Wash Water Treatment System, and controlled as specified in Special Condition 5.
 - B. For barges previously containing compounds listed in attachment 1:
 - (1) The barge can be vented to the atmosphere regardless of the actual residual VOC concentration, except where prohibited under Special Condition 6.
 - (2) The barge can be pressure washed regardless of the actual residual VOC concentration, except where prohibited under Special Condition 6.
 - C. For barges previously containing compounds listed in attachment 2:
 - (1) The barge can be vented to the atmosphere only if the VOC concentration of the barge is less than the ventilation concentration specified in attachment 2.
 - (2) The barge can be pressure washed only if the residual VOC concentration is less than the washing concentration specified in attachment 2.
 - D. For barges previously containing compounds listed in attachment 3:
 - (1) The barge cannot be vented to the atmosphere.
 - (2) The barge can be pressure washed only if the residual VOC concentration is less than the washing concentration specified in attachment 3.
 - E. For barges previously containing any new compound which is authorized by satisfying all requirements of Special Condition 10 of this permit:
 - (1) The existing approved chemical selected per Special Condition 10.B shall be identified and documented. A Material Safety Data Sheet (MSDS) for the new chemical shall be retained.
 - (2) If the new compound has a VOC vapor pressure of less than 0.50 psia at 95° F:
 - (a) The barge previously containing the new compound can be vented to the atmosphere regardless of the actual residual VOC concentration, and the barge can be pressure washed regardless of the actual residual VOC concentration.
 - (b) Notwithstanding subparagraph E(2)(a) of this Special Condition, the residual VOC concentration of the barge emission rate must be reduced to the extent necessary to satisfy the requirements of Special Condition 10.B.
 - (3) If the new compound has a VOC vapor pressure greater than or equal to 0.50 psia at 95° F:
 - (a) The barge can be vented to the atmosphere only if the VOC concentration of the barge does not exceed the lesser of:
 - i. 10,000 ppmv methane equivalent; or
 - ii. any lesser concentration necessary to satisfy the requirements of Special Condition 10.B;

- (b) The barge can be pressure washed only if the residual VOC concentration is less than 50% of the published Lower Explosive Limit (LEL) value of the new chemical, expressed in parts per million by volume (ppmv).

F. VOC sampling and analysis used to demonstrate compliance with paragraphs B–E of this Special Condition shall be performed using an instrument with a flame ionization detector (FID), or using a TCEQ-approved alternative detector. The instrument/FID shall meet all requirements specified in Section 8.1 of EPA Method 21 (40 CFR 60, Appendix A). Sampling and analysis of VOC concentrations in barges shall be conducted as follows:

- (1) No more than 24 hours prior to use, the instrument/FID shall be calibrated with zero and span calibration gas mixtures. Zero gas shall be certified to contain less than 0.1 ppmv total hydrocarbons. Span calibration gas shall be methane at a concentration within ± 10 percent of 10,000 ppmv, and certified by the manufacturer to be ± 2 percent accurate. A shelf life must be specified for span calibration gas cylinder standards. Cylinder standards must be either reanalyzed or replaced at the end of the specified shelf life. Calibration error for the zero and span calibration gas checks must be less than ± 5 percent of the span calibration gas value before sampling may be conducted.
- (2) Notwithstanding any contrary part of subparagraph F(1) of this Special Condition, for washing concentrations in attachment 2 expressed in units of ppmv VOC, the instrument shall be calibrated within 24 hours of use with a calibration gas such that the response factor (RF) of the VOC (or mixture of VOCs) to be monitored is less than 5.0. The calibration gas and the gas to be measured, and its approximate (RF) shall be recorded. The VOC concentration shall be determined as follows:

VOC Concentration = Concentration as read from the instrument $\times$ RF

- (3) Sampling shall be performed as directed by this permit in lieu of section 8.3 of Method 21.

The sampling point shall be inside of the barge product compartment, at a suitable depth such that the measured residual VOC concentration is representative of the compartment's actual average residual VOC concentration.

During sampling, data recording shall not begin until after two times the instrument response time. The date and time shall be recorded, and VOC concentration shall be monitored for at least 5 minutes, recording VOC concentration each minute. As an alternative, the VOC concentration may be monitored over a five-minute period with an instrument designed to continuously measure concentration and record the highest concentration read. The highest measured VOC concentration shall be recorded and shall not exceed the specified VOC concentration limit prior to uncontrolled venting.

- 13. All benzene barges must be degassed to the flare prior to either washing or closing. Benzene degassing to the atmosphere is not authorized.
- 14. Reserved. (7/15)

Storage and Loading of VOC

- 15. Six months from the issuance of this permit, the following requirements apply to frac tanks, or temporary tanks and vessels used in support of the barge degassing and cleaning activities.
 - A. The exterior surfaces of these tanks/vessels that are exposed to the sun shall be white or aluminum. This requirement does not apply to tanks/vessels that only vent to atmosphere when being filled, or to wastewater tanks.
 - B. These tanks/vessels must be covered and equipped with fill pipes that discharge within 6 inches of the tank/vessel bottom.
 - C. These requirements do not apply to vessels storing less than 100 gallons of liquid that are closed such that the vessel does not vent to atmosphere.
 - D. The permit holder shall maintain an emissions record which includes calculated emissions of VOC from all frac tanks during the previous calendar month and the past consecutive 12 month period. The record shall include:
 - (1) tank identification number,
 - (2) dates put into and removed from service,
 - (3) control method used (if any),
 - (4) tank capacity,

- (5) volume of liquid stored in gallons,
 - (6) name of the material stored,
 - (7) VOC molecular weight, and
 - (8) VOC partial pressure at the estimated monthly average material temperature in psia.
 - (9) Filling emissions for tanks shall be calculated using the TCEQ publication titled "Technical Guidance Package for Chemical Sources - Loading Operations" and standing emissions determined using: the TCEQ publication titled "Technical Guidance Package for Chemical Sources - Storage Tanks."
- E. If the tank/vessel is used to store liquid with VOC partial pressure less than 0.10 psia at 95° F, records may be limited to the days the tank is in service and the liquid stored.
- Emissions may be estimated based upon the potential to emit as identified in the permit application.

Loading Operations

16. Loading operations shall comply with the following requirements:
- A. Storage and loading operations at this facility are limited to the handling of the approved chemicals appearing on the Attachments 1, 2, 3, and those allowed by Special Condition No. 10. Storage and loading of other chemicals is prohibited unless prior approval has been obtained from the Executive Director of the TCEQ.
 - B. The product handling operations at the facility are limited to transferring products between and from barges, storage tanks, tank trucks, and totes suitable for chemical storage and handling.
 - C. All lines and connectors shall be visually inspected for any defects prior to hookup. Lines and connectors that are visibly damaged shall be removed from service. Loading operations shall cease as soon as practical upon detection of any liquid leaking from the lines or connections.
 - D. All marine vessels loading compounds with a vapor pressure greater than or equal to 0.5 psia shall perform a vapor-tightness test (leak check) on an annual basis according to the procedures outlined in 40 CFR Part 61 (NESHAPS), Subpart BB. Loading operations are limited to vessels which can certify that they are properly tested and leak checked.
 - E. The permit holder shall not allow a tank truck to be filled unless it has passed a leak-tight test within the past year as evidenced by a valid certificate which shows the date the tank truck last passed the leak-tight test required by this condition and the identification number of the tank truck.
 - F. Loading of liquids with vapor pressures greater than or equal to 0.5 psia into a drum/tote shall be vapor controlled.
17. The hourly filling rate for the chemicals loaded to the storage tanks, tank trucks, totes, and barges shall not exceed the following rates:
- A. Tanks 1 to 11: 24,000 gallons per hour (gals/hr);
 - B. Tanks D1 to D3: 7,750 gals/hr;
 - C. Tank trucks and totes: 8,000 gals/hr;
 - D. Barges: 24,000 gals/hr.
18. The total annual liquid throughput for the chemicals/products handled at the facility shall not exceed the annual throughput of 4,130,000 gals/yr as indicated on the permit application, PI-1, dated July 16, 2007, titled Kirby Inland Marine, LP - Marine Barge Cleaning Plant in Channelview, Harris County, Appendix B for "Emission Calculations."
19. The permit holder shall not fill the products containing the same chemicals at the same time in more than one area. Simultaneous emissions of the same chemical from multiple transfer operations such as filling, loading to barge, tank truck or totes are prohibited. For example, permit holder shall not fill a product containing styrene from a barge to a tank or a tank truck, and at the same time transfer the same product or another product containing styrene into another barge, tank truck, or tote.

Leak Detection and Repair Monitoring Program

20. Piping, Valves, Connectors, Pumps, Agitators, and Compressors in contact with Volatile Organic Compounds (VOC) — 28RCT

Except as may be provided for in the special conditions of this permit, the following requirements apply to the above-referenced equipment:

- A. These conditions shall not apply (1) where the VOC has an aggregate partial pressure or vapor pressure equal to or less than 0.044 pounds per square inch, absolute (psia) at 68° F or (2) operating pressure is at least 5 kilopascals (0.725 psia) below ambient pressure. Equipment excluded from this condition shall be identified in a list or by one of the methods described below to be made available upon request.

The exempted components may be identified by one or more of the following methods:

- (1) piping and instrumentation diagram (PID); or
- (2) a written or electronic database.

- B. Construction of new and reworked piping, valves, pump systems, and compressor systems shall conform to applicable American National Standards Institute (ANSI), American Petroleum Institute (API), American Society of Mechanical Engineers (ASME), or equivalent codes.
- C. New and reworked underground process pipelines shall contain no buried valves such that fugitive emission monitoring is rendered impractical. New and reworked buried connectors shall be welded.
- D. To the extent that good engineering practice will permit, new and reworked valves and piping connections shall be so located to be reasonably accessible for leak-checking during plant operation. Non-accessible valves, as defined by Title 30 TAC Chapter 115 (30 TAC Chapter 115), shall be identified in a list to be made available upon request. The non-accessible valves may be identified by one or more of the methods described in Subparagraph A above.
- E. New and reworked piping connections shall be welded or flanged. Screwed connections are permissible only on piping smaller than two-inch diameter. Gas or hydraulic testing of the new and reworked piping connections at no less than operating pressure shall be performed prior to returning the components to service or they shall be monitored for leaks using an approved gas analyzer within 8 hours of the components being returned to service. Adjustments shall be made as necessary to obtain leak-free performance. Connectors shall be inspected by visual, audible, and/or olfactory means at least weekly by operating personnel walk-through.

Each open-ended valve or line shall be equipped with an appropriately sized cap, blind flange, plug, or a second valve to seal the line. Except during sampling, both valves shall be closed. If the removal of a component for repair or replacement results in an open ended line or valve, it is exempt from the requirement to install a cap, blind flange, plug, or second valve for 72 hours. If the repair or replacement is not completed within 72 hours, the permit holder must complete either of the following actions within that time period: the line or valve must have a cap, blind flange, plug, or second valve installed; or the permit holder shall verify that there is no leakage from the open-ended line or valve. The open-ended line or valve shall be monitored on a weekly basis in accordance with the applicable NSR permit condition for fugitive emission monitoring except that a leak is defined as any VOC reading greater than background. Leaks must be repaired within 24 hours or a cap, blind flange, plug, or second valve must be installed on the line or valve. The results of this weekly check and any corrective actions taken shall be recorded.

- F. Accessible valves shall be monitored by leak-checking for fugitive emissions at least quarterly using an approved gas analyzer. Sealless/leakless valves (including, but not limited to, welded bonnet bellows and diaphragm valves) and relief valves equipped with a rupture disc upstream or venting to a control device are not required to be monitored. For valves equipped with rupture discs, a pressure-sensing device shall be installed between the relief valve and rupture disc to monitor disc integrity. All leaking discs shall be replaced at the earliest opportunity but no later than the next process shutdown. A check of the reading of the pressure-sensing device to verify disc integrity shall be performed weekly and recorded in the unit log.

An approved gas analyzer shall conform to requirements listed in Method 21 of 40 CFR Part 60, Appendix A. In addition, the response factor of the specific VOC of interest shall be determined and meet the requirements of Section 8 of Method 21. If a mixture of VOCs are being monitored, the response factor shall be calculated for the average composition of the process fluid. The gas analyzer shall be calibrated with methane or another calibration gas as long as the response factor for the VOCs being measured is less than 10.

Replacements for leaking components shall be re-monitored within 15 days of being placed back into VOC service.

- G. Except as may be provided for in the special conditions of this permit, all pump, compressor and agitator seals shall be monitored with an approved gas analyzer at least quarterly or be equipped with a shaft sealing system that

prevents or detects emissions of VOC from the seal. Seal systems designed and operated to prevent emissions or seals equipped with an automatic seal failure detection and alarm system need not be monitored. These seal systems may include (but are not limited to) dual pump seals with barrier fluid at higher pressure than process pressure, seals degassing to vent control systems kept in good working order, or seals equipped with an automatic seal failure detection and alarm system. Submerged pumps or sealless pumps (including, but not limited to, diaphragm, canned, or magnetic-driven pumps) may be used to satisfy the requirements of this condition and need not be monitored.

- H. Damaged or leaking valves or connectors found to be emitting VOC in excess of 500 parts per million by volume (ppmv) or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. Damaged or leaking pump, compressor, and agitator seals found to be emitting VOC in excess of 10,000 ppmv or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. A first attempt to repair the leak must be made within 5 days. Records of the first attempt to repair shall be maintained.
- I. Every reasonable effort shall be made to repair a leaking component, as specified in this paragraph, within 15 days after the leak is found. If the repair of a component would require a unit shutdown, that would create more emissions than the repair would eliminate, the repair may be delayed until the next scheduled shutdown. All leaking components which cannot be repaired until a scheduled shutdown shall be identified for such repair by tagging. A listing of all components that qualify for delay of repair shall be maintained on a delay of repair list. The cumulative daily emissions from all components on the delay of repair list shall be estimated by multiplying by 24 the mass emission rate for each component calculated in accordance with the instructions in 30 TAC § 115.782(c)(1)(B)(i)(II). The calculations of the cumulative daily emissions from all components on the delay of repair list shall be updated within ten days of when the latest leaking component is added to the delay of repair list. When the cumulative daily emission rate of all components on the delay of repair list times the number of days until the next scheduled unit shutdown is equal to or exceeds the total emissions from a unit shutdown, the TCEQ Regional Manager and any location programs shall be notified and may require early unit shutdown or other appropriate action based on the number and severity of tagged leaks awaiting shutdown. This notification shall be made within 15 days of making this determination.
- J. Records of repairs shall include date of repairs, repair results, justification for delay of repairs, and corrective actions taken for all components. Records of instrument monitoring shall indicate dates and times, test methods, and instrument readings. Records of physical inspections shall be noted in the operator's log or equivalent.
- K. Fugitive emission monitoring required by 30 TAC Chapter 115 may be used in lieu of Items F through I of this condition.
- L. Compliance with the requirements of this condition does not assure compliance with requirements of an applicable New Source Performance Standard (NSPS) or an applicable National Emission Standard for Hazardous Air Pollutants (NESHAPS) and does not constitute approval of alternative standards for these regulations.

Recordkeeping Requirements

- 21. The permit holder shall maintain daily operational records during degassing operations including atmosphere venting. Emission calculations for each chemical degassed or vented and total VOCs from all degassing operations including atmospheric venting shall be maintained on a monthly basis and a rolling 12-month period. These records shall be maintained at the plant site for at least two years and be made readily available to TCEQ representatives or any local air pollution control program having jurisdiction upon request. Monthly records shall at least include the following:
 - A. Size of the barge;
 - B. Name of chemical in the barge;
 - C. Control method used (if applicable);
 - D. Molecular weight of each chemical handled;
 - E. Vapor pressure of each chemical handled in psia;
 - F. Concentration of the degassing chemical measured in ppmv as methane prior to the barge being allowed to vent to the atmosphere.
 - G. The rolling 12-month estimate of emissions of any one hazardous air pollutant (HAP) and the total emissions of all HAPs.

Date: February 3, 2022

Attachment I

Permit Number 82407

List of Approved Chemicals with Vapor Pressures less than 0.50 psia

Chemical Name	CAS Number
2-Ethyl Hexanol (odor)	104-76-7
Alkylbenzene	300-57-2
Aniline oil	62-53-3
Aromatic 200	--
Butoxytriglycol	143-22-6
Butyl Carbitol	112-34-5
Butyl Cellosolve	111-76-2
Calcium Bromide	7789-41-5
Caustic Soda	1310-73-2
Decyl alcohol (o)	112-30-1
Diethanolamine	111-42-2
Diethylene Glycol	111-46-6
Dipropylene Glycol	110-98-5
Dodecyl Oil	--
Dowanol	88917-22-0
Escaid 100	8008-20-6
ESCAID 110	8008-20-6
Ethyl Hexanol	104-76-7
Ethyl Lactate	97-64-3
Ethylene Glycol	107-21-1
Ethylene Glycol Mono Butyl Ether	111-76-2
Exxal 10	68526-84-1
EXXAL 13	68526-86-3
Exxal 9	68526-84-1
Exxsol D 110	64742-47-8
Exxsol D 80	64742-47-8
Exxsol D 95	64742-47-8
Exxsol S-K Premium	64742-47-8
Fuel oil No. 6	--
Glycol (ppg)	107-21-1
Heavy Aromatic Fuel Oil (HAFO)	67891-79-6
Isomerized C-16-18	--
isoNonyl alcohol	27458-94-2
Isopar	--
Isopar L	--
Isopar M	--

Chemical Name	CAS Number
Jayflex DIDP	68515-49-1
Jayflex DIDP-E	68515-49-1
Jayflex DINP	--
Kerosine	8008-20-6
Lube Oil	--
Olefins, C-12	112-41-4
Polyglycol	9038-43-1
Propylene Glycol	57-55-6
Resin Oil (o)	68477-54-3
Slurry	64741-62-4
St run Residual	--
Tetramer	6842-15-5
Triethanolamine (TEA)	102-71-6
Tripropylene glycol (TPG)	24800-44-0
UDEX unit extract	64742-89-8
Vacuum gas oil (VGO)	68995-27-1
Wastewater	N/A

Date: February 3, 2022

Attachment II

Permit Number 82407

Disconnect Concentrations for Atmospheric Venting and for Pressure Washing for Specified Compounds

Chemical Name	CAS Number	Ventilation concentration (ppmv methane equivalent)	Washing concentration (ppmv actual)
A.U.2	--	10,000	10,000
Acetic Acid	64-19-7	6,000	20,000
Acetone	67-64-1	10,000	12,500
Alcohol Blend	N/A	10,000	10,000
Alkylate	68855-24-3	10,000	10,000
Arcosolve	25498-49-1	10,000	10,000
Aromatic 100	64742-95-6	10,000	10,000
Aromatic 150	64741-67-9	10,000	10,000
Aromatic concentrate	68921-67-5	10,000	10,000
Aromatic distillate	67891-79-6	10,000	10,000
Aromatic Resin	26099-71-8	2,500	10,000
Benzene	71-43-2	5,000	6,000
BTX Mixtures	N/A	5,000	10,000
Butyl Acetate	123-86-4	6,500	8,500
Butyl Acrylate(o)	141-32-2	7,000	7,500
Butyl alcohol, n-	71-36-3	10,000	7,000
Butyl alcohol, sec-(o)	78-92-2	10,000	8,500
Butyl alcohol, t-	75-65-0	10,000	12,000
Carbon Black feed stock (o)	1333-86-4	10,000	10,000
Cat Gas	N/A	10,000	10,000
Coker Naphtha	68513-02-0	10,000	10,000
Condensate	N/A	10,000	10,000
Cono Sol 200	99551-14-1	10,000	10,000
Crude Oil	8002-05-09	10,000	10,000
Cumene(o)	98-82-8	10,000	4,500
Cutter Stock	N/A	3,000	10,000
Cyclohexane(o)	110-82-7	10,000	6,500
DAC Oil	--	10,000	10,000
Decant Oil (Slurry oil)	64741-62-4	10,000	10,000
Decene(o)	872-05-9	6,000	10,000
Diesel Blend	68476-34-6	10,000	10,000
Dimate	60-51-5	4,500	10,000
Distillate Blend	68476-34-6	10,000	10,000
ETBE	637-92-3	10,000	10,000
Ethanol	64-17-5	10,000	16,500

Chemical Name	CAS Number	Ventilation concentration (ppmv methane equivalent)	Washing concentration (ppmv actual)
Ethylbenzene(o)	100-41-4	10,000	4,000
Exxpar 251	64771-72-8	10,000	10,000
Exxpar 451	64771-72-8	10,000	10,000
Exxsol D 40	64742-47-8	10,000	10,000
Exxsol D 60	64742-47-8	10,000	10,000
Exxsol D 70	64742-47-8	10,000	10,000
Gas Oil	69013-21-4	10,000	10,000
Gasoline Blend Stock	N/A	10,000	7,000
Gasoline, Aviation	8008-20-6	10,000	7,000
Gasoline, Natural	8006-61-9	10,000	7,000
Gasoline, unleaded	8030-31-7	10,000	7,000
h.a.n.-Napthalene Mix	N/A	10,000	10,000
H ₂ S Naptha	--	10,000	10,000
Heart Cut Ref	--	10,000	10,000
Heavy Aromatic	64742-94-5	10,000	10,000
Heptane	142-82-5	10,000	5,250
Hexane	110-54-3	10,000	5,500
Hexanol	111-27-3	2,500	6,000
Isopar C	--	10,000	10,000
Isopar D	--	10,000	10,000
Isopar E	--	10,000	10,000
Isopar G	--	10,000	10,000
Isopar H	--	10,000	10,000
Isopar K	--	10,000	10,000
Isopropyl alcohol(o)	67-63-0	10,000	10,000
Jet Fuel	--	10,000	10,000
LA Blendstock	N/A	10,000	10,000
Light aromatic distillate	64742-53-6	10,000	10,000
Light cycle oil	N/A	10,000	10,000
Linear Olefin	69898-00-6	5,000	10,000
Marine Diesel Oil	68344-30-5	10,000	10,000
Methanol	67-56-1	10,000	30,000
Methyl Cellosolve	109-86-4	4,500	9,000
Methyl Ethyl Ketone (MEK)(o)	78-93-3	10,000	7,000
Methyl Isobutyl Ketone (MIBK)	108-10-1	10,000	6,000
Methyl tert-Butyl Ether (MTBE)(o)	1634-04-4	9,000	8,000
Mineral Oil	8012-95-1	10,000	10,000
Mineral Spirits	8032-32-4	10,000	10,000

Chemical Name	CAS Number	Ventilation concentration (ppmv methane equivalent)	Washing concentration (ppmv actual)
Monoethanolamine	141-43-5	10,000	15,000
Naphtha	8032-32-4	10,000	5,500
Naphtha, aromatic	68603-08-7	10,000	5,500
Neodene	112-88-9	4,500	1,500
NORPAR 12	64771-72-8	10,000	10,000
Octene	--	5,000	4,500
Olefins, C6-C12	68855-57-2	500	10,000
Parafins	64741-89-5	2,500	5,500
Petroleum Distillates	68410-16-2	10,000	5,500
Polyol	53637-25-5	10,000	10,000
Propanol	71-23-8	10,000	11,000
Propionic acid(o)	79-09-4	2,500	14,500
Propyl acetate, n-(o)	109-60-4	10,000	8,500
Propyl alcohol, n-	71-23-8	10,000	11,000
Pyrolysis Gas	--	3,500	10,000
Raffinate	34741-84-0	10,000	10,000
Reformate	64741-68-0	10,000	10,000
Solvent 142	8052-41-3	10,000	10,000
Soybean oil	8001-22-7	5,000	10,000
Steam Crack Naphtha	--	10,000	5,500
Straight Crack Naphtha	--	10,000	5,500
Styrene(o)	100-42-5	5,400	4,500
Sure Sol-150	70693-06-0	10,000	10,000
Tetrahydrofuran	109-99-9	10,000	10,000
Toluene	108-88-3	10,000	5,500
Toluene-Xylene Mix	N/A	10,000	5,500
Transmix	N/A	10,000	10,000
Ucar Filmer	64742-82-1	10,000	10,000
Ucar Filmer IBT	252665-77-4	10,000	10,000
Vacuum Bottoms	129893-17-0	10,000	10,000
Varsol (VRL)	8030-31-07	10,000	10,000
Vinyl Acetate	108-05-4	4,000	13,000
Xylene(o)	106-42-3	10,000	5,500

Date: January 31, 2011

Attachment III

Permit Number 82407

Disconnect concentrations for Pressure Washing for Specified Compounds

Chemical Name	CAS Number	Washing concentration (ppmv methane equivalent)
Dicyclopentadiene (dcpd) (odor)	77-73-6	10,000
Diisodecyl Phthalate Ester	26761-40-0	10,000
Ethyl Acrylate (odor)	140-88-5	10,000
Heptene (odor)	25339-56-4	10,000
Hexene (odor)	592-41-6	10,000
Isobutyl Acrylate (odor)	106-63-8	10,000
Nonene (odor)	—	10,000

Date: August 21, 2009

Attachment IV

Permit Number 82407

Barge Degassing to 50% of the Lower Explosivity Limit (LEL) then submit wastewater to Carbon Adsorption System for control

List of Chemicals to be degassed to flare then to carbon adsorption system

Chemical Name	CAS Number	Molecular Weight	LEL (ppm)	Disconnect Concentration (ppm actual)	Response Factors	Disconnect Concentration (ppm as methane)
A.U.2	--	106.2	20,000	10,000	8.7	87,000
Acetic Acid	64-19-7	60.05	40,000	20,000	3.7	74,000
Acetone	67-64-1	58.1	25,000	12,500	3.4	42,500
Alcohol Blend	N/A	74.2	20,000	10,000	4.2	42,000
Alkylate	68855-24-3	99	20,000	10,000	5.3	53,000
Arcosolve	25498-49-1	132.2	20,000	10,000	8.7	87,000
Aromatic 100	64742-95-6	120	20,000	10,000	8.7	87,000
Aromatic 150	64741-67-9	150	20,000	10,000	8.7	87,000
Aromatic concentrate	68921-67-5	80	20,000	10,000	4.8	48,000
Aromatic distillate	67891-79-6	92.2	20,000	10,000	4.8	48,000
Aromatic Resin	26099-71-8	120	20,000	10,000	4.8	48,000
Benzene	71-43-2	78.2	12,000	6,000	4.8	28,800
BTX Mixtures	N/A	92.2	20,000	10,000	5.7	57,240
Butyl Acetate	123-86-4	116.2	17,000	8,500	5.8	49,300
Butyl Acrylate	141-32-2	128.2	15,000	7,500	8	60,000
Butyl alcohol, n-	71-36-3	74.2	14,000	7,000	4.2	29,400
Butyl alcohol, sec-	78-92-2	74.2	17,000	8,500	4.2	35,700
Butyl alcohol, t-	75-65-0	74.2	24,000	12,000	4.2	50,400
Carbon Black feed stock	1333-86-4	140	20,000	10,000	14.3	143,000

Cat Gas	N/A	99	20,000	10,000	5.3	53,000
Coker Naphtha	68513-02-0	110	20,000	10,000	8.7	87,000
Condensate	N/A	72.7	20,000	10,000	5.3	53,000
Cono Sol 200	99551-14-1	106.2	20,000	10,000	8.7	87,000
Crude Oil	5/9/8002	50	20,000	10,000	5.2	52,000
Cumene	98-82-8	120.2	9,000	4,500	8.7	39,150
Cutter Stock	N/A	72.7	20,000	10,000	5.2	52,000
Cyclohexane	110-82-7	84.2	13,000	6,500	5.2	33,800
DAC Oil	--	74.8	20,000	10,000	5.2	52,000
Decant Oil (Slurry oil)	64741-62-4	120	20,000	10,000	8.7	87,000
Decene	872-05-9	140.3	20,000	10,000	8.7	87,000
Diesel Blend	68476-34-6	130	20,000	10,000	8.7	87,000
Dimate	60-51-5	229.28	20,000	10,000	14.3	143,000
Distillate Blend	68476-34-6	120	20,000	10,000	8.7	87,000
ETBE	637-92-3	102	20,000	10,000	6.3	63,000
Ethanol	64-17-5	46.1	33,000	16,500	2.2	36,300
Ethylbenzene	100-41-4	106.2	8,000	4,000	6.6	26,400
Exxpar 251	64771-72-8	120	20,000	10,000	14.3	143,000
Exxpar 451	64771-72-8	120	20,000	10,000	14.3	143,000
Exxsol D 40	64742-47-8	143	20,000	10,000	14.3	143,000
Exxsol D 60	64742-47-8	154	20,000	10,000	14.3	143,000
Exxsol D 70	64742-47-8	120	20,000	10,000	14.3	143,000
Gas Oil	69013-21-4	200	20,000	10,000	14.3	143,000
Gasoline Blend Stock	N/A	99	14,000	7,000	5.3	37,100
Gasoline, Aviation	8008-20-6	80	14,000	7,000	5.3	37,100
Gasoline, Natural	8006-61-9	68	14,000	7,000	5.3	37,100
Gasoline, unleaded	8030-31-7	68	14,000	7,000	5.3	37,100

h.a.n.-Naphthalene Mix	N/A	147	20,000	10,000	14.3	143,000
H2S Naptha	--	80	20,000	10,000	5.3	53,000
Heart Cut Reformate	--	#N/A	20,000	10,000	5.3	53,000
Heavy Aromatic	64742-94-5	80	20,000	10,000	5.3	53,000
Heptane	142-82-5	100.3	10,500	5,250	6.2	32,550
Hexane	110-54-3	86.2	11,000	5,500	5.3	29,150
Hexanol	111-27-3	102.18	12,000	6,000	6.3	37,800
Isopar C	--	114	20,000	10,000	14.3	143,000
Isopar D	--	120	20,000	10,000	14.3	143,000
Isopar E	--	123	20,000	10,000	14.3	143,000
Isopar G	--	149	20,000	10,000	14.3	143,000
Isopar H	--	160	20,000	10,000	14.3	143,000
Isopar K	--	164	20,000	10,000	14.3	143,000
Isopropyl alcohol	67-63-0	60.1	20,000	10,000	3.5	35,000
Jet Fuel	--	80	20,000	10,000	5.3	53,000
LA Blendstock	N/A	99	20,000	10,000	8.7	87,000
Light aromatic distillate	64742-53-6	92.2	20,000	10,000	8.7	87,000
Light cycle oil	N/A	120	20,000	10,000	14.3	143,000
Linear Olefin	69898-00-6	120	20,000	10,000	8.7	87,000
Marine Diesel Oil	68344-30-5	130	20,000	10,000	14.3	143,000
Methanol	67-56-1	32.1	60,000	30,000	1.9	57,000
Methyl Cellosolve	109-86-4	76.1	18,000	9,000	4.7	42,300
Methyl Ethyl Ketone (MEK)	78-93-3	72.2	14,000	7,000	3.2	22,400
Methyl Isobutyl Ketone (MIBK)	108-10-1	100.2	12,000	6,000	5.2	31,200
Methyl tert-Butyl Ether (MTBE)	1634-04-4	88.2	16,000	8,000	5.5	44,000
Mineral Oil	8012-95-1	120	20,000	10,000	8.7	87,000
Mineral Spirits	8032-32-4	120	20,000	10,000	8.7	87,000
Monoethanolamine	141-43-5	61.08	30,000	15,000	3.8	57,000
Naphtha	8032-32-4	110	11,000	5,500	8.7	47,850

Naphtha, aromatic	68603-08-7	110	11,000	5,500	8.7	47,850
Neodene	112-88-9	112.3	3,000	1,500	7	10,500
NORPAR 12	64771-72-8	200	20,000	10,000	14.3	143,000
Octene	--	112.3	9,000	4,500	7	31,500
Olefins, C6-C12	68855-57-2	168.4	20,000	10,000	6.4	64,000
Paraffins	64741-89-5	114.2	11,000	5,500	8.7	47,850
Petroleum Distillates	68410-16-2	100	11,000	5,500	8.7	47,850
Polyol	53637-25-5	92	20,000	10,000	5.7	57,000
Propanol	71-23-8	60.1	22,000	11,000	3.7	40,700
Propionic acid	79-09-4	74.08	29,000	14,500	4.6	66,700
Propyl acetate, n-	109-60-4	102.13	17,000	8,500	6.3	53,550
Propyl alcohol, n-	71-23-8	60.1	22,000	11,000	3.7	40,700
Pyrolysis Gas	--	66.3	20,000	10,000	5.3	53,000
Raffinate	34741-84-0	110	20,000	10,000	6.6	66,000
Reformate	64741-68-0	99	20,000	10,000	6.6	66,000
Solvent 142	8052-41-3	120	20,000	10,000	8.7	87,000
Soybean oil	7/8/8013	120	20,000	10,000	8.7	87,000
Steam Crack Naphtha	--	80	11,000	5,500	8.7	47,850
Straight Crack Naphtha	--	120	11,000	5,500	8.7	47,850
Styrene	100-42-5	104.2	9,000	4,500	6.5	29,250
Sure Sol-150	70693-06-0	134.8	20,000	10,000	8.7	87,000
Tetrahydrofuran	109-99-9	72.2	20,000	10,000	4.5	45,000
Toluene	108-88-3	92.2	11,000	5,500	5.8	31,900
Toluene-Xylene Mix	N/A	99.2	11,000	5,500	6.2	34,100
Transmix	N/A	99	20,000	10,000	6.6	66,000
Ucar Filmer	64742-82-1	216	20,000	10,000	8.7	87,000
Ucar Filmer IBT	252665-77-4	216	20,000	10,000	8.7	87,000

Vacuum Bottoms	129893-17-0	180	20,000	10,000	8.7	87,000
Varsol (VRL)	8030-31-07	110	20,000	10,000	6.6	66,000
Vinyl Acetate	108-05-4	86.1	26,000	13,000	5.3	68,900
Xylene	106-42-3	106.2	11,000	5,500	6.6	36,300

Date: January 31, 2011

Emission Sources - Maximum Allowable Emission Rates

Permit Number 82407

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
B-101	Boiler	CO	0.45	1.88
		NO _x	0.12	0.52
		SO ₂	0.01	0.01
		PM ₁₀	0.04	0.17
		PM _{2.5}	0.04	0.17
		VOC	0.03	0.12
CARBON-1	Carbon Absorber	VOC	6.39	3.83
CPFLARE	Cleaning Plant Flare	CO	35.31	41.12
		NO _x	4.15	4.80
		SO ₂	0.02	0.07
		VOC	437.39	7.58
CPFUG	Piping Fugitives (5)	VOC	0.20	0.90
DEGAS	Barge Degassing to Atmosphere	VOC	141.20	6.68
		BTX Mixture (6)	28.14	0.10
		Butyl Cellosolve (6)	32.64	0.10
		MTBE (6)	67.80	0.45
		Pyrolysis Gas (6)	19.44	0.25
		Styrene	6.67	0.38
MLOAD	Off-shore Barge Loading	VOC	1.41	0.20
TANKD1-D3	On-Deck Tanks D1 and D3	VOC	1.82	0.27
TLOAD	Truck Loading	VOC	4.94	0.02
H-101	Quick Water Heater	CO	1.24	5.41
		NO _x	0.34	1.49
		SO ₂	0.01	0.04

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
		PM ₁₀	0.11	0.49
		PM _{2.5}	0.11	0.49
		VOC	0.08	0.35
All Emission Points at the Site	All Sources at the Site	Individual HAP	----	< 10
		Total HAPs	----	< 25

- (1) Emission point identification - either specific equipment designation or emission point number from plot plan.
- (2) Specific point source name. For fugitive sources, use area name or fugitive source name.
- (3) Exempt Solvent - Those carbon compounds or mixtures of carbon compounds used as solvents which have been excluded from the definition of volatile organic compound.
- VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
- NO_x - total oxides of nitrogen
- SO₂ - sulfur dioxide
- PM - total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}, as represented
- PM₁₀ - total particulate matter equal to or less than 10 microns in diameter, including PM_{2.5}, as represented
- PM_{2.5} - particulate matter equal to or less than 2.5 microns in diameter
- CO - carbon monoxide
- BTX - benzene toluene xylene
- MTBE - methyl-tert-butyl-ether
- HAP - hazardous air pollutant as listed in § 112(b) of the Federal Clean Air Act or Title 40 Code of Federal Regulations Part 63, Subpart C
- (4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
- (5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
- (6) Emissions from barges when degassed between the hours starting at 7:00 p.m. and ending at 8:00 a.m. are limited to the following:
- | | |
|---------------------|-------------|
| a. BTX mixtures | 18.76 lb/hr |
| b. Butyl Cellosolve | 21.76 lb/hr |
| c. MTBE | 45.23 lb/hr |
| d. Pyrolysis gas | 12.96 lb/hr |

Date: February 3, 2022



Texas Commission on Environmental Quality Air Quality Permit

A Permit Is Hereby Issued To
Kirby Inland Marine, LP
Authorizing the Construction and Operation of
Barge Cleaning Facility
Located at Channelview, Harris County, Texas
Latitude 29° 45' 51" Longitude -95° 6' 5"

Permit: 82407

Revision Date: February 3, 2022

Expiration Date: October 11, 2029



For the Commission

1. **Facilities** covered by this permit shall be constructed and operated as specified in the application for the permit. All representations regarding construction plans and operation procedures contained in the permit application shall be conditions upon which the permit is issued. Variations from these representations shall be unlawful unless the permit holder first makes application to the Texas Commission on Environmental Quality (commission) Executive Director to amend this permit in that regard and such amendment is approved. [Title 30 Texas Administrative Code (TAC) Section 116.116 (30 TAC § 116.116)]¹
2. **Voiding of Permit.** A permit or permit amendment is automatically void if the holder fails to begin construction within 18 months of the date of issuance, discontinues construction for more than 18 months prior to completion, or fails to complete construction within a reasonable time. Upon request, the executive director may grant an 18-month extension. Before the extension is granted the permit may be subject to revision based on best available control technology, lowest achievable emission rate, and netting or offsets as applicable. One additional extension of up to 18 months may be granted if the permit holder demonstrates that emissions from the facility will comply with all rules and regulations of the commission, the intent of the Texas Clean Air Act (TCAA), including protection of the public's health and physical property; and (b)(1) the permit holder is a party to litigation not of the permit holder's initiation regarding the issuance of the permit; or (b)(2) the permit holder has spent, or committed to spend, at least 10 percent of the estimated total cost of the project up to a maximum of \$5 million. A permit holder granted an extension under subsection (b)(1) of this section may receive one subsequent extension if the permit holder meets the conditions of subsection (b)(2) of this section. [30 TAC § 116.120]
3. **Construction Progress.** Start of construction, construction interruptions exceeding 45 days, and completion of construction shall be reported to the appropriate regional office of the commission not later than 15 working days after occurrence of the event. [30 TAC § 116.115(b)(2)(A)]
4. **Start-up Notification.** The appropriate air program regional office shall be notified prior to the commencement of operations of the facilities authorized by the permit in such a manner that a representative of the commission may be present. The permit holder shall provide a separate notification for the commencement of operations for each unit of phased construction, which may involve a series of units commencing operations at different times. Prior to operation of the facilities authorized by the permit, the permit holder shall identify the source or sources of allowances to be utilized for compliance with Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program). [30 TAC § 116.115(b)(2)(B)]
5. **Sampling Requirements.** If sampling is required, the permit holder shall contact the commission's Office of Compliance and Enforcement prior to sampling to obtain the proper data forms and procedures. All sampling and testing procedures must be approved by the executive director and coordinated with the regional representatives of the commission. The permit holder is also responsible for providing sampling facilities and conducting the sampling operations or contracting with an independent sampling consultant. [30 TAC § 116.115(b)(2)(C)]
6. **Equivalency of Methods.** The permit holder must demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and must be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the permit. [30 TAC § 116.115(b)(2)(D)]
7. **Recordkeeping.** The permit holder shall maintain a copy of the permit along with records containing the information and data sufficient to demonstrate compliance with the permit, including production records and

operating hours; keep all required records in a file at the plant site. If, however, the facility normally operates unattended, records shall be maintained at the nearest staffed location within Texas specified in the application; make the records available at the request of personnel from the commission or any air pollution control program having jurisdiction in a timely manner; comply with any additional recordkeeping requirements specified in special conditions in the permit; and retain information in the file for at least two years following the date that the information or data is obtained. [30 TAC § 116.115(b)(2)(E)]

8. **Maximum Allowable Emission Rates.** The total emissions of air contaminants from any of the sources of emissions must not exceed the values stated on the table attached to the permit entitled "Emission Sources-- Maximum Allowable Emission Rates." [30 TAC § 116.115(b)(2)(F)] ¹
9. **Maintenance of Emission Control.** The permitted facilities shall not be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations. The permit holder shall provide notification in accordance with 30 TAC §101.201, 101.211, and 101.221 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements; Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements; and Operational Requirements). [30 TAC§ 116.115(b)(2)(G)]
10. **Compliance with Rules.** Acceptance of a permit by an applicant constitutes an acknowledgment and agreement that the permit holder will comply with all rules and orders of the commission issued in conformity with the TCAA and the conditions precedent to the granting of the permit. If more than one state or federal rule or regulation or permit condition is applicable, the most stringent limit or condition shall govern and be the standard by which compliance shall be demonstrated. Acceptance includes consent to the entrance of commission employees and agents into the permitted premises at reasonable times to investigate conditions relating to the emission or concentration of air contaminants, including compliance with the permit. [30 TAC § 116.115(b)(2)(H)]
11. **This** permit may not be transferred, assigned, or conveyed by the holder except as provided by rule. [30 TAC § 116.110(e)]
12. **There** may be additional special conditions attached to a permit upon issuance or modification of the permit. Such conditions in a permit may be more restrictive than the requirements of Title 30 of the Texas Administrative Code. [30 TAC § 116.115(c)]
13. **Emissions** from this facility must not cause or contribute to "air pollution" as defined in Texas Health and Safety Code (THSC) §382.003(3) or violate THSC § 382.085. If the executive director determines that such a condition or violation occurs, the holder shall implement additional abatement measures as necessary to control or prevent the condition or violation.
14. **The** permit holder shall comply with all the requirements of this permit. Emissions that exceed the limits of this permit are not authorized and are violations of this permit. ¹

¹ Please be advised that the requirements of this provision of the general conditions may not be applicable to greenhouse gas emissions.

Common Acronyms in Air Permits

°C = Temperature in degrees Celsius	GLCmax = maximum (predicted) ground-level concentration
°F = Temperature in degrees Fahrenheit	gpm = gallon per minute
°K = Temperature in degrees Kelvin	gr/1000scf = grain per 1000 standard cubic feet
µg = microgram	gr/dscf = grain per dry standard cubic feet
µg/m ³ = microgram per cubic meter	H ₂ CO = formaldehyde
acfm = actual cubic feet per minute	H ₂ S = hydrogen sulfide
AMOC = alternate means of control	H ₂ SO ₄ = sulfuric acid
AOS = alternative operating scenario	HAP = hazardous air pollutant as listed in § 112(b) of the Federal Clean Air Act or Title 40 Code of Federal Regulations Part 63, Subpart C
AP-42 = Air Pollutant Emission Factors, 5th edition	HC = hydrocarbons
APD = Air Permits Division	HCl = hydrochloric acid, hydrogen chloride
API = American Petroleum Institute	Hg = mercury
APWL = air pollutant watch list	HGB = Houston/Galveston/Brazoria
BPA = Beaumont/ Port Arthur	hp = horsepower
BACT = best available control technology	hr = hour
BAE = baseline actual emissions	IFR = internal floating roof tank
bbl = barrel	in H ₂ O = inches of water
bbl/day = barrel per day	in Hg = inches of mercury
bhp = brake horsepower	IR = infrared
BMP = best management practices	ISC3 = Industrial Source Complex, a dispersion model
Btu = British thermal unit	ISCST3 = Industrial Source Complex Short-Term, a dispersion model
Btu/scf = British thermal unit per standard cubic foot or feet	K = Kelvin; extension of the degree Celsius scaled-down to absolute zero
CAA = Clean Air Act	LACT = lease automatic custody transfer
CAM = compliance-assurance monitoring	LAER = lowest achievable emission rate
CEMS = continuous emissions monitoring systems	lb = pound
cfm = cubic feet (per) minute	hp = horsepower
CFR = Code of Federal Regulations	hr = hour lb/day = pound per day
CN = customer ID number	lb/hr = pound per hour
CNG = compressed natural gas	lb/MMBtu = pound per million British thermal units
CO = carbon monoxide	LDAR = Leak Detection and Repair (Requirements)
COMS = continuous opacity monitoring system	LNG = liquefied natural gas
CPMS = continuous parametric monitoring system	LPG = liquefied petroleum gas
DFW = Dallas/ Fort Worth (Metroplex)	LT/D = long ton per day
DE = destruction efficiency	m = meter
DRE = destruction and removal efficiency	m ³ = cubic meter
dscf = dry standard cubic foot or feet	m/sec = meters per second
dscfm = dry standard cubic foot or feet per minute	MACT = maximum achievable control technology
ED = (TCEQ) Executive Director	MAERT = Maximum Allowable Emission Rate Table
EF = emissions factor	MERA = Modeling and Effects Review Applicability
EFR = external floating roof tank	mg = milligram
EGU = electric generating unit	mg/g = milligram per gram
EI = Emissions Inventory	mL = milliliter
ELP = El Paso	MMBtu = million British thermal units
EPA = (United States) Environmental Protection Agency	MMBtu/hr = million British thermal units per hour
EPN = emission point number	MSDS = material safety data sheet
ESL = effects screening level	MSS = maintenance, startup, and shutdown
ESP = electrostatic precipitator	MW = megawatt
FCAA = Federal Clean Air Act	NAAQS = National Ambient Air Quality Standards
FCCU = fluid catalytic cracking unit	NESHAP = National Emission Standards for Hazardous Air Pollutants
FID = flame ionization detector	NGL = natural gas liquids
FIN = facility identification number	NNSR = nonattainment new source review
ft = foot or feet	NO _x = total oxides of nitrogen
ft/sec = foot or feet per second	
g = gram	
gal/wk = gallon per week	
gal/yr = gallon per year	
GLC = ground level concentration	

NSPS = New Source Performance Standards
 PAL = plant-wide applicability limit
 PBR = Permit(s) by Rule
 PCP = pollution control project
 PEMS = predictive emission monitoring system
 PID = photo ionization detector
 PM = periodic monitoring
 PM = total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}, as represented
 PM_{2.5} = particulate matter equal to or less than 2.5 microns in diameter
 PM₁₀ = total particulate matter equal to or less than 10 microns in diameter, including PM_{2.5}, as represented
 POC = products of combustion
 ppb = parts per billion
 ppm = parts per million
 ppmv = parts per million (by) volume
 psia = pounds (per) square inch, absolute
 psig = pounds (per) square inch, gage
 PTE = potential to emit
 RA = relative accuracy
 RATA = relative accuracy test audit
 RM = reference method
 RVP = Reid vapor pressure
 scf = standard cubic foot or feet
 scfm = standard cubic foot or feet (per) minute
 SCR = selective catalytic reduction
 SIL = significant impact levels
 SNCR = selective non-catalytic reduction
 SO₂ = sulfur dioxide
 SOCM = synthetic organic chemical manufacturing industry
 SRU = sulfur recovery unit
 TAC = Texas Administrative Code
 TCAA = Texas Clean Air Act
 TCEQ = Texas Commission on Environmental Quality
 TD = Toxicology Division
 TLV = threshold limit value
 TMDL = total maximum daily load
 tpd = tons per day
 tpy = tons per year
 TVP = true vapor pressure
 VOC = volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
 VRU = vapor recovery unit or system

APPENDIX 4.
KIRBY GATE 5 WASTE MANAGEMENT PLAN

Waste Management

I.0 PURPOSE AND GOALS

This Hazardous Waste Management Plan is to provide guidance from "cradle to grave" of hazardous and Class I wastes generated at Kirby Inland Marine. It describes procedures that will be used to:

- Manage hazardous and Class I waste in compliance with applicable laws and regulations and in a manner that will minimize potential adverse impacts to human health and the environment.
- Ensure the management of recyclable materials in an environmentally sound manner if practical.
- Promote timely and appropriate responses to spills and releases of hazardous and Class I waste, and comply with applicable requirements for notification of such releases.

It is the intent of Kirby Inland Marine to develop and comply with a first class compliance program addressing all applicable environmental issues related to Federal, state and local requirements. This Hazardous Waste Management Plan is one element that Kirby Inland Marine has developed and implemented to meet this goal.

2.0 ENVIRONMENTAL POLICY

It is the policy of Kirby Inland Marine to conduct its activities in a manner that is environmentally responsible and befitting a good neighbor and citizen. In accordance with this policy, Kirby Inland Marine will pursue environmental standards that will minimize the impact of its operations on the environment. Kirby Inland Marine will:

- Include environmental considerations in all planning and design activities.
- Identify and address applicable environmental laws and regulations. And anticipate emerging environmental issues and establish programs to meet or exceed future requirements.
- Reduce or prevent to the maximum practical extent the generation, discharge and/or emission of harmful pollutants and waste products to all environmental media - air water, and waste.
- Communicate with employees, suppliers, customers, and regulatory agencies- as well as with neighboring communities and the general public regarding Kirby Inland Marine environmental issues.
- Allocate and maintain adequate resources for the effective implementation of environmental management and compliance programs.

3.0 HAZARDOUS WASTE MANAGEMENT PROGRAM - OVERVIEW

- I. **Objective** Describe the process for identification, handling, tracking, collection, accumulation, and recycling/treatment/disposal of hazardous and Class I waste generated by Kirby Inland Marine.
- II. **Process Descriptions**
 - a. Hazardous and Class I wastes are generated from several processes at this facility.

- i. Wash waters that have been used to clean out “RCRA empty” barges of any remaining residue, contaminants, etc., are reclaimed through a multi-step process, generating four separate waste streams:
 - 1. A “solids settling system” is used to settle out mostly solid materials, commonly referred to as clabber “rust, muck and scale.” This waste is managed in containers varying in size ranging from 55 gallon drums to vacuum/dewatering boxes.
 - 2. A filter cake is generated in the final step of the wash water recycling process. This waste stream is managed in roll-off boxes.
 - 3. Blow down water is another waste stream that accumulates during the water treatment process. Occasionally water that is deemed unusable will be sent out for further treatment or discharged under the facilities industrial water discharge permit.
 - 4. Occasionally, the wash water from certain barges is not of a type that can be managed in the on-site system; this wash water will be pumped directly into on-site storage containers to be shipped off-site for disposal or recycling.
- ii. Cleanout of barges of RCRA empty barges results in separate waste streams:
 - 1. Contaminated tank clabber “rust and muck” is removed. The waste is managed in 55 gallon drums.
 - 2. Occasionally, off spec products which may not be able to go for recycling or reclamation. This waste is pumped to on-site storage containers to be shipped off-site for disposal.
 - 3. Rags and contaminated PPE and debris are generated during the clean out of the RCRA empty tanks. This waste is managed in 55 gallon drums on-site until it can be shipped off-site for disposal.
- iii. Lab wastes generated from waste water testing.
- iv. Class I Alkaline batteries are generated through normal use of battery operated equipment.
- v. Aerosol cans past their useful life are stored on-site in 55 gallon drums prior to being sent off-site for disposal

III. **General**

- a. The provisions of this procedure are established in accordance with Title 30 of the Texas Administrative Code and Title 40 of the Code of Federal Regulations.
- b. Definitions
 - i. Person In Charge (PIC) - An employee that performs cleaning and other operations on the barges, generating a material designated as a hazardous or Class I waste.
 - ii. Hazardous Waste - Any discarded material exhibiting the "characteristics" of a hazardous waste, or "listed" as a hazardous waste according 40 CFR 261.
 - iii. Class I Waste – Any discarded material identified at 30 TAC 335.505 and 335.508

- iv. Hazardous Waste Transporter - Licensed hazardous waste hauler contracted to transport hazardous wastes along public roadways.
- v. Incompatible Materials - Materials unsuitable for commingling with other materials, where the commingling might result in explosion, violent chemical reaction, fire, extreme heat, formation of a toxic substance, or other condition which might endanger human health or the environment.
- vi. Non-routine Wastes - Hazardous and Class I wastes generated in a non-recurring fashion, including but not limited to, off-specification materials, expired shelf-life hazardous materials, damaged products, spill containment debris residues, etc.
- vii. Routine Wastes - Hazardous and Class I wastes generated on an ongoing basis, e.g., filter cake, rust, muck and scale, used solvent rags, waste oils and oil-contaminated debris, etc.
- c. Failure on the part of the generator of hazardous and Class I waste to properly segregate, manage, and dispose of hazardous and Class I wastes can compromise employee safety and result in regulatory action and/or fines against Kirby Inland Marine and its employees.
- d. Departments using hazardous materials are provided regular updates on the chemical characteristics associated with these materials through Kirby Inland Marine's Hazard Communication Program and Material Safety Data Sheets (MSDSs).

IV. **Responsibilities**

- a. Environmental Compliance Manager
 - i. Determine, based upon knowledge of the material or material sampling and analysis, whether materials are subject to regulation as hazardous or Class I waste.
 - ii. Review proposed projects to ensure adequate preplanning for hazardous and Class I waste management issues.
 - iii. Develop hazardous and Class I waste segregation guidelines and records in concert with regulatory requirements and promulgate segregation, labeling, and handling requirements for affected employees.
 - iv. Assist departments in identifying specific training requirements for employees required to handle or otherwise manage hazardous and Class I waste.
 - v. Develop and maintain training programs and training records to address applicable hazardous and Class I waste training/record keeping requirements for personnel.
 - vi. Review/approve hazardous and Class I waste contractors prior to utilization, whenever possible.
 - vii. Research emerging hazardous and Class I waste management issues affecting compliance. Develop recommendations in response to new/proposed regulations.
 - viii. Manage systems, procedures, products, raw materials, processes, etc., to affect pollution prevention and waste minimization. Wherever practicable, pursue recycling/reuse of materials onsite.

- ix. Administer inspection/audit program to ensure adherence to waste protocols and compliance with hazardous and Class I waste management requirements.
 - x. Secure required licenses, permits, and registrations, and prepare and forward applicable hazardous and Class I waste fees and taxes.
 - xi. Provide initial and ongoing OSHA HAZCOM training as necessary for all employees to include instruction on hazardous and Class I waste management.
 - xii. Maintain records documenting employee participation in all environmental training programs.
 - xiii. Review emerging regulations for new training requirements affecting Kirby Inland Marine employees. Provide guidance to personnel as required. Develop in-house programs, or identify training opportunities to satisfy new requirements.
 - xiv. Develop and maintain documents, records, and plans related to hazardous and Class I waste, as required by law.
- b. Plant Supervisors
- i. Establish and maintain hazardous and Class I waste collection system to address both operational requirements and regulatory constraints.
 - ii. Operate wash water treatment system and properly manage wastes generated from the process.
 - iii. Conduct routine inspections of facilities to ensure compliance with applicable hazardous and Class I waste management procedures.
 - iv. Maintain supplies such as drums, bags, spill containment materials, sampling equipment, labels, tools, personal protective equipment, etc., required for hazardous and Class I waste management activities.
 - v. Package, schedule, stage and coordinate hazardous and Class I waste transport activities both onsite and offsite with approved waste vendors to adhere to applicable Department of Transportation (DOT), Texas Commission on Environmental Quality (TCEQ), and Environmental Protection Agency (EPA) requirements.
- c. Persons In Charge (PICs)
- i. Maintain waste collection stations so as to comply with established handling procedures (labeling, closed containers, housekeeping, etc.).
 - ii. Become familiar with hazardous materials, emergency response, fire, health and safety, and hazardous and Class I waste policies, procedures, manuals and other related data, as is appropriate for each individual job classification.
 - iii. Notify the Plant Supervisors when new sources/types of hazardous and Class I waste are to be generated.
 - iv. Supply data to Plant Supervisors concerning hazardous materials to be managed as hazardous and Class I waste. NOTE: Identifying data may include the manufacturer of the materials, hazardous class, MSDS data, etc.
 - v. Segregate and distribute hazardous and Class I wastes into containers established for receipt of each specific waste stream, as directed by the Plant Supervisors.

- vi. Review, on an ongoing basis, waste handling practices to ensure that hazardous and Class I waste is not commingled with regular trash and is not allowed to collect within the workplace.

V. Procedures

- a. This procedure is divided into four parts:
 - i. Filter Cake and Rust, Muck and Scale (paragraph b)
 - ii. Rags and contaminated PPE and debris (paragraph c)
 - iii. Oil slop and oily debris (paragraph d)
 - iv. Non-routine wastes (paragraph e)
 - v. Spills or Unplanned Releases of Hazardous Materials/Wastes (paragraph f)
- b. Filter Cake and Rust, Muck, and Scale
 - i. Requirements for all wastes
 - 1. Ensure personnel have attended required training courses before handling hazardous materials and/or hazardous and Class I wastes.
 - 2. Mark the words “hazardous waste” on the containers.
 - 3. Mark the accumulation start date on the containers prior to filling container.
 - 4. Keep containers closed except when adding or removing waste.
 - 5. Perform weekly container inspections, taking note of rate of filling container.
 - 6. Schedule off-site shipments with adequate lead time to avoid exceeding 90 days of on-site storage from the accumulation start date.
 - 7. Mark containers to meet requirements of DOT and TCEQ for transportation off-site.
 - 8. Prepare a Uniform Hazardous Waste Manifest for shipment of the hazardous and Class I waste, in accordance with applicable state and federal regulations.
 - 9. Escort hazardous and Class I waste transporters into and out of the facility.
 - 10. Complete Land Disposal Restriction forms as directed by the facility to receive the shipment. Retain copies for filing with hazardous waste manifest copies.
 - 11. Supervise loading of hazardous and Class I waste onto transport vehicles. Ensure that manifest entries match the waste shipment.
 - ii. Rust, Muck and Scale
 - 1. Place container in position to receive waste from the solids settling system.
 - 2. Transfer full containers of wastes from the solids settling system to the waste accumulation area.
 - 3. Monitor waste accumulation area for out-of-date drums, damaged spec containers, incorrect labeling, etc.
- c. Rags and contaminated PPE and debris

- i. Place contaminated rags, PPE, and debris from barge cleaning process into yellow bags and then place in 55 gallon drums according to the characteristics of the contaminant.
 - 1. Non-Regulated Organic
 - 2. Non-Regulated Amine
 - 3. Flammable
 - 4. Flammable Monomer
 - 5. Flammable Peroxide Former
 - 6. Flammable Organic Acid
 - 7. Organic Acid
 - 8. Inorganic Base
- ii. Transfer full containers of wastes from the satellite storage area to the waste accumulation area.
- iii. Monitor waste accumulation area for out-of-date drums, damaged spec containers, incorrect labeling, etc.
- d. Oil Slop and Oily Debris - Ensure personnel have attended required training courses before handling hazardous materials and/or hazardous and Class I wastes.
 - i. Oil Slop
 - 1. Coordinating with boat personnel, pump oil slop into tanks.
 - 2. Monitor tank levels in 3 used oil tanks; do not overfill tanks.
 - 3. Ensure words "Used Oil" remain visible and securely attached to tanks.
 - 4. When tanks near capacity, notify Plant Supervisor to schedule shipment.
 - ii. Oily Debris
 - 1. Ensure that waste containers are properly labeled, as directed by Plant Supervisors.
 - 2. Ensure that only oily debris (rags, hoses, etc.) are placed in container. Other types of wastes are not allowed to be mixed with this waste stream.
 - 3. Keep containers of oily debris closed except when adding or removing wastes.
 - 4. Notify Plant Supervisor when containers are nearing capacity.
- e. Non-routine Hazardous and Class I waste
 - i. Notify the Plant Supervisor/Environmental Compliance Manager upon discovery of a previously unidentified waste stream.
 - ii. Obtain proper containers for the wastes.
 - iii. Follow applicable waste management procedures as described in paragraph (b)(i) above, "Requirements for all wastes".
- f. Spills or Unplanned Releases of Hazardous Materials/Waste
 - i. Incidental Releases of Hazardous Materials or Waste that can be Absorbed, Neutralized or Otherwise Controlled at the Time of the Release
 - 1. Persons In Charge
 - a. Notify the Plant Supervisors as to the type, amount, location, and status of the release. Consult with the immediate supervisor for direction/approval to clean up the release.

- b. Use available spill containment media to contain and clean up the release.
 - c. Contact the Plant Supervisors for assistance in managing the spent spill containment media, as required.
 - 2. Plant Supervisors
 - a. Assist the PICs generating the waste in containerization and removal of the spilled materials.
 - b. Review incident with respect to release reporting requirements. Respond as appropriate.
 - c. Review spill incidents. Direct generating departments as to proper response methodologies. Respond to releases as is deemed appropriate, up to and including activation of protocols identified in the Emergency Response Contingency Plan for Hazardous Materials Spill/Release.
- ii. Significant Releases of Hazardous Materials or Wastes
 - 1. Persons In Charge
 - a. Contact the Plant Supervisor.
 - b. Report specifics pertaining to the release, including the location, amount, type, and time of the release.
 - c. Assist as directed by Plant Supervisor
 - 2. Plant Supervisor
 - a. Support efforts of the Environmental Compliance Manager to respond to the release event. Assume responsibilities of Environmental Compliance Manager for the release event in his absence.
 - b. Follow procedures identified in the Emergency Response Contingency Plan for Hazardous Materials Spill/Release, or respond as directed by the Environmental Compliance Manager.
 - c. Identify, classify, label, and otherwise manage hazardous and Class I waste resultant from the spill response when the release has been containerize or controlled.
 - d. Review and respond to release reporting requirements related to the hazardous materials incident.
 - 3. Environmental Compliance Manager
 - a. Assume responsibilities for the release event.
 - b. Follow procedures identified in the Emergency Response Contingency Plan for Hazardous Materials Spill/Release.

Introduction – Hazardous Waste – EPA

Hazardous Waste Training

The Resource Conservation and Recovery Act (RCRA), an amendment to the Solid Waste Disposal Act, was enacted in 1976 to address the problem of how to safely dispose of the huge volumes of municipal and industrial solid waste generated nationwide.

One of the ways of addressing the problem of waste was to develop a comprehensive system for controlling hazardous waste from the time it is generated until its disposal (**Cradle to Grave**). Regulations for hazardous fall under Subtitle C, Hazardous Waste Program.

To fully understand Subtitle C, the Hazardous Waste Program, it is recommended that you review Subtitle D, Solid Waste Program, to understand the definition of a solid waste. If a waste is not a solid waste, as defined in Subtitle D, it cannot be a hazardous waste.

There are three types of hazardous wastes:

1) Nonspecific sources wastes (40 CFR 261.31) – generic wastes, commonly produced by manufacturing and industrial processes.

***Gate 5 generates nonspecific source wastes**

2) Specific source wastes (40 CFR 261.32) – wastes from specifically identified industries such as wood preserving, petroleum refining, and organic chemical manufacturing.

3) Commercial chemical products (40 CFR 261.33(e) and (f) – specific commercial chemical products or manufacturing chemical intermediates.

There are three categories of hazardous waste handlers:

1) Solid waste generator – facility owner or operator or person who first creates a hazardous waste or a person who first makes the waste subject to the Subtitle C regulations.

There are three types of generators. Large quantity generators are defined as those facilities that generate over 1,000 kilograms per month of hazardous waste or over 1 kilogram of acutely hazardous waste per month. Small quantity generators produce more than 100 but less than 1,000 kilograms of hazardous waste at a site per month (or accumulated less than 1,000 kilograms at any one time). Or, they produce less than 1 kilogram of acutely hazardous waste per month (or accumulated less than 1 kilogram at any one time). Conditionally exempt small quantity generators generate less than 100 kilograms per month of hazardous waste and less than 1 kilogram per month of acutely hazardous waste.

If a large quantity generator accumulates hazardous waste on site for 90 days or less, facility personnel must be trained in the proper handling of hazardous waste.

***Gate 5 is considered as a large quantity generator**

2) Transporters – any person engaged in the off-site transportation of manifested hazardous

waste within the United States. Transportation includes air, rail, highway, or water. Personnel training is not required.

3) Treatment, storage, and disposal facilities (TSDF) – Treatment facilities treat hazardous waste to make it less hazardous or nonhazardous. Storage facilities hold hazardous waste for a temporary period, at the end of which the waste is treated, disposed, or stored elsewhere. Disposal facilities are areas where solid waste may be discharged, deposited, injected, dumped, spilled, leaked, or placed onto land or water where it may enter the environment or be emitted into the air discharged into any waters, including ground waters.

TSDFs are required to have permits to operate. However, EPA recognized that it would take a long time to issue all of the permits. Presently, there are interim permit status TSDFs which are allowed to operate until their permits are issued or denied. Permitted TSDFs have their permits.

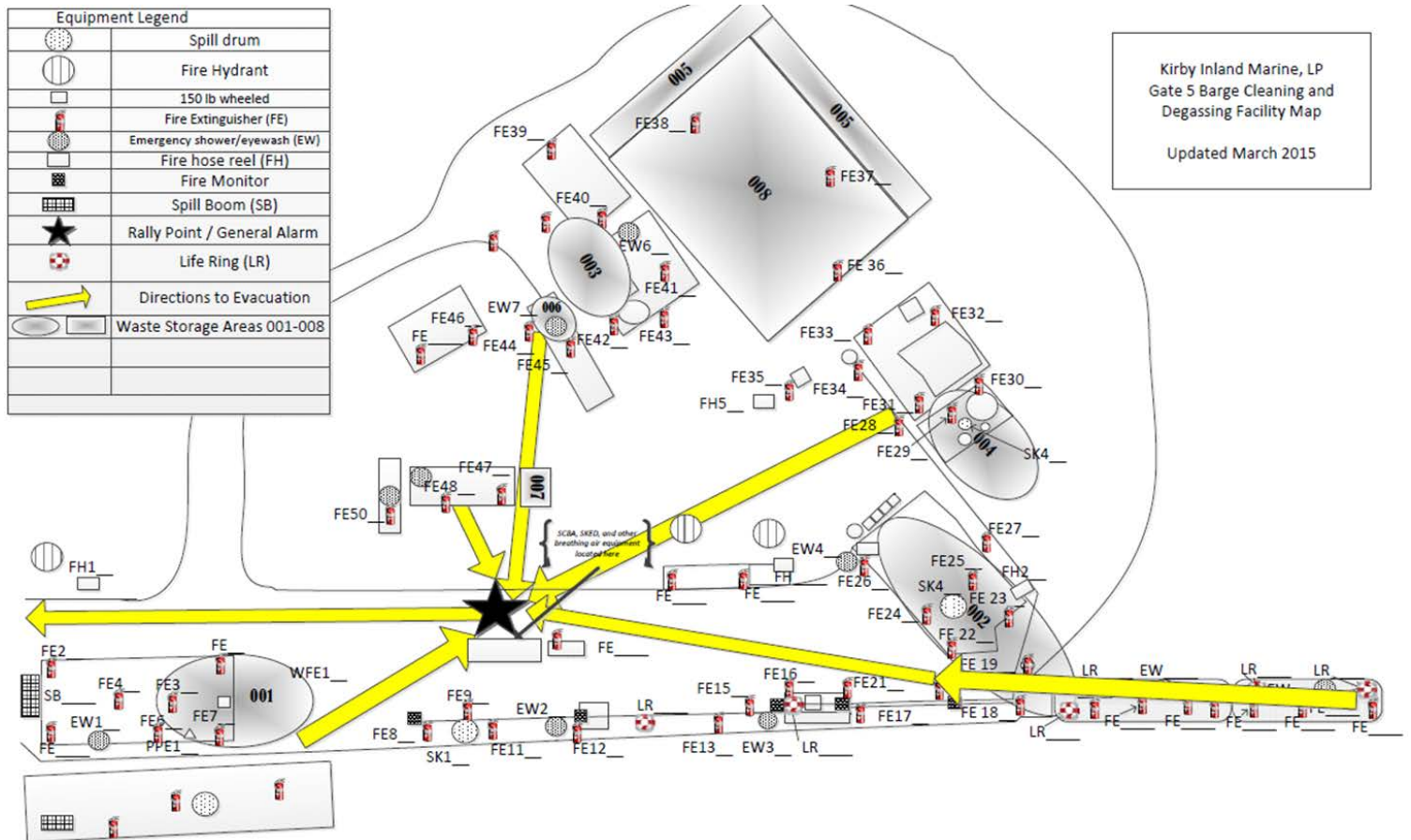
TSDFs must also apply to EPA for an identification number, so their hazardous waste is properly identified and handled. In addition, all personnel working at facilities are required to be trained in hazardous waste management.

Facility personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the training requirements. The owner or operator must ensure that this program includes all the elements described 40 CFR 265.16 or 40 CFR 264.16.

This program must be directed by a person trained in hazardous waste management procedures, and must include instruction which teaches facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed.

Facility personnel must successfully complete the program within six months after the date of their employment or assignment to a facility, or to a new position at a facility, whichever is later.

A review of the initial training must be conducted annually.



00014891 (Inactive)

Description from Generator: Contaminated spill response materials including boom, absorbent pads, and other associated items 06/30/2010

Texas Form Code: 489 Petroleum contaminated solids

Origin Code: 2 Result of spill clean-up, equipment decommissioning or emergency removal

Current Management Units: None

00024891

Description from Generator: Oily rags, used oil filters, and other petroleum contaminated wastes generated from facility and vessel maintenance activities 08/03/2010

Texas Form Code: 489 Petroleum contaminated solids

Origin Code: 1 Generated on-site from a product process or service activity

Current Management Units: Container storage area 002 001

0003212H

Description from Generator: Polymerizable organic hazardous liquid waste from a barge cleaning process. 06/13/2011

Texas Form Code: 212 Reactive or polymerizable organic liquids

EPA Form Code: W210 Reactive or polymerizable organic liquids and adhesives **Origin Code:** 1 Generated on-site from a product process or service activity **Source Code:** G14 Removal of tank sludge, sediments or slag

NAICS Code: 483211 Inland Water Freight Transportation

EPA Hazardous Waste Numbers: D001 U162

Current Management Units: Container storage area 002 001

0005409H

Description from Generator: Non-halogenated organic hazardous solid waste from a barge cleaning process. 6/13/2011

Texas Form Code: 409 Other non-halogenated organic solids

EPA Form Code: W409 Other organic solids

Origin Code: 1 Generated on-site from a product process or service activity

Source Code: G14 Removal of tank sludge, sediments or slag NAICS Code: 483211 Inland Water Freight Transportation EPA Hazardous Waste Numbers: D001 D018 D035 Current Management Units: Container storage area 002 001 Miscellaneous storage containers 004 003 Tank 005
00064091 Description from Generator: Nonhazardous organic contaminated solid waste from a barge cleaning process. 6/13/2011 Texas Form Code: 409 Other non-halogenated organic solids Origin Code: 1 Generated on-site from a product process or service activity Current Management Units: Container storage area 001 002 Miscellaneous storage containers 003 004
00072191 Description from Generator: Class 1 organic liquid waste from a barge cleaning process. 6/13/2011 Texas Form Code: 219 Other organic liquids Origin Code: 1 Generated on-site from a product process or service activity Current Management Units: Container storage area 002 001 Tank 005
00081132 Description from Generator: Wastewater treatment system blowdown water with high dissolved solids. Texas Form Code: 113 Other aqueous waste with high dissolved solids Origin Code: 1 Generated on-site from a product process or service activity Company's Internal Code(s): BLOWDOWN WATER Current Management Units: Tank 005
0009219H (Inactive) Description from Generator: Pipeline flushing and slop oil including various organic liquids generated through barge cleaning. Texas Form Code: 219 Other organic liquids EPA Form Code: W206 Waste oil Origin Code: 1 Generated on-site from a product process or service activity Source Code: G13 Cleaning out process equipment NAICS Code: 48831 Company's Internal Code(s): PIPELINE FLUSHING EPA Hazardous Waste Numbers: D001 D018 D035 Current Management Units: None
0011103H Description from Generator: Spent C.O.D. testing solution. Generated through testing of waste water. Texas Form Code: 103 Spent acid with metals EPA Form Code: W103 Spent concentrated acid Origin Code: 1 Generated on-site from a product process or service activity Source Code: G22 Laboratory analytical wastes (used chemicals) NAICS Code: 488310 Port and Harbor Operations Company's Internal Code(s): SPENT COD SOLUTION EPA Hazardous Waste Numbers: D002 D007 D009 D011 Current Management Units: Miscellaneous storage containers 006
00124911 Description from Generator: Belt-filter press cake generated as a result of on-site waste water treatment. Texas Form Code: 491 Dewatered biological treatment sludge Origin Code: 1 Generated on-site from a product process or service activity Company's Internal Code(s): BELT PRESS CAKE Current Management Units: Miscellaneous storage containers 003
0013491H Description from Generator: Belt-Filter press cake generated as a result of on site waste water treatment. Texas Form Code: 491 Dewatered biological treatment sludge EPA Form Code: W609 Other organic sludge Origin Code: 1 Generated on-site from a product process or service activity Source Code: G23 Wastewater treatment (sludge, filter cake, etc.) NAICS Code: 488310 Port and Harbor Operations Company's Internal Code(s): BFP Cake EPA Hazardous Waste Numbers: D004 D005 D006 D007 D008 D009 D010 D018 Current Management Units: Miscellaneous storage containers 003 Tank 005
00142192 Description from Generator: Excess MBR mixed liquor generated as part of the water treatment process Texas Form Code: 219 Other organic liquids Origin Code: 1 Generated on-site from a product process or service activity

Company's Internal Code(s): MBR MIXED LIQUOR Current Management Units: Tank 005
00163192 Description from Generator: Ceramic insulation from routine flare stack re insulation process Texas Form Code: 319 Other waste inorganic solids Origin Code: 1 Generated on-site from a product process or service activity Company's Internal Code(s): CERAMIC INSULATION Current Management Units: Container storage area 002 001
0017119H Description from Generator: Spent test solutions from water treatment plant lab use Texas Form Code: 119 Other inorganic liquids EPA Form Code: W119 Other inorganic liquid Origin Code: 1 Generated on-site from a product process or service activity Source Code: G22 Laboratory analytical wastes (used chemicals) NAICS Code: 488310 Port and Harbor Operations EPA Hazardous Waste Numbers: D001 D002 Current Management Units: Miscellaneous storage containers 006
00183011 (Inactive) Description from Generator: petroleum contaminated soil from containment area Texas Form Code: 301 Soil contaminated with organics Origin Code: 2 Result of spill clean-up, equipment decommissioning or emergency removal Company's Internal Code(s): CONTAMINATED SOIL Current Management Units: None
0019219H Description from Generator: Unpunctured aerosol cans which last contained flammable liquids Texas Form Code: 219 Other organic liquids EPA Form Code: W219 Other organic liquid Origin Code: 1 Generated on-site from a product process or service activity Source Code: G11 Discarding off-specification or out-of-date chemicals or products NAICS Code: 488310 Port and Harbor Operations Company's Internal Code(s): AEROSOL LIQUIDS EPA Hazardous Waste Numbers: D001 Current Management Units: Container storage area 002
00204912 Description from Generator: NON HAZARDOUS BIO SLUDGE FROM MICROBIOLOGICAL REACTORS Texas Form Code: 491 Dewatered biological treatment sludge Origin Code: 1 Generated on-site from a product process or service activity Company's Internal Code(s): MBR BIO SLUDGE Current Management Units: Miscellaneous storage containers 003
00213091 Description from Generator: used alkaline batteries Texas Form Code: 309 Batteries or battery parts, casings, cores Origin Code: 1 Generated on-site from a product process or service activity Company's Internal Code(s): ALKALINE BATTERIES Current Management Units: Container storage area 001 Miscellaneous storage containers 006
0022409H Description from Generator: sorbent rags, ppe, and other debris contaminated with organic liquids which may exhibit the characteristic of ignitability, benzene, or methyl ethyl ketone. This material is generated from the process of cleaning RCRA empty tank barges Texas Form Code: 409 Other non-halogenated organic solids EPA Form Code: W409 Other organic solids Origin Code: 1 Generated on-site from a product process or service activity Source Code: G19 Other one-time or intermittent processes NAICS Code: 483211 Inland Water Freight Transportation EPA Hazardous Waste Numbers: D001 D018 D035 Current Management Units: Container storage area 002 001
00234091 Description from Generator: sorbent ragas, ppe, and other debris contaminated with non-hazardous organic liquids. This material is generated from the process of cleaning RCRA empty tank barges Texas Form Code: 409 Other non-halogenated organic solids

Origin Code: 1 Generated on-site from a product process or service activity Current Management Units: Container storage area 002 001
0024319H Description from Generator: sorbent rags, ppe, and other debris contaminated with hazardous inorganic liquids. this waste is intermittently generated from the process of cleaning RCRA empty tank barges Texas Form Code: 319 Other waste inorganic solids EPA Form Code: W319 Other inorganic solids Origin Code: 1 Generated on-site from a product process or service activity Source Code: G19 Other one-time or intermittent processes NAICS Code: 483211 Inland Water Freight Transportation EPA Hazardous Waste Numbers: D002 Current Management Units: Container storage area 002 001
0025409H Description from Generator: Sorbent rags, ppe, and other debris contaminated with organic liquids which may exhibit the hazardous characteristic of corrosivity. the material is generated from the process of cleaning RCRA empty tank barges Texas Form Code: 409 Other non-halogenated organic solids EPA Form Code: W409 Other organic solids Origin Code: 1 Generated on-site from a product process or service activity Source Code: G19 Other one-time or intermittent processes NAICS Code: 483211 Inland Water Freight Transportation EPA Hazardous Waste Numbers: D002 Current Management Units: Container storage area 002 001
00262191 Description from Generator: Off-spec water treatment polymer due to moisture build up over long term storage 9/26/14 Texas Form Code: 219 Other organic liquids Origin Code: 1 Generated on-site from a product process or service activity Company's Internal Code(s): OFF-SPEC POLYMER Current Management Units: Container storage area 001 002 Miscellaneous storage containers 003
0027212H Description from Generator: Discarded Crude Methyl Methacrylate from barge cleaning. Texas Form Code: 212 Reactive or polymerizeable organic liquids EPA Form Code: W219 Other organic liquid Origin Code: 1 Generated on-site from a product process or service activity Source Code: G11 Discarding off-specification or out-of-date chemicals or products NAICS Code: 483211 Inland Water Freight Transportation Company's Internal Code(s): CRUDE METHYL METHACR EPA Hazardous Waste Numbers: D001 U162 Current Management Units: Container storage area 002 001
00289992 Description from Generator: GENERAL PLANT TRASH Texas Form Code: 999 Class 2 plant trash Origin Code: 1 Generated on-site from a product process or service activity Company's Internal Code(s): GENERAL PLANT TRASH Current Management Units: Container storage area 007
0029114H Description from Generator: Treatable waste water generated from barge washing process. Water is recycled for reuse in the barge washing process. Texas Form Code: 114 Other aqueous waste with low dissolved solids EPA Form Code: W101 Very dilute aqueous waste containing more than 99% water Origin Code: 1 Generated on-site from a product process or service activity Source Code: G09 Other production or service-related processes NAICS Code: 488310 Port and Harbor Operations Company's Internal Code(s): TREATABLE WASTE WATE EPA Hazardous Waste Numbers: D001 D018 D035 Current Management Units: Waste water treatment plant 008

0030219H Description from Generator: Non-Halogenetated spent solvent with water and characteristics flammable residue from barge washing Origin Code: 1- The waste is generated on-site from a product process or service activity EPA Form Code: W219- Other organic liquid Source Code: G19- Other one-time or intermitten processes NAICS Code: 483211- Inland Water Freight Transportation Company's Internal Code(s): Spent Solvent EPA Hazardous Waste Numbers: D001 Current Management Units: Waste water treatmetment plant 001 002
003129H Description from Generator: Mixture of various organic and non-organic chenmicals from barge to slop tank drip pan strippings. High in benzene and pH. EPA Form Code: W219- Other organic liquid Origin Code: 1 Generated on-site from a product process or service activity Source Code: G14 Removal of tank sludge, sediments or slag NAICS Code: 482311- Inland Water Freight Transportation Company's Internal Code(s): Barge Slop Tank EPA Hazardous Waste Numbers: D002 D018 Current Management Units: Waste water treatment plant 002 001
0032001H Description from Generator: Sample jars containing Phenol being held on site are now being declared as waste. One time shipment. EPA Form Code: W001- Lab packs with no acute hazardous wate Origin Code: 1 Generated on-site from a product process or service activity Source Code: G19- Other one-time or intermitten processes NAICS Code: 483211- Inland Water Freight Transportation Company's Internal Code(s): Phenol Lab Pack EPA Hazardous Waste Numbers: U188 Current Management Units: Waste water treatment plant 002
0033319H Description from Generator: Rust scale pulled from RCRA empty barge contaminated with EDC per laboratory analysis. EPA Form Code: W319- Other organic solids Origin Code: 1 Generated on-site from a product process or service activity Source Code: G14- Removal of tank sludge, sediments, or slag. NAICS Code: 483211- Inland Water Freight Transportation Company's Internal Code(s): EDC Rust Scale EPA Hazardous Waste Numbers: D028 Current Management Units: Waste water treatment plant 002
00343191 Description from Generator: Ploymerized Methyl Methacrylate (acrylic) Origin Code: 2- The waste resulted form a spill clean-up, equipment decommissioning, or emergency removal by company/ Company's Internal Code(s): Polymerized MMA Current Management Units: 002
00353191 Description from Generator: Clean and destroyed hoses retired from service Origin Code: 1 Generated on-site from a product process or service activity Company's Internal Code(s): Current Management Units: 004 002

00374091 Description from Generator: Dried Coravol 923 water treatment water chemical solid residue. Origin Code: 1 Generated on-site from a product process or service activity Company's Internal Code(s): Dried Coravol 923 Current Management Units: Container storage area 003 002
0038212H Description from Generator: Ethyl Acrylate recovered from barge cleaning activities on site EPA Form Code: W210- Reactive or polymerized organic liquids and adhesives Origin Code: 1 Generated on-site from a product process or service activity Source Code: G11- Discarding off specification or out-of-state chemicals or products NAICS Code: 488320- Marine Cargo Handling Company's Internal Code(s): Waste Ethyl Acrylate EPA Hazardous Waste Numbers: U113 D001 Current Management Units: Waste water treatment plant 002
00044031 (Inactive) Description from Generator: Class 1 polymerized organic solid waste from a barge cleaning process. 06/13/2011. Waste code was never used and there is no expectation of this coded being needed; Initial waste code determination used in incorrect form and/or classification code or other mistake. Origin Code: 1 Generated on-site from a product process or service activity Company's Internal Code(s): Current Management Units:
00104041 (Inactive) Description from Generator: Spent carbon used to vapor control waste water treatment plant. Carbon is recycled and not disposed of; Due to waste minimization, ingredient changes or process changes this waste is no longer Origin Code: 1 Generated on-site from a product process or service activity Company's Internal Code(s): Spent Carbon Current Management Units:
00152191 (Inactive) Description from Generator: Waste generated from excess emulsification agent and water; one time shipment. Origin Code: 1 Generated on-site from a product process or service activity Company's Internal Code(s): Water Treat Emulsification Current Management Units:
0036409H Description from Generator: Offspec corrosive water treatment chemical that has dried out leaving a solid residue.; Initial waste code determination used incorrect form and/or classification code or other mistake. EPA Form Code: W409- Other organic solids Origin Code: 2- The waste resulted from a spill clean-up, equipment decommissioning, or emergency removal by company. Source Code: G13- Accidental contamination of products, materials or containers NAICS Code: 483211- Inland Water Freight Transportation Company's Internal Code(s): Offspec Coravol 923 EPA Hazardous Waste Numbers: D001 D002 Current Management Units: Waste water treatment plant

Waste Section Quiz (open book)

1. Hazardous rust scale waste is disposed of in what type of container?
 - a. 55 gallon drums
 - b. Totes
 - c. The Dumpster
 - d. In The Water
2. Which of these is NOT one of the 'Rags, Contaminated PPE, and Debris' categories?
 - a. Flammable
 - b. Flammable Monomer
 - c. Plastics
 - d. Non-Regulated Organic
 - e. Organic Acid
3. What does RCRA stand for?
 - a. Resource Compliance and Regulatory Act
 - b. Resource Conservation and Recovery Act
 - c. Regulated Carbon Remission Agency
 - d. Random Crud Removal Artwork
4. Review of waste training must be completed _____.
 - a. Bi-Annually
 - b. Semi-Annually
 - c. Annually
 - d. Every Month
5. In the 'Requirements for all wastes' section of the Hazardous Waste Management Plan, how long can waste be stored on site?
 - a. 1 Month
 - b. 1 Year
 - c. 9 Weeks
 - d. 90 Days
6. In the event of a significant release of hazardous materials or wastes, you should NEVER contact the Plant Supervisor.
 - a. TRUE
 - b. FALSE
7. Failure on the part of Kirby Inland Marine to properly segregate, manage, and dispose of hazardous wastes can result in fines.
 - a. TRUE
 - b. FALSE
8. It is OK for you to leave a waste drum unlabeled if you are about to get off shift. You can ask someone on the next shift to take care of it for you.
 - a. TRUE
 - b. FALSE

9. If you aren't sure about a particular waste, you should ask a PIC or Supervisor for instructions on proper handling.
- a. TRUE
 - b. FALSE
10. What are three (3) different government agencies involved with our Hazardous Waste Management Program?
- a. DOT, FDA, USA
 - b. PIC, MSDS, VOC
 - c. DOT, TCEQ, EPA
 - d. DOT, TAPS, ERG
11. What characteristics are listed in the description of waste stream 0022409H?

12. What storage area(s) is waste "GENERAL PLANT TRASH" kept at?

13. What is the description for "MBR BIO SLUDGE"?

Waste Section Quiz (open book)

1. Hazardous rust scale waste is disposed of in what type of container?
 - a. 55 gallon drums
 - b. Totes
 - c. The Dumpster
 - d. In The Water
2. Which of these is NOT one of the 'Rags, Contaminated PPE, and Debris' categories?
 - a. Flammable
 - b. Flammable Monomer
 - c. Plastics
 - d. Non-Regulated Organic
 - e. Organic Acid
3. What does RCRA stand for?
 - a. Resource Compliance and Regulatory Act
 - b. Resource Conservation and Recovery Act
 - c. Regulated Carbon Remission Agency
 - d. Random Crud Removal Artwork
4. Review of waste training must be completed _____.
 - a. Bi-Annually
 - b. Semi-Annually
 - c. Annually
 - d. Every Month
5. In the 'Requirements for all wastes' section of the Hazardous Waste Management Plan, how long can waste be stored on site?
 - a. 1 Month
 - b. 1 Year
 - c. 9 Weeks
 - d. 90 Days
6. In the event of a significant release of hazardous materials or wastes, you should NEVER contact the Plant Supervisor.
 - a. TRUE
 - b. FALSE
7. Failure on the part of Kirby Inland Marine to properly segregate, manage, and dispose of hazardous wastes can result in fines.
 - a. TRUE
 - b. FALSE
8. It is OK for you to leave a waste drum unlabeled if you are about to get off shift. You can ask someone on the next shift to take care of it for you.
 - a. TRUE
 - b. FALSE

9. If you aren't sure about a particular waste, you should ask a PIC or Supervisor for instructions on proper handling.
- a. TRUE
 - b. FALSE
10. What are three (3) different government agencies involved with our Hazardous Waste Management Program?
- a. DOT, FDA, USA
 - b. PIC, MSDS, VOC
 - c. DOT, TCEQ, EPA
 - d. DOT, TAPS, ERG

11. What characteristics are listed in the description of waste stream 0022409H?

ignitability, benzene, or methyl ethyl ketone

12. What storage area(s) is waste "GENERAL PLANT TRASH" kept at?

007

13. What is the description for "MBR BIO SLUDGE"?

NON HAZARDOUS BIO SLUDGE FROM MICROBIOLOGICAL REACTORS

APPENDIX 5.
KIRBY GATE 5 HAZARD COMMUNICATION PROGRAM

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D02.29	Hazard Communication Program Facility Operations

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1.0 PURPOSE AND SCOPE

The purpose of this document is to set the requirements of the Kirby Facility Operations Hazard Communications Program. This program is implemented to prevent injuries, accidents, and releases from hazardous chemicals. This procedure applies to all Kirby Facility Operations personnel.

2.0 RESPONSIBILITY

Vice President of Logistics Management, is responsible for ensuring the Hazard Communications program is established and complied with by Facility Operations personnel.

Facility Operations Managers, are responsible for the implementation, training and maintenance of the Hazard Communications Program. Facility Operations Managers shall conduct periodic job site audits to confirm the Hazard Communication Programs effective implementation.

Facility Operations Supervisors, are responsible to carry out training of Facility Operations personnel on the Hazard Communications Program. Training can consist of classroom, video, and/or CBT methods.

Facility Operations personnel, shall complete the Hazard Communications Program training, demonstrate an understanding of and comply with the Facility Operations Hazard Communications Program.

3.0 CHANGE

A. **New**

4.0 PROCEDURE

4.1 Hazardous Communication Program

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- A. A written Hazard Communications Program must be available to Facility Operations personnel, as appropriate, at the various work sites. This written hazard communication procedure must be understood and followed by all facility operations employees. Facility Operations managers shall maintain and update the hazard communication program, as necessary.
- B. Facility Operations managers shall make available, upon request, to Facility Operations employees, their designated representatives, and the Assistant Secretary of Labor, and the Director of OSHA the Hazard Communications Program.
- C. All chemical containers handled by Facility Operations, shall be labeled with the required information: This includes chemical name, significant chemical hazards, spill response, and immediate first aid treatment. The GHS or equivalent methods of chemical package labeling are acceptable. All employees shall be familiar with the system terminology. The SDS for the chemicals contained in these packages must be available to employees.
- D. All hazardous material cargo transportation modes must be placarded or marked as required by U.S.DOT Hazmat Regulations Title 49 or USCG Regulations Title 46, where applicable.
- E. Facility Operations personnel shall wear appropriate protective gear when handling, moving, or transferring oil and chemical products. Employees should review the Facility Operation's PPE Procedure as well as consulting the SDS and other product information safety reference materials.
- F. Applicable SDS, Cargo Information Card (CIC), Shipping Papers, or other documents must be available for Facility Operations personnel. The SDSs are located in Facility Operations offices and other designated locations. An inventory list of hazardous chemicals known to be present at Facility Operations work sites shall be maintained. The named chemical can be found on available CIC, or SDS.
- G. The appropriate SDS shall be kept updated and legible to provide accurate hazard information.
- H. No chemical can be handled, stored or transported without having the SDS available. Oil and chemical cargo samples shall be kept under positive control at all times. Facility Operations employees are not permitted to transport oil and chemical samples outside Kirby facilities except in a DOT approved manner.

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- I. Provisions for cleanup of a spilled oil or chemical shall be closely complied with at all times. Facility Operations personnel must treat oil and chemical spills in a defensive manner.
- J. Facility Operations personnel must handle hazardous waste within the training and safety limits of Facility Operations procedures.
- K. For tasks that carry a significant degree of chemical hazard risk, a Job Safety Analysis shall be written for personnel guidance.
- L. If Facility Operations managers, supervisors, or operations person encounters a non-routine task at a facility, dock, tank barge or product transfer location, Facility Operations personnel must inform a Facility Operations manager or supervisor before attempting the task. A Safety Audit, JSA, Safety Observation or another appropriate hazard assessment shall be conducted. If a hazardous chemical is present, then appropriate precautions must be taken including those required by the hazard communication program or review.

4.2 Training Requirements

- A. Facility Operations managers must provide training for existing employees and each newly hired individual at their initial work assignment or when hazardous oil and chemicals are present in their work location.
- B. Facility Operations personnel must be trained on the specific requirements of the Facility Operations Hazard Communications Program involving hazardous oil and chemicals. This training includes an explanation of labeling systems, understanding a SDS, how to obtain a SDS, and how to use the hazard information
- C. Chemical safe work practices shall be communicated to Facility Operations personnel through facility operations procedures, JSAs, DOT/EPA or USCG requirements, and SDS personnel safety requirements. Facility Operations personnel shall have appropriate Hazard Communications Program training on an annual basis.
- D. The Facility Operations Hazard Communication Program includes training on the following subjects:
 - 1. What to do in the event of a spill.
 - 2. What to do in the event of a cargo/chemical overexposure.
 - 3. Labeling/Placarding/Marking/Signage information and requirements.

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4. Safe work practices pertaining to ignition sources (i.e. open flame/spark or static electricity) with flammable liquid or gas present, use of solvents, nitrogen purging, and confined space entry safety
5. Proper transporting hazardous chemicals onsite or offsite.
6. Location of the written Hazard Communications program including the listing of hazardous chemicals, SDS information and the right to know requirements.
7. Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area through the use of monitoring devices, visual appearance, physical characteristics or odor.
8. Protective measures utilized to prevent exposure which can include safety procedures, personal protective equipment, and emergency actions.
9. Hazardous chemical or cargo disposal requirements.
10. Decontamination procedures
11. Physical Hazards -- Physical hazards include chemicals that are combustible, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive) or water-reactive.
12. Health Hazards -- Acute health hazards occur rapidly as a result of short-term exposures and are of short duration. The acute effects referred to most frequently are irritation, corrosiveness, sensitization, and lethal dose. Chronic health hazards generally occur as a result of long-term exposure and are of long duration. The term chronic effect is often used to cover carcinogenicity, teratogenicity, and mutagenicity. The following is an explanation of specific acute and chronic effects.
 - a. Acute effects may result from breathing vapor, swallowing the material, or direct contact with the body. Headaches, nausea, rashes, and burns are common examples of acute effects. When an employee becomes aware of acute symptoms, the fastest remedy is to leave the area or stop using the material. If vapors are causing a headache, fresh air is required. In the case of an irritation caused by direct contact, washing with soap and water can reduce symptoms.
 - b. Chronic effects may result from the repeated low concentration exposure to a material. Single exposures may not produce any immediate noticeable effect, but over a long-time, symptoms could

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become apparent. Shortness of breath, loss of feeling, or the gradual drying of skin are other examples of chronic effects.

- c. Special Hazards Occasionally, an SDS states that a substance poses a special hazard. If employees are using chemicals that pose special hazards, they should minimize exposure by following proper handling procedures and avoiding any unnecessary contact. The following are descriptions of carcinogens, mutagens, teratogens, neurotoxins, and sensitizers that must be noted:
 - i. Carcinogens are substances suspected or known to cause cancer in humans. If a substance has a carcinogen warning, it does not mean that exposed persons will automatically get cancer. The warning means that exposure to that chemical can increase the risk of getting cancer in one's lifetime. Benzene, butadiene and formaldehyde are examples of carcinogens.
 - ii. Mutagens are substances that cause changes in the genetic structure of subsequent generations. The chromosome damage that may be caused by mutagens could lead to birth defects in the children of the exposed individual, and these effects may be inherited by future generations.
 - iii. Teratogens are substances that can cause birth defects in a fetus. Those individuals who are either pregnant or are contemplating pregnancy should talk with a doctor about the potential teratogenic effects from the substances in their workplace.
 - iv. Neurotoxins are substances that cause damage to nerves or nervous tissue. Examples of neurotoxin effects include loss of feeling or mobility, uncontrollable shaking, and slurred speech. Lead paint is an example of a neurotoxin.
 - v. Sensitizers are chemicals that cause allergic reactions in a substantial proportion of exposed people or animals after repeated exposure to the chemical. In the way that some people are more sensitive to bee stings or poison ivy, people may be selectively sensitive to chemicals. Like other allergies, reactions to sensitizers may consist of severe rashes, itching, and breathing difficulties. Reactions to sensitizers may not occur until a person has had frequent contact with the chemical. Once a reaction has occurred, the sensitive individual should be reassigned to duties that limit exposure to the specific substance.

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d. Solvent

- i. Excessive inhalation of volatile solvent vapors may cause dizziness and headaches. Care should be taken when working with these materials to avoid working in confined areas or too close to the application of the material. If symptoms of dizziness or headaches occur while working with solvents, the employee should leave the work area and get fresh air until symptoms subside. If symptoms persist, medical attention should be sought immediately.
- ii. Solvents are known to cause skin ailments such as drying and defatting of skin, irritation, and dermatitis. For this reason, prolonged or repeated contact with skin should be avoided. Employees who frequently work with solvents should wear gloves. In all cases, any skin exposed to these materials should be thoroughly washed with soap and water.

e. Oils

- i. Oils, including mineral oils, lubricating oils, and greases, can cause skin ailments such as drying and defatting of skin, irritation, and dermatitis. For this reason, prolonged or repeated contact with skin should be avoided.
- ii. Employees who frequently work with oils shall wear gloves. In all cases, any skin exposed to these materials should be thoroughly washed with soap and water.

f. Compressed Gases

- i. Compressed gases include LPG, butadiene, propylene, acetylene, oxygen, argon, carbon dioxide, nitrogen and hydrogen. Hazards from compressed gases are two-fold: They may either be related to the manner in which the gas is stored under pressure or they may be related to the gas itself. The potential hazard from gases being stored under pressure is that, if stored or handled improperly, the tanks could explode. Tanks must be pressure controlled, restrained properly, and open/closed carefully.
- ii. Additional hazards may be posed depending on the chemical composition of the gas. For example, LPG displaces oxygen and thereby acts as an asphyxiant. Butadiene, propane, acetylene, and propylene are extremely flammable. An increase in oxygen

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concentrations may pose fire hazards. Nitrogen releases can readily displace oxygen to dangerous levels.

g. Corrosives

- i. Extreme care should be taken when working with caustic solutions and acids. Direct skin contact with these materials may cause severe burns and scarring. Gloves, aprons, or other protective clothing must be worn when handling or transferring corrosive chemicals. Eye protection must be worn also, as corrosives can cause permanent eye damage. Inhalation of vapors and mists must be avoided and, if necessary, a respirator should be worn.
- ii. Care should be taken to avoid mixing corrosives with incompatible materials. Contact with metals must be avoided.
- iii. Caustic solutions and acids must not be mixed accidentally. Care should be taken when adding concentrated solutions to water. If needed, solutions should always be added to water (never the other way around).

h. A review of all physical and health hazard terms used on the SDS shall be taught, including but not limited to:

- i. Hazardous Chemical/Hazardous Substance
- ii. TLV -Threshold limit value
- iii. PEL - Permissible exposure limit
- iv. STEL - Short term exposure limit
- v. PIH/TIH – Poisonous or toxic inhalation hazard
- vi. Flashpoint
- vii. Reactivity
- viii. Combustible
- ix. Stability
- x. Toxicity
- xi. Irritants
- xii. Sensitizers

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- xiii. Asphyxiant
- xiv. Carcinogens
- xv. Mutagens
- xvi. Teratogens
- xvii. Corrosive properties
- xviii. IDLH - Immediately Dangerous to Life and Health
- xix. PPE - Personal Protective Equipment
- xx. Vapor pressure
- xxi. LPG/LHG – liquid petroleum gas or liquid hazardous gas

APPENDIX 6.
KIRBY GATE 5 FOLLOW-UP PHOTOGRAPHS









APPENDIX 7.

KIRBY GATE 5 TRAINING DOCUMENT: LESSON LEARNED - WASTE CONTAINER INSPECTIONS



Lessons Learned

Event Description

During a recent EPA inspection, it was observed that several of the waste drums in our Hazardous Waste Storage area were dented or otherwise in poor condition.

Facts

- Inadequate waste storage containers increase our risk for a spill.
- The use of damaged or otherwise inadequate waste containers is not in alignment with our company policy of No Harm to people, the environment, or equipment.

Corrective Action

- All team members are to be retrained on the proper inspection of waste containers.
- All employees are to inspect waste containers prior to each use.
- Inadequate waste containers are to be identified during routine waste inspections and removed from service.



DO NOT USE
waste containers that are
dented, bulged, severely rusted,
or otherwise inadequate for
secure containment.



Examples of Inadequate Storage Drums.



Bulging and severely rusted.

Dented throughout.



Dents at the base pose an even greater risk for leakage.

Punctured, immediate spill hazard.



APPENDIX 8.
KIRBY GATE 5 WEEKLY WASTE INSPECTION FORM

Weekly Waste Inspection Form

Date: _____ Time: _____ Inspector: _____ Inspector's Signature: _____	Yes No N/A
--	---------------------------------------

001 Fuel Dock Truck Rack

Satellite Containers: Quantity: ____ Oldest Satellite Accumulation date: ____

Containers in 90-day storage: Quantity: ____ Oldest Accumulation date: ____

☐ Are any Containers leaking?
☐ Are any containers severely rusted?
☐ Are any containers bulging?
☐ Are any containers dented?
☐ Are containers closed to manufactures specifications?
☐ Are satellite and waste containers correctly labelled?
☐ Are all waste containers within their 90-day storage limits?
☐ Is the waste storage area kept clean and orderly with proper PPE and fore equipment on site?
☐ Are any containers empty?

If any containers are found damaged, leaking, not closed to manufactures specifications, not correctly labeled, or not within their 90-day storage limit, list the I.D of the faulty container(s), and corrective action taken:

002 Cleaning Dock Truck Rack

Satellite Containers: Quantity: ____ Oldest Satellite Accumulation date: ____

Containers in 90-day storage: Quantity: ____ Oldest Accumulation date: ____

☐ Are any Containers leaking?
☐ Are any containers severely rusted?
☐ Are any containers bulging?
☐ Are any containers dented?
☐ Are containers closed to manufactures specifications?
☐ Are satellite and waste containers correctly labelled?
☐ Are all waste containers within their 90-day storage limits?
☐ Is the waste storage area kept clean and orderly with proper PPE and fore equipment on site?
☐ Are any containers empty?

If any containers are found damaged, leaking, not closed to manufactures specifications, not correctly labeled, or not within their 90-day storage limit, list the I.D of the faulty container(s), and corrective action taken:

003 Belt Filter Press

Satellite Containers: Quantity: ____ Oldest Satellite Accumulation date: ____

Containers in 90-day storage: Quantity: ____ Oldest Accumulation date: ____

- ☐ Are any Containers leaking?
- ☐ Are any containers severely rusted?
- ☐ Are any containers bulging?
- ☐ Are any containers dented?
- ☐ Are containers closed to manufactures specifications?
- ☐ Are satellite and waste containers correctly labelled?
- ☐ Are all waste containers within their 90-day storage limits?
- ☐ Is the waste storage area kept clean and orderly with proper PPE and fore equipment on site?
- ☐ Are any containers empty?

If any containers are found damaged, leaking, not closed to manufactures specifications, not correctly labeled, or not within their 90-day storage limit, list the I.D of the faulty container(s), and corrective action taken:

004 By 3" Pump

Satellite Containers: Quantity: ____ Oldest Satellite Accumulation date: ____

Containers in 90-day storage: Quantity: ____ Oldest Accumulation date: ____

- ☐ Are any Containers leaking?
- ☐ Are any containers severely rusted?
- ☐ Are any containers bulging?
- ☐ Are any containers dented?
- ☐ Are containers closed to manufactures specifications?
- ☐ Are satellite and waste containers correctly labelled?
- ☐ Are all waste containers within their 90-day storage limits?
- ☐ Is the waste storage area kept clean and orderly with proper PPE and fore equipment on site?
- ☐ Are any containers empty?

If any containers are found damaged, leaking, not closed to manufactures specifications, not correctly labeled, or not within their 90-day storage limit, list the I.D of the faulty container(s), and corrective action taken:

005 Road Behind WTP Tank Farm

Satellite Containers: Quantity: ____ Oldest Satellite Accumulation date: ____

Containers in 90-day storage: Quantity: ____ Oldest Accumulation date: ____

☐ Are any Containers leaking?☐ Are any containers severely rusted?☐ Are any containers bulging?☐ Are any containers dented?☐ Are containers closed to manufactures specifications?☐ Are satellite and waste containers correctly labelled?☐ Are all waste containers within their 90-day storage limits?☐ Is the waste storage area kept clean and orderly with proper PPE and fore equipment on site?☐ Are any containers empty?

If any containers are found damaged, leaking, not closed to manufactures specifications, not correctly labeled, or not within their 90-day storage limit, list the I.D of the faulty container(s), and corrective action taken:

006 WTP Lab

Satellite Containers: Quantity: ____ Oldest Satellite Accumulation date: ____

Containers in 90-day storage: Quantity: ____ Oldest Accumulation date: ____

☐ Are any Containers leaking?☐ Are any containers severely rusted?☐ Are any containers bulging?☐ Are any containers dented?☐ Are containers closed to manufactures specifications?☐ Are satellite and waste containers correctly labelled?☐ Are all waste containers within their 90-day storage limits?☐ Is the waste storage area kept clean and orderly with proper PPE and fore equipment on site?☐ Are any containers empty?

If any containers are found damaged, leaking, not closed to manufactures specifications, not correctly labeled, or not within their 90-day storage limit, list the I.D of the faulty container(s), and corrective action taken:

007 Facility Dumpster

Satellite Containers: Quantity: ____ Oldest Satellite Accumulation date: ____

Containers in 90-day storage: Quantity: ____ Oldest Accumulation date: ____

☐ Are any Containers leaking?☐ Are any containers severely rusted?☐ Are any containers bulging?

Are any containers dented?

- ☐ Are containers closed to manufactures specifications?
- ☐ Are satellite and waste containers correctly labelled?
- ☐ Are all waste containers within their 90-day storage limits?
- ☐ Is the waste storage area kept clean and orderly with proper PPE and fore equipment on site?
- ☐ Are any containers empty?

If any containers are found damaged, leaking, not closed to manufactures specifications, not correctly labeled, or not within their 90-day storage limit, list the I.D of the faulty container(s), and corrective action taken:

008 WTP Tank Farm

Satellite Containers: Quantity: Oldest Satellite Accumulation date:

Containers in 90-day storage: Quantity: Oldest Accumulation date:

- ☐ Are any Containers leaking?
- ☐ Are any containers severely rusted?
- ☐ Are any containers bulging?
- ☐ **Are any containers dented?**
- ☐ Are containers closed to manufactures specifications?
- ☐ Are satellite and waste containers correctly labelled?
- ☐ Are all waste containers within their 90-day storage limits?
- ☐ Is the waste storage area kept clean and orderly with proper PPE and fore equipment on site?
- ☐ Are any containers empty?

If any containers are found damaged, leaking, not closed to manufactures specifications, not correctly labeled, or not within their 90-day storage limit, list the I.D of the faulty container(s), and corrective action taken:

009 Rust Scale Box

Satellite Containers: Quantity: Oldest Satellite Accumulation date:

Containers in 90-day storage: Quantity: Oldest Accumulation date:

- ☐ Are any Containers leaking?
- ☐ Are any containers severely rusted?
- ☐ Are any containers bulging?
- ☐ **Are any containers dented?**
- ☐ Are containers closed to manufactures specifications?
- ☐ Are satellite and waste containers correctly labelled?
- ☐ Are all waste containers within their 90-day storage limits?
- ☐ Is the waste storage area kept clean and orderly with proper PPE and fore equipment on site?

___ Are any containers empty?

If any containers are found damaged, leaking, not closed to manufactures specifications, not correctly labeled, or not within their 90-day storage limit, list the I.D of the faulty container(s), and corrective action taken: