

Document Control Sheet

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Texa Ommission on Environme II Quality **Investigation Report**

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Customer: Formosa Plastics Corporation, Texas Customer Number: CN600130017

Regulated Entity Name: FORMOSA POINT COMFORT PLANT Regulated Entity Number: RN100218973

Investigation # 1454350

Incident Numbers

265928

272131

Investigator:

JAY HALEPESKA

Site Classification INDUSTRIAL MAJOR

Conducted: 09/19/2017 -- 09/19/2017

SIC Code: 2821

NAIC Code: 325211

Program(s):

WASTEWATER

Investigation Type: Compliance Investigation

Location: PLANT LOCATED NE OF INTX OF FM

1593 AND HWY 35

Additional ID(s):

TX0085570 WQ0002436000

Address: 201 FORMOSA DR, POINT COMFORT, TX, 77978 Local Unit: REGION 14 - CORPUS CHRISTI WWCMPL - WW Complaint Activity Type(s):

WWRECONMAJ - WW Major Recon

Principal(s):

Role

Name

RESPONDENT

FORMOSA PLASTICS CORPORATION TEXAS

DEC 13 2017

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Contact(s):

TCEQ CENTRAL FILE ROOM

| | | | | OFIAII INFI IFF |
|-------------------------------------|--|------------------|--------------|---|
| Role | Title | Name | Phone | |
| PARTICIPATED IN | OPERATOR | MR CHAD LEE | Work | (361) 987-7000 |
| PARTICIPATED IN | COMBINED WATER TREATMENT PLANT MANAGER | MR JOHN HYAK | Work | (361) 987-7000 |
| REGULATED ENTITY MAIL CONTACT | VICE PRESIDENT/GENERAL MANAGER | MR RICK CRABTREE | Fax Phone | (361) 987-2363 (361) 987-7000 |
| PARTICIPATED IN | ASSISTANT MANAGER WATER/ WASTE | MR MATT BROGGER | Work Fax | (361) 987-7468 (361) 987 - 2363 |

Other Staff Member(s):

Role

Name

Supervisor

MELANIE EDWARDS



Associated Check List

Checklist Name

WQ COMPLAINT INVESTIGATION

Unit Name

Formosa Point Comfort

Investigation Comments:

INTRODUCTION

On September 19, 2017, Ms. Veronica Velasquez and Mr. Jay Halepeska, Environmental Investigators with the Texas Commission on Environmental Quality (TCEQ) Corpus Christi Region Office conducted an unannounced complaint and wastewater reconnaissance (recon) investigation at The Formosa Plastics Corporation (FPC), Texas-Point Comfort Plant (Formosa Plant) to determine compliance with applicable industrial wastewater treatment regulations. The investigation was conducted in response to a complaint (Incident No. 265928) received by the TCEQ Corpus Christi Region Office on August 22, 2017, alleging that the facility was discharging plastic pellet cuttings out of the facility's outfalls.

The on-site investigation was conducted with Mr. Matt Brogger, Environmental Water and Waste Manager, Mr. John Hyak, Combined Water Treatment Plant (CWTP) Manager, and Mr. Chad Lee, Operator. A verbal exit interview was conducted on September 19, 2017, during which preliminary results were discussed. An exit interview form was not left with the facility as there were no issues noted during the on-site portion of the investigation. Based on the findings of this investigation, a General Compliance letter was sent to the facility.

GENERAL FACILITY AND PROCESS INFORMATION

FPC operates a large organic chemical manufacturing plant which includes Standard Industrial Classification (SIC) codes 2812 (Alkalies and Chlorine), 2821 (Plastic Materials, Synthetic Resins, and Nonvulcanizable Elastomers), and 2869 (Industrial Organic Chemicals, Not Elsewhere Classified). The plant is located on the north side of Lavaca Bay near the City of Point Comfort. FPC holds approximately 1200 acres and manufactures vinyl chloride monomer (VCM) which is then made into polyvinyl chloride (PVC) plastic. Other products manufactured at this plant include chlorine, sodium hydroxide (caustic), ethylene dichloride (EDC), polypropylene, linear low density polyethylene (LLDPE), high density polyethylene (HDPE), and hydrogen.

Water Quality Permit No. WQ0002436000 was issued on June 10, 2016, and shall expire on January 1, 2020. The permit authorizes FPC to discharge via pipeline to Lavaca Bay/Chocolate Bay in Segment 2453 of the Bays and Estuaries, through outfalls 001 and 011; via outfalls 002, 003, 004, and 012 to unnamed ditches, thence to Cox Lake, thence Cox Bay; via outfalls 005, 006, 007, 008, 009, and 010 to Cox Lake, thence to Cox Bay; via outfall 013 directly to Cox Bay in Segment No. 2454 of the Bays and Estuaries.

The following are descriptions of the discharges from the outfalls authorized by Water Quality Permit No. WQ0002436000:

Outfall 001 is authorized to discharge remediated groundwater, fire water, and treated previously monitored effluents (via Outfalls 101 and 201) at an average daily flow not to exceed 9.7 million gallons per day (MGD) and a daily maximum flow not to exceed 15.1 MGD.

Outfall 101 is authorized to discharge treated process wastewater, equipment/facility washdown water, stormwater, fire water, and utility wastewaters (including sanitary wastewater) at an average daily flow not to exceed 4.4 MGD and a daily maximum flow not to exceed 6.0 MGD. The discharge from this outfall mixes with the discharge from Outfall 201 for discharge through Outfall 001.

Outfall 201 is authorized to discharge treated and combined Ion Exchange Membrane (IEM) wastewater streams, utility wastewaters (including pretreated sanitary wastewater), equipment/facility washdown water, stormwater, fire water, and water treatment wastewaters on a continuous and flow-variable basis. The discharge from this outfall mixes with the discharge from Outfall 101 for discharge through Outfall 001.

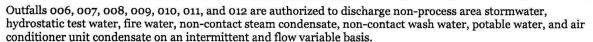
Outfall 901 is authorized to discharge cooling tower blowdown water.

Outfalls 002, 003, 004, and 005 are authorized to discharge non-process area stormwater, hydrostatic test water, fire water, non-contact steam condensate, non-contact wash water, potable water, and air conditioner unit condensate on an intermittent and flow-variable basis.

FORMOSA POINT COMFORT PLANT - POINT COMFORT

9/19/2017 Inv. # - 1454350





Outfall 013 is authorized to discharge non-process area stormwater, hydrostatic test water, fire water, non-contact steam condensate, non-contact wash water, potable water, air conditioner unit condensate, and ash truck wash water on an intermittent and flow variable basis.

BACKGROUND

The last comprehensive compliance investigation (CCI) at the Formosa Point Comfort Plant (Investigation No. 1313144) was conducted on March 10 and 14, 2016. A Notice of Violation (NOV) letter was sent to the permittee on May 13, 2016 for alleged violations Track No. 602620 (failed to maintain compliance with the permitted effluent limitations) and 603273 (failed to prevent the unauthorized discharge of floating solids).

A complaint investigation was conducted on September 7 and 13, 2016 (Investigation No. 1358247). The compliance status of the outstanding alleged violations was evaluated during the investigation. Violation Track No. 602620 was withdrawn, Track No. 603273 remained outstanding, and an additional alleged violation (Track No. 619884) was cited.

A file review was conducted on April 4, 2017 to determine the compliance of Violations Track No. 603273 and 619884. A Notice of Enforcement (NOE) letter was issued to the permittee. A proposed enforcement action (TCEQ Order Docket No. 2010-1903-IWD-E) has been drafted to address the outstanding alleged violations.

A complaint investigation was conducted on July 27, 2017 (Investigation No. 1434660). The complainant alleged that an unauthorized waste stream was being discharged through outfall 002. The complainant's allegations could not be substantiated and the facility was sent a General Compliance letter.

ADDITIONAL INFORMATION

An entrance meeting was held with Mr. Brogger, Ms. Velasquez, and Mr. Halepeska, on September 19, 2017, during which the complainant's allegations were discussed. According to facility personnel, the plant has implemented new procedures and conducted upgrades throughout the site to reduce the amount of pellets at outfalls and to recover pellets that do make it to outfalls. Additionally, FPC has contracted with Horizon to clean pellets from the Cox Creek near the outfalls four days per week.

The investigators then proceeded to outfalls 006, 007, 008, and 009 to observe the condition of the outfalls and determine if pellets were being discharged. None of the outfalls were discharging during the investigation. Furthermore, no pellets, PVC dust or pellet shavings were observed in the water pooled behind the outfall gates.

On October 7, 2017, an additional complaint was received in the TCEQ Corpus Christi Region Office. The complainant alleged that the Formosa Plant was discharging pellets into Cox Creek through an illegal stormwater pipe. Based on the location description and photographic/video evidence provided by the complainant it was determined that the stormwater pipe described by the complaint was actually permitted Outfall 07. The complainant was also concerned about pellets discharging into Cox Creek. As stated above, during the investigation conducted on September 19, 2017, no evidence of pellets discharging from the outfalls was observed. Additionally, the TCEQ currently has a proposed agreed order (TCEQ Docket No. 2017-0737-IWD-E) for failing to prevent the discharge of solids (pellets) into Cox Creek.

No Violations Associated to this Investigation

| 9/19/2017 Inv. # - 1454350 Page 4 of 4 | |
|--|----------------------------------|
| Signed Environmental Investigator | Date 11/30/2017 |
| Signed WWW Supervisor | Date 11 50 7 |
| Attachments: (in order of final report sub | mittal) |
| Enforcement Action Request (EAR) | Maps, Plans, Sketches |
| Letter to Facility (specify type): Let | Photographs |
| Investigation Report | Correspondence from the facility |
| Sample Analysis Results | Other (specify): |
| Manifests | |

___Notice of Registration

TCEQ Complaint Report

11/28/2017 9:00:35AM

Incident No: 265928

Media Type: WATER Start Date: Unknown

Received Date: 08/22/2017

Method: PHONE

Regulated Entity: FORMOSA POINT COMFORT PLANT

RN100218973

Address 201 FORMOSA DR

POINT COMFORT, CALHOUN County, TX 77978

Physical Location: PLANT LOCATED NE OF INTX OF FM 1593 AND HWY 35

Responsible Party: FORMOSA PLASTICS

CORPORATION TEXAS

Address: , ,

Number Complaining: 1

Frequency: CURRENT
Alleged Source: FORMOSA POINT COMFORT PLANT

Program Group: WATER QUALITY - HIGH LEVEL

Staff Member: JHALEPES

Status Date: 11/27/2017

Priority: Within 30 Calendar Days

Status: Closed

Nature: WSQ

Title:

Effect: ENVIRONMENTAL

Initial Problem

Complainant alleges disposal of pellet cuttings in water at nearby facility.

Action Taken

This complaint has been assigned and will be further investigated by an Environmental Investigator.

Closure Comments

More information will be available upon approval of the investigation report.

Investigation Number: 1454350

The TCEQ is committed to accessibility.

To request a more accessible version of this report, please contact the TCEQ Help Desk at (512) 239-4357.

Page 1 of 1

OTCEQ Complaint Report

11/28/2017 9:00:46AM

Incident No: 272131

Media Type: WATER Start Date: Unknown

Received Date: 10/07/2017

Method:

Staff Member: JHALEPES

Status: Closed

Status Date: 11/28/2017

Priority: Within 14 Calendar Days

Regulated Entity: FORMOSA POINT COMFORT PLANT

RN100218973

Address 201 FORMOSA DR

POINT COMFORT, CALHOUN County, TX 77978

Physical Location: PLANT LOCATED NE OF INTX OF FM 1593 AND HWY 35

Responsible Party: FORMOSA UTILITY VENTURE LTD

Address: PO Box 700, POINT COMFORT, TX 77978

E-Mail: davidhill@ftpc.fpcusa.com

Number Complaining: 1 Frequency: CURRENT

Alleged Source: FORMOSA POINT COMFORT PLANT

Program Group: WATER QUALITY - HIGH LEVEL

Nature: WSQ

Title:

Effect: ENVIRONMENTAL

Initial Problem

Complainant alleges possible illegal discharge from a pipe into Cox Creek. The complainant was also concerned about pellets in Cox Creek.

Action Taken

This complaint has been assigned and will be further investigated by an Environmental Investigator

Closure Comments

More information will be available upon approval of the investigation report.

Investigation Number: 1454350

The TCEQ is committed to accessibility.

To request a more accessible version of this report, please contact the TCEQ Help Desk at (512) 239-4357.

Page 1 of 1

Bryan W. Shaw, Ph.D., P.E., Chairman Toby Baker, Commissioner Jon Niermann, Commissioner Richard A. Hyde, P.E., Executive Director





TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

December 1, 2017

Mr. Rick Crabtree Vice President and General Manager Formosa Plastics Corporation P.O. Box 700 Point Comfort, Texas 77978

Re: Wastewater Reconnaissance and Complaint Investigations at: Formosa Point Comfort Plant, 201 Formosa Drive, Point Comfort (Calhoun County), Texas Regulated Entity No.: 100218973; TCEQ ID No.: WQ0002436000; Investigation No.: 1454350; Incident No.: 265928 & 272131

Dear Mr. Crabtree:

On September 19, 2017, Mr. Jay Halepeska and Ms. Veronica Velasquez of the Texas Commission on Environmental Quality (TCEQ) Corpus Christi Region Office conducted an investigation of the above-referenced facility to evaluate compliance with applicable requirements for wastewater treatment. No violations are being alleged as a result of the investigation.

The TCEQ appreciates your assistance in this matter and your compliance efforts to ensure protection of the State's environment. If you or members of your staff have any questions regarding these matters, please feel free to contact Mr. Halepeska in the Corpus Christi Region Office at 361-825-3100.

Sincerely,

Melanie Edwards
Water Section Manager

Corpus Christi Region Office

ME/JH/mjc

TCEQ Region 14 • NRC Bldg., Ste. 1200 • 6300 Ocean Dr., Unit 5839 • Corpus Christi, Texas 78412-5839 • 361-825-3100 • Fax 361-825-3101

LWD_WQ0002436000_CO_20170727_Investigation Report Tex Commission on Environm al Quality **Investigation Report**

The TCEQ is committed to accessibility. If you need assistance in accessing this document, please contact oce@tceq.texas.gov

Customer: Formosa Plastics Corporation, Texas Customer Number: CN600130017

Regulated Entity Name: FORMOSA POINT COMFORT PLANT

Regulated Entity Number: RN100218973

Investigation # 1434660

Incident Numbers

261805

Investigator:

KARLA TREVINO

Site Classification INDUSTRIAL MAJOR

Conducted: 07/27/2017 -- 07/27/2017

SIC Code: 2821

NAIC Code: 325211

Program(s):

WASTEWATER

Investigation Type: Compliance Investigation

Location: PLANT LOCATED NE OF INTX OF FM

1593 AND HWY 35

Additional ID(s):

TX0085570

WQ0002436000

Address: 201 FORMOSA DR, POINT COMFORT, TX, 77978 Local Unit: REGION 14 - CORPUS CHRISTI

Activity Type(s):

WWRECONMAJ - WW Major Recon

WWCMPL - WW Complaint

Principal(s):

Role

Name

RECEIVED

RESPONDENT

FORMOSA PLASTICS CORPORATION TEXAS

SEP 12 2007

Contact(s):

Role

Title

Name

Phone

TCEQ

REGULATED

VICE

MR RICK CRABTREE

Phone

(361) 987-7000

ENTITY MAIL CONTACT

PRESIDENT/GENERAL MANAGER

Fax (361) 987-2363

PARTICIPATED

ASSISTANT MANAGER WATER/ WASTE

MR MATT BROGGER

Fax Work (361) 987-2363 (361) 987-7468

Other Staff Member(s):

Role

Name

Supervisor

MELANIE EDWARDS

Associated Check List

Checklist Name

Unit Name

WQ COMPLAINT INVESTIGATION

No. 1

WO COMPLIANCE CHECK/RECONNAISSANCE

INVESTIGATION

No. 2

Investigation Comments:

INTRODUCTION

FORMOSA POINT COMFORT PLANT - POINT COMFORT

7/27/2017 Inv. # - 1434660

Page 2 of 4

The Formosa Point Comfort (FPC) Plant was investigated by Karla Treviño on July 27, 2017 to determine compliance with applicable wastewater treatment regulations. This investigation is considered a reconnaissance investigation. The investigation was conducted in response to a complaint received by the Texas Commission on Environmental Quality (TCEQ) on June 29, 2017 (Incident No. 261805). The complainant alleged that an unauthorized waste stream was being discharged though Outfall 002.

Advanced notification of the investigation was not provided to the permittee. A verbal exit interview, explaining the results of the investigation, was conducted on the same day of the investigation with Mr. Matt Brogger, Assistant Manager Water/Waste. Based on the findings of this investigation, a General Compliance letter was issued to acknowledge compliance.

GENERAL FACILITY AND PROCESS INFORMATION

FPC operates a large organic chemical manufacturing plant which includes Standard Industrial Classification (SIC) codes 2812 (Alkalies and Chlorine), 2821 (Plastic Materials, Synthetic Resins, and Nonvulcanizable Elastomers), and 2869 (Industrial Organic Chemicals, Not Elsewhere Classified). The plant is located on the north side of Lavaca Bay near the City of Point Comfort. FPC holds approximately 1200 acres and manufactures vinyl chloride monomer (VCM) which is then made into polyvinyl chloride (PVC) plastic. Other products manufactured at this plant include chlorine, sodium hydroxide (caustic), ethylene dichloride (EDC), polypropylene, linear low density polyethylene (LLDPE), high density polyethylene (HDPE), and hydrogen.

Water Quality Permit No. WQ0002436000 was issued on June 10, 2016, and shall expire on January 1, 2020. The permit authorizes FPC to discharge via pipeline to Lavaca Bay/Chocolate Bay in Segment 2453 of the Bays and Estuaries, through outfalls 001 and 011; and to discharge to unnamed tributaries of Cox Creek; thence to Cox Creek; thence to Cox Creek; thence to Cox Bay in Segment No. 2454 of the Bays and Estuaries through outfalls 002 through 010 and 012.

The following are descriptions of the discharges from the outfalls authorized by Water Quality Permit No. WQ0002436000:

Outfall 001 is authorized to discharge remediated groundwater and treated previously monitored effluents (via Outfalls 101 and 201) at an average daily flow not to exceed 9.7 million gallons per day (MGD) and a daily maximum flow not to exceed 15.1 MGD.

Outfall 101 is authorized to discharge treated process wastewater, equipment/facility washdown water, stormwater, and utility wastewaters at an average daily flow not to exceed 4.4 MGD and a daily maximum flow not to exceed 6.0 MGD. The discharge from this outfall mixes with the discharge from Outfall 201 for discharge through Outfall 001.

Outfall 201 is authorized to discharge treated and combined Ion Exchange Membrane (IEM) wastewater streams, utility wastewaters, equipment/facility washdown water, stormwater, and water treatment wastewaters on a continuous and flow-variable basis. The discharge from this outfall mixes with the discharge from Outfall 101 for discharge through Outfall 001.

Outfalls 002 (non-process areas of PVC and VCM), 003 (utilities block and west end of Vinyl Plant), 004 (west end of CWTP, undeveloped areas between VCM/PVC process areas and the CWTP), 005 (undeveloped areas east of the out of service wastewater treatment plant), 006 (non-process areas on south side of facility), 007 (outside of CWTP process area and outside of truck loading station), 008 (non-process areas between north of East/West Road 28 and 40), 009 (olefins off-site, utility raw water treating, warehouse, maintenance shops, olefins flare, specialty PVC plant, and the raw water pond), 010 (marine tank farm), and 012 (contractor's row and northern side of the rail car storage area) are authorized to discharge non-process area stormwater, hydrostatic test water, fire water, non-contact steam condensate, and non-contact washwater on an intermittent and flow-variable basis. Outfall 011 (dock tank farm) is authorized to discharge non-process area stormwater, hydrostatic test water, fire water, non-contact steam condensate, and non-contact washwater on an intermittent and flow-variable basis.

Outfall 013 drains the Petroleum Coke/ Coal Energy Generating Facility (CFB) Unit and discharges directly to Cox Bay in Segment No. 2454 of the Bays and Estuaries.

BACKGROUND

The last comprehensive compliance investigation (CCI) at the Formosa Point Comfort Plant (Investigation No.

FORMOSA POINT COMFORT PLANT - POINT COMFORT

7/27/2017 Inv. # - 1434660



Page 3 of 4

1313144) was conducted on March 10 and 14, 2016. A Notice of Violation (NOV) letter was sent to the permittee on May 13, 2016 for alleged violations Track No. 602620 (failed to maintain compliance with the permitted effluent limitations) and 603273 (failed to prevent the unauthorized discharge of floating solids).

A complaint investigation was conducted on September 7 and 13, 2016 (Investigation No. 1358247). The compliance status of the outstanding alleged violations was evaluated during the investigation. Violation Track No. 602620 was withdrawn, Track No. 603273 remained outstanding, and an additional alleged violation (Track No. 619884) was cited.

A file review was conducted on April 4, 2017 to determine the compliance of Violations Track No. 603273 and 619884. A Notice of Enforcement (NOE) letter was issued to the permittee. The Enforcement Case is currently pending.

ADDITIONAL INFORMATION

With the second second

Upon arrival to the facility, an entrance interview was conducted with Mr. Brogger to discuss the purpose of the unannounced investigation. Mr. Brogger indicated that process area stormwater from the PVC and VCM units is routed to the Combined Water Treatment Plant (CWTP) and is ultimately discharged through Outfall 001. Mr. Brogger stated the facility had recently completed construction of a floating boom structure at the location where Outfalls 002 and 004 converge; however, he was not aware of any unauthorized discharge of process area stormwater or spills to the outfall. Outfall ooz was toured, and a photo of the newly installed floating boom structure was collected(Attachment No. 1).

Records of daily inspections for the facility's Outfall 002 were reviewed. The gate at Outfall 002 was only opened to allow a discharge two days in June 2017 (June 1st and June 5th, 2017). The complainant indicated process area run-off from the PVC and VCM units to Outfall 002 was observed on June 27, 2017. The complainant's allegations could not be substantiated.

No Violations Associated to this Investigation

Signed

Supervisor

Date 8/16/17

IWD_WQ0002436000_CO_20170727_Investigation Report

TCEQ Complaint Report

08/15/2017 2:04:55PM

Incident No: 261805 Media Type: WATER Start Date: Unknown

Received Date: 06/29/2017

Received Date. 00/29/20

Method: EMAIL

Staff Member: KTREVINO

Status: Closed

Status Date: 08/15/2017

Priority: Within 30 Calendar Days

Regulated Entity: FORMOSA POINT COMFORT PLANT

RN100218973

Address 201 FORMOSA DR

POINT COMFORT, CALHOUN County, TX 77978

Physical Location: PLANT LOCATED NE OF INTX OF FM 1593 AND HWY 35

Responsible Party: FORMOSA PLASTICS

CORPORATION TEXAS

Address: , ,

Number Complaining: 1 Frequency: CURRENT

Alleged Source: FORMOSA POINT COMFORT PLANT

Title:

Program Group: WATER QUALITY - HIGH LEVEL

Nature: WASTEWATER Effect: ENVIRONMENTAL

Initial Problem

Complainant reported a discharge of an unauthorized waste stream from a permitted outfall.

Action Taken

This complaint has been assigned and will be further investigated by an Environmental Investigator.

Closure Comments

More information will be available upon approval of the investigation report.

Investigation Number: 1434660

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Page 1 of 1

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



Attachment 1

Outfall 002/004 Floating Boom Structure

Customer

Formosa Plastics Corporation, Texas - CN600130017

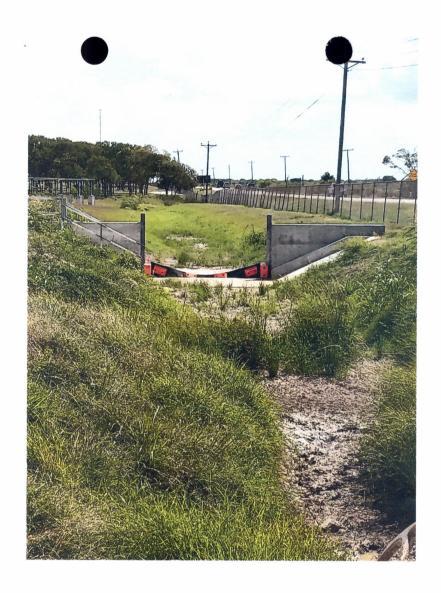
Regulated Entity

Formosa Point Comfort Plant - RN100218973

SWQ

Investigation No. 1434660 WQ0002436000 Calhoun County

Investigator: Karla Treviño Investigation Date: July 27, 2017





OFFICIAL PHOTOGRAPH TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

| SUBJECT: | Outfall 002/004 Floating Boom Structure | | | | | | | |
|-----------|---|---------|---------|--|--|--|--|--|
| LOCATION: | Formosa Point Comfort Plant | | | | | | | |
| CITY: | Point Comfort, Texas | COUNTY: | Calhoun | | | | | |
| DATE: | July 27, 2017 | | | | | | | |
| WEATHER: | SUN [X] HAZE [] CLOUDY [] RAIN [] SNOW [] OTHER (descri | ibe): | | | | | | |

PHOTOGRAPHER:

Mr. Matt Brogger-Formosa

Bryan W. Shaw, Ph.D., P.E., Chairn
Toby Baker, Commissioner
Jon Niermann, Commissioner
Richard A. Hyde, P.E., Executive Director





TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

September 1, 2017

Mr. Rick Crabtree Vice President and General Manager Formosa Plastics Corporation P.O. Box 700 Point Comfort, Texas 77978

Re: Wastewater Reconnaissance and Complaint Investigations at: Formosa Point Comfort Plant, 201 Formosa Drive, Point Comfort (Calhoun County), Texas Regulated Entity No.: 100218973, TCEQ ID No.: WQ0002436000, Investigation No.: 1434660, Incident No.: 261805

Dear Mr. Crabtree:

On July 27, 2017, Karla Treviño of the Texas Commission on Environmental Quality (TCEQ) Corpus Christi Region Office conducted an investigation of the above-referenced facility to evaluate compliance with applicable requirements for wastewater treatment. No violations are being alleged as a result of the investigation.

The TCEQ appreciates your assistance in this matter and your compliance efforts to ensure protection of the State's environment. If you or members of your staff have any questions regarding these matters, please feel free to contact Ms. Treviño in the Corpus Christi Region Office at 361-825-3100.

Sincerely,

Melanie Edwards Water Section Manager Corpus Christi Region Office

ME/KT/mjd

TCEQ Region 14 • NRC Bldg., Ste. 1200 • 6300 Ocean Dr., Unit 5839 • Corpus Christi, Texas 78412-5839 • 361-825-3100 • Fax 361-825-3101

IWOWDOOD24360PQ Ca 20170720 /







Formosa Plastics Corporation, Texas 201 Formosa Drive • P.O. Box 700 Point Comfort, TX 77978 Telephone: 361-987-7000

2017 JUL 20 AH 6: 43

July 14, 2017

Certified Mail:

7016 2140 0000 8558 3789

Ms. Melanie Edwards Water Section Manager TCEQ, Region 14 6300 Ocean Drive, Suite 1200, Unit 5839 Corpus Christi, TX 78412-5839

RE: Enterococci Quarterly Progress Report

TPDES Permit No. WQ0002436000

Dear Ms. Edwards:

As specified in the Other Requirements section of our permit, item number 24, Formosa Plastics Corporation, Texas is (FPC-TX) is submitting the quarterly progress report for Enterococci. The renewed wastewater permit allowed for a three year "come into compliance period" for Enterococci before the limit is in effect. The quarterly progress report is required to be submitted during this interim period. It should be noted that the six month permit compliance period for dioxin has expired therefore sampling was not conducted this quarter. Following is the report information for enterococci.

Enterococci:

The sample for enterococci was collected on May 02, 2017 and analyzed by the Formosa Lab. The result was 2 MPN compared to a future permit limit of 14 MPN; and therefore, the future permit limit was achieved. No further action is required.

If you have any questions about this report please contact Porfirio Arguellez III by e-mail at porfirioa@ftpc.fpcusa.com.

Sincerely,

Rick Crabtree

Vice President/General Manager

Formosa Plastics Corporation, Texas

DECEIVED

and as and

ENTRAL FILE ROOM





cc:

Ms. Lynley Doyen

TCEQ

Compliance Monitoring Section (MC-224)

P.O. Box 13087

Austin, TX 78711-3087

Mrs. Rosie Garza,

Certified Mail: 7016 2140 0000 8558 3802

Certified Mail: 7016 2140 0000 8558 3796

Compliance Monitoring Coordinator, TCEQ
Compliance Monitoring Section (MC-224)

P.O. Box 13087

Austin, TX 78711-3087



2017 JUL 21 AM 6:29

Formosa Plastics Corporation, Texas 201 Formosa Drive • P.O. Box 700 Point Comfort, TX 77978 Telephone: 361-987-7000

July 14, 2017

Certified Mail: 7016 2140 0000 8558 3789

Ms. Melanie Edwards

Water Section Manager TCEQ, Region 14 6300 Ocean Drive, Suite 1200, Unit 5839 Corpus Christi, TX 78412-5839

RE: Enterococci Quarterly Progress Report

TPDES Permit No. WQ0002436000 TX0085570

Dear Ms. Edwards:

As specified in the Other Requirements section of our permit, item number 24, Formosa Plastics Corporation, Texas is (FPC-TX) is submitting the quarterly progress report for Enterococci. The renewed wastewater permit allowed for a three year "come into compliance period" for Enterococci before the limit is in effect. The quarterly progress report is required to be submitted during this interim period. It should be noted that the six month permit compliance period for dioxin has expired therefore sampling was not conducted this quarter. Following is the report information for enterococci.

Enterococci:

The sample for enterococci was collected on May 02, 2017 and analyzed by the Formosa Lab. The result was 2 MPN compared to a future permit limit of 14 MPN; and therefore, the future permit limit was achieved. No further action is required.

If you have any questions about this report please contact Porfirio Arguellez III by e-mail at porfirioa@ftpc.fpcusa.com.

Sincerely,

Rick Crabtree

Vice President/General Manager

Formosa Plastics Corporation, Texas

RECEIVED

TCEQ ROOM

RG



Ms. Lynley Doyen cc:

TCEQ

Compliance Monitoring Section (MC-224)

P.O. Box 13087

Austin, TX 78711-3087

Mrs. Rosie Garza,

Certified Mail: 7016 2140 0000 8558 3802

Certified Mail: 7016 2140 0000 8558 3796

Compliance Monitoring Coordinator, TCEQ

Compliance Monitoring Section (MC-224)

P.O. Box 13087

Austin, TX 78711-3087



Formosa Plastics Corporation, Texas 201 Formosa Drive • P.O. Box 700 Point Comfort, TX 77978 Telephone: 361-987-7000

April 14, 2017

Certified Mail:

7016 2140 0000 8558 3789

Ms. Melanie Edwards
Water Section Manager
TCEQ, Region 14
6300 Ocean Drive, Suite 1200, Unit 5839
Corpus Christi, TX 78412-5839

RE: 2,3,7,8-TCDD Equivalent and Enterococci

Quarterly Progress Report

TPDES Permit No. WQ0002436000

RECEIVED MAY 2 2 2017

CENTRAL FILE ROOM

2611 19 PH 2: 5

Dear Ms. Edwards:

As specified in the Other Requirements section of our permit, item number 24, Formosa Plastics Corporation, Texas is (FPC-TX) is submitting the quarterly progress report for 2,3,7,8-TCDD Equivalent and Enterococci. The renewed wastewater permit allowed for a six month "come into compliance period" before the new limit is in effect for 2,3,7,8-TCDD Equivalent and a three year period for Enterococci. The quarterly progress report is required to be submitted during this interim period. Following is the report information.

2,3,7,8-TCDD Equivalent (Dioxin)

Samples for 2,3,7,8-TCDD were collected on January 31, 2017 and sent to Test America for analysis. All results were non-detect; and therefore, the Dioxin result is zero. Subsequently, the future permit limit was achieved.

Enterococci

The sample for enterococci was collected on January 31, 2017 and analyzed by the Formosa Lab. The result was 2 MPN compared to a future permit limit of 14 MPN; and therefore, the future permit limit was achieved.

If you have any questions about this report please contact Porfirio Arguellez III by e-mail at porfirioa@ftpc.fpcusa.com.

Sincerely,

Rick Crabtree

Vice President/General Manager Formosa Plastics Corporation, Texas cc:

Ms. Lynley Doyen

Certified Mail: 7016 2140 0000 8558 3796

TCEQ

Compliance Monitoring Section (MC-224)

P.O. Box 13087

Austin, TX 78711-3087

Mrs. Rosie Garza,

Certified Mail: 7016 2140 0000 8558 3802

Compliance Monitoring Coordinator, TCEQ Compliance Monitoring Section (MC-224)

P.O. Box 13086

Austin, TX 78711-3087

WD_WQ0002436000_CO_20 404_Investigation Report **Texas Commission on Environmental Quality Investigation Report**

The TCEQ is committed to accessibility. If you need assistance in accessing this document, please contact oce@tceq.texas.gov

Customer: Formosa Plastics Corporation, Texas Customer Number: CN600130017

Regulated Entity Name: FORMOSA POINT COMFORT PLANT Regulated Entity Number: RN100218973

Investigation # 1400665

Incident Numbers

Investigator:

ZACHARY FUQUA

Site Classification INDUSTRIAL MAJOR

Conducted: 04/04/2017 -- 04/04/2017

SIC Code: 2821

NAIC Code: 325211

Program(s):

WASTEWATER

Investigation Type: Compliance Invest File Review

Location: PLANT LOCATED NE OF INTX OF FM

1593 AND HWY 35

Additional ID(s):

TX0085570

WQ0002436000

Address: 201 FORMOSA DR, POINT COMFORT, TX, 77978

Local Unit: REGION 14 - CORPUS CHRISTI Activity Type(s): WWFRR - WW NOV File Record

Review

Principal(s):

Role

Name

RESPONDENT

FORMOSA PLASTICS CORPORATION TEXAS

Contact(s):

| Role | Title | Name | Phone | |
|-------------------------------------|--------------------------------------|------------------------------|--------------------------------------|--|
| REGULATED ENTITY MAIL CONTACT | VICE PRESIDENT/GENERAL MANAGER | MR RICK CRABTREE | Fax Phone | (361) 987-2363 (361) 987-7000 |
| PARTICIPATED IN | ASSISTANT MANAGER WATER/WASTE | MR MATT BROGGER | Work | (361) 987-7468 |
| PARTICIPATED IN | ENVIRONMENTAL SPECIALIST II-WATER | MR PORFIRIO ARGUELLEZ III | Work Work Fax Work Phone | (361) 987-7645 (361) 987-7645 (361) 987-2363 (361) 987-7000 (361) 987-7645 |

Other Staff Member(s):

Role

Name

QA Reviewer Supervisor

KARLA TREVINO MELANIE EDWARDS

Associated Check List

Checklist Name

WQ FILE/RECORD REVIEW

Unit Name

Checklist 1

Page 2 of 4

Investigation Comments:

INTRODUCTION

This NOV file record review was conducted to evaluate the status of the outstanding alleged violations associated with compliance investigation Nos. 1313144 and 1358247 conducted on March 10 and 14, 2016 and September 07, 08, and 13, 2016 at the Formosa Point Comfort Plant (FPC). Notice of violation letters dated May 13, 2016 and October 24, 2016, requested that a written description of corrective action taken be submitted by June 13, 2016 and November 09, 2016, respectively. As a result of the file review, the permittee was sent a Notice of Enforcement (NOE) letter.

GENERAL FACILITY AND PROCESS INFORMATION
See initial compliance investigation Nos. 1313144 and 1358247.

BACKGROUND N/A

ADDITIONAL INFORMATION

The documentation submitted on November 08, 2016 (Attachment No. 1) does not appear to resolve the outstanding violations. The documentation received addressing violation Track No. 603273 included statements verifying that the permittee has investigated potential causes or routes where pellets may escape, implemented a pellet recovery system at Outfall 006 (Outfalls 004, 007, 008, 009 and 012 are planned to receive a similar system in successive stages to be completed no later than December 2017), and began clean-up activities for Cox Creek. However, the clean-up of Cox Creek as well as the planned facility upgrades were not completed within the compliance time frame.

In addition, the documentation addressing violation track No. 619884 included a statement describing an update to the procedure for Chemical Oxygen Demand (COD) analysis. Specifically, outfall streams would now be tested weekly to verify the appropriate dilutions are being utilized. However, the results of the chloride concentration study performed by the permittee indicate that the level of daily variability in chloride concentrations is high enough that a weekly test would not be sufficient to consistently maintain properly diluted samples. It was also noted that the chloride concentration limit for the method utilized by the permittee (Hach Chemical Oxygen Demand Method 8000) is 2,000 mg/L Chloride for non-diluted samples and 1,000 mg/L Chloride for diluted samples.

On April 18, 2017, the TCEQ Region 14 Office received a call from the General Land Office (GLO) describing a large number of pellets in Cox Creek and several Horizon Environmental vehicles located on-site (submitted photographs are included as Attachment No. 2). When the investigator arrived at Cox Creek, pellets were noted along the shoreline (investigator photographs are included as Attachment No. 3) and no contract personnel were on-site. The investigator then met with Mr. Porfirio Argüellez (Environmental Specialist II-Water) and Mr. Matt Brogger (Assistant Manager Water/Waste) at the Operations Command Center located nearby. Mr. Argüellez stated no new discharge of pellets from the facility had occurred, and that the increased number of visible pellets in the creek was due to the recent rain events dislodging the pellets from vegetation and the aggressive clean-up efforts that began on April 17, 2017. To prevent the movement of pellets out of Cox Creek, booms had been placed ahead of the Alcoa Spillway that discharges into Cox Bay. Mr. Argüellez continued to state that the current stage of the clean-up would continue until the following Monday and that efforts were also taking place in Port Lavaca Bay as of April 12, 2017.

NOE Date: 5/1/2017

OUTSTANDING ALLEGED VIOLATION(S) ASSOCIATED TO A NOTICE OF ENFORCEMENT

Track Number: 603273

Compliance Due Date: 06/13/2016 Violation Start Date: 3/10/2016

30 TAC Chapter 305.125(1)

PERMIT WQ0002436000, Eff. Limits and Monitoring RQMTs; No. 3

FORMOSA POINT COMFOR



4/4/2017 Inv. # - 1400665

Page 3 of 4

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

Alleged Violation:

Investigation: 1313144

Comment Date: 05/06/2016

Failed to prevent the unauthorized discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

During the investigation conducted on March 10 & 14, 2016, plastic pellets were observed in Cox Creek, downstream of the facility. The pellets were observed floating on the surface of the water as well as embedded in the creek's sediment.

Investigation: 1358247

Comment Date: 10/19/2016

The documentation submitted on June 10 and July 14, 2016 is inadequate to resolve the outstanding violation. An onsite follow up investigation was conducted on September 07, 08, and 13, 2016 to determine the status of the outstanding alleged violation. During the investigation it was noted that pellets are still being discharged through the stormwater outfalls and clean-up activities at Cox creek have not been completed, therefore, additional documentation is required to resolve the alleged violation. Documentation shall include a detailed description of all changes that have been made in order to prevent the discharge of pellets as well as the completed clean-up activities for plastic pellets in Cox creek and other areas as necessary.

Investigation: 1400665

Comment Date: 04/24/2017

A file record review was conducted on April 04, 2017 to determine the status of this outstanding alleged violation.

On November 08, 2016, the permittee submitted documentation to the TCEQ Corpus Christi Region Office. The documentation included statements verifying the permittee has investigated potential causes or routes where pellets may escape, implemented a pellet recovery system at Outfall 006 (Outfalls 004, 007, 008, 009 and 012 are planned to receive a similar system in successive stages to be completed no later than December 2017), and began clean-up activities for Cox Creek. However, the clean-up of Cox Creek as well as the planned facility upgrades were not completed within the compliance time frame.

Recommended Corrective Action: The permittee shall ensure that there is no discharge of floating solids from the facility. The permittee shall also conduct clean-up activities for the plastic pellets, as necessary.

Track Number: 619884

Compliance Due Date: 11/09/2016

Violation Start Date: 9/28/2016

30 TAC Chapter 305.125(1) 30 TAC Chapter 319.11(c)

PERMIT WQ0002436000, Monitoring and Reporting; No.2(a); Pg. 4

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

Alleged Violation:

Investigation: 1358247

Comment Date: 10/19/2016

Failed to properly analyze effluent samples.

Specifically, Hach Method 8000 Chemical Oxygen Demand (COD) analysis were performed by the facility on samples with a chloride concentration greater than 2,000 mg/L. A review of the laboratory data submitted with the permit application indicates the effluent has an average chloride concentration of 7,099 mg/L and the facility stated that the chloride concentration currently averages greater than 11,000 mg/L. The dilution performed by the facility (50%) was insufficient to reduce the chloride concentration to the 2,000 mg/L chloride concentration limit of the method used.

4/4/2017 Inv. # - 1400665

Page 4 of 4

Investigation: 1400665

Comment Date: 04/20/2017

A file record review was conducted on April 04, 2017 to determine the status of this outstanding alleged violation.

On November 08, 2016, the permittee submitted documentation to the TCEQ Corpus Christi Region Office. The documentation included a statement describing an update to the procedure for Chemical Oxygen Demand (COD) analysis. Specifically, outfall streams would now be tested weekly to verify the appropriate dilutions are being utilized. However, the results of the chloride concentration study performed by the permittee (also included in the compliance documentation) indicate that the level of daily variability in chloride concentrations is high enough that a weekly test would not be sufficient to consistently maintain properly diluted samples. It was also noted that the chloride concentration limit for the method utilized by the permittee (Hach Chemical Oxygen Demand Method 8000) is 2,000 mg/L Chloride for non-diluted samples and 1,000 mg/L Chloride for diluted samples.

Recommended Corrective Action: To achieve compliance, the facility shall analyze Chemical Oxygen Demand as specified in 40 Code of Federal Regulations (CFR) Part 136 or more recent editions of Standard Methods for the Examination of Water and Wastewater for Chemical Oxygen Demand analysis.

| Signed Jock Sugro Environmental Investigator | Date 04/26/17 |
|---|----------------------------------|
| Signed MWW Supervisor | Date 5/1/17 |
| Attachments: (in order of final report subm | ittal) |
| Enforcement Action Request (EAR) Letter to Facility (specify type): | Maps, Plans, Sketches |
| Investigation Report | Correspondence from the facility |
| Sample Analysis Results | Other (specify): |
| Manifests | 2-Submitted Photographs |
| Notice of Registration | <i>y</i> . |

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



Attachment 1

Facility Correspondence

Customer

Formosa Plastics Corporation, Texas – CN600130017

Regulated Entity

Formosa Point Comfort Plant – RN100218973

WQ

Investigation No. 1400665

Investigator: Zack Fuqua

Investigation Date: April 04, 2017



Formosa Plastics Corporation, Texas 201 Formosa Drive • P.O. Box 700 Point Comfort, TX 77978 Telephone: 361-987-7000

FIELD OPS/REGION 1

November 8, 2016

Certified Mail 7015 3430 0001 0536 2668

Mrs. Melanie Edwards Corpus Christi Regional Office Texas Commission on Environmental Quality 6300 Ocean Drive, Suite 1200 Corpus Christi, Texas 78412

RE: Formosa Plastics Corporation, Texas

TPDES Permit No. WQ0002436000 Customer Number: CN600130017

Regulated Entity Number: RN100218973

Investigation No. 1358247

Additional Compliance Documentation

Dear Mrs. Edwards;

Per request of a letter dated October 24, 2016 Formosa Plastics Corporation-Texas (FPC-TX) is submitting this additional compliance documentation regarding a follow up onsite investigation that took place at the Combined Water Treatment Plant (CWTP) on September 8, 2016. Respectfully, documentation is being provided to support FPC-TX's position regarding the alleged violations. FPC-TX has taken the following corrective actions as stated below:

Alleged Violation 1 (Track No. 603273): Failed to prevent the unauthorized discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

FPC-TX Position/Corrective Action: As previously expressed in a letter dated June 13, 2016, Formosa maintains a Total Housekeeping Management (THM) program which requires that each department implement clean-up efforts around their areas in order to maintain a clean and safe work environment. Additionally, Formosa has investigated potential causes or routes where pellets may escape from individual areas within the facility. Currently, concepts and designs are being evaluated for future implementation. During an onsite visit with TCEQ on September 8, 2016 inspectors were presented with various controls that were in place within the facility to prevent pellet discharge. An additional pellet recovery project at permitted Outfall 006 was under way at the time of inspection. As of September 30, 2016 the project was completed (see attachment 1). FPC-TX intends to install a similar system at Outfalls 004, 007, 008, 009 and





Mrs. Edwards November 8, 2016 Page 2 of 3

012. Outfalls 008 and 009 will be completed by March 2017. The remaining Outfalls 004, 007 and 012 will be completed in successive stages no later than December 2017. In addition, Formosa has implemented a monthly program for clean-up of Cox Creek. Beginning on October 05, 2016 a boat was utilized to inspect the Cox Creek shoreline for pellets and personnel removed any pellets that were found. As stated above, the inspection and clean-up, as necessary, will occur monthly.

Alleged Violation 2 (Track No. 619884): Failed to properly analyze effluent samples.

FPC-TX Position/Corrective Action: As noted in the alleged violation, FPC-TX was using a 2 times dilution for COD at the time of the inspection. However, as confirmed by Hach experts, it should be noted that this dilution resulted in biased high results which were always within the permit limits. Beginning on May 9, 2016 FPC-TX began using a ten (10) times dilution for COD tests of Outfall 001 samples in order to lower the chloride concentration to below 2000 mg/L. This was based on a chloride test ran on May 9, 2016 and a dilution study performed internally. Refer to Attachment 2 for documentation of the ten (10) times dilution done for Outfall 001. Additionally, a chloride study was performed in September and October that confirmed the high chloride concentrations. See Attachment 3 for the results. With this information, FPC-TX will now test the chloride concentrations of our Outfall streams weekly to verify that our dilutions are appropriate. This will be added to our internal procedure with an effective date of 11/28/16. We will also continue using Hach Method 8000 (DOC316.53.01099) to analyze COD on our Outfall streams.

Alleged Violation 3 (Track No. 602620): (WITHDRAWN VIOLATION) Failed to maintain compliance with effluent limitations.

FPC-TX Position/Corrective Action: No action required.

Should you require additional information or assistance, please contact Porfirio Arguellez III, at (361) 987-7645 or by email at Porfirio A@ftpc.fpcusa.com.

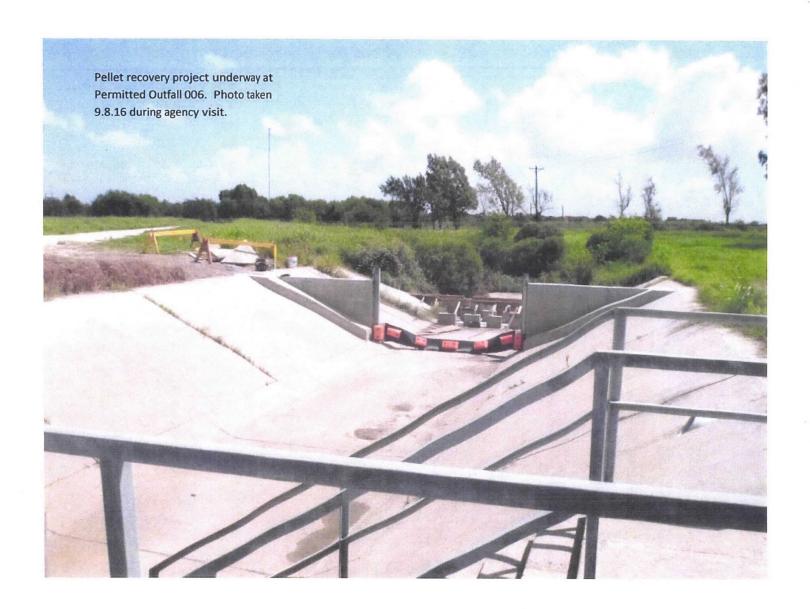
Sincerely,

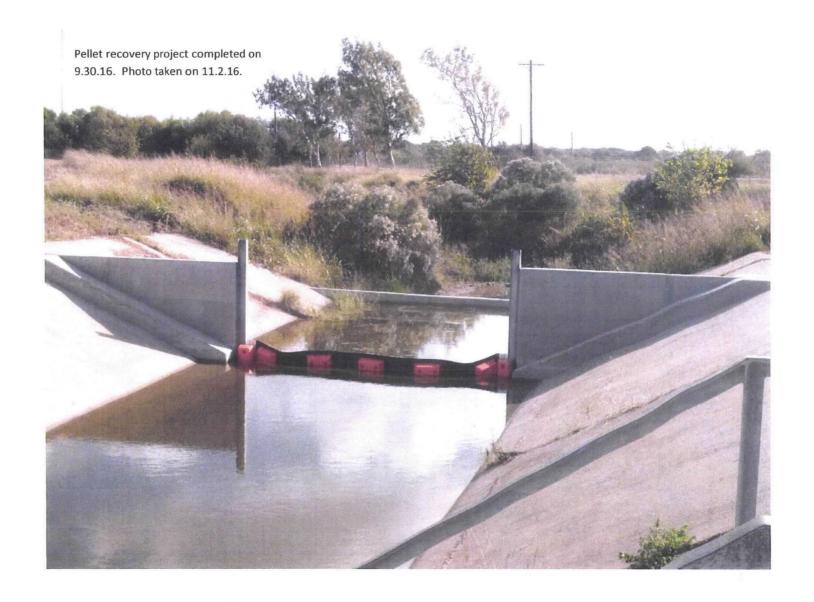
Rick Crabtree

Vice President/General Manager Formosa Plastics Corporation, Texas

Attachments

ATTACHMENT 1





ATTACHMENT 2

Attachment 1

CHEMICAL OXYGEN DEMAND (COD) PERMIT SAMPLE LOGSHEET

| Analysis Pr | ocedure: | Instrument: | E | EPA A | Technician AL |
|-------------|---|-------------|------|------------|---------------|
| / | Pipet 2mL of sample to be analyzed into prepared reaction! vial | Start Time: | 1330 | End Time: | 1000 |
| - | 2. Digest vial for 2 hours at 150°C | | | Date: SIII | 11. 2 |

| Date | 5/11 | - | 5/10 | - | -> | 5/09 | 5/10 | -> | | | | |
|----------|------|-----|------|----|------|------|------|-----|---|--|--|--|
| Sample | BLK | ICV | 101 | MS | MSD | TOOL | 100 | 201 | | | | |
| Dilution | 1 | 1 | 2 | 2 | 2 | 10 | 10 | 10 | | | | |
| Conc. | 0 | 51 | 00 | 55 | 54 | 50 | 30 | 430 | ^ | | | |
| % Rec. | 1 | 102 | / | 38 | 84 | / | - | | | | | |
| % Dev. | | _ | / | _ | 1.84 | - | - | | - | | | |

QC Requirements

| QC | DESCRIPTION | FREQUENCY | CRITERIA | CORRECTIVE ACTION |
|-----|-----------------------------|---------------------|-----------------------|--|
| ICV | Digested 50ppm KHP standard | 1/set or 1/20 samp. | <5% dev. From actual | Check exp. Date of reagent, |
| ICB | Digested reagent water | 1/set or 1/20 samp. | abs value <2 (MDL) | instrument malfunction and re-analyze. |
| MS | Sample spiked with ICV | 1/shift 1/20 samp. | <20% dev. From actual | If the initial calibration verification fails, |
| MSD | Sample dup. spiked with ICV | 1/shift 1/20 samp. | <10% RPD of MS | redo all analysis otherwise, matrix effects. |

Comments:

Department: LS & QA

37

FILE NAME: FTTC4304L_rev2.xls

EFFECTIVE DATE: December 25, 2014

DOCUMENT CODE: FTTC4304L

CHEMICAL OXYGEN DEMAND (COD) PERMIT SAMPLE LOGSHEET

REV2

| Analysis Procedure: | Instrument: | EPA Technician AL |
|---|-------------|---------------------|
| 1. Pipet 2mL of sample to be analyzed into prepared reactionI vial | Start Time: | 0850 End Time: 1105 |
| 2. Digest vial for 2 hours at 150°C 3. Allow sample to cool and analyze and record result | | Date: (2) 22 10 |

| Date | 6/22 | -> | 4/21 | | ~ | 4/20 | 4/a1 | -7 | die | _ | -57 | | |
|----------|------|-----|------|-----|------|------|------|-----|-----|-----|-----|---|---|
| Sample | BLK | ICV | 101 | MS | MSD | 100 | 100 | 201 | 001 | 101 | 201 | | |
| Dilution | \ | 1 | 5 | 5 | 5 | 10 | 10 | 10 | 10 | 5 | 10 | | |
| Conc. | 0 | 52 | 9013 | 45 | 42 | 430 | 430 | 50 | 430 | 75 | 430 | | - |
| % Rec. | | 104 | / | 108 | 96 | | / | / | | / | / | | |
| % Dev. | | _ | / | | 4,90 | 2 | / | | | / | | / | |

QC Requirements

| QC | DESCRIPTION | FREQUENCY | CRITERIA | CORRECTIVE ACTION |
|-----|-----------------------------|---------------------|-----------------------|--|
| ICV | Digested 50ppm KHP standard | 1/set or 1/20 samp. | <5% dev. From actual | Check exp. Date of reagent, |
| ICB | Digested reagent water | 1/set or 1/20 samp. | abs value <2 (MDL) | instrument malfunction and re-analyze. |
| MS | Sample spiked with ICV | 1/shift 1/20 samp. | <20% dev. From actual | If the initial calibration verification fails, |
| MSD | Sample dup. spiked with ICV | 1/shift 1/20 samp. | <10% RPD of MS | redo all analysis otherwise, matrix effects. |

Comments:

Department: LS & QA

48

EFFECTIVE DATE: December 25, 2014 FILE NAME: FTTC4304L_rev2.xls

DOCUMENT CODE : FTTC4304L

| Analysis Pro | ocedure: | Instrument | _ | EPA | Technician AL | |
|--------------|---|-------------|------|------------|---------------|--|
| / | 1. Pipet 2mL of sample to be analyzed into prepared reaction vial | Start Time: | 0855 | End Time: | 1110 | |
| / | 2. Digest vial for 2 hours at 150°C | | | 1 | l. | |
| _/ | Allow sample to cool and analyze and record result | | | Date: 7/18 | 110 | |

| Date | 7/15 | - | 7/14 | - | | | -> | 7 | | | |
|----------|------|---------------|------|----|------|-----|-----|---|--|--|--|
| Sample | BLK | ICV | 101 | MS | MSD | 100 | 201 | | | | |
| Dilution | 1 | 1 | 5 | 5 | 5 | 10 | 10 | | | | |
| Conc. | 0 | 52 | 70 | 36 | 34 | 430 | 430 | | | | |
| % Rec. | | 104 | / | 38 | 80' | / | | | | | |
| % Dev. | | -emercent and | | | 5,71 | | | | | | |

QC Requirements

| QC | DESCRIPTION | FREQUENCY | CRITERIA | CORRECTIVE ACTION |
|-----|-----------------------------|---------------------|-----------------------|--|
| ICV | Digested 50ppm KHP standard | 1/set or 1/20 samp. | <5% dev. From actual | Check exp. Date of reagent, |
| ICB | Digested reagent water | 1/set or 1/20 samp. | abs value <2 (MDL) | instrument malfunction and re-analyze. |
| MS | Sample spiked with ICV | 1/shift 1/20 samp. | <20% dev. From actual | If the initial calibration verification fails, |
| MSD | Sample dup, spiked with ICV | 1/shift 1/20 samp. | <10% RPD of MS | redo all analysis otherwise, matrix effects. |

Comments:

Department: LS & QA

55

EFFECTIVE DATE: December 25, 2014 FILE NAME: FTTC4304L_rev2.xls

DOCUMENT CODE : FTTC4304L

REV2

| Analysis Pro | cedure: | Instrument: | | EPA | Technician AL |
|--------------|---|-------------|------|-----------|---------------|
| / | 1. Pipet 2mL of sample to be analyzed into prepared reaction vial | Start Time: | 0850 | End Time: | 1105 |
| | 2. Digest vial for 2 hours at 150°C | | | | . (|
| | Allow sample to cool and analyze and record result | | | Date: 8 | 5/16 |

| Date | 8/12 | > | 811 | | | | -> | 809 | | | |
|----------|------|-----|------|-----|------|-----|-----|-----|--|--|-------|
| Sample | BLK | ICV | 101 | MS | MSD | 001 | 201 | 201 | | | - |
| Dilution | 1 | 1 | ×+05 | 5 | 5 | 10 | 10 | 10 | | | |
| Conc. | 0 | 52 | 95 | 43 | 44 | 40 | 30 | 50 | | | |
| % Rec. | / | 401 | / | 900 | 100 | / | - | / | | | |
| % Dev. | / | - | | | a.30 | | / | | | | |

QC Requirements

| QC | DESCRIPTION | FREQUENCY | CRITERIA | CORRECTIVE ACTION |
|-----|-----------------------------|---------------------|----------------------------------|--|
| ICV | Digested 50ppm KHP standard | 1/set or 1/20 samp. | o / o do / . / . o i i do i do i | Check exp. Date of reagent, |
| ICB | Digested reagent water | 1/set or 1/20 samp. | abs value <2 (MDL) | instrument malfunction and re-analyze. |
| MS | Sample spiked with ICV | 1/shift 1/20 samp. | <20% dev. From actual | If the initial calibration verification fails, |
| MSD | Sample dup, spiked with ICV | 1/shift 1/20 samp. | <10% RPD of MS | redo all analysis otherwise, matrix effects. |

Comments:

Department: LS & QA

60

EFFECTIVE DATE: December 25, 2014 FILE NAME: FTTC4304L_rev2.xls

DOCUMENT CODE : FTTC4304L

REV2

| Analysis Pro | cedure: | Instrument: | EPI | 4 | Technician & |
|--------------|---|-------------|------|-----------|--------------|
| / | Pipet 2mL of sample to be analyzed into prepared reaction! vial | Start Time: | 0860 | End Time | 1110 |
| / | 2. Digest vial for 2 hours at 150°C | | | 1 1 | |
| | Allow sample to cool and analyze and record result | | D | ate: 9 6a | 16 |

| Date | 902 | -2 | 19/01 | _ | | | (| | | | |
|----------|-----|-----|-------|----|------|-----|-----|---|--|--|--|
| Sample | BLK | ICV | 101 | MS | MSD | 001 | 901 | 7 | | | |
| Dilution | 1 | 1 | 5 | 5 | 5 | 10 | 10 | | | | |
| Conc. | 0 | 52 | 80 | 37 | 38 | 50 | 430 | | | | |
| % Rec. | - | 104 | / | 84 | 88 | | | | | | |
| % Dev. | | | | | alet | | / | / | | | |

QC Requirements

| QC | DESCRIPTION | FREQUENCY | CRITERIA | CORRECTIVE ACTION |
|-----|-----------------------------|---------------------|-----------------------|--|
| ICV | Digested 50ppm KHP standard | 1/set or 1/20 samp. | <5% dev. From actual | Check exp. Date of reagent, |
| ICB | Digested reagent water | 1/set or 1/20 samp. | abs value <2 (MDL) | instrument malfunction and re-analyze. |
| MS | Sample spiked with ICV | 1/shift 1/20 samp. | <20% dev. From actual | If the initial calibration verification fails, |
| MSD | Sample dup. spiked with ICV | 1/shift 1/20 samp. | <10% RPD of MS | redo all analysis otherwise, matrix effects. |

Comments:

66

EFFECTIVE DATE: December 25, 2014 FILE NAME: FTTC4304L_rev2.xls

DOCUMENT CODE: FTTC4304L

Department: LS & QA

REV2

| Analysis Pro | ocedure: | Instrument: | EPA | Technician_AL |
|--------------|---|-------------|----------|---------------|
| / | Pipet 2mL of sample to be analyzed into prepared reaction! vial | Start Time: | 0845 End | 1 Time: 1(00 |
| | 2. Digest vial for 2 hours at 150°C | _ | | 1 |
| | 3. Allow sample to cool and analyze and record result | | Date: 10 | 126/16 |

| Date | idzie | -> | 10/25 | | > | 10/24 | WIZE | -> | | | | |
|----------|-------|-----|-------|-------|------|-------|------|-----|---|--|--|--|
| Sample | BLK | ICV | 101 | MS | MSD | 001 | 001 | 201 | | | | |
| Dilution | 1 | 1 | 5 | 5 | 5 | 10 | 10 | 10 | | | | |
| Conc. | 0 | 49 | 44.95 | 34,2 | 31.6 | 57,9 | 130 | 430 | | | | |
| % Rec. | | 98 | / | 100.8 | 90.4 | _ | | / | | | | |
| % Dev. | | | | | 7.90 | | / | | - | | | |

QC Requirements

| QC | DESCRIPTION | FREQUENCY | CRITERIA | CORRECTIVE ACTION |
|-----|-----------------------------|---------------------|-----------------------|--|
| ICV | Digested 50ppm KHP standard | 1/set or 1/20 samp. | <5% dev. From actual | Check exp. Date of reagent, |
| ICB | Digested reagent water | 1/set or 1/20 samp. | abs value <2 (MDL) | instrument malfunction and re-analyze. |
| MS | Sample spiked with ICV | 1/shift 1/20 samp. | <20% dev. From actual | If the initial calibration verification fails, |
| MSD | Sample dup, spiked with ICV | 1/shift 1/20 samp. | <10% RPD of MS | redo all analysis otherwise, matrix effects. |

Comments:

Department: LS & QA

81

FILE NAME: FTTC4304L_rev2.xls

DOCUMENT CODE: FTTC4304L

ATTACHMENT 3 San Antonio Bay

Attachment 2

Chloride Concentration in Outfall 001 Samples

| Sample Point | Date | Time | Chloride, ppm |
|-----------------------|------------|-------|---------------|
| TZT-07* | 5/9/2016 | 14:00 | 11,280 |
| Outfall 001 composite | 9/19/2016 | 08:00 | 12,489 |
| Outfall 001 composite | 9/20/2016 | 08:00 | 10,450 |
| TZT-07 | 9/21/2016 | 02:00 | 10,405 |
| TZT-07 | 9/21/2016 | 04:00 | 12,637 |
| TZT-07 | 9/21/2016 | 08:00 | 10,796 |
| TZT-07 | 9/22/2016 | 08:00 | 13,970 |
| Outfall 001 composite | 10/24/2016 | 08:00 | 9,481 |
| Outfall 001 composite | 10/25/2016 | 08:00 | 10,172 |
| Average | | | 11,298 |

 $[\]boldsymbol{*}$ TZT-07 is the process control point for Outfall 001.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



Attachment 2

Submitted Photographs

Customer

Formosa Plastics Corporation, Texas – CN600130017

Regulated Entity

Formosa Point Comfort Plant – RN100218973

WQ

Investigation No. 1400665 Investigator: Zack Fuqua

Investigation Date: April 04, 2017



San Antonio Bay 71403-003634



San Antonio Bay 71403-003635



San Antonio Bay 71403-003636

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



Attachment 3

Investigation Photographs

Customer

Formosa Plastics Corporation, Texas – CN600130017

Regulated Entity

Formosa Point Comfort Plant – RN100218973

WQ

Investigation No. 1400665 Investigator: Zack Fuqua Investigation Date: April 04, 2017



| Formosa Plastics Corporation, Texas - CN600130017 | WQ |
|---|------------------------------------|
| Formosa Point Comfort Plant - RN100218973 | Investigation Date: April 18, 2017 |
| | Investigation No. 1400665 |
| Cox Creek | Investigator: Zack Fuqua |



Cox Creek shoreline-Pellets identified on water surface and in surrounding vegetation. Photo by Zack Fuqua under cloudy skies.



See note: Who Fills out the EAR? u 1400665 Initiated by: Region, LP, Central: Enforcement Inv.# Region Action **Enf Case** Name of Initiating Office: **REGION 14 - CORPUS** Referral CHRISTI Rev. 3/18/2002 Media WQ Code:

Section 1: Respondent

| ID | CN600130017 | | | Role | RESP PARTY | |
|---------|----------------|------------------------------------|----------|------|--|--|
| Name | FORMOSA PLAST | FORMOSA PLASTICS CORPORATION TEXAS | | | | |
| Mailing | Street/PO Box | 201 FORMOSA DR | | | | |
| Address | City/State/Zip | POINT COMFORT, | TX 77978 | | The second secon | |
| | Phone | (361) 987-7700 | Fax | | | |

| Primary Cont | act (NOE Contact) | | |
|--------------|--------------------------------|--------------------------|--------------------|
| Name | RICK CRABTREE | Organization FORMOSA PLA | STICS CORPORATION |
| Title | Vice President/General Manager | Phone (361) 987-7000 | Fax (361) 987-2363 |

Section 2: Respondent's Facility/Operation (F/O)

| F/O ID | RN100218973 | | | | |
|--|---|----------------------|----------------|--|--|
| F/O Name | FORMOSA POINT COMFORT PLANT | | | | |
| F/O Physical Address | 201 FORMOSA DR | | | | |
| Location City | POINT COMFORT | Location Zip | 77978 | | |
| Location County | CALHOUN | Operational Status | Active | | |
| Primary Business Activity | Manufacturing | Type of Small Entity | Small Business | | |
| SNC or HPV? | N/A | SIC Code | 2821 | | |
| Potentially Affected Area | Lavaca Bay/Chocolate Bay in Segment No. 2453 of the Bays and Estuaries. | Complaints Closed | 0 | | |
| List any NOVs?Orders for same or similar violations at this F/O in the past 5 years. | NOV 05/13/2016 (Investigation No. NOV 10/24/2016 (Investigation No. | , | | | |
| Additional IDs | TX0085570 WQ0002436000 | | | | |

Section 3: Summary of Violations

See note: Inclustion of Resolved or Verbal Violations u

| Viol | Requirements Cited | Violation Dates | Investigation/ | Date of | CAT |
|--------|---|--------------------------|--------------------------------|-------------------------|-----|
| Num | Violation Description | Start End | File Review | NOV NOE | |
| 603273 | 30 TAC Chapter 305.125(1) | 03/10/2016 Unknow | vn 04/04/2017 | 05/01/2017 | В |
| | PERMIT Eff. Limits and Monitoring RQMTs; No. 3 | 03/10/2016 Unknow | vn 04/04/2017 | 05/01/2017 | В |
| | Failed to provent the unauthorized | disabaras of floating as | lide or visible feam in a | ther than trace amounts | and |
| | Failed to prevent the unauthorized no discharge of visible oil. | | | 05/01/2017 I | |
| | no discharge of visible oil. 30 TAC Chapter 305.125(1) | 09/28/2016 Unknov | vn 04/04/2017 | | C |
| | no discharge of visible oil. | | vn 04/04/2017 vn 04/04/2017 | 05/01/2017 | С |

Section 4: Additional Discussion

Formal enforcement action is being requested due to a category B violation (Violation Track. No. 603273) that was not corrected within the compliance time frame.

Section 5: Additional Issues

N/A

Section 6: Information About Initiating Office

| Name | Zachary Fuqua | Date | 05/01/2017 |
|-----------|-----------------|--------|--------------------------------|
| Signature | Back Sigm | E-Mail | Zachary.Fuqua@tceq.texas.gov |
| Phone | 361-825-3150 | | |
| | | | |
| Name | Melanie Edwards | Date | 5/1/17 |
| | Melanie Edwards | - | Melanie. Edwards@tceq.texas.go |

Bryan W. Shaw, Ph.D., P.E., Chairman Toby Baker, Commissioner Jon Niermann, Commissioner Richard A. Hyde, P.E., Executive Director



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 1, 2017

CERTIFIED MAIL # 9171999991703134252320 RETURN RECEIPT REQUESTED

Mr. Rick Crabtree Vice President and General Manager Formosa Plastics Corporation, Texas P.O. Box 700 Point Comfort, Texas 77978

Re: Notice of Enforcement for the File Record Review at: Formosa Point Comfort Plant, 201 Formosa Drive, Point Comfort (Calhoun County), Texas Regulated Entity No.: 100218973; TCEQ ID No.: WQ0002436000; Investigation No.: 1400665

Dear Mr. Crabtree:

On April 4, 2017, Mr. Zack Fuqua of the Texas Commission on Environmental Quality (TCEQ) Corpus Christi Region Office conducted an investigation of the above-referenced regulated entity to evaluate compliance with applicable requirements for wastewater treatment facilities. During this investigation, certain outstanding alleged violations were documented. Enclosed is a summary which lists the investigation findings and recommended corrective actions. Additional recommended corrective actions may be provided by the Enforcement Division.

In the listing of the alleged violations, we have cited applicable requirements, including TCEQ rules. Please note that both the rules themselves and the agency brochure entitled Obtaining TCEQ Rules (GI 032) are located on our agency website at http://www.tceq.state.tx.us for your reference. If you would like a hard copy of this brochure mailed to you, you may call and request one from either the Corpus Christi Region Office at 361-825-3100 or the Central Office Publications Ordering Team at 512-239-0028.

Also, please be advised that the Legislature has granted enforcement powers to the TCEQ to carry out its mission to protect human health and the environment. Due to the apparent seriousness of the alleged violations, formal enforcement action has been initiated, and additional violations may be cited upon further review. We encourage you to immediately begin taking actions to address the outstanding alleged violations.

In responding with prompt corrective action, the administrative penalty to be assessed may be limited.

The Commission recognizes that the great majority of the regulated community wants to prevent pollution and to comply with environmental laws. We dedicate considerable resources toward making voluntary compliance achievable. But where compliance has not been met it is

TCEQ Region 14 • NRC Bldg., Ste. 1200 • 6300 Ocean Dr., Unit 5839 • Corpus Christi, Texas 78412-5839 • 361-825-3100 • Fax 361-825-3101

Mr. Rick Crabtree Page 2 May 1, 2017

our duty to protect the public and the environment by enforcing the state's environmental laws, regulations, and permits.

Also, if you believe the violations documented in this notice have been cited in error, and you have additional information that we are unaware of, you may request a meeting to discuss this enforcement matter. To request a meeting, send a letter describing the additional information to the address shown below.

Manager, Water Section

Enforcement Division, MC 219

Re: Enforcement Meeting Request

Texas Commission on Environmental Quality

P.O. Box 13087

Austin, Texas 78711-3087

If you or members of your staff have any questions, please feel free to contact Mr. Fuqua in the Corpus Christi Region Office at 361-825-3100.

Sincerely,

Melanie Edwards, Water Section Manager

Corpus Christi Region Office

Texas Commission on Environmental Quality

ME/ZF/mjc



FORMOSA POINT COMFORT PLANT

Investigation #

201 FORMOSA DR

1400665 Investigation Date: 04/04/2017

POINT COMFORT, CALHOUN COUNTY, TX 77978

Additional ID(s): TX0085570

WQ0002436000

OUTSTANDING ALLEGED VIOLATION(S) ASSOCIATED TO A NOTICE OF ENFORCEMENT

Track No: 603273 Compliance Due Date: 06/13/2016

30 TAC Chapter 305.125(1)

PERMIT WQ0002436000, Eff. Limits and Monitoring RQMTs; No. 3

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

Alleged Violation:

Investigation: 1313144 Comment Date: 05/06/2016

Failed to prevent the unauthorized discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

During the investigation conducted on March 10 & 14, 2016, plastic pellets were observed in Cox Creek, downstream of the facility. The pellets were observed floating on the surface of the water as well as embedded in the creek's sediment.

Investigation: 1358247 Comment Date: 10/19/2016

The documentation submitted on June 10 and July 14, 2016 is inadequate to resolve the outstanding violation. An onsite follow up investigation was conducted on September 07, 08, and 13, 2016 to determine the status of the outstanding alleged violation. During the investigation it was noted that pellets are still being discharged through the stormwater outfalls and clean-up activities at Cox creek have not been completed, therefore, additional documentation is required to resolve the alleged violation. Documentation shall include a detailed description of all changes that have been made in order to prevent the discharge of pellets as well as the completed clean-up activities for plastic pellets in Cox creek and other areas as necessary.

Investigation: 1400665 Comment Date: 04/24/2017

A file record review was conducted on April 04, 2017 to determine the status of this outstanding alleged violation.

On November 08, 2016, the permittee submitted documentation to the TCEQ Corpus Christi Region Office. The documentation included statements verifying the permittee has investigated potential causes or routes where pellets may escape, implemented a pellet recovery system at Outfall 006 (Outfalls 004, 007, 008, 009 and 012 are planned to receive a similar system in successive stages to be completed no later than December 2017), and began clean-up activities for Cox Creek. However, the clean-up of Cox Creek as well as the planned facility upgrades were not completed within the compliance time frame.

Recommended Corrective Action: The permittee shall ensure that there is no discharge of floating solids from the facility. The permittee shall also conduct clean-up activities for the plastic pellets, as necessary.

Track No: 619884 Compliance Due Date: 11/09/2016

30 TAC Chapter 305.125(1) 30 TAC Chapter 319.11(c)

PERMIT WQ0002436000, Monitoring and Reporting; No.2(a); Pg. 4

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

Summary of Investigation Findings

Page 1 of 2

Alleged Violation:

Investigation: 1358247 Comment Date: 10/19/2016

Failed to properly analyze effluent samples.

Specifically, Hach Method 8000 Chemical Oxygen Demand (COD) analysis were performed by the facility on samples with a chloride concentration greater than 2,000 mg/L. A review of the laboratory data submitted with the permit application indicates the effluent has an average chloride concentration of 7,099 mg/L and the facility stated that the chloride concentration currently averages greater than 11,000 mg/L. The dilution performed by the facility (50%) was insufficient to reduce the chloride concentration to the 2,000 mg/L chloride concentration limit of the method used.

Investigation: 1400665 Comment Date: 04/20/2017

A file record review was conducted on April 04, 2017 to determine the status of this outstanding alleged violation.

On November 08, 2016, the permittee submitted documentation to the TCEQ Corpus Christi Region Office. The documentation included a statement describing an update to the procedure for Chemical Oxygen Demand (COD) analysis. Specifically, outfall streams would now be tested weekly to verify the appropriate dilutions are being utilized. However, the results of the chloride concentration study performed by the permittee (also included in the compliance documentation) indicate that the level of daily variability in chloride concentrations is high enough that a weekly test would not be sufficient to consistently maintain properly diluted samples. It was also noted that the chloride concentration limit for the method utilized by the permittee (Hach Chemical Oxygen Demand Method 8000) is 2,000 mg/L Chloride for non-diluted samples and 1,000 mg/L Chloride for diluted samples.

Recommended Corrective Action: To achieve compliance, the facility shall analyze Chemical Oxygen Demand as specified in 40 Code of Federal Regulations (CFR) Part 136 or more recent editions of Standard Methods for the Examination of Water and Wastewater for Chemical Oxygen Demand analysis.

| | TCEQ CERTIFIED MAIL RE | CEIPT | |
|--------------------|-------------------------------|-----------------|--------------|
| Division/Region: | FO/Region 14 – Corpus Christi | Program Section | Water |
| | 10/Region 14 Corpus Cirristi | Account Type: | SWD) |
| Facility Name: | Formasa Point Comfort | Permit/ID No: | 620002436000 |
| Regulated Entity N | | Letter Date: | 5/1/17 |
| Acknowledgement | t of receipt of TCEQ: | * | |
| Regarding: NO | E for the Fele Recor | d Review | |

| c | Package ID: 9171999991703134252320 | ERETURNREC |
|-------------------------|------------------------------------|-------------------------|
| Sion | Destination ZIP Code: 77978 | 1ST CLASS LETTER |
| Confirmatio Services | Customer Reference: | |
| ا ج ع ا | Recipient: | PBP Account #: 25086174 |
| Ser | Address: | Serial #: 3179855 |
| 8" | | MAY 01 2017 2:12F |

Recipient Information

Mr. Rick Crabtree
Vice President And General Manager
Formosa Plastics Corporation, Texas
P.O. Box 700
Point Comfort, Texas 77978

See back for additional information......



Date: May 5, 2017

Melba Dunaway:

The following is in response to your May 5, 2017 request for delivery information on your Certified Mail™ item number 9171999991703134252320. The delivery record shows that this item was delivered on May 3, 2017 at 9:22 am in POINT COMFORT, TX 77978. The scanned image of the recipient information is provided below.

Signature of Recipient:

| | Delivery Section | |
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| Z . | TSUMMANUTANO | |

Address of Recipient:

| | 12-1. | | | |
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| Hy | PO I OX | Confort | Tx | 77978 |

Thank you for selecting the Postal Service for your mailing needs.

If you require additional assistance, please contact your local Post Office or postal representative.

Sincerely, United States Postal Service

WD WQ0002436000 CO 20 412 Investigation Report Texas Commission on Environmental Quality **Investigation Report**

The TCEQ is committed to accessibility. If you need assistance in accessing this document, please contact oce@tceq.texas.gov

Customer: Formosa Plastics Corporation, Texas Customer Number: CN600130017

Regulated Entity Name: FORMOSA POINT COMFORT PLANT Regulated Entity Number: RN100218973

Investigation # 1407583

Investigator:

ZACHARY FUQUA

Incident Numbers

Site Classification INDUSTRIAL MAJOR

Conducted: 04/12/2017 -- 04/12/2017

SIC Code: 2821 NAIC Code: 325211

Program(s): WASTEWATER

Investigation Type: Compliance Invest File Review

Location: PLANT LOCATED NE OF INTX OF FM

1593 AND HWY 35

Additional ID(s): TX0085570

WQ0002436000

Address: 201 FORMOSA DR,

POINT COMFORT, TX, 77978

Local Unit: REGION 14 - CORPUS CHRISTI

Activity Type(s):

WWFRR - WW NOV File Record

Review

Principal(s):

Role

Name

RESPONDENT

FORMOSA PLASTICS CORPORATION TEXAS

Contact(s):

Role

Title

Name

Phone

REGULATED

ASSISTANT GENERAL

MR RICK CRABTREE

Fax

(361) 987-2363

ENTITY MAIL CONTACT

MANAGER

Phone

(361) 987-7000

Other Staff Member(s):

Role

Name

Supervisor

MELANIE EDWARDS

Associated Check List

Checklist Name

Unit Name

Formosa

MAY 0 1 2017

RECEIVED

Investigation Comments:

WQ FILE/RECORD REVIEW

INTRODUCTION

This NOV file record review was conducted to evaluate the status of outstanding alleged violations associated with compliance investigation No. 1272655 conducted on July 10, 2015 at Formosa Point Comfort Plant. A notice of violation letter dated September 11, 2015, requested that a written description of corrective action taken be submitted by October 12, 2015.

GENERAL FACILITY AND PROCESS INFORMATION

Page 2 of 4

See initial compliance Investigation No. 1272655.

BACKGROUND N/A

ADDITIONAL INFORMATION

The documentation submitted on October 2, 2015, February 12, 2016 and March 9, 2016 (Attachment No. 1) appears to resolve violation track Nos. 580443 and 580954. After further review of the information provided, it was determined violation track No. 582792 would be rescinded. A Final letter was sent to the facility.

ALLEGED VIOLATION(S) NOTED AND RESOLVED

Track Number: 580443

Resolution Status Date: 4/12/2017

Violation Start Date: 7/10/2015

Violation End Date: 10/2/2015

2D TWC Chapter 26.121(a)(1) 30 TAC Chapter 305.125(4)

PERMIT WQ0002436000, Permit Conditions; 2.g.; Pg.7

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

Alleged Violation:

Investigation: 1272655

Comment Date: 09/08/2015

Failed to prevent the unauthorized discharge of sewage, municipal waste, recreational waste, agricultural waste, or industrial waste into or adjacent to any water in the state.

Specifically, during the investigation conducted on July 10, 2015, it was documented that the sumps in the Physical and Biological Treatment areas of the Combined Wastewater Treatment Plant were flooded with discharged wastewater. Leaks in the sumps walls allowed an unknown amount of wastewater to flow onto the surrounding caliche, walkways, and into the stormwater drain system. The cause of the noncompliance was attributed to a hydrochloric leak (HCL) that occurred from a valve at the Chlor-Alkali unit on Tuesday July 7, 2015. The HCL made contact with surrounding galvanized structures (I-beams, pipes), stripping zinc in the process. Once the leak was stopped, the area was washed down, sending the zinc and HCL to the Chlor-alkali wastewater tank and eventually to the CWTP, thus increasing the levels of zinc in the wastewater. As levels of zinc in the effluent increased, the effluent flow rate was reduced to maintain compliance with the permitted limits. The reduced discharge rate led to an increase in tank levels resulting in the overflow.

Investigation: 1407583

Comment Date: 04/12/2017

A file record review was conducted to evaluate the compliance status of this alleged violation.

Recommended Corrective Action: The permittee shall ensure the collection system and wastewater treatment plant is properly operated and maintained to prevent the discharge of sewage into or adjacent to waters in the state. Submit documentation to the TCEQ Region 14 Office by the compliance due date demonstrating corrective actions that have been and will be taken to prevent recurrence of sump overflows.

Resolution: On October 2, 2015, February 12, 2016 and March 9, 2016, the regulated entity submitted compliance documentation that adequately addressed the outstanding alleged violation. The regulated entity has implemented operational practices and standards to prevent the tanks from overflowing in the future. The facility also has a capital improvement project underway (new equalization tank, clarifier, and supporting equipment) which would increase the storage capacity within the CWTP.

4/12/2017 Inv. # - 1407583





Track Number: 580954

Resolution Status Date: 4/12/2017

Violation Start Date: Unknown

Violation End Date: 2/12/2016

30 TAC Chapter 305.125(1) 30 TAC Chapter 305.125(9)

PERMIT WQ0002436000, Noncompliance Notification; 7.a.; Pg. 5

Any noncompliance which may endanger human health or safety, or the environment shall be reported by the permittee to the TCEQ. Report of such information shall be provided orally or by facsimile transmission (FAX) to the Regional Office within 24 hours of becoming aware of the noncompliance. A written submission of such information shall also be provided by the permittee to the Regional Office and to the Enforcement Division (MC 224) within five working days.

Alleged Violation:

Investigation: 1272655

Failed to report any noncompliance which may endanger human health or safety, or the environment to the TCEQ. Report of such information shall be provided orally or by facsimile transmission to the Regional Office within 24 hours of becoming aware of the noncompliance. In addition, a written submission of such information shall also be provided by the permittee to the Regional Office and the Enforcement Division (MC 224) within five working days of becoming aware of the noncompliance.

Specifically, during the investigation conducted on July 10, 2015, the investigators observed the sumps in the Physical and Biological Treatment areas flooded with the discharged wastewater and leaks in the sumps walls allowing wastewater to flow onto the surrounding caliche, walkways, and into the stormwater drain system. The discharge was not reported orally or by facsimile transmission (FAX) to the TCEQ Regional Office within 24 hours of becoming aware of the noncompliance. Also, a written submission was not provided by the permittee to the TCEQ Regional Office and to the Enforcement Division (MC 224) within five working days of becoming aware of the noncompliance.

Investigation: 1407583

Comment Date: 04/12/2017

Comment Date: 09/08/2015

A file record review was conducted to evaluate the compliance status of this alleged violation.

Recommended Corrective Action: The permittee shall report any noncompliance which may endanger human health or safety, or the environment to the TCEQ which includes all unauthorized discharges. Report of such information shall be provided orally or by facsimile transmission to the Regional Office within 24 hours of becoming aware of the noncompliance. A written submission of such information shall also be provided by the permittee to the Regional Office and the Enforcement Division (MC 224) within five working days of becoming aware of the noncompliance. The written submission shall contain a description of the noncompliance and its cause; the potential danger to human health or safety, or the environment; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, and to mitigate its adverse effects. Submit to the TCEQ Corpus Christi Regional Office documentation outlining the steps taken to ensure the proper notification of unauthorized discharges.

Resolution: On October 2, 2015, February 12, 2016 and March 9, 2016, the regulated entity submitted compliance documentation that adequately addressed the outstanding alleged violation. The regulated entity submitted a water quality noncompliance notification form for the unauthorized discharge.

WITHDRAWN VIOLATION(S)

Track Number: 582792

Compliance Due Date: 10/12/2015

Violation Start Date: 7/10/2015

2D TWC Chapter 26.121(a)(1)

4/12/2017 Inv. # - 1407583

Page 4 of 4

PERMIT WQ0002436000, Effluent Limits. and Mon. RQMTs, Pg. 2

During the period beginning upon the date of issuance and lasting through the date of expiration, the permittee is authorized to discharge remediated groundwater and treated previously monitored effluents (via Outfalls 101 and 201) subject to effluent limitations.

Alleged Violation:

Investigation: 1272655

Comment Date: 09/03/2015

Failed to ensure the discharge of only remediated groundwater and treated previously monitored effluents via Outfalls 101 and 201 through outfall 001.

During the investigation conducted on July 10, 2015, it was documented that a discharge of material from the cleanup of an HCL spill at the Chlor-Alkali Unit on July 7, 2015 occured through Outfall 001 after entering the Combined Wastewater Treatment Plant.

Investigation: 1407583

Comment Date: 04/12/2017

A file record review was conducted to evaluate the compliance status of this alleged violation.

Recommended Corrective Action: The permittee shall ensure only remediated groundwater and treated previously monitored effluents (via Outfall 101 and 201) are to be discharged from Outfall 001. Submit documentation to the TCEQ Region 14 Office by the compliance due date demonstrating corrective actions that have been and will be taken to prevent recurrence of non permitted waste streams from entering the Combined Wastewater Treatment Plant.

| Signed Sur Environmental Investigator | Date 04/13/17 |
|---|----------------------------------|
| Signed MMM Supervisor | Date 4/17/17 |
| Attachments: (in order of final report submittal) | |
| Enforcement Action Request (EAR) | Maps, Plans, Sketches |
| Letter to Facility (specify type) : | Photographs |
| Investigation Report | Correspondence from the facility |
| Sample Analysis Results | Other (specify): |
| Manifests | |
| Notice of Registration | |

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



Attachment 1

Facility Correspondence

Customer

Formosa Plastics Corporation, Texas – CN600130017

Regulated Entity

Formosa Point Comfort Plant - RN100218973

WQ

Investigation No. 11407583

Investigator: Zack Fuqua

Investigation Date: April 12, 2017



Formosa Plastics Corporation, Texas

201 Formosa Drive • P.O. Box 700 Point Comfort, TX 77978 Telephone: 361-987-7000

October 2, 2015

Certified Mail 7015 0640 0006 2456 5438

Mrs. Melanie Edwards Corpus Christi Regional Office Texas Commission on Environmental Quality 6300 Ocean Drive, Suite 1200 Corpus Christi, Texas 78412

RE: Formosa Plastics Corporation, Texas

> TPDES Permit No. WQ0002436000 Customer Number: CN600130017

Regulated Entity Number: RN100218973

Investigation No. 1272655

Notice of Violation for the Reconnaissance and Complaint Investigation at FPC-TX

Dear Mrs. Edwards:

Per request of a letter dated September 11, 2015, Formosa Plastics Corporation-Texas (FPC-TX) is submitting this letter in regards to corrective actions regarding an investigation that took place at the Combined Water Treatment Plant (CWTP) on July 10, 2015. Respectfully, additional information is being provided to support FPC-TX's position regarding the alleged violations. FPC-TX has taken the following corrective actions as stated below:

Alleged Violation 1 (Track No. 580443): Failed to prevent the unauthorized discharge of sewage, municipal waste, recreational waste, agricultural waste, or industrial waste into or adjacent to any water in the state.

FPC-TX Position/Corrective Action: FPC-TX does not believe that an unauthorized discharged occurred into or adjacent to any water in the state. The overflow was contained within the perimeter of the concrete ditches surrounding the CWTP. Therefore, any material leaving the curbed process area, was collected in the concrete ditch. The ditches include two internal gates (CWTP-1 and 2), which isolate the flow of water from the ditch to permitted stormwater outfalls. The CWTP-1 and 2 gates remained closed throughout the applicable time period (they are only open if water is within specified permit limits at which time the water then discharges to permitted stormwater outfalls).

> TCEQ FIELD OPS/REGION 14





Mrs. Edwards October 2, 2015 Page 2 of 4

Both internal gates were closed at the time and there were portable pumps along the ditches to pump the water back to the CWTP for treatment. Because the internal gates remained closed during the overflow, FPC-TX believes that there was no discharge into or adjacent to waters of the state.

With respect to corrective action, FPC-TX has initiated capital improvements projects which will increase wastewater storage capacity within the CWTP. Construction of the TTT-44B tank began in December 2014. A written notification of this activity was submitted to the TCEQ regional office on December 15, 2014 (copy attached).

Alleged Violation 2 (Track No. 580954): Failed to report any non-compliance which may endanger human health or safety, or the environment to TCEQ. Report of such information shall be provided orally or by facsimile transmission to the Regional Office within 24 hours of becoming aware of the noncompliance. In addition, a written submission of such information shall be provided by the permittee to the Regional Office and the Enforcement Division (MC 224) within five working days of becoming aware of the noncompliance.

FPC-TX Position/Corrective Action: It is FPC-TX's opinion that an environmental non-compliance did not occur. As stated above, water was contained within the ditches and both internal gates remained closed, therefore water was never adjacent to the waters of the state because it never reached a permitted storm water Outfall. Portable pumps were used to pump the water from the ditches back into the process area for treatment and ultimate discharge via permitted Outfall 001. In addition, there was never a permit non-compliance during this incident, all permit parameters were within specified limits.

With respect to corrective action, FPC-TX has initiated capital improvements projects which will increase wastewater storage capacity within the CWTP. Construction of the TTT-44B tank began in December 2014. A written notification of this activity was submitted to the TCEQ regional office on December 15, 2014 (copy attached).

Alleged Violation 3 (Track No. 582792): Failed to ensure the discharge of only remediated groundwater and treated previously monitored effluents via Outfalls 101 and 201 through outfall 001.

FPC-TX Position/Corrective Action: FPC-TX respectfully disagrees with this alleged violation. As represented in our TPDES Wastewater Permit Application, clean-up from spills and leaks within the Chlor-Alkali (C/A) Unit will be sent to the C/A storm water tank and subsequently to the CWTP for treatment prior to discharge. Excerpts from our TPDES permit renewal application are attached for reference.

In this case a leak of HCl occurred within the C/A Unit. After the leak was isolated and repaired, the area was washed down to the C/A process area drainage system and pumped into their storm water tank. Once in their tank the water was discharged to the CWTP for treatment prior to discharge via permitted Outfall 001. As described above these activities were represented in the TPDES permit renewal application, therefore FPC-TX does not believe that a non-permitted

Mrs. Edwards October 2, 2015 Page 3 of 4



this incident, all permit parameters were within specified limits.

Page 3 of 4
waste stream entered the CWTP. Additionally, there was never a permit non-compliance during

Should you require additional information or assistance, please contact Porfirio Arguellez III, at (361) 987-7645 or by email at Porfirio A@ftpc.fpcusa.com.

Sincerely,

Rick Crabtree

Assistant General Manager

Formosa Plastics Corporation, Texas

Attachments

FPC-TX Letter: Notification of Anticipated Construction at CWTP



Formosa Plastics Corporation, Texas 201 Formosa Drive • P.O. Box 700 Point Comfort, TX 77978 Telephone: 361-987-7000

December 15, 2014

Certified Mail: 7012 3460 0001 7691 4395

Mrs. Melanie Edwards Water Section Manager, Region 14 Texas Commission on Environmental Quality 6300 Ocean Drive, Suite 1200 Corpus Christi, Texas 78412

RE: Formosa Plastics Corporation, Texas

TPDES Permit No. WQ0002436000 Customer Number: CN6000130017

Regulated Entity Number: RN100218973

Anticipated Construction at FPC-TX Combined Water Treatment Plant

Dear Mrs. Edwards:

Formosa Plastics Corporation, Texas, is submitting this letter to inform you of anticipated construction activities that are to occur at the FPC-TX Combined Water Treatment Plant. Additions to the existing Combined Water Treatment Plant will include equalization tanks, clarifiers, a sanitary package unit as well as other supporting equipment. Please note that as a result of these additions, FPC-TX will not have an increase in discharge or pollutants, sludge use or disposal practices.

Should you require additional information or assistance, please contact Porfirio Arguellez III, 361-987-7645 or by email at Porfirio A@ftpc.fpcusa.com.

Sincerely,

17

R.P. Smith

Vice President/General Manager Formosa Plastics Corporation, Texas





Mrs. Edwards December 15, 2014 Page 2

CC: Michael Sunderlin Certified Mail # 7012 3460 0001 7691 4401
Waste Water Permitting Section (MC 148)
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087

FPC-TX Permit Application WQ0002436000
Process Area Washdown & Storm Water
Attachment E, Section 1



FORMOSA PLASTICS CORPORATION - TEXAS

PERMIT RENEWAL DOCUMENTATION

PAGE 6

UTILITY AREAS:

The Utility Areas use ultra-pure water in the production of medium and high-pressure steam for transfer of energy within the cogeneration plant from Heat Recovery Steam Generators on the discharge of the Gas Turbines to the Steam Turbines for generation of electrical power, as well as for NO_x control within the Gas Turbines. Besides use for cogeneration, the Utility areas export steam to the process area for heating purposes. Condensate for the steam turbines is recovered and recycled for reuse as ultra-pure water.

Heat Recovery Steam Generator Blow down is recovered and sent to the Utilities Cooling Tower as makeup to the tower.

VINYL CHLORIDE MONOMER (VCM):

The Vinyl Chloride Monomer (VCM) Unit uses Direct Chlorination, High Temperature Chlorination, and Oxychlorination to convert Chlorine gas, from the Chlor/Alkali (IEM) Unit, and Ethylene, from the Olefins Unit, into Ethylene Dichloride (EDC). The EDC is purified and then "cracked" to create VCM, which is used in the PVC area, or exported. Water is not used directly in the process, but water is created during Oxychlorination.

The VCM Unit uses ultra-pure water to remove reaction heat from the Oxychlorination Reactors and to remove heat from the waste and vent gas incinerators in waste heat boilers.

Steam is used within the VCM Unit for heating purposes and to initiate reaction and separation in distillation columns.

Industrial water is used in the VCM Unit as makeup for the incinerator scrubbers where it is used to dilute acids formed in the scrubbing process for reuse in the process.

COOLING WATER SYSTEMS

The Cooling Water system for the facility consists of numerous wooden-structured cooling towers situated in various production units. These units use the cooling water to remove heat from the process areas and return the spent water to the tower for cooling through evaporation and subsequent reuse. In addition to the returned spent cooling water, condensate collected from steam systems is returned to the tower for reuse. Recycled treated sanitary and PVC wastewater, with additional industrial water, is also added to the towers as make-up for water lost due to evaporation, drift and from blow down to remove concentrated dissolved solids.

PROCESS AREA WASH DOWN AND STORMWATER

Process area wash down water, from the Industrial water supply, is used to remove dirt, debris, and spilled materials from collection systems, and provide general housekeeping wash down. This water is collected in the process area storm systems and commingled with water collected during rain events, then transferred to the CWTP area for treatment.

Department Name: EH&S File Name: PRMT_RNW\Attach E Section 1 Text.DOC 17 Sep 15





PERMIT RENEWAL DOCUMENTATION

PAGE 7

For the purposes of this water balance storm water volumes are based on a maximum of 35.43 in/year of rainfall falling in the process collection area, with an eighty-eight percent (88%) recovery, averaged for daily flow, volume being sent to the CWTP for treatment.

POTABLE WATER SYSTEM/SANITARY SYSTEM

The FPC-TX facility receives potable water from a new water treatment facility owned by the City of Point Comfort and operated by the Lavaca Navidad River Authority (LNRA). This facility uses raw water from Lake Texana, treating the water through chlorination, dechlorination, clarification, filtration, and chlorination prior to storage and distribution.

Potable water is used for personal consumption, lunchroom sinks, restroom facilities, and other uses within the plant and support area of the FPC-TX facility.

The City of Point Comfort returns water entering the sanitary collection system at the FPC-TX Warehouse, Maintenance Shops, Administration Buildings and Regulatory Affairs building to the City of Point Comfort sewer collection system for treatment.

Water entering the Sanitary collection system in the process areas of the FPC-TX facility, primarily at the Unit Control Rooms, is routed to the CWTP Sanitary Treatment Unit, where it is treated to remove contaminants and following chlorination for disinfection, returned to the Utility area for reuse as Cooling Tower Make-up.

SUMMARY AND CONCLUSION

FPC-TX contracted with LNRA for raw water supply of 30,800 acre-feet of water annually, which relates to 84.4 acre-feet per day, or 27.50 MGD, on a take/pay contract based on LNRA and pipeline operation and maintenance costs, and TWDB payments. FPC-TX was awarded a discharge permit with a daily average discharge of 9.7 MGD, based on FPC-TX estimates, and with a daily maximum of 15.1 MGD, based on industry standard projections.

Department Name: EH&S

File Name: PRMT_RNW \ Attach E Section 1 Text.DOC 30 Sep 15

FPC-TX Permit Application WQ0002436000

Process Description: Chlor-Alkali (IEM) Storm & Washdown Water

Attachment E, Section 4





PERMIT RENEWAL DOCUMENTATION

PAGE 1

PROCESS DESCRIPTION CHLOR-ALKALI (IEM) STORM AND WASHDOWN WATER

In the Caustic/Chlorine Plant, referred to as the Chlor-Alkali Plant, ion exchange membrane (IEM) technology is used to electrolytically separate brine into hydrogen, sodium hydroxide and chlorine.

The Chlor-Alkali Plant uses Industrial water from the Utility Area through the Industrial Water Header for area wash down. This is required to maintain a clean and safe working environment and to remove dirt, debris, and spills from the process areas. For the purposes of this water balance, an estimated 7,200 GPD is provided for this service.

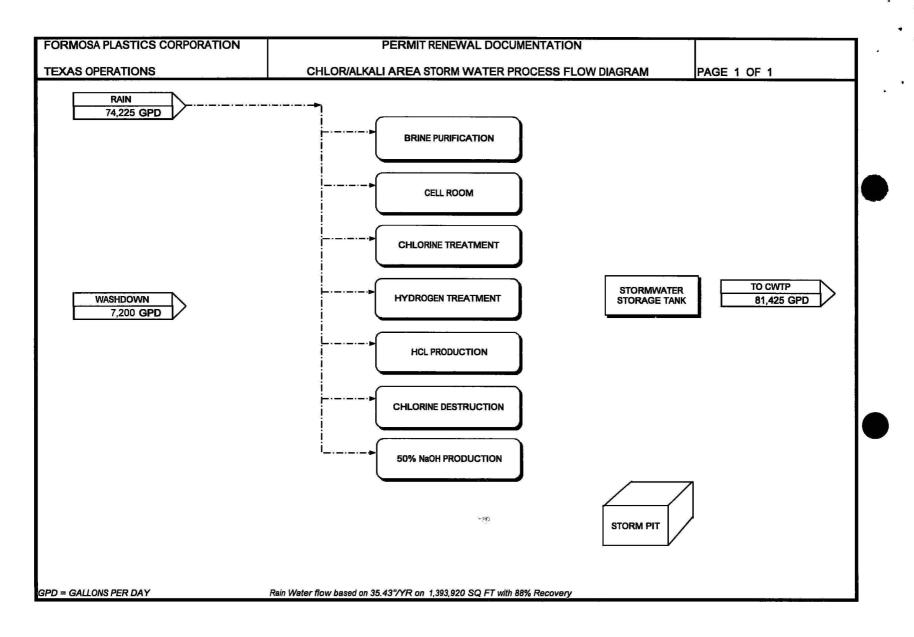
The Chlor-Alkali Plant consists of approximately 32 acres of concrete paving and process equipment. Based on the average rainfall of 35.3 in/year and an 88% recovery rate (allowing for evaporation of 12%), this area will contribute an approximate storm flow of 74,225 GPD from the process area.

Storm and Wash down waters are collected in the process area drainage system and allowed to flow by gravity to the Storm Water Pit. The collected waters are then transferred to the Storm Water Tank, which has a capacity of 1,631,070 gallons, before being sent to the Combined Water Treatment Plant (CWTP) at an average rate of 81,425 GPD for treatment and discharge.

Non-contact storm water from OSBL ditches is collected behind "internal" gates and tested before release to the permitted outfalls. Water not meeting the discharge specification for the storm water outfalls are collected by pumps or vacuum trucks and routed through the process area storm water treatment system.

Department Name: UTILITIES File Name: PRMT_RNW\CA_STRM.DOC 30 Sep 15

FPC-TX Permit Application WQ0002436000
Chlor-Alkali Storm Water Balance (*Process Flow Diagram*)
Attachment E, Chlor-Alkali Storm Water Balance







Formosa Plastics Corporation, Texas 201 Formosa Drive • P.O. Box 700 Point Comfort, TX 77978 Telephone: 361-987-7000

February 12, 2016

Certified Mail 7015 0640 0006 2457 2313

Mrs. Melanie Edwards Corpus Christi Regional Office Texas Commission on Environmental Quality 6300 Ocean Drive, Suite 1200 Corpus Christi, Texas 78412

RE: Formosa Plastics Corporation, Texas

TPDES Permit No. WQ0002436000 Customer Number: CN600130017

Regulated Entity Number: RN100218973

Investigation No. 1272655

Conference Call Review Regarding Complaint Investigation at FPC-TX

Dear Mrs. Edwards:

Per TCEQ's request in a conference call on January 29, 2016, Formosa Plastics Corporation-Texas (FPC-TX) is submitting this follow-up letter to our letter dated October 2, 2015. As requested by TCEQ, we are providing additional information and documenting corrective actions taken in response to an investigation that took place at the Combined Wastewater Treatment Plant (CWTP) on July 10, 2015.

Alleged Violation 1 (Track No. 580443): Failed to prevent the unauthorized discharge of sewage, municipal waste, recreational waste, agricultural waste, or industrial waste into or adjacent to any water in the state.

FPC-TX Position/Corrective Action: An unauthorized discharge into or adjacent to water in the state did not occur as a result of this incident. All water that overflowed the curbed process area was completely contained within the concrete internal ditches surrounding the CWTP. These internal ditches are equipped with two internal gate valves which were closed throughout the entire incident and prevented the flow of water from the internal ditches to the permitted storm water outfall. Operations personnel immediately set up portable diesel pumps to convey water from the internal ditches back to the curbed process area. As water was introduced to the curbed process area, water was then redirected to the CWTP equalization tanks for treatment and then discharged out of Permitted Outfall 001. At all times during the event, monitoring parameters were within permitted effluent limits, and no effluent non-compliance at Outfall 001 or any other outfall was experienced during this period. Any possible leaching of water into the





Mrs. Edwards February 12, 2016 Page 2 of 5

caliche surrounding the sump walls could not impact groundwater to any significant degree. Accordingly, there was no discharge in or adjacent to waters in the state. With respect to corrective action, capital improvements projects are currently under way with the construction of a new equalization tank, clarifier and supporting equipment. Completion of these improvement projects will increase storage capacity thus preventing similar situations from occurring at the CWTP. Additionally, the CWTP has implemented operational practices and standards to preclude the overflow of tanks.

Alleged Violation 2 (Track No. 580954): Failed to report any non-compliance which may endanger human health or safety, or the environment to TCEQ. Report of such information shall be provided orally or by facsimile transmission to the Regional Office within 24 hours of becoming aware of the noncompliance. In addition, a written submission of such information shall be provided by the permittee to the Regional Office and the Enforcement Division (MC 224) within five working days of becoming aware of the noncompliance.

FPC-TX Position/Corrective Action: As previously stated, water from the curbed process area was contained within internal ditches, CWTP operations personnel took immediate measures to ensure that water was pumped from the internal ditches to the curbed process area and then treated in the CWTP and discharged in compliance with permitted effluent limits. Accordingly, there was no unauthorized discharge and no violation of FPC-TX's duty to report a non-compliance.

Alleged Violation 3 (Track No. 582792): Failed to ensure the discharge of only remediated groundwater and treated previously monitored effluents via Outfalls 101 and 201 through Outfall 001.

FPC-TX Position/Corrective Action: There is no violation because the discharge through Outfall 001 of cleanup materials from the HCl spill at the Chlor-Alkali Unit was treated in the CWTP and was authorized under the Permit. During this incident, a leak of gaseous 35% HCl occurred within the Chlor-Alkali process unit. This was a non-RQ release of 42.8 pounds. Chlor-Alkali operations personnel immediately utilized wash water to suppress the HCl vapors so that the leak could be isolated and impact to the immediate area and personnel could be prevented. The water used to suppress HCl vapors made contact with galvanized structures within the Chlor-Alkali unit and as a result, zinc was stripped out of the galvanized coating. All this wash water was maintained within the Chlor-Alkali process area, then sent to the Chlor-Alkali storm water pit and then routed to the Chlor-Alkali storm water holding tank. From the storm water holding tank, the waste stream was metered to the CWTP, where it was treated in the physical treatment system prior to being discharged through internal outfall 201 and then Outfall 001. The CWTP treated the incoming water and ultimately discharged it via permitted Outfall 001 within permit limits.

As represented in our 2004 TPDES Wastewater Permit Application, clean-up from spills and leaks within the Chlor-Alkali (C/A) Unit will be sent to the C/A storm water tank and subsequently to the CWTP for treatment prior to discharge. Excerpts from the application for our current TPDES permit are attached for reference. Because representations within the

Mrs. Edwards February 12, 2016 Page 3 of 5

application are incorporated into the permit, this wastewater stream is treated previously monitored effluent authorized to be discharged via Outfall 201 through Outfall 001.

Although there are no non-compliances associated with this incident, FPC-TX is submitting the attached Water Quality Noncompliance Notification form as specifically requested by TCEQ in the January 29th conference call. FPC-TX's submission of this form should not be considered as an admission that there was any non-compliance associated with the incident in question and FPC-TX reserves its right to contest the allegation of any non-compliance.

Should you require additional information or assistance, please contact Porfirio Arguellez III, at (361) 987-7645 or by email at PorfirioA@ftpc.fpcusa.com.

Sincerely,

Rick Crabtree

Assistant General Manager

Formosa Plastics Corporation, Texas

Attachments



See back of Form for Guidance for Completion

| Unauthorized Discharge | |] Reportab | le Effluent Violation | | X | Otner |
|--|---|----------------------------|---|--------------------------|--|--------------------|
| General Information | | | | | | |
| Entity Name: Formosa Plastics Co | orporation, Texas | | Telephone No (##### | ####): | (361) 987- | 7468 |
| Permittee TCEQ Region: | R14 - Corpus Chr | County: | Calhoun | *Permit | Number: WQ0 | 000243600 |
| - Noncompliance Summary | | 2 P 1 3 2 2 2 | | 12.75-4.8 | | |
| Description and Cause of Noncom | | | harge route, and estimate | d volume | of unauthorize | d discharç |
| See attached letter. | | | | | | |
| Ouration: Start Date: 7/8/15 End Da Fime: 0400 Time: Potential Danger to Human Health | 0800 | | nte Expected to be Correcto | ed: | | |
| Actions Taken Nonitoring Data: Data should be a | ttachod or cubmist | | | | | |
| ield Measurements | Laboratory Samp | | , wnen avallable. Fish Kill(If yes, es | timated r | umber killed): | |
| ☐ Yes ☒ No | ☐ Yes 🔀 No | | Г | Yes 🔯 1 | No | |
| ctions Taken to Mitigate Adverse | | | L | | | <u> </u> |
| See attached letter. | | | | | | |
| Actions Taken to Correct the Prob | em and Prevent Re | currence: | | | | |
| See attached letter. | | | | | | |
| /erification information | | | Konsultania (K. E. Garago) | | | |
| nformation Reported By (Name/T | itle): Matt Brogge | r/Environr | nental Mgr. | Dat | e Reported: | lizlu |
| Signature: Note: If this form is being used for a 5 | day written report, a | copy of the | form should be sent to the TO | CEQ Region | Office, and the | original to |
| CEQ, Compliance Monitoring Team (| MC224), Enforcement | Division, P. | O. Box 13087, Austin, TX 787 | 11-3087. | | |
| If the noncompliance is an unauthor hich the collection system is tied. If y | ized discharge from a ou are uncertain of th | wastewater is permit ni | collection system, use the po umber, you may call the TCEC | ermit numb Regional (| er of the treatm Office for assista | ent plant ince. |

TCEQ - 00501 (Rev. 04-27-12)

Page 1 of 2

Mrs. Edwards February 12, 2016 Page 4 of 5

cc: Mr. Travis Prater

Certified Mail: 7015 0640 0006 2457 2320

Corpus Christi Regional Office

Texas Commission on Environmental Quality

6300 Ocean Drive, Suite 1200 Corpus Christi, Texas 78412

Mr. Zac Fuqua

Certified Mail: 7015 0640 0006 2457 2337

Corpus Christi Regional Office

Texas Commission on Environmental Quality

6300 Ocean Drive, Suite 1200 Corpus Christi, Texas 78412





PERMIT RENEWAL DOCUMENTATION

PAGE 1

PROCESS DESCRIPTION CHLOR-ALKALI (IEM) STORM AND WASHDOWN WATER

In the Caustic/Chlorine Plant, referred to as the Chlor-Alkali Plant, ion exchange membrane (IEM) technology is used to electrolytically separate brine into hydrogen, sodium hydroxide and chlorine.

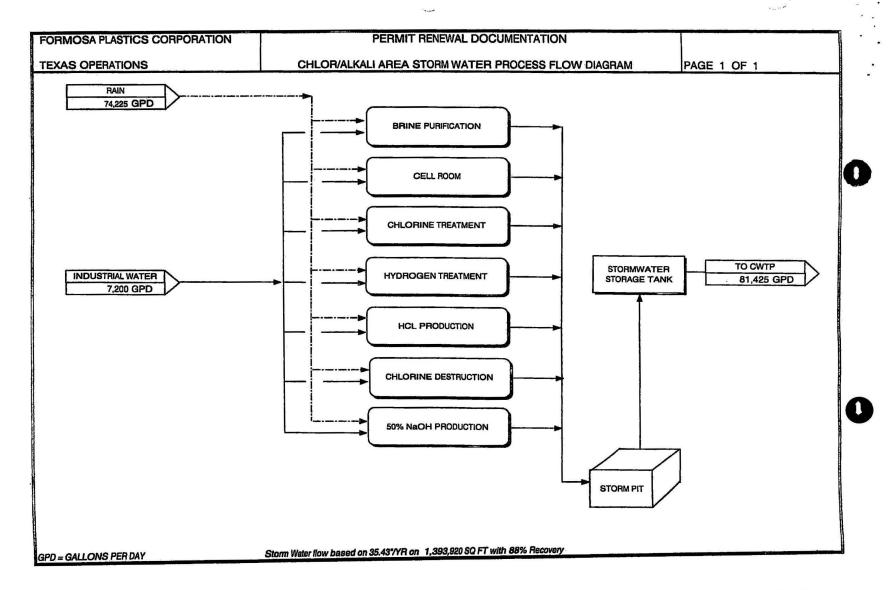
The Chlor-Alkali plant uses Industrial water from the Utility Area through the Industrial Water Header for area wash down. This is required to maintain a clean and safe working environment and to remove dirt, debris, and spills from the process areas. For the purposes of this water balance, an estimated 7,200 GPD is provided for this service.

The Chlor-Alkali plant consists of approximately 32 acres of concrete paving and process equipment. Based on the average rainfall of 35.3"/year and an 88% recovery rate (allowing for evaporation of 12%), this area will contribute an approximate storm flow of 74,225 GPD from the process area.

Storm and Wash down waters are collected in the process area drainage system and allowed to flow by gravity to the Storm Water Pit. The collected waters are then transferred to the Storm Water Tank, which has a capacity of 1,631,070 gallons, before being sent to the Combined Water Treatment Plant (CWTP) at an average rate of 81,425 GPD for treatment and discharge.

Non-contact storm water from OSBL ditches is collected behind "internal" gates and tested before release to the permitted outfalls. Water not meeting the discharge specification for the storm water outfalls are collected by pumps or vacuum trucks and routed through the process area storm water treatment system.

File Name: PRMT_RNW\CA_STRM 29 Jun 04



Department: UTILITIES

File Name: SW_PFD I C-A 5/26/2004

Zachary Fuqua

Subject:

FW: Complaint Investigation No. 1272655 - Privileged and Confidential Settlement Communication

From: Matt Brogger/FTEHSF [mailto:MattB@ftpc.fpcusa.com]

Sent: Wednesday, March 09, 2016 11:01 AM

To: Melanie Edwards < <u>melanie.edwards@tceq.texas.gov</u>> **Cc:** Porfirio Arguellez III/FTEHSF < <u>PorfirioA@ftpc.fpcusa.com</u>>

Subject: Complaint Investigation No. 1272655 - Privileged and Confidential Settlement Communication

Ms. Edwards,

To follow up on our last conversation concerning Complaint Investigation No. 1272655, Formosa agrees with the alleged facts concerning Violations Nos. 1 and 2. For purposes of resolving these two alleged violations, Formosa has taken, and will continue to take, the corrective actions as outlined in our previous correspondence dated February 12, 2016. Please note that Formosa reserves its right to deny liability for alleged violations Nos. 1 and 2 in the event this case is elevated for formal enforcement. Any such formal enforcement action could be resolved through a "Section 1660" enforcement order under which Formosa is not required to admit liability and TCEQ makes no official findings that the violations occurred.

Concerning alleged violation No. 3, Formosa respectfully continues to assert that there is no adequate basis for TCEQ to allege this violation because the discharge of cleanup materials from the HCl spill at the Chlor-Alkali Unit was treated in the Combined Wastewater Treatment Plant and is an authorized wastewater discharge stream under our permit.

Please let us know if you will fully resolve these alleged violations, or if not, when we can take up this matter at a violation review meeting with Susan Clewis. Feel free to contact myself or Porfirio Arguellez to set a date and time for the meeting.

Thanks,

Matt Brogger Formosa Plastics Corp. TX EHS Department

Phone: (361) 987-7468 Fax: (361) 987-2363

This communication is solely for use by the intended recipient and may contain information that is privileged, confidential or copyrighted under applicable law. If you are not the intended recipient, you are hereby formally notified that any use, copying or distribution of this communication, in whole or in part, is strictly prohibited. Unless explicitly stated, this communication does not constitute a contract offer, a contract amendment, or an acceptance of a contract offer. This communication also does not constitute consent to the use of sender's contact information for direct marketing purposes or for transfers of data to third parties.

Bryan W. Shaw, Ph.D., P.E., Chairman Toby Baker, Commissioner Jon Niermann, Commissioner Richard A. Hyde, P.E., Executive Director



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

April 17, 2017

CERTIFIED MAIL #917199999703134252214 RETURN RECEIPT REQUESTED

Mr. Rick Crabtree Vice President and General Manager Formosa Plastics Corporation, Texas P.O. Box 700 Point Comfort, Texas 77978

Re: Notice of Compliance with Notice of Violation (NOV) dated September 11, 2015: Formosa Point Comfort Plant, 201 Formosa Drive, Point Comfort (Calhoun County), Texas Regulated Entity No.: 100218973; TCEQ ID No.: WQ0002436000; Investigation No.: 1407583

Dear Mr. Crabtree:

This letter is to inform you that the Texas Commission on Environmental Quality (TCEQ) Corpus Christi Regional Office has received adequate compliance documentation on October 2, 2015, February 12, 2016, and March 9, 2016 to resolve violation track Nos. 580443 and 580954 documented during the investigation of the above-referenced regulated entity conducted on July 10, 2015. In addition, after further review of the information provided, it was determined violation track No. 582792 would be rescinded. Based on the information submitted, no further action is required concerning this investigation.

The Texas Commission on Environmental Quality appreciates your assistance in this matter and your compliance efforts to ensure protection of the State's environment. If you or members of your staff have any questions, please feel free to contact Mr. Zack Fuqua in the Corpus Christi Region Office at 361-825-3100.

Sincerely,

Melanie Edwards

Water Section Manager

mman

Corpus Christi Region Office

ME/ZF/mjc

TCEQ Region 14 • NRC Bldg., Ste. 1200 • 6300 Ocean Dr., Unit 5839 • Corpus Christi, Texas 78412-5839 • 361-825-3100 • Fax 361-825-3101

| TCEQ CERTIFIED MAIL RE | CEIPT |
|--|---|
| Division/Region: FO/Region 14 – Corpus Christi | Program Section Water Account Type: LWV |
| Facility Name: Yormong Plantics | Permit/ID No: W200D 2436 00 |
| Regulated Entity No :: 100218973 | Letter Date: |
| Acknowledgement of receipt of TCEQ: | |
| Regarding: NOVC | |

| · | Package ID: 9171999991703134252214 | ERETURNREC |
|--------------------------|------------------------------------|---------------------------|
| Sonfirmation Services | Destination ZIP Code: 779 | IST CLASS LETTER |
| Sega | Customer Reference: | BBB 0 |
| E 2 | Recipient: | PBP Account #: 25086174 |
| e T | Address: | Serial # : 3179855 |
| S _O | , add so | APR 17 2017 3:21F |

Recipient Information

MR. RICK CRABTREE
VICE PRESIDENT AND GENERAL MANAG
FORMOSA PLASTICS CORPORATION,
TEXAS
P.O. BOX 700
POINT COMFORT, TEXAS 77978

See back for additional information......



Date: April 21, 2017

Melba Dunaway:

The following is in response to your April 21, 2017 request for delivery information on your Certified Mail™ item number 9171999991703134252214. The delivery record shows that this item was delivered on April 18, 2017 at 9:03 am in POINT COMFORT, TX 77978. The scanned image of the recipient information is provided below.

Signature of Recipient:



Address of Recipient:

BOY POJBOX 700 Cont Confort Tx 77978

Thank you for selecting the Postal Service for your mailing needs.

If you require additional assistance, please contact your local Post Office or postal representative.

Sincerely, United States Postal Service

IWD WQ002436000 CO 20170202 NONREPORT

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY MEMO TO THE FILE

Contact Information

| To: Porfirio Arguellez III | From: Rosie Garza, Compliance Monitoring Coordinator |
|----------------------------------|---|
| Permittee Name: Formosa | Date: 02/02/2017 |
| Phone No.: 361-987-7645 | EPA ID No: TX0085570 |
| Email: PorfirioA@ftpc.fpcusa.com | TPDES No: WQ00102436000 |

Subject

Subject: Progress Report not rec'd

Conversation Details

Information for the file:

Contacted Porfirio Arguellez III by email on 02/02/2017 and informed Mr. Arguellez of the following:

Status/Progress report - Due 10/15/2016

Requested resubmittal no later than February 09, 2017.

Signature Rosie Janya

> RECEIVED MAR U7 2017

CENTRAL FILL HOLD





Formosa Plastics Corporation, Texas 201 Formosa Drive • P.O. Box 700 Point Comfort, TX 77978 Telephone: 361-987-7000

January 6, 2017

RECEIVED

FEB 0 1 2017

CENTRAL FILE ROOM

Certified Mail: 7015 3430 0001 0536 2439

Ms. Melanie Edwards
Water Section Manager
TCEQ, Region 14
6300 Ocean Drive, Suite 1200
Corpus Christi, TX 78412

RECEIVED

JAN 09 2017

RE: 2,3,7,8-TCDD Equivalent and Enterococci

Quarterly Progress Report

TPDES Permit No. WQ0002436000

Enforcement Division

Dear Ms. Edwards:

As specified in the Other Requirements section of our permit, item number 24, Formosa Plastics Corporation, Texas is (FPC-TX) is submitting the quarterly progress report for 2,3,7,8-TCDD Equivalent and Enterococci. The renewed wastewater permit allowed for a six month "come into compliance period" before the new limit is in effect for 2,3,7,8-TCDD Equivalent and a three year period for Enterococci. The quarterly progress report is required to be submitted during this interim period. Following is the report information.

2,3,7,8-TCDD Equivalent (Dioxin)

Samples for 2,3,7,8-TCDD were collected on October 25, 2016 and sent to Test America for analysis. All results were non-detect; and therefore, the Dioxin result is zero. Subsequently, the future permit limit was achieved.

Enterococci

The sample for enterococci was collected on October 25, 2016 and analyzed by the Formosa Lab. The result was < 1 MPN compared to a future permit limit of 14 MPN; and therefore, the future permit limit was achieved.

Ms. Melanie Edwards January 6, 2017 Page 2

If you have any questions about this report please contact Porfirio Arguellez III by e-mail at porfirioa@ftpc.fpcusa.com.

Sincerely,

Rick Crabtree

Vice President/General Manager Formosa Plastics Corporation, Texas

0

cc:

Ms. Lynley Doyen

TCEQ

Compliance Monitoring Section (MC-224)

P.O. Box 13087

Austin, TX 78711-3087

Certified Mail: 7015 3430 0001 0536 2446

IND/WQ0002436000/ PA /20160122/WET tables



Formosa Plastics Corporation, Texas 201 Formosa Drive • P.O. Box 700 Point Comfort, TX 77978

Telephone: 361-987-7000 Fax: 361-987-2363

January 20, 2016

Certified Mail: 7015 0640 0006 2456 5490

Mr. Michael Pfeil Texas Commission on Environmental Quality Water Quality Assessment team (MC-150) P.O. Box 13087 Austin, TX 78711-3087 RECEIVED

134 22 2016

VATER CUALITY DIVISION

TCEO

RE: Formosa Plastics Corporation, Texas
Customer Number: CN600130017
Regulated Entity Number: RN100218973
TPDES Permit No. WQ0002436000

EPA ID No. TX0085570

Annual Acute & Chronic Bio-Monitoring Report Tables

Dear Mr. Pfeil:

Per the Chronic Bio-Monitoring Requirements: Marine, Section 3(b) of TPDES Permit Number: WQ0002436000, EPA I.D. Number: TX0085570, Formosa Plastics Corporation, Texas is submitting the following Bio-Monitoring Report Tables.

- 4th Quarter 2015 Mysidopsis bahia Acute 24-hour Table 2
- Semi-Annual 2015 Menidia beryllina Acute 24-hour Table 2
- Semi-Annual 2015 Mysidopsis bahia Chronic 7-day Table 1
- Annual 2015 Menidia beryllina Chronic 7-day Table 1

Please note that all test passed successfully. Should you require additional information or assistance, please contact Porfirio Arguellez III by email at PorfirioA@ftpc.fpcusa.com,

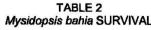
Sincerely,

Rick Crabtree

Assistant General Manager

Formosa Plastics Corporation, Texas

Attachments



Mysidopsis bahia SURVIVAL

Permittee: **TPDES Permit No.:** Formosa Plastics Corporation WQ0002436000

Outfall No.:

GENERAL INFORMATION

| i | CENTRAL III ORGANION | | | | | | | |
|----------------------------------|------------------------|----------------------------|--|--|--|--|--|--|
| | Time (hours) | Date | | | | | | |
| Composite Sample Collected | 0800 to 0800 | 10-27-15 to 10-28-15 | | | | | | |
| Test Initiated | 1415 | 10-28-15 | | | | | | |
| Dilution | Reconstituted seawater | | | | | | | |

PERCENT SURVIVAL

| P (577 - 1/0) | | | | | | | | | | |
|---------------|-------|----------------------|------|--|--|--|--|--|--|--|
| T: | l 5 | Percent Effluent (%) | | | | | | | | |
| Time | Rep | 0% | 100% | | | | | | | |
| | Α | 100 | 100 | | | | | | | |
| | В | 100 | 100 | | | | | | | |
| 24h | С | 100 | 90 | | | | | | | |
| | D | 100 | 90 | | | | | | | |
| | E 100 | | 100 | | | | | | | |
| | MEAN | 100 | 96 | | | | | | | |

ICPIN

1. Enter percent effluent corresponding to the LC₅₀ below:

> 24 hour LC₅₀ (Mysidopsis bahia) = ≥100%

95% Confidence Limits: N/A

Method of LC₅₀ Calculation:

The Whole Effluent Toxicity tests reported herein were conducted according to the appropriate permit-required EPA protocol and, except as noted, are in compliance with the NELAC Institute (TNI) Standards. The test data and analyses were reviewed in accordance with the Atkins SOP's and are approved for compliance reporting requirements.

Atkins Job No. 100001085 08.01 Atkins Login No. 15-0980



TABLE 2 Menidia beryllina SURVIVAL



Permittee:

Formosa Plastics Corporation

TPDES Permit No.:

WQ0002436000

Outfall No .:

001

GENERAL INFORMATION

| 1 | GENERAL INFORMATION | | | | | |
|----------------------------------|------------------------|----------------------------|--|--|--|--|
| | Time (hours) | Date | | | | |
| Composite Sample Collected | 0800 to 0800 | 07-28-15 to 07-29-15 | | | | |
| Test Initiated | 1330 | 07-29-15 | | | | |
| Dilution | Reconstituted seawater | | | | | |

PERCENT SURVIVAL

| | | Percent Effluent (%) | | | | | | | | |
|------|------|----------------------|------|--|--|--|--|--|--|--|
| Time | Rep | 0% | 100% | | | | | | | |
| | Α | 100 | 100 | | | | | | | |
| | В | 100 | 100 | | | | | | | |
| 24h | С | 100 | 100 | | | | | | | |
| | D | 100 | 100 | | | | | | | |
| | E | 100 | 100 | | | | | | | |
| | MEAN | 100 | 100 | | | | | | | |

2. Enter percent effluent corresponding to the LC₅₀ below:

24 hour LC₅₀ (Menidia beryllina) =

>100 % effluent

95% Confidence Limits:

N/A

Method of LC₅₀ Calculation:

Inspection

The Whole Effluent Toxicity tests reported herein were conducted according to the appropriate permit-required EPA protocol and, except as noted, are in compliance with the NELAC Institute (TNI) Standards. The test data and analyses were reviewed in accordance with the Atkins SOP's and are approved for compliance reporting requirements.

Atkins Job No. 100001085 08.01 Atkins Login No. 15-0671







Formosa Plastics Corporation, Texas WQ0002436000

TPDES Permit No.: Outfall No .:

001

Composite collected

FROM: 0800 07-26-15 07-28-15

TO: 0800 TO: 0800 07-29-15

FROM: 0800 FROM: 0800 07-30-15

TO: 0800

Test initiated: 1430

07-27-15

Dilution water used : _X_ Receiving water

___ Reconstituted water

Mysidopsis bahia SURVIVAL

| | | | iopsis pania | | | | | | | | |
|-----------------|-----------|-------|------------------|------|------|-------|------|--|--|--|--|
| | D | | Percent Effluent | | | | | | | | |
| | Replicate | 0% | 4% | 6% | 8% | 10% | 13% | | | | |
| | Α | 60 | 100 | 100 | 100 | 100 | 100 | | | | |
| | В | 100 | 100 | 100 | 100 | 80 | 100 | | | | |
| | С | 100 | 100 | 100 | 80 | 80 | 100 | | | | |
| | D | 100 | 80 | 100 | 100 | 100 | 100 | | | | |
| | E | 80 | 100 | 100 | 100 | 100 | 100 | | | | |
| Percent | F | 100 | 100 | 100 | 100 | 100 | 100 | | | | |
| Survival | G | 100 | 100 | 100 | 100 | 100 | 100 | | | | |
| | н | 100 | 80 | 80 | 100 | 80 | 100 | | | | |
| | 1 | 100 | 100 | 100 | 100 | 100 | 100 | | | | |
| | J | 100 | 100 | 100 | 100 | 100 | 80 | | | | |
| | 24 hr. | 98 | 100 | 100 | 100 | 100 | 100 | | | | |
| Mean Percent | 48 hr. | 98 | 100 | 100 | 100 | 98 | 100 | | | | |
| Survival | 7 day | 94 | 96 | 98 | 98 | 94 | 98 | | | | |
| | CV%0 | 14.36 | 8.78 | 6.45 | 6.45 | 10.28 | 6.45 | | | | |

O coefficient of variation = standard deviation x 100/mean

1. Dunnett's Procedure or Steel's Many-One Rank Test as appropriate:

> Is the mean survival at 7 days significantly different (p=0.05) than the control survival for the % effluent corresponding to:

CRITICAL DILUTION (10%):

__ YES

X NO

The Whole Effluent Toxicity tests reported herein were conducted according to the appropriate permit-required EPA protocol and, except as noted, are in compliance with the NELAC institute (TNI) Standards. The test data and analyses were reviewed in accordance with the Atkins SOP's and are approved for compliance reporting requirements.

Atkins Job No. 10001085 08.01 Atkins Login No. 15-0670

Formosa Plastics Corporation, Texas

TPDES Permit No.:

WQ0002436000

Outfall No.: 001

DATA TABLE FOR M. bahia GROWTH

| | Mean Dry Weight in Milligrams in Replicate Chambers | | | | | | | | | |
|-------------------------------------|---|----------------|------------------------|-----------|-----------|-------|--|--|--|--|
| REP | Effluent Concentration | | | | | | | | | |
| | 0% | 4% | 6% | 8% | 10% | 13% | | | | |
| Α | 0.30 0.40 0.38 | | | | 0.44 0.39 | | | | | |
| В | 0.39 | 0.44 | 0.44 | 0.42 | 0.36 | 0.44 | | | | |
| С | 0.45 | 0.45 | 0.41 | 0.36 | 0.33 | 0.41 | | | | |
| D | 0.42 | 0.32 | 0.46 0.43 0.42 0.42 | | 0.30 | 0.50 | | | | |
| E | 0.34 | 0.42 | | | 0.35 | 0.44 | | | | |
| F | 0.44 | 0.44 0.42 0.43 | | 0.36 | 0.44 | 0.39 | | | | |
| G | 0.47 | 0.45 | 0.45 0.45 0.39 | | 0.44 | 0.43 | | | | |
| Н | 0.49 | 0.27 | 0.34 | 0.45 | 0.34 | 0.41 | | | | |
| Į. | 0.40 | 0.38 | 0.40 | 0.35 | 0.44 | 0.39 | | | | |
| J | 0.52 | 0.41 | 0.51 | 0.43 | 0.44 | 0.35 | | | | |
| Mean Dry Welght in Milligrams | 0.42 | 0.40 | 0.42 | 0.42 0.41 | | 0.42 | | | | |
| CV (%)0 | 16.27 | 14.54 | 10.61 | 9.35 | 13.70 | 9.20 | | | | |
| PMSD | | Accep | otable Range: 1 | 1 - 37 | N 1 17 1 | 12.40 | | | | |

[•] coefficient of variation = standard deviation x 100/mean

2. Dunnett's Procedure or Steel's Many-One Rank Test as appropriate:

Is the mean dry weight (growth) significantly different (p=0.05) from the control's dry weight (growth) for the % effluent corresponding to:

CRITICAL DILUTION (10%): YES X NO

Enter percent effluent corresponding to each NOEC/LOEC below:

 a.
 NOEC survival
 =
 13 % effluent

 b.
 LOEC survival
 =
 >13 % effluent

 c.
 NOEC growth
 =
 13 % effluent

 d
 LOEC growth
 =
 >13 % effluent

The Whole Effluent Toxicity tests reported herein were conducted according to the appropriate permit-required EPA protocol and, except as noted, are in compliance with the NELAC Institute (TNI) Standards. The test data and analyses were reviewed in accordance with the Atkins SOP's and are approved for compliance reporting requirements.

Atkins Job No. 10001085 08.01 Atkins Login No. 15-0670

Formosa Plastics Corporation, Texas

TPDES Permit No.:

WQ0002436000

Outfall No .:

001

Composite collected

FROM: 0800 01-25-15 TO: 0800 01-26-15 FROM: 0800 01-27-15 TO: 0800 01-28-15 FROM: 0800 01-29-15 TO: 0800 01-30-15

Test initiated: 1500 01-26-15

Dilution water used : X Receiving water

__ Reconstituted water

DATA TABLE FOR INLAND SILVERSIDE MINNOW SURVIVAL

| DATA TABLE FOR INLAND SILVERSIDE WIINNOW SURVIVAL | | | | | | | | | |
|---|-----|-----|-----------|-----|-----|-------|-------|-----------|------|
| Effluent | | | ent Survi | Ме | , | | | | |
| Concentration (%) | A | В | С | D | E | 24 hr | 48 hr | 7 days | CV%0 |
| | | | | | | | | | |
| 0% | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0.00 |
| 4% | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0.00 |
| 6% | 100 | 90 | 100 | 100 | 100 | 98 | 98 | 98 | 4.56 |
| 8% | 100 | 100 | 90 | 90 | 100 | 98 | 98 | 96 | 5.71 |
| 10% | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 0.00 |
| 13% | 100 | 90 | 100 | 100 | 100 | 98 | 98 | 98 | 4.56 |

coefficient of variation = standard deviation x 100/mean

| 4. | | D | unnett's | Procedure or | Ste | eel | 's | Many | -0 | ne | Rank | Test as | appropriate: |
|----|---|---|----------|--------------|-----|-----|----|------|----|-----|------|---------|--------------|
| | - | · | | 6- | | | - | | | 8 - | | | |

Is the mean survival at 7 days significantly different (p=0.05) from the control survival for the % effluent corresponding to:

CRITICAL DILUTION (10%): ____YES

The Whole Effluent Toxicity tests reported herein were conducted according to the appropriate permit-required EPA protocol and, except as noted, are in compliance with the NELAC Institute (TNI) Standards. The test data and analyses were reviewed in accordance with the Atkins SOP's and are approved for compliance reporting requirements.

Atkins Job No. 100001085 08.01 Atkins Login No. 15-0059 X_NO

Formosa Plastics Corporation, Texas

TPDES Permit No.:

WQ0002436000

Outfall No .:

001

DATA TABLE FOR GROWTH OF INLAND SILVERSIDE MINNOWS

| Effluent Conc. (%) | Ave | rage Dry Weig | Mean Dry | | | | |
|-----------------------|---------------------------|---------------|-------------|------|------|----------------|--------------|
| | Α | В | С | D | E | Weight (mg) | CV% ● |
| 0% | 0.98 | 0.80 | 0.92 | 0.76 | 0.75 | 0.84 | 12.14 |
| 4% | 0.75 | 0.69 | 0.60 | 0.82 | 0.99 | 0.77 | 18.85 |
| 6% | 0.95 | 0.67 | 0.81 | 0.67 | 0.93 | 0.81 | 16.69 |
| 8% | 0.82 | 1.04 | 0.83 | 0.86 | 0.78 | 0.87 | 11.48 |
| 10% | 0.84 | 0.71 | 0.79 | 0.81 | 0.92 | 0.81 | 9.79 |
| 13% | 0.87 | 0.80 | 0.74 | 0.71 | 0.79 | 0.78 | 7.45 |
| PMSD | Acceptable Range: 11 - 28 | | | | | 19.10 | |

• coefficient of variation = standard deviation x 100 / mean

| Weight | s are for: preserved larvae, orX_ unpreserved larvae | | | | | |
|--------|--|-----|------|--|--|--|
| 5. | Dunnett's Procedure or Steel's Many-One Rank Test as appropriate: | | | | | |
| | Is the mean dry weight (growth) at 7 days significantly different (p=0.05) from the control's dry weight (growth) for the % effluent corresponding to: | | | | | |
| | CRITICAL DILUTION (10%): | YES | X_NO | | | |

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

| a. | NOEC survival | = | 13 % effluent |
|----|---------------|----|----------------|
| b. | LOEC survival | = | >13 % effluent |
| C. | NOEC growth | ,= | 13 % effluent |
| d | LOEC growth | = | >13 % effluent |

The Whole Effluent Toxicity tests reported herein were conducted according to the appropriate permit-required EPA protocol and, except as noted, are in compliance with the NELAC Institute (TNI) Standards. The test data and analyses were reviewed in accordance with the Atkins SOP's and are approved for compliance reporting requirements.

Atkins Job No. 100001085 08.01 Atkins Login No. 15-0059