



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL

OFFICE OF THE
SECRETARY

89 KINGS HIGHWAY
DOVER, DELAWARE 19901

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**NOTICE OF ADMINISTRATIVE PENALTY ASSESSMENT
AND SECRETARY'S ORDER**

Pursuant to 7 Del. C. § 6005

Order No. 2012-A-0038

*PERSONALLY SERVED BY AN ENVIRONMENTAL
ENFORCEMENT OFFICER*

Issued To:

Formosa Plastics Corporation of Delaware
Attn: Mr. Bill Dann, Plant Manager
780 Schoolhouse Road
Delaware City, DE 19706

Registered Agent:

Corporation Service Company
2711 Centerville Road, Suite 400
Wilmington, DE 19808

Dear Mr. Dann:

This is to notify Formosa Plastics Corporation of Delaware ("Respondent") that the Secretary of the Department of Natural Resources and Environmental Control ("Department") has found Respondent in violation of 7 Del. C. Chapter 60; federal and state air quality regulations and its permit. Accordingly, the Department is issuing this Notice of Administrative Penalty Assessment pursuant to 7 Del. C. § 6005(b)(3).

BACKGROUND

Respondent owns and operates a facility located at 780 Schoolhouse Road in Delaware City, Delaware, located in New Castle County ("Facility") where it produces polyvinyl chloride ("PVC") resin from vinyl chloride monomer ("VCM") and vinyl acetate monomer ("VAM"). This resin is sold to companies for use in making various products such as containers, flooring and toys. Operations at Respondent's facility have the potential to emit numerous pollutants, including VCM, a hazardous air pollutant, in quantities in excess of the major thresholds for New Castle County, thereby triggering 7 DE Admin. Code 1130, Delaware's Title V State Operating Permit Program ("Regulation 1130" or "Title V") requirements and fees. The Department issued **Permit: AQM-003/00027-Renewal (R1)** ("Title V Permit-R1") to Respondent with an effective date of July 10, 2009.

Delaware's Good Nature depends on you!

2010

Incident 2010#1

On August 11, 2010, routine sampling of the E2 PVC Resin Production Plant's ("E2 Plant") deionized water system showed vinyl chloride levels as high as 64 parts per million ("ppm") with the average being 25 ppm which is greater than the permitted limit of 3 ppm. Despite sampling and inspecting various individual pieces of equipment in the system such as pumps and compressors, no cause was ever found. The water was pumped out of the system twice and stripped to reduce the vinyl chloride levels to below the permitted limit by August 12, 2010.

Incident 2010#2

On November 9, 2010, the deluge system in the S2 PVC Resin Production Plant's ("S2 Plant") reactor building tripped alerting operators to a potential VCM release. Operators noticed levels of VCM in the ambient air monitoring system and initiated emergency procedures. The investigation revealed that 55 pounds of VCM was released from a filter pot due to a gasket failure.

Incident 2010#3

On November 27, 2010, a reactor did not reach the minimum -9 pounds per square inch ("psi") vacuum as required.

2011

Incident 2011#1

On January 4, 2011, the steam injectors at the stripping tank were plugged resulting in vinyl chloride levels in the in-process wastewater to be greater than 3 ppm.

Incident 2011#2

On April 6, 2011, Respondent exceeded the combined daily Reactor Opening Loss/Residual Vinyl Chloride Monomer ("ROL/RVCM") limit of 1250 ppm with emissions of 1296 ppm. Three of seven batches stripped that day had unusually high levels of residual vinyl chloride which was believed to have been as a result of unscheduled down time resulting from an instrument air system abnormality.

Incident 2011#3

Between April 7, 2011, to April 13, 2011, Respondent deviated from its VCM Monitoring plan when it did not calibrate its portable photoionizers following failed shift performance checks.

Incident 2011#4

On April 11, 2011, an ambient air monitor detected a level of VCM at the VCM unloading filter pot. It was determined that a gasket leak from the filter pot resulted in the unpermitted release of 0.856 lbs of vinyl chloride. Respondent believes the leak was due to a small imperfection that developed between the gasket and sealant and removed the filter pot from service on April 14, 2011.

Incident 2011#5

Respondent was required to submit a quarterly National Emissions Standards for Hazardous Air Pollutants (“NESHAP”) report to the Division of Air Quality (“DAQ”) on September 15, 2011; however, the report was not received until December 5, 2011.

2012

Incident 2012#1

On January 28, 2012, and January 29, 2012, the S2 Plant at Respondent’s facility experienced abnormal stripping operations that resulted in the exceedance of the combined daily ROL/RVCM limit of 1250 ppm with emissions of 1778 ppm on January 28, 2012, and 1802 ppm on January 29, 2012.

On July 12, 2012, the Department conducted an inspection at Respondent’s facility and discovered several violations. Respondent’s Title V permit requires that visible emission testing be conducted on numerous equipment within 30 days of conducting required annual burner tune ups. Respondent failed to conduct said visible emission testing following the annual burner tune ups for its boilers, the E2 Plant Spray Dryer Burner, and the S2 Plant Spray Dryer Burner in 2011. During the inspection, the Department also observed the differential pressure gauge could not be read because it had a broken needle. Respondent replaced the broken needle later that same day and provided the Department with photographic proof. The Department asked Respondent to conduct the visible emission testing referenced in the Notice of Violation dated August 13, 2012, and to submit those results to the Department within 60 days of receipt of the Notice of Violation.

A Notice of Violation was issued to Respondent on July 12, 2011, for the November 9, 2010 violations. A Notice of Violation was issued to Respondent on February 24, 2012, for the April 6, 2011, January 28, 2012, and January 29, 2012, violations. A Notice of Violation was issued to Respondent on August 13, 2012, for the violations discovered during the July 12, 2012 inspection.

FINDINGS OF FACT

1. Operations at Respondent’s facility have the potential to emit pollutants, such as VCM, a hazardous air pollutant, in quantities that trigger Title V requirements and fees.
2. The Department issued **Permit: AQM-003/00027-Renewal (R1)** to Respondent with an effective date of July 10, 2009 (“Title V Permit-R1”).
3. Respondent experienced incidents during 2010, 2011 and 2012 that resulted in statutory, regulatory and permit violations as described in the Background Section of this Order.
4. Notices of Violation were issued to Respondent on July 12, 2011, February 24, 2012, and August 13, 2012.

STATUTORY, REGULATORY AND PERMIT PROVISIONS

1. Seven *Del. C.* § 6003(a)(1) states:

“No person shall, without first having obtained a permit from the Secretary, undertake any activity in a way which may cause or contribute to the discharge of an air contaminant.”

2. Forty C.F.R. § 61.61(w) defines leak as:

“Leak means any of several events that indicate interruption of confinement of vinyl chloride within process equipment. Leaks include events regulated under subpart V of this part such as:

(1) An instrument reading of 10,000 ppm or greater measured according to Method 21 (see appendix A of 40 CFR part 60);

(2) A sensor detection of failure of a seal system, failure of a barrier fluid system, or both;

(3) Detectable emissions as indicated by an instrument reading of greater than 500 ppm above background for equipment designated for no detectable emissions measured according to Method 21 (see appendix A of 40 CFR part 60); and

(4) In the case of pump seals regulated under §61.242–2, indications of liquid dripping constituting a leak under §61.242–2.

Leaks also include events regulated under §61.65(b)(8)(i) for detection of ambient concentrations in excess of background concentrations. A relief valve discharge is not a leak.”

3. Forty C.F.R. § 61.65(b)(8)(i) states in part:

“Leak detection and elimination. Vinyl chloride emissions due to leaks from equipment in vinyl chloride service are to be minimized as follows:

A reliable and accurate vinyl chloride monitoring system shall be operated for detection of major leaks and identification of the general area of the plant where a leak is located. A vinyl chloride monitoring system means a device which obtains air samples from one or more points on a continuous sequential basis and analyzes the samples with gas chromatography or, if the owner or operator assumes that all hydrocarbons measured are vinyl chloride, with infrared spectrophotometry, flame ion detection, or an equivalent or alternative method. The vinyl chloride monitoring system shall be operated according to a program developed by the plant owner or operator.”

4. Forty C.F.R. § 61.65(b)(9) states:

“Inprocess wastewater. Vinyl chloride emissions to the atmosphere from inprocess wastewater are to be reduced as follows:

(i) The concentration of vinyl chloride in each inprocess wastewater stream containing greater than 10 ppm vinyl chloride measured

immediately as it leaves a piece of equipment and before being mixed with any other inprocess wastewater stream is to be reduced to no more than 10 ppm by weight before being mixed with any other inprocess wastewater stream which contains less than 10 ppm vinyl chloride; before being exposed to the atmosphere; before being discharged to a wastewater treatment process; or before being discharged untreated as a wastewater. This paragraph does apply to water which is used to displace vinyl chloride from equipment before it is opened to the atmosphere in accordance with §61.64(a)(2) or paragraph (b)(6) of this section, but does not apply to water which is used to wash out equipment after the equipment has already been opened to the atmosphere in accordance with §61.64(a)(2) or paragraph (b)(6) of this section.

(ii) Any vinyl chloride removed from the inprocess wastewater in accordance with paragraph (b)(9)(i) of this section is to be ducted through a control system from which the concentration of vinyl chloride in the exhaust gases does not exceed 10 ppm (average for 3-hour period); or equivalent as provided in §61.66.”

5. Forty C.F.R. § 61.70(a)(1) states:

“The owner or operator of any source to which this subpart applies shall submit to the Administrator on March 15, June 15, September 15, and December 15 of each year a report in writing containing the information required by this section. The first report is to be submitted following the first full 3-month reporting period after the initial report is submitted.”

6. Condition 3-Table 1(a)(5)(vii)(A) of **Permit: AQM-003/00027-Renewal (R1) Revision (03)** states in part:

“Two Boilers - Emission Units PB-705 and PB-706, Emission Points UT-10 and UT-11: Visible Emissions: Testing: Within thirty calendar days after each tune-up required by Condition 3 Table 1(a)(3), visible emissions observations shall be conducted on the outlet of the recently tuned unit while that unit is burning the same fuel it was tuned to use.”

7. Condition 3-Table 1(c)(3)(i) of **Permit: AQM-003/00027-Renewal (R1) Revision (03)** states:

“E2 PVC Resin Production Plant: Reactor Opening Loss: Emission Standard: The combined residual vinyl chloride monomer (RVCM) and reactor opening loss (ROL) emissions shall not exceed 1250 parts per million (ppm), i.e., 1.25 grams per kilogram product produced on a daily plant specific average basis and 1000 ppm, i.e., 1.00 gram per kilogram product produced on an annual plant specific average basis.”

8. Condition 3-Table 1(c)(4)(i) of **Permit: AQM-003/00027-Renewal (R1) Revision (03)** states:

“E2 PVC Resin Production Plant: Residual Vinyl Chloride Monomer Emissions: Emission Standard: The combined residual vinyl chloride monomer (RVCM) and reactor opening loss (ROL) emissions shall not exceed 1250 parts per million

(ppm), i.e., 1.25 grams per kilogram product produced on a daily plant specific average basis and 1000 ppm, i.e., 1.00 gram per kilogram product produced on an annual plant specific average basis.”

9. Condition 3-Table 1(c)(6)(vi)(C) of **Permit: AQM-003/00027-Renewal (R1) Revision (03)** states:

“E2 PVC Resin Production Plant: Visible Emissions: Monitoring: The owner or operator shall conduct opacity observations once a year within 30 days after the annual tune up as per Reference Method 9.”

10. Condition 3-Table 1(c)(7)(i) of **Permit: AQM-003/00027-Renewal (R1) Revision (03)** states:

“Emission Standard: The owner or operator shall operate in-process wastewater stripping tanks for stripping in-process wastewater to a vinyl chloride limit of 3 ppm or less.”

11. Condition 3-Table 1(d)(3)(i) of **Permit: AQM-003/00027-Renewal (R1) Revision (03)** states:

“S2 PVC Resin Production Plant: Reactor Opening Loss: Emission Standard: The combined residual vinyl chloride monomer (RVCM) and reactor opening loss (ROL) emissions shall not exceed 1250 parts per million (ppm), i.e., 1.25 grams per kilogram product produced on a daily plant specific average basis and 1000 ppm, i.e., 1.00 gram per kilogram product produced on an annual plant specific average basis.”

12. Condition 3-Table 1(d)(4)(i) of **Permit: AQM-003/00027-Renewal (R1) Revision (03)** states:

“S2 PVC Resin Production Plant: Residual Vinyl Chloride Monomer Emission Limitations: Emission Standard: The combined residual vinyl chloride monomer (RVCM) and reactor opening loss (ROL) emissions shall not exceed 1250 parts per million (ppm), i.e., 1.25 grams per kilogram product produced on a daily plant specific average basis and 1000 ppm, i.e., 1.00 gram per kilogram product produced on an annual plant specific average basis.”

13. Condition 3-Table 1(d)(6)(vi)(C) of **Permit: AQM-003/00027-Renewal (R1) Revision (03)** states:

“S2 PVC Resin Production Plant: Visible Emissions: Monitoring: The owner or operator shall conduct opacity observations once a year within 30 days after the annual tune up as per Reference Method 9.”

14. Condition 3-Table 1(d)(7)(i) of **Permit: AQM-003/00027-Renewal (R1) Revision (03)** states:

“Emission Standard: The owner or operator shall operate in-process wastewater stripping tanks for stripping in-process wastewater to a vinyl chloride limit of 3 ppm or less.”

15. Condition 3-Table 1(e)(1)(iii)(M)(1) of **Permit: AQM-003/00027-Renewal (R1) Revision (03)** states in part:

“Leak Detection and Elimination – Vinyl chloride emissions due to leaks from equipment in vinyl chloride service are to be minimized as follows:

A reliable and accurate vinyl chloride monitoring system shall be operated for detection of major leaks and identification of the general area of the plant where a leak is located. A vinyl chloride monitoring system means a device which obtains air samples from one or more points on a continuous sequential basis and analyzes the samples with gas chromatography or, if the owner or operator assumes that all hydrocarbons measured are vinyl chloride, with infrared spectrophotometry, flame ion detection, or an equivalent or alternative method. The vinyl chloride monitoring system shall be operated according to a program developed by the plant owner or operator...”

16. Condition 3-Table 1(e)(1)(iii)(N)(1) of **Permit: AQM-003/00027-Renewal (R1) Revision (03)** states:

“Inprocess Wastewater – In addition to the more stringent requirements in Condition 3 – Table 1(c) and Condition 3 – Table 1(d), vinyl chloride emissions to the atmosphere from inprocess wastewater are to be reduced as follows:

The concentration of vinyl chloride in each inprocess wastewater stream containing greater than 10 ppm vinyl chloride measured immediately as it leaves a piece of equipment and before being mixed with any other inprocess wastewater stream is to be reduce to no more than 10 ppm by weight before being mixed with any other inprocess wastewater stream which contains less than 10 ppm vinyl chloride; before being exposed to the atmosphere; before being discharged to a wastewater treatment process; or before being discharged untreated as a wastewater. This condition does apply to water which is used to displace vinyl chloride from equipment before it is opened to the atmosphere in accordance with Condition 3 – Table 1(e)(1)(ii)(A)(2) or Condition 3 – Table 1(e)(1)(iii)(K), but does not apply to water which is used to wash out equipment after the equipment has already been opened to the atmosphere in accordance with Condition 3 – Table 1(e)(1)(ii)(A)(2) or Condition 3 – Table 1(e)(1)(iii)(K).”

17. Condition 3-Table 1(e)(1)(x)(A) of **Permit: AQM-003/00027-Renewal (R1) Revision (03)** states:

“Reporting: The owner or operator shall submit to the Administrator on March 15, June 15, September 15, and December 15 of each year a report containing the information required below.”

18. Condition 3-Table 1(f)(3)(iii)(C) of **Permit: AQM-003/00027-Renewal (R1) Revision (03)** states:

“Proper operation of a differential pressure gauge shall be considered a necessary part of proper operation of the scrubber.”

19. Condition 3-Table 1(f)(4)(iii)(B)(1) of **Permit: AQM-003/00027-Renewal (R1) Revision (03)** states:

“The vacuum pressure on slow vent knock out pot DT301B shall be greater than - 9 pounds per square inch (psi) to initiate the stripping process;”

CONCLUSION

Based on the above, the Department has concluded that Respondent committed the following violations:

Incident 2010#1

Respondent violated 40 C.F.R. § 61.65(b)(9); Condition 3 – Table 1(c)(7)(i); Condition 3 – Table 1(d)(7)(i) and Condition 3 – Table 1(e)(1)(iii)(N)(1) of **Permit: AQM-003/00027-Renewal (R1) Revision (03)** when inprocess wastewater with vinyl chloride levels greater than 3 ppm contacted the atmosphere on August 11, 2010. Routine sampling of the E2 Plant’s deionized water system showed vinyl chloride levels as high as 64 ppm with the average being 25 ppm.

Incident 2010#2

Respondent violated 7 *Del. C.* § 6003(a)(1) when on November 9, 2010, it experienced the unpermitted release of approximately 55 lbs of vinyl chloride from a filter pot in its S2 Plant due to a gasket leak.

Incident 2010#3

Respondent violated Condition 3 – Table 1(f)(4)(iii)(B)(1) of **Permit: AQM-003/00027-Renewal (R1) Revision (03)** when on November 27, 2010, a reactor did not reach the minimum -9 psi vacuum as required.

Incident 2011#1

Respondent violated 40 C.F.R. § 61.65(b)(9); Condition 3 – Table 1(c)(7)(i); Condition 3 – Table 1(d)(7)(i) and Condition 3 – Table 1(e)(1)(iii)(N)(1) of **Permit: AQM-003/00027-Renewal (R1) Revision (03)** when inprocess wastewater with vinyl chloride levels greater than 3 ppm contacted the atmosphere on January 4, 2011, as a result of plugged steam injectors at the stripping tank.

Incident 2011#2

Respondent violated Condition 3 – Table 1(c)(3)(i) and Condition 3 – Table 1(c)(4)(i) of **Permit: AQM-003/00027-Renewal (R1) Revision (03)** when on April 6, 2011, Respondent exceeded the combined daily Reactor Opening Loss/Residual Vinyl Chloride Monomer (“ROL/RVCM”) limit of 1250 ppm with emissions of 1296 ppm.

Incident 2011#3

Respondent violated 40 C.F.R. § 61.65(b)(8)(i) and Condition 3 – Table 1(e)(1)(iii)(M)(1) of **Permit: AQM-003/00027-Renewal (R1) Revision (03)** between April 7, 2011, and April 13, 2011, when it deviated from its VCM Monitoring plan by not calibrating its portable photoionizers following failed shift performance checks.

Incident 2011#4

Respondent violated 7 *Del. C.* § 6003(a)(1) when it experienced the unpermitted release of 0.856 lbs of vinyl chloride as a result of a gasket leak from a filter pot on April 11, 2011.

Incident 2011#5

Respondent violated 40 C.F.R. § 61.70(a)(1) and Condition 3 – Table 1(e)(1)(x)(A) of **Permit: AQM-003/00027-Renewal (R1) Revision (03)** when a quarterly NESHAP report due on September 15, 2011, was not received until December 5, 2011.

Incident 2012#1

Respondent violated Condition 3 – Table 1(d)(3)(i) and Condition 3 – Table 1(d)(4)(i) of **Permit: AQM-003/00027-Renewal (R1) Revision (03)** when, as a result of temperature and level control problems in a hot water tank at the S2 Plant, it exceeded the combined daily ROL/RVCM limit of 1250 ppm on January 28, 2012, and January 29, 2012, with emissions of 1778 ppm and 1802 ppm respectively.

July 12, 2012 Inspection

Respondent violated Condition 3 – Table 1(a)(5)(vii)(A); Condition 3 – Table 1(c)(6)(vi)(C); Condition 3 – Table 1(d)(6)(vi)(C) when it failed to conduct visible emission testing on its boilers; E2 Spray Dryer Burner and the S2 Spray Dryer Burner within 30 days of completing the annual tune ups in 2011. Respondent also violated Condition 3 – Table 1(f)(3)(iii)(C) by not operating the differential pressure gauge properly when the Department was unable to read the differential pressure gauge due to a broken needle.

ASSESSMENT OF PENALTY

Pursuant to the provisions of 7 *Del. C.* § 6005(b)(3), this is written notice to Respondent that on the basis of its findings, the Department is assessing Respondent an administrative penalty of \$60,500 for the violation identified in this Assessment and Order and costs according to 7 *Del. C.* § 6005(c). Respondent shall submit a check to the Department in the amount of \$60,500 within 30 days from the receipt of this Assessment and Order for the aforementioned penalty. The check shall be made payable to the “State of Delaware” and shall be directed to: Valerie M. Satterfield, Deputy Attorney General, Department of Justice, Environmental Unit, 102 W. Water Street-3rd Floor, Dover, Delaware, 19904. This penalty is being assessed for the specific violations identified herein, and other violations discovered during the relevant time periods are expressly excluded from the scope and application of this Administrative Penalty Assessment and Order.

PUBLIC HEARING

This Administrative Penalty Assessment and Order shall become effective and final unless the Department receives from Respondent, no later than 30 days from the receipt of this Notice, a written request for a public hearing on these matters as provided in 7 *Del. C.* § 6005(b)(3) and (c). In the event Respondent requests a hearing, the Department reserves the right to withdraw this Assessment and Order and take additional enforcement actions regarding these and other violations at Respondent’s facility, including but not limited to,

the imposition of civil penalties and recovery of the Department's costs and attorney's fees. The Department does not otherwise intend to convene a public hearing on these matters, but reserves the right to do so at its discretion.

PRE-PAYMENT

Respondent may prepay the administrative penalty of \$60,500 and the Department's estimated costs in the amount of \$9,075 in the manner described in the attached waiver. By doing so, Respondent waives its right to a hearing and the opportunity to appeal or contest the Assessment which shall become a final Order.

If you have any questions, please contact Paul Foster at (302) 323-4542.

11/20/12

Date



Collin P. O'Mara, Secretary

cc: Valerie M. Satterfield, Deputy Attorney General
Ali Mirzakhali, P.E., Director
Paul Foster, P.E., Program Manager
Tammy Henry, Managing Engineer
Amy Mann, Engineer
Dawn Minor, Paralegal
Jenny Bothell, Enforcement Coordinator
Dover File

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WAIVER OF STATUTORY RIGHT TO A HEARING

Formosa Plastics Corporation of Delaware hereby waives its right to a hearing and its opportunity to appeal or contest this Assessment and Order and agree to the following:

1. **Formosa Plastics Corporation of Delaware** will pay the administrative penalty in the amount of \$60,500 by sending a check payable to the “State of Delaware” within 30 days of receipt of this Assessment and Order. The check shall be directed to Valerie M. Satterfield, Deputy Attorney General, Department of Justice, 102 W. Water Street-3rd Floor, Dover, DE 19904; and
2. **Formosa Plastics Corporation of Delaware** will reimburse the Department in the amount of \$9,075 which represents the Department’s estimated costs. The reimbursement shall be paid within 30 days of receipt of this Assessment and Order. The check shall be made payable to the “State of Delaware” and be directed to Valerie M. Satterfield, Deputy Attorney General, Department of Justice, 102 W. Water Street-3rd Floor, Dover, DE 19904.

Formosa Plastics Corporation of Delaware

Date: _____

By: _____

Title: _____