



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. 2011-W-0039

*Personally Served by an
Environmental Protection
Officer*

Mr. Robert Stewart – Plant Manager
Croda, Inc.
315 Cherry Lane
New Castle, DE 19720

Dear Mr. Stewart:

This is to notify Croda, Inc. (Respondent) that the Secretary of the Department of Natural Resources and Environmental Control (Department) found that the Respondent has violated 7 Del. C. § 6003, 7 Del. Admin C §1100 (*Delaware Regulations Governing the Control of Air Pollution*), 7 Del. Admin. C. § 7201 *et seq.*, *Delaware Regulations Governing the Control of Water Pollution*, hereinafter referred to as the Water Pollution Regulations, and its permits. Accordingly, the Department is issuing this Notice of Administrative Penalty Assessment and Secretary's Order ("Notice").

BACKGROUND – DIVISION OF WATER

The Department is responsible for the administration of the National Pollutant Discharge Elimination System (NPDES) program and enforcement of the NPDES permits in accordance with the Federal Water Pollution Control Act, 33 U.S.C. §1251 *et seq.*, and 7 Del. C., Chapter 60. Pursuant to this authority, the Department has promulgated the Water Pollution Regulations.

NPDES Permit No. 0000621 was issued to Respondent effective January 1, 2004, and authorizes the discharge of effluent from the Respondent's manufacturing site located in New Castle, Delaware. Effluent from this site consists of mainly storm water and some cooling water that is discharged to the Delaware River (Outfalls 001A, 001B, 021, and 022) and to Magazine Ditch (Outfalls 002, 003, and 030).

Delaware's Good Nature depends on you!

The Respondent's facility was previously owned and operated by SPI Polyols. When SPI closed its New Castle operation, Respondent acquired its assets in September, 2007, and transfer of ownership was made to Respondent with an effective date of September 21, 2007. Almost all of the former production activities at the facility were discontinued and dismantled or demolished. Hundreds of thousands of gallons per day of once-thru cooling water (previously utilized in the SPI production lines) are no longer discharged through Outfalls 001A and 001B. Outfall 001A now contains only storm water, and both outfalls have intermittent or no flow except during significant rainfall events. Both outfalls have Parshall Flume flow measuring capability that was designed for many hundreds of thousands of gallons of discharge. Extremely low flows coupled with oversized Parshall Flumes, has created many challenges to get a representative sample of the actual effluent that will reflect the true quality of the effluent.

Pursuant to NPDES Permit No. DE 0020036 Part 1.B.1, 1.B.2, 1.B.3, 1.B.4, 1.B.5, and 1.B.6, the Respondent is required to monitor its discharge by collecting samples of its discharge and analyzing those samples for a number of pollutant parameters as specified in the above mentioned NPDES Permit. Data generated as a result of the sampling and analysis is summarized in a monthly Discharge Monitoring Report (DMR) and submitted to the Department on a regular basis as stipulated in the NPDES Permit.

From October, 2007 thru April, 2011, the Respondent has submitted Discharge Monitoring Reports, "5-Day Letters," and non-compliance letters to the Department, and has reported effluent violations of the above-mentioned NPDES Permit. The reported violations appear to be a direct result of improper operation, equipment failures, heavy rainfall events, and various other circumstances detailed in reports submitted to the Department.

Additionally, Respondent's New Castle, Delaware Plant failed to meet other specific requirements of NPDES Permit No. DE 0000621: On February 10, 2008 and February 11, 2008 there was an unpermitted discharge of coconut oil thru the 001 B Outfall and into the receiving ditch. During a Compliance Evaluation Inspection of Respondent's facility on November 4, 2010, a major violation of NPDES Permit No. DE0000621 was observed while inspecting Outfall 001B. On this day, when DNREC inspectors arrived at Outfall 001B, a thick black "oily-like" substance was observed floating on the top of the discharging effluent and was flowing out of the Respondent's parshall flume and into a small ditch that ultimately led to the Delaware River. There was also a good amount of foam observed in the area where the flume discharges into the ditch.

On October 1, 2010, Basin No. 6 (process wastewater and storm water) overflowed an estimated 190,700 gallons in the surrounding marsh, and on March 17, 2011, there was an unpermitted discharge, when Respondent discharged an estimated 1,600 gallons of 80% Sorbitol through Outfall 003.

On January 4, 2011, the Department issued a Notice of Violation (W-11-SWD-01) to Respondent for violations of their NPDES Permit. The following violations of the Respondent's NPDES Permit No. DE 0000621 are cited:

FINDINGS OF FACT - DIVISION OF WATER

The Respondent reported the following NPDES permit violations:

1. Violation: Failure to Meet Daily Maximum Concentration Permit Requirements for Biochemical Oxygen Demand, BOD₅

Part I, B.1, B.2, B.3, and B.4, of NPDES Permit DE 0000621 requires that the effluent limitations for BOD₅ shall not exceed a daily maximum concentration of 45.0 mg/l (Outfall 001A), 30.0 mg/l (Outfall 001B, Outfall 002, and Outfall 003). The following violations were reported:

- (13 days) November 13, 2007 – December 11, 2007: 176 mg/l (001B)
- (3 days) March 11, 2008 – March 13, 2008: 39 mg/l (001B)
- (17 days) April 3, 2008 – May 22, 2008: 60 mg/l (001A)
- (4 days) May 23, 2008 – June 2, 2008: 217 mg/l (001A)
- (6 days) August 20, 2008 – August 28, 2008: 36 mg/l (003)

2. Violation: Failure to Meet Daily Average Concentration Permit Requirements for Biochemical Oxygen Demand, BOD₅

Part I, B.1, B.2, B.3, and B.4, of NPDES Permit DE 0000621 requires that the effluent limitations for BOD₅ shall not exceed a daily average concentration of 30.0 mg/l (Outfall 001A), 17.0 mg/l (Outfall 001B, Outfall 002, and Outfall 003). The following violations were reported:

- November, 2007 – 72.3 mg/l (001B)
- March, 2008 – 18.5 mg/l (001B)
- April, 2008 – 60 mg/l (001A)
- May, 2008 – 217 mg/l (001A)
- August, 2008 – 25.0 mg/l (003)

3. Violation: Failure to Meet Monthly Average Loading Permit Requirements for Biochemical Oxygen Demand, BOD₅

Part I, B.2 of NPDES Permit DE 0000621 requires that the effluent limitations for BOD₅ shall not exceed a monthly average loading of 468 lbs/day (Outfall 001B). The following violation was reported:

- July, 2010 – 509 lbs/day

4. **Violation: Failure to Meet Permit Requirement that pH of the effluent shall be between 6.0 Standard Units and 9.0 Standard Units at all times:**

Part I, B.1, B.2, B.3, and B.4, of NPDES Permit DE 0000621 requires that the effluent pH shall be between 6.0 and 9.0 Standard Units. The following violations were reported:

- November 6, 2007 (001B) – pH = 3.3 S.U. (for 6 hrs)
- November 14, – 15, 2007 (001B): pH = 10.3 S.U. (>24 hrs.)
- July 31, 2008 (003) – pH 11.0 S.U. (for 2 hrs.)
- April 24, 2009 (003) – pH 10.15 S. U. (for ½ hr.)
- October 13 – 15, 2010: pH 12.7 (>24 hrs.)

5. **Violation: Failure to Meet Permit Requirement that the temperature of the effluent shall not exceed 110.0 °F:**

Part I, B.4, of NPDES Permit DE 0000621 requires that the effluent temperature shall not exceed 110 °F (Outfall 003). The following violation was reported:

- July 31, 2008: Temperature = 113 °F

6. **Violation: Failure to Meet General Clause that Requires the Discharge to be Free of Floating Solids, Sludge Deposits, Debris, Oil, and Scum:**

Part I, B.1, B.2, B.3, and B.4, of NPDES Permit DE 0000621 requires that the effluent be free of floating solids, sludge deposits, debris, oil, and scum.

- February 10 – 11, 2008 there was an unpermitted discharge of coconut oil thru the 001B Outfall and into the receiving ditch.
- November 4, 2010 there was an unpermitted discharge of a black “oily-type” substance thru 001B Outfall and into the receiving ditch.

7. **Violation:** (a) 7 Del. Admin. C. §7201 - 3.2.1, *Regulations Governing the Control of Water Pollution*, by discharging pollutants into surface water without a permit. (b) Violation of 7 Del. C. §6003(a)(2) by causing and contributing to the discharge of pollutants into the surface water without a permit.

- October 1, 2010 – Basin No. 6 (process wastewater and storm water) overflowed an estimated 190,700 gallons into the surrounding marsh.
- March 17, 2011 – estimated discharge of approximately 1,600 gallons of Sorbitol through Outfall 003.

Outfalls 001A, 001B, 003: NPDES Permit No. DE 0000621, Part I.B.1, I.B.2, and I.B.4 lists specific Effluent Limitations for these Outfalls that were not met.

VIOLATIONS - DIVISION OF WATER

STATUTORY AND REGULATORY

7 Del. C. § 6003 (a)(2) states: "No person shall, without first having obtained a permit from the Secretary, undertake any activity in any way which may cause or contribute to discharge of a pollutant into any surface or ground water."

7 Del. Admin. C. § 7201- 3.2.1 of the Water Pollution Regulations, states, in relevant part: "No person shall undertake any activity that causes or contributes to the discharge of a pollutant to any surface water or groundwater...." Violations of the Respondent's NPDES Permit No. DE 0000621 constitutes a violation of this section of 7 Del Admin. C. §7201 by discharging pollutants that exceeded permitted limitations as described in the respondent's NPDES permit.

7 Del. Admin. C. § 7201- 3.2.3 of the Water Pollution Regulations, states, in relevant part, "No person shall discharge any pollutant from a point source into surface or ground water, directly or indirectly, except as authorized...." Violations of the Respondent's NPDES Permit No. DE 0000621 constitutes a violation of this section of 7 Del Admin. C. §7201 by discharging pollutants that exceeded permitted limitations as described in the respondent's NPDES permit.

NPDES PERMIT VIOLATIONS

The Respondent's failure to meet the requirements of NPDES Permit No. DE0000621 is a direct violation as cited below:

- NPDES Permit No. DE0000621, Part I, B.1, B.2, B.3, and B.4, requires that effluent discharged from various outfalls shall meet specific limitations; effluent limitations for the above noted Outfalls were not met.
- NPDES Permit No. DE 0000621, Part II. A.3 (Facilities Operation) list specific requirements for maintaining in good order and operating as efficiently as possible all collection and treatment facilities and systems (and related appurtenances) installed or used by the permittee to achieve compliance with the terms and conditions of the permit.

CONCLUSIONS - DIVISION OF WATER

The Department has determined that the Respondent violated 7 Del. C. § 6003, 7 Del. Admin. C. §§ 7201- 3.2.1 and 3.2.3 of the Water Pollution Regulations and NPDES Permit No. DE 0000621.

BACKGROUND – DIVISION OF AIR QUALITY

Respondent's operations at its facility in New Castle ("Facility") require permits issued by the Division of Air Quality ("DAQ") pursuant to 7 Del. Admin. C. §1100. Specifically, permits issued pursuant to 7 Del. Admin. C. §1102 ("Regulation 1102") and 7 Del. Admin. C. §1130 ("Regulation 1130" or "Title V").

The violations described below under Air Quality Incident #1, fell under the purview of Title V permit, **AQM-003/00426-Renewal 1**, issued July 18, 2005. Since that time, the requirements of this permit were combined into another Title V permit, **AQM-003/00058-Renewal 2-Revision 2** with an effective date of February 5, 2010. The violations described below under Air Quality Incident #2, fell under the purview of Permit: **APC-2004/0723-OPERATION(Amendment 4)**.

Air Quality Incident #1

As required by its permit, Respondent submitted to the Department, an Annual Compliance Certification and Semi-Annual Report dated January 28, 2008, that indicated violations had occurred during the second half of 2007. Specifically, Respondent failed to monitor for or record visible boiler emissions as required by its Title V permit, **AQM-003/00426-Renewal 1**, on December 11, December 19 and December 29 through December 31. In addition, Respondent had no record of required calibration of the boiler oxygen analyzers for the weeks of September 24, October 15 and October 29. Finally, Respondent reported it has failed to record high and low calibration gas readings for the boiler oxygen analyzers during the weeks of September 24, October 15 and October 29. A Notice of Violation was issued for these violations on April 17, 2008.

Air Quality Incident #2

On May 10, 2008, Respondent was attempting to produce a batch of product in the 5 Autoclave. Approximately, 98 lbs. of ethylene oxide had been added to the autoclave, which in normal situations results in an increase of pressure in the autoclave which slowly decreases as it is consumed by the reaction in the autoclave. The increase of pressure occurred, but as operators noticed the expected decrease was not happening in a timely manner, they shut down the operation. After the autoclave cooled, a sample was pulled for analysis which showed no ethylene oxide in the material. Workers began transferring the material into a portable tote, when local oxide alarms sounded. A second sample of the material was tested and found to contain ethylene oxide. Subsequent investigation by Respondent found that it had an unpermitted release of no more than 96 lbs. of ethylene oxide during the transfer of the material to the tote. The Department was not notified of the release until May 12, 2008, instead of immediately upon Respondent's discovery on May 10, 2008. During a meeting with the Department on May 22, 2008, to discuss the event, Respondent had not, to date, evaluated the

emission release for compliance with permit emission limitations. A Notice of Violation was issued on August 19, 2008, for the violations of both 7 Del. Admin. C. § 1102 and **Permit: APC-2004/0723-OPERATION(Amendment 4)**, associated with this event.

REGULATORY AND PERMIT VIOLATIONS – DIVISION OF AIR QUALITY

Air Quality Incident #1

1. Condition 3 – Table 1(m)(2)(iii)(A) of **AQM-003/00426-Renewal 1** states:

“The Company shall conduct a survey during daylight hours when the emission unit is in operation to detect the presence or absence of visible emissions. This survey shall be conducted on the emission units...at the frequency specified. Daily - Boilers 1, 2, 3, and 4.”

2. Condition 3 – Table 1(b)(v)(A) of **AQM-003/00426-Renewal 1** states:

“The oxygen analyzers shall be checked for calibration weekly.”

3. Condition 3 – Table 1(b)(vi)(B) of **AQM-003/00426-Renewal 1** states:

“The Company shall record and maintain the following information:...A log of high and low calibration gas readings for the oxygen analyzers with a notation if a new calibration is required.”

Air Quality Incident #2

1. 7 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. 7 Del. Admin. C. § 1102-2.1 states:

“Except as exempted in 2.2 of this regulation, no person shall initiate construction, install, alter or initiate operation of any equipment or facility or air contaminant control device which will emit or prevent the emission of an air contaminant prior to receiving approval of his application from the Department or, if eligible, prior to submitting to the Department a completed registration form.”

3. Condition 2.2.2.3 of Permit: APC-2004/0723-OPERATION(Amendment 4) states:

"Any batch deviation resulting in the interruption of normal batch processing and a subsequent unplanned release of emissions shall be evaluated for compliance with the emission limitations established by this permit. If necessary, the Company shall perform a Toxicological and Dispersion analysis as described in Section 2.2.3.1 of this permit."

4. Condition 2.2.5 of Permit: APC-2004/0723-OPERATION(Amendment 4) states:

"At all times, including periods of startup, shutdown, and malfunction, the owner or operator shall, to the extent practicable, maintain and operate the facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating procedures are being used will be based on information available to the Department which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source."

5. Condition 2.5.3 of Permit: APC-2004/0723-OPERATION(Amendment 4) states:

"Emissions in excess of any permit condition or emissions which create a condition of air pollution shall be reported to the Department immediately upon discovery by calling the Environmental Emergency Notification and Complaint number, (800) 662-8802."

6. Condition 7.3.5 of Permit: APC-2004/0723-OPERATION(Amendment 4) states:

"The 5 Autoclave ejector scrubber shall be in service and operating properly during venting of emissions from the batch process train except during evacuation of the empty autoclave following the manufacture of ethoxylated products."

CONCLUSIONS – AIR QUALITY

Air Quality Incident #1

1. Respondent violated Condition 3 – Table 1(m)(2)(iii)(A) of AQM-003/00426-Renewal 1 when it failed to either conduct or record a survey of visible emissions from Boilers 1, 2, 3 and 4 on December 11, 2007; December 19, 2007; December 29-31, 2007.
2. Respondent violated Condition 3 – Table 1(b)(v)(A) of AQM-003/00426-Renewal 1 when it failed to check or record the boiler oxygen analyzers for calibration the weeks of September 24, 2007; October 15, 2007 and October 29, 2007.
3. Respondent violated Condition 3 – Table 1(b)(vi) of AQM-003/00426-Renewal 1 when it failed to record the high and low calibration gas readings for the boiler oxygen analyzers for the weeks of September 24, 2007; October 15, 2007 and October 29, 2007.

Air Quality Incident #2

1. Respondent violated 7 Del. C. § 6003(a)(1) and Section 2.1 of 7 Del. Admin. C. §1102 when it experienced the unpermitted release of 96 lbs of ethylene oxide from 5 Autoclave on May 10, 2008.
2. Respondent violated Condition 2.2.2.3 of **Permit: APC-2004/0723-OPERATION(Amendment 4)** when as of the date of the meeting with the Department to discuss the incident, May 22, 2008, it had not yet evaluated the emission release for compliance with its permit limitations.
3. Respondent violated Condition 2.2.5 of **Permit: APC-2004/0723-OPERATION(Amendment 4)** when the Department's review of the incident chronology showed that Respondent did not understand which chemicals it was processing at the time of the incident, nor did it recognize the presence of ethylene oxide in the unreacted material in the vessel and thus did not operate the facility in a manner to minimize emission from the 5 Autoclave.
4. Respondent violated Condition 2.5.3 of **Permit: APC-2004/0723-OPERATION(Amendment 4)** when it did not report the incident immediately to the Department when it discovered it, on May 10, 2008, instead reporting it to the Department on May 12, 2008.
5. Respondent violated Condition 7.3.5 of **Permit: APC-2004/0723-OPERATION(Amendment 4)** when the ejector scrubber was not in service during the venting of ethylene oxide from the 5 Autoclave on May 10, 2008.

ASSESSMENT OF PENALTY

Pursuant to the provisions of 7 Del. C. § 6005(b)(3), this is written notice to the Respondent that on the basis of its findings, the Department is assessing the Respondent an administrative penalty of ***fifty-two thousand three hundred fifty dollars*** (\$52,350) for the violations identified in this Assessment and Order.

In addition to the penalty assessment, the Respondent is hereby assessed estimated costs in the amount of ***seven thousand eight hundred fifty-three dollars*** (\$7,853) pursuant to 7 Del. C. § 6005(c).

Respondent shall remit two checks payable to the State of Delaware in the amounts of \$52,350 and \$7,853, within thirty (30) days of receipt of this Notice, to Kevin Maloney, Deputy Attorney General, Department of Justice, 102 W. Water Street-3rd Floor, Dover, DE 19904.

PUBLIC HEARING

This Notice of Administrative Penalty Assessment and Secretary's Order shall become effective and final unless the Department receives from Respondent, no later than thirty (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). In the event the Respondent requests a hearing, the Department reserves the right to withdraw this Assessment and Order and take any additional enforcement action it deems appropriate, including, but not limited to, the imposition of civil penalties and recovery of the Department's costs pursuant to 7 *Del. C.* § 6005. 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

In the alternative, the Respondent may prepay the penalty to the Department within thirty (30) days and sign the attached waiver and return it to the Department. By doing so, the Respondent waives the right to a hearing and the opportunity to appeal or contest this Assessment and Order.

DATE: 2/22/12



Collin P. O'Mara, Secretary

cc: Kevin Maloney, Deputy Attorney General
Kathleen M. Stiller, Director, DNREC Division of Water
Ali Mirzakhali, P.E., Director, Division of Air Quality
Robert G. Underwood, Program Manager, Division of Water
Paul Foster, P.E., Program Manager, Division of Air Quality
Everett DeWhitt, Ph.D., Managing Engineer, Division of Air Quality
Roy W. Heineman, Paralegal, Division of Water
Dawn Minor, Paralegal, Division of Air Quality
Jennifer M. Bothell, Enforcement Coordinator
Division of Air Quality Dover Files

WAIVER OF STATUTORY RIGHT TO A HEARING

Croda, Inc. hereby waives its right to a hearing and its opportunity to appeal or contest this Assessment and Order and agrees to the following:

1. **Croda, Inc.** will pay the administrative penalty in the amount of **\$52,350** 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 Kevin Maloney, Deputy Attorney General, Department of Justice, 102 W. Water Street-3rd Floor, Dover, DE 19904;
2. **Croda, Inc.** will reimburse the Department in the amount of **\$7,853**, 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 shall be directed to Kevin Maloney, Deputy Attorney General, Department of Justice, 102 W. Water Street-3rd Floor, Dover, DE 19904.

Croda, Inc., New Castle, Delaware:

Date: _____

By: _____
(Signature)

Title: _____

Name: _____
(Print)