



July 30, 2020

097035AAQ
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Illinois Environmental Protection Agency
Bureau of Air, Compliance Section (#40)
1021 North Grand Avenue, East
P.O. Box 19276
Springfield, IL 62794-9276
Telephone: 217/782-5811

**RE: Construction Permit No. 19100015 Quarterly Report – Q2 2020
Vantage Specialties Inc., Gurnee, IL (Facility ID 097035AAQ)**

To Whom It May Concern:

Vantage Specialties Inc. (Vantage Specialties) hereby submits the Quarterly Report for Construction Permit No. 19100015, for our plant located in Gurnee, Illinois (Facility ID 097035AAQ). On December 17, 2019, Vantage Specialties received Construction Permit No. 19100015, which sets an annual cap on the Gurnee Facility's emissions of Ethylene Oxide (EO) beginning in calendar year 2020. This report is submitted pursuant to Condition 7(a) of the Construction Permit. The Construction Permit conditions that specify quarterly report details are included below, shown in italics, with our responses to each condition following in bold.

General Conditions

Construction Permit No. 19100015 requires the following:

Condition 7 (a):

The Permittee shall submit quarterly reports to the Illinois EPA that include the following information. These reports shall be submitted within 30 days of the end of each calendar quarter.

This quarterly report covers the period of April 1, 2020, to June 30, 2020. This quarterly report is being submitted within 30 days of the end of the calendar quarter (i.e., by July 30, 2020).

(i). The information required to be reported in these quarterly reports by other conditions of this permit.

This quarterly report includes the information required by Conditions 7(a), 17(b), 17(c)(ii), 22(a), and 22(b)(ii) of Construction Permit No. 19100015.

(ii). A summary of the notifications required to be submitted by other conditions of this permit for deviations from the requirements of this permit, if any, during the quarter.

Please see item 17(c)(ii) below.

(iii). For the first, second and third quarters for a calendar year:

- 1) *The cumulative emissions of ethylene oxide in the calendar year from the affected facility in total and from affected components based on emission data collected through such period(s) and,*

Please see table below.

- 2) *If cumulative emissions are more than 25, 50 or 75 percent, respectively, of the emission cap in Condition 3(a), a discussion of whether these cumulative emissions were the result of circumstances that are expected to be present in the remainder of the calendar year.*

The cumulative emissions are not more than 50% of the emission cap in condition 3(a).

Cumulative Emissions of Ethylene Oxide as of the Second Quarter

| | Emission Cap (lbs/year) | Cumulative Emissions (lbs far year-to- date) | Cumulative Emissions/ Emission Cap (%) |
|---------------------|----------------------------|---|---|
| Affected Facility | 110 | 40.36 | 36.69% |
| Affected Components | 60 | 21.36 | 35.60% |

Note: * Emission Cap per Condition 3(a) of Construction Permit No. 19100015. The cap limits emissions per calendar year.

(iv). With the quarterly report for the fourth quarter in each calendar year:

- 1) *Emissions of ethylene oxide of the affected facility and from affected components for the calendar year, and*
- 2) *If emissions exceed the emission cap in Condition 3(a), provide the notification for the deviation from this cap pursuant to Condition 7(b)(i) in this quarterly report.*

This permit condition does not apply to this quarterly report.

Affected Process Equipment

Construction Permit No. 19100015 requires the following:

Condition 17 (b).

In the quarterly reports required by Condition 7 (a), the Permittee shall provide information describing changes to the monitoring systems that are required by Conditions 13(a) and (b), if any, to improve the limit of quantification of these systems, including a description of the changes, the rationale for the changes, a description of the expected and actual result of the changes, and confirmation that the changes did not negatively affect the performance of the monitoring systems.

In June 2020, a Thermal Oxidizer Module (TOM) was integrated in the Max Analytical Emission Monitoring System (EMS-10™/EO)¹. The IEPA and Max Analytical recommended installing a TOM to minimize zero drift and bias in the measurement due to spectral interferences. This improves the stability and the sensitivity of the EMS-10™/EO.

Following the installation of the TOM, a TOM Efficiency test and a Quarterly Method 301 Validation Test were performed by Max Analytical on the EMS-10™/EO. Both tests passed on June 12, 2020.

Condition 17 (c)(ii).

Notifications for other deviations shall be submitted with the quarterly report.

¹ The EMS-10™/EO is a fully automated FTIR-based gas and emission monitoring system that was installed in December 2019 on the stack of the Dry Bed System to measure the concentration of EO in the exhaust stream in parts per billion by volume (ppbv).

From April 2nd to April 6th, daily calibrations of the CEMS did not occur due to a glitch caused by a Max Analytical software update for the CEMS analyzer. Vantage Specialties is reporting this as a deviation from Condition 13(c)(ii), which refers to 40 CFR 63.8(c), in which paragraph 63.8(c)(6) mentions calibrations at least once daily. The daily calibration has been conducted since Max Analytical issued a software update on April 6th that fixed the issue. The CEMS analyzer did continuous data collection during this time period. Vantage Specialties plans to confirm daily calibrations are occurring properly following any future software updates.

Affected Components

Construction Permit No. 19100015 requires the following:

Condition 22(a):

In the quarterly reports required by Condition 7(a), the Permittee shall include the following information for each monitoring campaign for affected components completed during the quarter. To the extent that the specified information is not yet available (e.g., maintenance of components in response to the campaign is not completed), such information shall be reported in the subsequent quarterly report.

(i). General information for each monitoring campaign, including

- 1) Responsible entity;*
- 2) Start and end dates;*
- 3) Number of monitoring personnel;*
- 4) Total number of components in the affected facility;*
- 5) Number of components monitored; and*
- 6) Numbers of components, by the applicable reason (e.g., not in operation or not in ethylene oxide service at the time of the campaign), that were not monitored.*

Please see below for the general information for the monitoring campaigns during the reporting period.

| | April | May | June |
|--|-------------------------------|-------------------------------|-------------------------------|
| Responsible entity | Montrose Air Quality Services | Montrose Air Quality Services | Montrose Air Quality Services |
| Start Date | 4/1/2020 | 5/1/2020 | 6/1/2020 |
| End Date | 4/3/2020 | 5/4/2020 | 6/1/2020 |
| Number of monitoring personnel | 1 | 1 | 1 |
| Total number of components in the affected facility | 712 | 712 | 712 |
| Number of components monitored | 712 | 712 | 712 |
| Numbers of components, by the applicable reason (e.g., not in operation or not in ethylene oxide service at the time of the campaign), that were not monitored | 0 | 0 | 0 |

(ii). Summary information for components that were not leaking for which maintenance was initiated as a result of the monitoring, including the numbers of components, by the type of component, for which maintenance was performed.

There were no components that were not leaking for which maintenance was initiated as a result of the monitoring during the reporting period.

(iii). Detailed information for each leaking component that was identified in the monitoring campaign, including:

- 1) Component Identifier;*
- 2) Type of component;*
- 3) Dates and times when the initial repair was completed and follow-up monitoring was conducted;*
- 4) If further repairs were needed, dates and times when final repairs were completed and follow-up monitoring conducted, and*
- 5) A description of the repair(s) that were completed for the component.*

There were no leaking components in April, May, and June 2020.

Condition 22 (b)(ii):

Notifications for other deviations shall be submitted with the quarterly report

There were no deviations from the affected component permit conditions in April, May, and June 2020.

Vantage Specialties is submitting this report electronically per conversations with IEPA due to the COVID-19 pandemic. The original report will be mailed when practical.

If there are any questions concerning this report, please do not hesitate to call the Gurnee Facility's Environmental Engineer, Ms. Dee Vanek, at (847) 249-6805.

Sincerely,



Bernie Stratton
Site Manager

7/30/2020

Date