

April 28, 2025

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Illinois Environmental Protection Agency
Bureau of Air, Compliance Section (#40)
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APR 29 2025

ENVIRONMENTAL PROTECTION AGENCY
BUREAU OF AIR

RE: Construction Permit No. 19100015 Quarterly Report – Q1 2025
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 January 1, 2025, to March 31, 2025. This quarterly report is being submitted within 30 days of the end of the calendar quarter (i.e., by April 30, 2025).

(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 refer to the discussion of Condition 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 the 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 determined in accordance with the provisions of the construction permit are not more than 25% of the emission cap in Condition 3(a).

Cumulative Emissions of Ethylene Oxide for the First Quarter of 2025

	Emission Cap (lbs/year) *	Cumulative Emissions (lbs for year-to- date)	Cumulative Emissions/ Emission Cap (%)
Affected Facility	110	10.41	9.47%
Affected Components	60	9.24	15.4%

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.

No changes were required by Conditions 13(a) and (b) to improve the limit of quantification of these systems during the reporting period.

Condition 17 (c)(ii):

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

On Monday January 6, 2025, it was discovered that data generated over the previous two days was not stored to the CEMS hard drive. A low disk space message was displayed on the CEMS screen. ThermoFisher was contacted that morning for guidance on how to resolve the issue. ThermoFisher logged onto our CEMS and advised us that the CEMS hard drive had very limited storage space available.

ThermoFisher also stated that the CEMS system did not have another hard drive server to transfer the data and free up space.

During the call on January 6, 2025, ThermoFisher recommended to Vantage that we work with our IT department to acquire an external hard drive and move historical data to that new external hard drive to free up space on the CEMS hard drive. ThermoFisher also advised that until the data was transferred and then deleted from the CEMS hard drive, new data would not be stored on the CEMS hard drive due to insufficient space available. On Tuesday, January 7, 2025, an external hard drive was purchased by Vantage and connected to the CEMS. Data from 2020 through 2022 was copied to the external hard drive and deleted from the CEMS hard drive. Data starting in January 2023 remains on the CEMS hard drive. A successful daily calibration was performed later that day, and disk space was available to begin saving data on the CEMS hard drive. Due to the insufficient disk space available, data and daily reports for much of January 4 through 6 were not generated and saved to the CEMS hard drive. While there is no documented evidence of daily calibrations being performed on Saturday, January 4 through Monday January 6, 2025, the successful calibration on Tuesday, January 7, indicated that there is no reason to believe the CEMS was operating improperly. Further there were no CEMS fault emails indicating the daily calibrations did not occur. The compendium of emissions was used to calculate the emissions during the period when data was not available. Vantage is reporting this as a deviation from Condition 13(c)(ii), for that condition's reference to the daily calibration requirement of 40 CFR 63.8(c)(6).

Vantage plans to periodically transfer data to the external hard drive and delete that historical data from the CEMS hard drive. The external hard drive is capable of storing at a minimum five years of historical data.

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.

	January	February	March
Responsible entity	Montrose Air Quality Services	Montrose Air Quality Services	Montrose Air Quality Services
Start Date	1/7/2025	2/4/2025	3/5/2025

End Date	1/8/2025	2/6/2025	3/7/2025
Number of monitoring personnel	1	1	1
Total number of components in the affected facility	732	732	731 ¹
Number of components monitored	732	732	731 ¹
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

Notes:

(1) 1 component permanently removed from service.

(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.

Tag# 000611.000, valve.

Tag# 000479.002, flange.

(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.

Detailed information for the leaks detected in January, February, and March 2025 is provided in the following table.

Detailed Information for Each Leaking Component in Q1 2025 Monitoring Campaigns

Component Identifier (Tag Number)	Type of Component	Repair	Follow-up Monitoring	Repair Method
000447.000	Valve	1/7/2025 – 7:50 AM	1/7/2025 – 2:28 PM	Tightened Packing
000537.005	Flange	1/7/2025 – 11:10 AM	1/7/2025 – 2:24 PM	Tightened Bolts
000229.000	Connector	2/4/2025 – 7:38 AM	2/6/2025 – 1:29 PM	Replaced Gasket
000352A.001	Connector	2/4/2025 – 1:54 AM	2/6/2025 – 9:20 AM	Replaced Component

000799.000	Valve	2/5/2025 – 11:51 AM	2/6/2025 – 11:59 AM	Removed Component
000229.000	Connector	3/5/2025 – 1:28 PM	3/6/2025 – 7:24 AM	Replaced Washers and I-bolt


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 January, February, or March 2025.

If there are any questions concerning this report, please do not hesitate to call Gurnee Environmental Engineer, Raymond Doerr, at (847) 249-6374.

Sincerely,



William Nothvogel
Site Manager

4/28/2025
Date