

January 29, 2024

Illinois Environmental Protection Agency  
Bureau of Air, Compliance Section (#40)  
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RECEIVED  
STATE OF ILLINOIS  
FEB 01 2024  
ENVIRONMENTAL PROTECTION AGENCY  
BUREAU OF AIR

RE: *Construction Permit No. 19100015 Quarterly Report - Q4 2023*  
*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 October 1, 2023, to December 31, 2023. This quarterly report is being submitted within 30 days of the end of the calendar quarter (i.e., by January 30, 2024).**

*(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.*

**Vantage Specialties did not have any deviations from the requirements of Construction Permit No. 19100015 during the reporting period. Therefore, no such notifications were submitted.**

*(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,*

**This permit condition does not apply to this quarterly report.**

- 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.*

**This permit condition does not apply to this quarterly report.**

(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 the cumulative emissions determined in accordance with the provisions of the construction permit are:*

**Cumulative Emissions of Ethylene Oxide for the Calendar Year of 2023**

	Emission Cap (lbs/year) *	Cumulative Emissions (lbs for year-to- date)	Cumulative Emissions/ Emission Cap (%)
Affected Facility	110	20.21	18.38 %
Affected Components	60	16.10	26.84 %

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

- 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.*

**The cumulative emissions determined in accordance with the provisions of the construction permit for the calendar year are not more than the emission cap in condition 3(a).**

**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.*

**No deviations (i.e., missed daily calibrations or other events) during the quarterly period.**

**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.

	October	November	December
<b>Responsible entity</b>	Montrose Air Quality Services	Montrose Air Quality Services	Montrose Air Quality Services
<b>Start Date</b>	10/9/2023	11/1/2023	12/5/2023
<b>End Date</b>	10/9/2023	11/2/2023	12/6/2023
<b>Number of monitoring personnel</b>	1	1	1
<b>Total number of components in the affected facility</b>	778	776	776
<b>Number of components monitored</b>	776	776	776
<b>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</b>	0	0	0

For October, two check valves (686 & 689) are in the database of monitored components and have been monitored in the past. Vantage’s LDAR contractor, Montrose, recently determined that these two check valves are a welded design (no valve stem or other leak source) and therefore are exempt from monitoring. The check valves are flanged, however, and those connections are monitored. Based on the LDAR contractor’s standard practices for equipment counts, the two check valves remain in the component inventory because of their flanged connections. This results in a total component count for the affected facility of 778, even though only 776 of those components require monitoring. All components subject to monitoring were monitored each month. No components requiring monitoring were missed. The two exempt components were returned to the monthly monitoring in November so that all components listed in the inventory are monitored during each monitoring campaign. This will also be the case going forward.

For November and December, two components were permanently removed from service decreasing the total number of components from 778 to 776.

(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 all of Q4 2023. As such, no information is provided in the following table.

Detailed Information for Each Leaking Component in Q4 2023 Monitoring Campaigns

Component Identifier (Tag Number)	Type of Component	Repair	Follow-up Monitoring	Repair Method
None	None	None	None	None

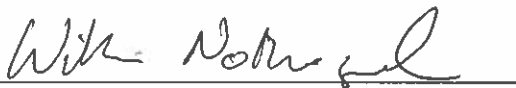
Condition 22 (b)(ii):

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

There were no deviations from the affected component permit conditions in October, November, or December 2023.

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

1/29/2024  
Date