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July 30, 2021

cc: Mohr

097035 AAQ  
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Illinois Environmental Protection Agency  
Bureau of Air, Compliance Section (#40)  
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STATE OF ILLINOIS

AUG 03 2021

ENVIRONMENTAL PROTECTION AGENCY  
BUREAU OF AIR

RE: *Construction Permit No. 19100015 Quarterly Report - Q2 2021*  
*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, 2021, to June 30, 2021. This quarterly report is being submitted within 30 days of the end of the calendar quarter (i.e., by July 30, 2021).**

*(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.*

**In April 2021, Vantage Specialties compiled all EO emissions within 20 days after the end of the 1st quarter, except for one event in March 2021, for which the compendium of emissions was required to estimate 0.00574 lbs of emissions during an extended CEMS calibration event. These calculations were compiled by the end of April for a timely quarterly report. Because this was a calibration-related event (i.e., not a monitor malfunction or breakdown), Vantage initially overlooked the need for a 5-day deviation report per Conditions 17(c)(i)(B) and 7(b)(i)(B), and no such 5-day reports have been required to-date under the permit.**

**Please also 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 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 for the Second Quarter of 2021**

	Emission Cap (lbs/year) *	Cumulative Emissions (lbs for year-to- date)	Cumulative Emissions/ Emission Cap (%)
Affected Facility	110	11.48	10.44%
Affected Components	60	5.71	9.52%

**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.

From April 3rd – April 7th, the portion of the daily CEMS calibration involving methane did not occur due to the methane cylinder being empty. Vantage 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)(3) mentions completing the manufacturer’s written specifications or recommendations for calibration of the system. The daily methane check is recommended by the manufacturer. Note, however, that the EO calibrations ran correctly on all of these dates, and as such there was no monitor downtime and the EO readings from the monitor are believed to be accurate.

**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.**

	<b>April</b>	<b>May</b>	<b>June</b>
<b>Responsible entity</b>	Montrose Air Quality Services	Montrose Air Quality Services	Montrose Air Quality Services
<b>Start Date</b>	4/2/2021	5/5/2021	6/1/2021
<b>End Date</b>	4/2/2021	5/5/2021	6/1/2021
<b>Number of monitoring personnel</b>	1	1	1
<b>Total number of components in the affected facility</b>	712	712	712
<b>Number of components monitored</b>	712	712	712
<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

(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 and May 2021. Detailed information for the only leak detected in June 2021 is provided in the following table.

**Detailed Information for Each Leaking Component in June 2021 Monitoring Campaign**

Component Identifier (Tag Number)	Type of Component	Repair	Follow-up Monitoring	Repair Method
0229.1	Flange	June 1, 2021 ~7:00	June 1, 2021 ~7:30 PM	Tightening

Component 0229.1 was repaired on the initial monitoring day and passed the follow-up monitoring. No further repairs were needed.

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, or June 2021.

If there are any questions concerning this report, please do not hesitate to call me at (847) 249-6809.

Sincerely,



**Bernie Stratton**  
Site Manager

7/30/2021

Date