

Executive Summary

Montrose Air Quality Services (MAQS) was retained by Packaging Corporation of America (PCA) to conduct the annual performance testing on the non-condensable gas closed vent system (CVS) identified as FGMACT_SUBPART_S located at the PCA facility in Filer City, Michigan. The testing was performed to identify any leaks that may be present along the CVS that comes off the digester and evaporator system to where it exits the building, and is transferred and introduced into the flame zone of an on-site boiler. A leak is defined as a constant reading of 500 ppm above background.

Sampling was performed utilizing United States Environmental Protection Agency (USEPA) reference test methods. Testing was conducted on April 7, 2021 to determine if leaks exist at the positive pressure segments of the non-condensable closed vent system. The closed vent system exhibited compliance as defined by the appropriate regulations.

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1.0 Introduction

Montrose Air Quality Services (MAQS) was retained by Packaging Corporation of America (PCA) to conduct the annual performance testing on the non-condensable gas closed vent system (CVS) identified as FGMACT_SUBPART_S located at the PCA facility in Filer City, Michigan. The testing was performed to identify any leaks that may be present along the CVS that comes off the digester and evaporator system to where it exits the building, and is transferred and introduced into the flame zone of an on-site boiler. A leak is defined as a constant reading of 500 ppm above background.

Testing occurred on April 7, 2021. The following MAQS professionals participated in conducting this study: Steve Smith, Client Project Manager; and Ben Durham, Environmental Technician. Ms. Angela Wang with PCA provided the on-site coordination for this project.

2.0 Process Description

The low volume, high concentration (LVHC) Collection System at PCA's Filer City Mill includes various equipment (i.e. hoods, vents, ductwork, gas movers, etc.) that collects the low volume, high concentration gases from the digester and evaporator systems and conveys the gases to No. 1, No. 2, or No. 4A Boiler for destruction. In addition, the Mill collects gases from the pulp washers using the LVHC Collection System and conveys these gases to the No. 1, No. 2, or No. 4A Boiler for destruction.

3.0 Measurement Location

The sampling was performed in accordance with the procedures outlined in Appendix A of 40 CFR part 60, Method 21, and the specifications described in Subpart S of 40 CFR part 63. A portable flame ionization detector (FID) was used to detect VOC emissions from individual sources within FGMACT_SUBPART_S. The instrument was calibrated prior to use using an air tank for the zero, and a mixture of methane in air for the upscale calibration. The calibration gases used were certified by the manufacturer to be within 2 percent accuracy, with a known shelf life. Calibration data can be found in Appendix C.

The probe inlet of the FID was placed at the surface of the component interface where leakage could potentially occur. The probe was moved along the interface periphery while observing the instrument readout. The probe inlet was left at the maximum reading location for approximately two (2) times the instrument response time, or eight (8) seconds.

The maximum reading during this test program did not exceed 5 ppm. Therefore, no leaks were present on the non-condensable gas CVS as defined in 40 CFR 63.457.

4.0 Applicable Regulations

The monitoring was performed in accordance with Parts 60 and 63 of 40 CFR. The following information is provided to show the applicable regulations and standards pertaining to the CVS located at PCA in Filer City, Michigan.

§ 63.450 Standards for enclosures and closed-vent systems.

Each enclosure and closed-vent system specified in §§63.443(c), 63.444(b), and 63.445(b) for capturing and transporting vent streams that contain HAP shall meet the requirements specified in paragraphs (b) through (d) of this section.

Each enclosure shall maintain negative pressure at each enclosure or hood opening as demonstrated by the procedures specified in §63.457(e). Each enclosure or hood opening closed during the initial performance test specified in §63.457(a) shall be maintained in the same closed and sealed position as during the performance test at all times except when necessary to use the opening for sampling, inspection, maintenance, or repairs.

Each component of the closed-vent system used to comply with §§63.443(c), 63.444(b), and 63.445(b) that is operated at positive pressure and located prior to a control device shall be designed for and operated with no detectable leaks as indicated by an instrument reading of less than 500 parts per million by volume above background, as measured by the procedures specified in §63.457(d).

Each bypass line in the closed-vent system that could divert vent streams containing HAP to the atmosphere without meeting the emission limitations in §§63.443, 63.444, or 63.445 shall comply with either of the following requirements:

On each bypass line, the owner or operator shall install, calibrate, maintain, and operate according to the manufacturer's specifications a flow indicator that is capable of taking periodic readings as frequently as specified in §63.454(e). The flow indicator shall be installed in the bypass line in such a way as to indicate flow in the bypass line; or

For bypass line valves that are not computer controlled, the owner or operator shall maintain the bypass line valve in the closed position with a car seal or a seal placed on the valve or closure mechanism in such a way that valve or closure mechanism cannot be opened without breaking the seal

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17563, Apr. 12, 1999; 68 FR 37348, June 23, 2003]

5.0 Summary of Results

Testing was conducted on April 7, 2021 to determine if leaks exist at the positive pressure segments of the non-condensable closed vent system. The closed vent system exhibited compliance as defined by the appropriate regulations.


Measurement Uncertainty Statement

Both qualitative and quantitative factors contribute to field measurement uncertainty and should be taken into consideration when interpreting the results contained within this report. Whenever possible, Montrose Air Quality Services, LLC, (MAQS) personnel reduce the impact of these uncertainty factors through the use of approved and validated test methods. In addition, MAQS personnel perform routine instrument and equipment calibrations and ensure that the calibration standards, instruments, and equipment used during test events meet, at a minimum, test method specifications as well as the specifications of our Quality Manual and ASTM D 7036-04. The limitations of the various methods, instruments, equipment, and materials utilized during this test have been reasonably considered, but the ultimate impact of the cumulative uncertainty of this project is not fully identified within the results of this report.

Limitations

All testing performed was done in conformance to the ASTM D7036-04 standard. The information and opinions rendered in this report are exclusively for use by PCA. MAQS will not distribute or publish this report without PCA's consent except as required by law or court order. MAQS accepts responsibility for the competent performance of its duties in executing the assignment and preparing reports in accordance with the normal standards of the profession, but disclaims any responsibility for consequential damages.

This report was prepared by: *Steven Smith*
Steve Smith
Client Project Manager

This report was reviewed by: 
Matthew Young
District Manager