Appendix CAM

BP Products North America, Inc.
Facility ID No.: 0310179
Duval County

Title V Air Operation Permit Revision
DRAFT Permit No.: 0310179-019-AV
Revision of Permit No. 0310179-014-AV

Compliance Assurance Monitoring Requirements

Pursuant to Rule 62-213.440(1)(b)1.a., FAC, the CAM plans that are included in this appendix contain the monitoring requirements necessary to satisfy 40 CFR 64. Conditions 1. – 17. are generic conditions applicable to all emissions units that are subject to the CAM requirements. Specific requirements related to each emissions unit are contained in the attached tables, as submitted by the applicant and approved by the Department.

40 CFR 64.6 Approval of Monitoring.

1. The attached CAM plan(s), as submitted by the applicant, is/are approved for the purposes of satisfying the requirements of 40 CFR 64.3.
   [40 CFR 64.6(a)]

2. The attached CAM plan(s) include the following information:

   (i) The indicator(s) to be monitored (such as temperature, pressure drop, emissions, or similar parameter);
   (ii) The means or device to be used to measure the indicator(s) (such as temperature measurement device, visual observation, or CEMS); and
   (iii) The performance requirements established to satisfy 40 CFR 64.3(b) or (d), as applicable.
   [40 CFR 64.6(c)(1)]

3. The attached CAM plan(s) describe the means by which the owner or operator will define an exceedance of the permitted limits or an excursion from the stated indicator ranges and averaging periods for purposes of responding to (see **CAM Conditions 5. - 14.)** and reporting exceedances or excursions (see **CAM Conditions** Error! Reference source not found. **–** Error! Reference source not found.).
   [40 CFR 64.6(c)(2)]

4. The permittee is required to conduct the monitoring specified in the attached CAM plan(s) and shall fulfill the obligations specified in the conditions below (see **CAM Conditions 5. - Error! Reference source not found.**).
   [40 CFR 64.6(c)(3)]

40 CFR 64.7 Operation of Approved Monitoring.

5. Commencement of operation. The owner or operator shall conduct the monitoring required under this appendix upon the received date of this Title V permit.
   [40 CFR 64.7(a)]

6. Proper maintenance. At all times, the owner or operator shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.
   [40 CFR 64.7(b)]

7. Continued operation. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid

data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.
[40 CFR 64.7(c)]

8. Response to excursions or exceedances.

   a. Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions, if allowed by this permit). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

   b. Determination of whether the owner or operator has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

   [40 CFR 64.7(d)(1) & (2)]

9. Documentation of need for improved monitoring. If the owner or operator identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the owner or operator shall promptly notify the permitting authority and, if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.
   [40 CFR 64.7(e)]

40 CFR 64.8 Quality Improvement Plan (QIP) Requirements.

10. Based on the results of a determination made under CAM Condition 8.a., above, the permitting authority may require the owner or operator to develop and implement a QIP. Consistent with CAM Condition 4., an accumulation of exceedances or excursions exceeding 5 percent duration of a pollutant-specific emissions unit's operating time for a reporting period, may require the implementation of a QIP. The threshold may be set at a higher or lower percent or may rely on other criteria for purposes of indicating whether a pollutant-specific emissions unit is being maintained and operated in a manner consistent with good air pollution control practices.
    [40 CFR 64.8(a)]

11. Elements of a QIP:

    a. The owner or operator shall maintain a written QIP, if required, and have it available for inspection.

    b. The plan initially shall include procedures for evaluating the control performance problems and, based on the results of the evaluation procedures, the owner or operator shall modify the plan to include procedures for conducting one or more of the following actions, as appropriate:
       (i) Improved preventive maintenance practices.
       (ii) Process operation changes.
       (iii) Appropriate improvements to control methods.
       (iv) Other steps appropriate to correct control performance.

       (v) More frequent or improved monitoring (only in conjunction with one or more steps under CAM Condition 11.b(i) through (iv), above).

    [40 CFR 64.8(b)]

12. If a QIP is required, the owner or operator shall develop and implement a QIP as expeditiously as practicable and shall notify the permitting authority if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.
    [40 CFR 64.8(c)]

13. Following implementation of a QIP, upon any subsequent determination pursuant to CAM Condition 8.b., the permitting authority may require that an owner or operator make reasonable changes to the QIP if the QIP is found to have:

    a. Failed to address the cause of the control device performance problems; or

    b. Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

    [40 CFR 64.8(d)]

14. Implementation of a QIP shall not excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act.
    [40 CFR 64.8(e)]

40 CFR 64.9 Reporting And Recordkeeping Requirements.

15. General reporting requirements.

    a. On and after the date specified in CAM Condition 5. by which the owner or operator must use monitoring that meets the requirements of this appendix, the owner or operator shall submit monitoring reports semi-annually to the permitting authority in accordance with Rule 62-213.440(1)(b)3.a., F.A.C.

    b. A report for monitoring under this part shall include, at a minimum, the information required under Rule 62-213.440(1)(b)3.a., F.A.C., and the following information, as applicable:
       (i) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;

(ii) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and

(iii) A description of the actions taken to implement a QIP during the reporting period as specified in CAM Conditions 10. through 14. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

[40 CFR 64.9(a)]

16. General recordkeeping requirements.

a. The owner or operator shall comply with the recordkeeping requirements specified in Rule 62-213.440(1)(b)2., F.A.C. The owner or operator shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to CAM Conditions 10. through 14. and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under this part (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).

b. Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.

[40 CFR 64.9(b)]

40 CFR 64.10 Savings Provisions.

17. It should be noted that nothing in this appendix shall:

a. Excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act. The requirements of this appendix shall not be used to justify the approval of monitoring less stringent than the monitoring which is required under separate legal authority and are not intended to establish minimum requirements for the purpose of determining the monitoring to be imposed under separate authority under the Act, including monitoring in permits issued pursuant to title I of the Act. The purpose of this part is to require, as part of the issuance of a permit under Title V of the Act, improved or new monitoring at those emissions units where monitoring requirements do not exist or are inadequate to meet the requirements of this part.

b. Restrict or abrogate the authority of the Administrator or the permitting authority to impose additional or more stringent monitoring, recordkeeping, testing, or reporting requirements on any owner or operator of a source under any provision of the Act, including but not limited to sections 114(a)(1) and 504(b), or state law, as applicable.

c. Restrict or abrogate the authority of the Administrator or permitting authority to take any enforcement action under the Act for any violation of an applicable requirement or of any person to take action under section 304 of the Act.
[40 CFR 64.10]

OVERVIEW

This Compliance Assurance Monitoring Plan (CAM) is based on several factors as follows (See Figure 1 in the Process Description section in Attachment A):

- The Vapor Recovery Unit (VRU) is the primary air pollution control unit for the two truck loading racks.
- The Vapor Combustion Unit (VCU) is the secondary air pollution control unit for the two truck loading racks.
- Typically, the Bladder tank receives the vapors from both racks, stores them and dispenses the vapors to either the VRU or VCU for reducing the emissions to 20 mg/L of gasoline loaded at the racks. A blower moves the gases from the bladder tank to either the VRU or VCU. The bladder tank has a high-level monitor which will shutdown both racks when the tank gets full. There is an alternate operation mode where the VRU can service the truck loading rack at Terminal A directly and not go through the Bladder tank. Also, the VCU can service the truck loading rack at Terminal B directly without going through the Bladder tank.

The CAM plan has 3 (three) options depending on the operating status of the VRU, VCU and hydrocarbon analyzer:

<u>Option 1 - Hydrocarbon analyzer is working and a VRU is in use</u>

Use of CAM Indicator #1:

Indicator #1 is the use of a hydrocarbon analyzer to sample the exhaust gases from the VRU. The analyzer's controls are setup to avoid an "excursion" of a maximum rolling 6-hour average exhaust concentration of 2.0% by volume as Propane (20,000 ppmv). This level is reported by the monitor's manufacturer to be an indirect indication of the permit limit of 20 mg of gasoline loaded (mg/L) (See Attachment B). [Note: the monitor measures concentration alone (ppmv) and does not have gas flow data and gasoline loading data to needed to calculate an "exceedance" of the permitted limit (i.e., 20 mg/L).]

The bladder tank's blower will be shut down by the analyzer when the VRU's exhaust contains 2.0% (i.e., 20,000 ppmv). Following shut down, truck loading will continue to operate until the HIGH level of the bladder tank is reached. The tank's HIGH level monitor will shutdown both truck loading racks. The VRU will remain active to allow for it to cycle through its self cleaning operations (i.e., switching carbon vessels every 13 to 15 minutes). The operator can manually reset the load racks when the bladder tank is at or below its high level cutoff and either the VRU exhaust emissions are below 2.0% or the VCU is operational within its own safeguards described below. The VRU will not be used (in-service) unless its exhaust concentrations are below 2%.

If operating in the alternate mode (not going through the Bladder tank), if the VRU's exhaust contains 2.0% (i.e., 20,000 ppmv), the truck loading rack at Terminal A will be shut down by an interlock with the truck loading system. In this case, there is no further truck loading until the VRU's exhaust concentration is less than 2%.

Attachment C contains a description of the hydrocarbon analyzer.

<u>Option 2 - Hydrocarbon analyzer is not working and a VRU is in use</u>

Use of CAM Indicators #2 and #3:

If the hydrocarbon analyzer is not functioning correctly and the VRU is to be used (in-service), CAM Indicators #2 and #3 will be employed.

Indicator #2 is the daily monitoring of the carbon bed regeneration vacuum reading which needs to exceed 25 inches of Mercury. This monitoring technique is to ensure that the VRU is operating per its manufacturer's design.

Indicator #3 is the monthly monitoring of the VRU outlet stack. An excursion is defined as when the vapors exiting the VRU carbon beds are greater than 43% of the lower explosive limit (LEL) when measured with a portable LEL analyzer calibrated to pentane.

Option 3 – Vapor Combustion Unit (VCU) is on-line

Use of CAM Indicator #4:

Historically, the VCU (with a flame present) will have emissions significantly less than the 20 mg/L. Therefore, CAM Indicator #4 is the pilot flame detector on the VCU which will shutdown the VCU and the bladder tank's blower if a flame is not detected. The truck loading racks will remain active with the vapor going to the bladder tank until the tank reaches its HIGH level at which time the racks will be shutdown.

If operating in the alternate mode (not going through the Bladder tank), if the VCU's flame detector does not detect a flame, the truck loading rack at Terminal B will be shut down by an interlock with the truck loading system. In this case, there is no further truck loading until a flame is detected on the pilot light

OPTION 1 -CONTINUOUS EMISSION MONITORING OF THE VRU DISCHARGE STACK

	Indicator No. 1
I. Indicator	Vapor Concentration in discharge stack
Monitoring Approach	Measure the Organic Vapors after the VRU using a Zellweger Analytics Sieger Searchpoint Optima Infrared Point Gas Detector.
II. Indicator Range Reporting Threshold	An excursion is defined as when the six hour rolling vapor concentration exceeds 2.0% by Volume as Propane (20,000 ppmv). All six-hour rolling averages exceeding 2.0% by Volume as Propane will be reported to the FDEP in the required semi-annual monitoring report.
III. Performance Criteria	
A. Data Representativeness	The vapor concentrations are an indirect indication of meeting the 20 mg/L permit requirement. The annual stack test on VRU, when required by the air permit, will be used to confirm the use of the Reporting Threshold.
B. Verification of Operational Status	Daily calibration confirmation of the instrument.
C. QA/QC Practices and Criteria	QA/QC practices: 1 – Daily calibration confirmation with certified

	gases; 2 – Quarterly Preventive Maintenance per manufacturer's specifications; and 3 – Annual verification with stack test.
D. Monitoring Frequency	Continuous.
E. Data Collection Procedures	Hourly readings into data logger.
F. Averaging Period	Per Hour (for calculating Rolling 6-hour averages)

OPTION 2 - ONLY WHEN THE HYDROCARBON DETECTOR IS NOT OPERATIONAL WHILE A VRU IS IN USE

	Indicator No. 2
I. Indicator	Carbon Bed Regeneration Vacuum
Monitoring Approach	Monitor the VRU's Vacuum Gauge at each carbon bed.
II. Indicator Range Corrective Action Reporting Threshold	An excursion is defined as when the daily vacuum gauge reading does not reach 25" of mercury or greater during carbon bed regeneration. A corrective action is triggered when the regenerating carbon bed vacuum does not reach 25 in. Hg vacuum during regeneration. An excursion will trigger an investigation, corrective action and an internal reporting requirement. Upon having an excursion, the facility would direct vapors to the backup control (VCU). A corrective action will be initiated within 24 hours. If the required corrective action cannot be conducted by onsite personnel or contracted maintenance group within 24 hours of detection of the excursion and the backup VCU is inoperative or unavailable, the owner or operator shall terminate loading operations at the facility until successfully implementing the required corrective action. If excursions occur more than 5% of the time in any semi-annual reporting period.
III. Performance Criteria	
A. Data Representativeness	The vacuum gauge is installed close (within about 2 feet) to the shell of each carbon bed vessel.
B. Verification of Operational Status	Daily visual check with manual log entry.
C. QA/QC Practices and Criteria	Gauge receives preventative maintenance three times per year and is calibrated or replaced at least once every five years during the VRU performance test.

D. Monitoring Frequency	Daily VRU is used.
E. Data Collection Procedures	Daily visual reading with manual log entry.
F. Averaging Period	NA.

	Indicator No. 3
I. Indicator	Percent LEL in Carbon Bed Vent during sampling during VRU operation of each carbon bed.
Monitoring Approach	Portable LEL Analyzer
II. Indicator Range Corrective Action Reporting Threshold	An excursion is defined as when the vapors exiting the VRU carbon beds are greater than 43% of the lower explosive limit (LEL) when measured with a portable LEL analyzer calibrated to pentane. (Note. The choice of 43% of the LEL indirectly corresponds to an emissions level of 20 mg/l from the VRU). A corrective action is triggered when vapors exiting the VRU carbon beds are greater than 43% of the lower explosive limit (LEL). If this level is reached, vapors would be directed to the backup VRU. A corrective action will be initiated within 24 hours. If the required corrective action cannot be conducted by onsite personnel or contracted maintenance group within 24 hours of detection of the excursion and the backup VRU is inoperative or unavailable, the owner or operator shall terminate loading operations at the facility until successfully implementing the required corrective action. If excursions occur more than once in any semi-annual reporting period.
III. Performance Criteria	
A. Data Representativeness	The portable LEL analyzer will be used to sample and measure LEL in the carbon bed vent just as the vapors exit the vent.
B. Verification of Operational Status	Monthly reading with manual log entry.
C. QA/QC Practices and Criteria	Portable LEL analyzer is calibrated before each use.
D. Monitoring Frequency	Monthly.
E. Data Collection Procedures	Monthly test of carbon bed exit vapor.
F. Averaging Period	NA.

OPTION 3 – ONLY WHILE THE VCU IS OPERATING

	Indicator No. 4
I. Indicator	The presence of a flame will be used as the Indicator.
Monitoring Approach	Pilot flame detector
II. Indicator Range Reporting Threshold	An excursion is defined as whenever the pilot flame detector detects no flame present. All excursions shall be reported to the Department in semi-annual reports.
III. Performance Criteria	
A. Data Representativeness	The pilot flame detector is located at the entrance of the VCU stack
B. Verification of Operational Status	Interlock to prevent flow of vapors to the VCU if a flame is not detected.
C. QA/QC Practices and Criteria	The pilot flame detector receives preventative maintenance four times per year.
D. Monitoring Frequency	Continuous when VCU is in operation.
E. Data Collection Procedures	Signal from the pilot flame detector goes to a interlock which will shut down the bladder tank's fan or directly shuts down the truck loading rack at Terminal B if there is no flame.
F. Averaging Period	NA. (Each shutdown is an excursion)