# APPENDIX CAM

## Compliance Assurance Monitoring Requirements

# Compliance Assurance Monitoring Requirements

Pursuant to Rule 62-213.440(1)(b)1.a., F.A.C., 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 attached, as submitted by the applicant and approved by the Department.

## 40 CFR 64.6 Approval of Monitoring.

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

**2.** The attached CAM plans 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 plans 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 15. – 16.**).
[40 CFR 64.6(c)(2)]

**4.** The permittee is required to conduct the monitoring specified in the attached CAM plans and shall fulfill the obligations specified in the conditions below (see **CAM Conditions 5. - 16.**).
[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 effective 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.b.,** 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)]

**<u>40 CFR 64.9 Reporting And Recordkeeping Requirements.</u>**

**15.** <u>General reporting requirements.</u>

a. Commencing from the effective date of this permit, 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.** <u>General recordkeeping requirements.</u>

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)]

**<u>40 CFR 64.10 Savings Provisions.</u>**

**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]

# COMPLIANCE ASSURANCE MONITORING PLAN

## ARIZONA CHEMICAL – PANAMA CITY, FL PLANT
## Thermal Oxidizer with Caustic Scrubber

## I. Background

A. Emission Unit

The Thermal Oxidizer (EU034) has 90% removal efficiency and is used to control VOC and HAP emissions. Emissions from the rosin treaters MC-1, 1A, 3, 21, 21A, G350, G360, G370, G380 and the tall oil refinery (EU033) hot wells, and two separator tanks (from skim pond) are routed to the caustic scrubber and thermal oxidizer system for incineration. Emissions from the caustic scrubber are routed to the thermal oxidizer.

| | |
|---|---|
| Description: | Thermal Oxidizer (TO) |
| Identification: | EU034 |
| Facility ID No.: | 0050001 |
| Facility: | Arizona Chemical – Panama City, FL |

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

| | |
|---|---|
| Regulation No. | Title V Permit, 0050001-019-AC [Rules 62-4.160(2), 62-213.440(1), 62-213.440(4)(a), F.A.C., and permits 0050001-007 & 011-AC] |
| Regulated Pollutant | Volatile Organic Compounds (VOCs) |
| Emission Limit | VOC emissions shall not exceed 45.8 tpy (rolling 12-month total). |
| Monitoring Requirements in Permit | The thermal oxidizer shall be maintained at a minimum temperature of 1,150 °F. Temperature shall be monitored and recorded continuously. |

C. Control Efficiency: Destruction efficiency for VOC/HAP of this unit shall be 90%.

## II. Monitoring Approach

The key elements of the monitoring approach, including the indicators to be monitored, indicator ranges, and performance criteria are presented in Table 1. Performance indicators will be the outlet combustion temperature of the oxidizer and the condition of the oxidizer burner. In addition, according to permit requirements the operational status of the RTO will be monitored.

## III. Rationale for Selection of Performance Indicators

The outlet temperature of the combustion chamber provides a good indication of thermal oxidizer performance. As temperature increases, control efficiency also increases.

Inspection of the oxidizer burner will assure that proper burner operation and efficiency is maintained.

## IV. Rationale for Selection of Indicator Ranges

The thermal oxidizer shall be maintained at a minimum temperature of 1,100 °F, unless an alternative temperature is verified through appropriate testing and approved by the Department. When an excursion occurs, corrective action will be initiated.

## V. Quality Improvement Plan (QIP) Requirements

Per permit no. 0050001-015-AV (Appendix CAM), an accumulation of exceedances or excursions exceeding 5% duration of the source'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 the source is being maintained and operated in a manner consistent with good air pollution control practices.

The selected QIP threshold level is 12 excursions in a six-month period. This level is 0.5% (2-hour rolling average) of the allowable process operating time (8,760 hours/year).

If this QIP threshold of 12 excursions in a six-month period is exceeded, a QIP will be developed and implemented. The QIP will be implemented as expeditiously as practicable and the permitting authority will be notified 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.

## TABLE 1: MONITORING APPROACH

| | |
|---|---|
| **I. Indicator** | Outlet combustion temperature and condition of oxidizer burner. |
| A. Measurement Approach | Continuous thermocouple monitoring<br>Monthly visual inspections of oxidizer burner. |
| B. Indicator Range | Outlet combustion temperature greater than 1,100 °F.<br>Burner and thermocouple maintained and operated according to manufacturer's specifications. |
| **II. Performance Criteria** | |
| A. Data Representativeness | The thermocouple used to measure outlet temperature is installed as an integral part of the thermal oxidizer. The device is certified by the manufacturer to be accurate to within ± 1% of the temperature being measured. |
| B. Verification of Operational Status | N/A |
| C. QA/QC Practices and Criteria | Annual Calibration. |
| D. Monitoring Frequency | Outlet temperature is measured and recorded continuously. |
| E. Data Collection Procedures | The distributed control system (DCS) collects the outlet temperature.<br>Results of visual inspection shall be documented in a log book. |
| F. Averaging Period | N/A |
| G. QIP Implementation | If the QIP threshold of 12 excursions in a six-month period is exceeded, a QIP will be developed and implemented. |
| **III. Air Pollution Control Device (APCD) Bypass Monitoring** | N/A – During TO outage, vent gases will be sent uncontrolled directly to the atmosphere. |

# COMPLIANCE ASSURANCE MONITORING PLAN

## ARIZONA CHEMICAL – PANAMA CITY, FL PLANT
## Regenerative Thermal Oxidizer

## I. Background

A. Emission Unit

VOC/HAP emissions from the terpene resins process tanks, process units, and hot wells, the terpene process wastewater separator, induced gas floatation (filtration system) including the walnut shell filter, and the two newly replaced air strippers (EU012) are routed to the regenerative thermal oxidizer (RTO) system for incineration.

| | |
|---|---|
| Description: | Regenerative Thermal Oxidizer (RTO) |
| Identification: | EU036 |
| Facility ID No.: | 0050001 |
| Facility: | Arizona Chemical – Panama City, FL |

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

| | |
|---|---|
| Regulation No. | Title V Permit, 0050001-019-AC<br>[Rules 62-4.160(2), 62-213.440(1), 62-213.440(4)(a), F.A.C.] |
| Regulated Pollutant | Volatile Organic Compounds (VOCs) |
| Emission Limit | VOC emissions shall not exceed 11.7 tpy. |
| Monitoring Requirements in Permit | The thermal oxidizer shall be maintained at a minimum temperature of 1,450 °F. Temperature shall be monitored and recorded continuously. |

C. Control Efficiency: Destruction efficiency of this unit shall be no less than 96%.

## II. Monitoring Approach

The key elements of the monitoring approach, including the indicators to be monitored, indicator ranges, and performance criteria are presented in Table 1. Performance indicators will be the outlet combustion temperature of the oxidizer and the condition of the oxidizer burner. In addition, according to permit requirements the operational status of the RTO will be monitored.

## III. Rationale for Selection of Performance Indicators

The outlet temperature of the combustion chamber provides a good indication of thermal oxidizer performance. As temperature increases, control efficiency also increases.

Inspection of the oxidizer burner will assure that proper burner operation and efficiency is maintained.

## IV. Rationale for Selection of Indicator Ranges

The thermal oxidizer shall be maintained at a minimum temperature of 1,450 °F, unless an alternative temperature is verified through appropriate testing and approved by the Department. When an excursion occurs, corrective action will be initiated.

## V. Quality Improvement Plan (QIP) Requirements

Per permit no. 0050001-015-AV (Appendix CAM), an accumulation of exceedances or excursions exceeding 5% duration of the source'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 the source is being maintained and operated in a manner consistent with good air pollution control practices.

The selected QIP threshold level is 12 excursions in a six-month period. This level is 0.5% (2-hour rolling average) of the allowable process operating time (8,760 hours/year).

If this QIP threshold of 12 excursions in a six-month period is exceeded, a QIP will be developed and implemented. The QIP will be implemented as expeditiously as practicable and the permitting authority will be notified 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.

## TABLE 1: MONITORING APPROACH

| | |
|---|---|
| **I. Indicator** | Outlet combustion temperature and condition of oxidizer burner. |
| A. Measurement Approach | Continuous thermocouple monitoring<br>Monthly visual inspections of oxidizer burner. |
| B. Indicator Range | Outlet combustion temperature greater than 1,100 °F.<br>Burner and thermocouple maintained and operated according to manufacturer's specifications. |
| **II. Performance Criteria**<br>A. Data Representativeness | The thermocouple used to measure outlet temperature is installed as an integral part of the thermal oxidizer. The device is certified by the manufacturer to be accurate to within ± 1% of the temperature being measured. |
| B. Verification of Operational Status | Keep cumulative monthly record of process outage hours (maximum is 216 hours/year in addition to the permitted startup/shutdown/malfunction hours). Process outages shall be determined by monitoring flow. |
| C. QA/QC Practices and Criteria | A second, or redundant, thermocouple probe will verify accuracy of the thermocouple. The acceptance criterion is ±30 °F. Annual Calibration. |
| D. Monitoring Frequency | Outlet temperature is measured and recorded continuously. |
| E. Data Collection Procedures | The distributed control system (DCS) collects the outlet temperature and calculates a rolling 2-hour average.<br>Results of visual inspection shall be documented in a log book. |
| F. Averaging Period | 2-hour (rolling, on the hour) |
| G. QIP Implementation | If the QIP threshold of 12 excursions in a six-month period is exceeded, a QIP will be developed and implemented. |
| **III. Air Pollution Control Device (APCD) Bypass Monitoring** | N/A – During RTO outage, vent gases will be sent uncontrolled directly to the atmosphere. |