

West Virginia Department of Environmental Protection

Austin Caperton
Cabinet Secretary

Title V Operating Permit Revision



For Minor Modification Permitting Action Under 45CSR30 and Title V of the Clean Air Act

Permit Action Number: MM04 and MM05 **SIC:** 2869
Name of Permittee: Union Carbide Corporation
Facility Name/Location: South Charleston
County: Kanawha
Permittee Mailing Address: P.O. Box 8361, South Charleston, WV 25303

Description of Permit Revision: An alternative operating scenario (SVE2) to vent soil vapor extraction emission to atmosphere and to remove stack testing requirements for the vapor extraction system – chlorobenzene area (SVE1).

Title V Permit Information:

Permit Number: R30-03900003-2018
Issued Date: January 9, 2018
Effective Date: January 23, 2018
Expiration Date: January 9, 2023

Directions To Facility: From I-64, take the Institute exit, turn right onto State route 25. Plant entrance is located about 1/4 mile west on Route 25.

THIS PERMIT REVISION IS ISSUED IN ACCORDANCE WITH THE WEST VIRGINIA AIR POLLUTION CONTROL ACT (W.VA. CODE §§ 22-5-1 ET SEQ.) AND 45CSR30 - "REQUIREMENTS FOR OPERATING PERMITS." THE PERMITTEE IDENTIFIED AT THE FACILITY ABOVE IS AUTHORIZED TO OPERATE THE STATIONARY SOURCES OF AIR POLLUTANTS IDENTIFIED HEREIN IN ACCORDANCE WITH ALL TERMS AND CONDITIONS OF THIS PERMIT.

A handwritten signature in blue ink, appearing to read "Laura M. Crowder".

Laura M. Crowder
Director, Division of Air Quality

January 6, 2020
Date Issued

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| Emission Unit ID | Emission Point ID | Emission Unit Description | Year Installed | Design Capacity | Control Device |
|-------------------------------|-----------------------------------|--|----------------|-----------------|--------------------------|
| B-307 Weld Shop | Nap | Building 307 Welding Shop | Nap | Nap | |
| Metal Solvent Cleaning Baths | Nap | Building 307 and miscellaneous locations | Nap | Nap | |
| Remediation Operations | | | | | |
| CLBVE | SVE1 | Vapor Extraction System - Chlorobenzene Area | 2014 | 600 scfm | A42INC & A42PBS |
| | <u>SVE2 (Vents to Atmosphere)</u> | <u>Vapor Extraction System – Chlorobenzene Area (Alternative Operating Scenario)</u> | <u>2019</u> | <u>600 scfm</u> | <u>None</u> |
| A42VE | SVE1 | Vapor Extractive System-Chlorohydrin Area (Area 42) | 2011 | 1,050 scfm | A42INC & A42PBS |
| A42INC | SVE1 | Regenerative Thermal Oxidizer (Incinerator) | 2011 | NA | A42PBS |
| A42PBS | SVE1 | Packed Bed Caustic Scrubber | 2011 | NA | APCD |
| MI2VE | MI2VE2 | Vapor Extraction System | 2014 | 1,000 scfm | Catalytic Oxidizer MI2CO |
| MIGCS | MIGCS1/ MIGCS2 | MI Groundwater Containment System | 2017 | 100 gpm | MIGCS CO/MIGCS GAC |
| MIGCS GAC | MIGCS2 | Granular Activated Carbon (GAC) | 2018 | 500 scfm | None |
| MIGCS CO | MIGCS1 | Anguil Model OA10 (Electric Catalytic Oxidizer)(CATOX) | 2017 | 1,000 scfm | None |

1.2 Active R13, R14, and R19 Permits

The underlying authority for any conditions from R13, R14, and/or R19 permits contained in this operating permit is cited using the original permit number (e.g. R13-1234). The current applicable version of such permit(s) is listed below.

| Permit Number | Date of Issuance |
|---------------------------|-------------------|
| R13-1517D (TRITON® Plant) | 05/18/2015 |
| R13-2033D (Boiler 26) | 04/03/2013 |
| R13-2141C (Boiler 27) | 04/19/2004 |
| R13-2414C | 08/08/2011 |
| R13-2840B | 05/20/2016 |
| <u>R13-2840D</u> | <u>09/10/2019</u> |
| R13-3025B | 05/26/2015 |
| R13-3308B | 01/02/2019 |

4.3. Testing Requirements

- 4.3.1. In order to determine compliance with the hexane emission limits in section 4.1.1 of this permit, within 180 days of commencement of process vent gas and/or liquid natural gas condensate combustion in Boiler 26 (whichever comes first) the permittee shall complete the following performance testing:
 - 4.3.1.1 The permittee shall perform or have performed EPA approved stack tests to determine emissions of hexane from Boiler 26. Said testing shall be performed while the boiler is combusting natural gas condensate as close to practical a feed rate of approximately 100 gallons per hour.
[45CSR§13-5.140.]
[45CSR13, Permit Number R13-2033, Condition 4.3.1., Emission Point ID (26E)]
- 4.3.2. The permittee shall comply with all applicable testing requirements of 40 CFR 63 Subpart PPP.
[45CSR13, Permit Number R13-2033, Condition 4.3.2., Emission Point ID (26E)]
- 4.3.3. Reserved.
- 4.3.4. The permittee shall comply with all applicable testing requirements of 40 CFR 60 Subpart Db.
[45CSR13, Permit Number R13-2033, Condition 4.3.4., Emission Point ID (26E)]
- 4.3.5. After the testing required by 4.3.1 of this permit is completed, ongoing compliance shall be demonstrated by repeating the testing required by 4.3.1 according to the following schedule:

| Test | Test Results | Testing Frequency |
|--------------|--|-------------------------|
| Initial | < 50% of limits | Upon Director's Request |
| Initial | Between 50% and 90% limits | Once/5 years |
| Initial | ≥90% of limits | Once/3 years |
| Once/3 years | After two successive tests indicate emission rates ≤50% of limits | Upon Director's Request |
| Once/3 years | After two successive tests indicate emission rates <90% of limits | Once/5 years |
| Once/3 years | ≥90% of limits | Once/3 years |
| Once/5 years | After two successive tests indicate emission rates <50% of limits | Upon Director's Request |
| Once/5 years | After two successive tests indicate emission rates < 90% of limits | Once/5 years |
| Once/5 years | ≥90% of limits | Once/3 years |

[45CSR13, Permit Number R13-2033, Condition 4.3.5., Emission Point ID (26E)]

- 4.3.6. Reserved.

- 5.1.3. The permittee shall ensure complete reaction by redundant measurement and interlock of starter charge, Ethylene Oxide and Propylene Oxide feed, temperature, and pressure. The process interlock shall prevent venting until the preset criteria for complete reaction are met. These criteria must include positive isolation of Ethylene Oxide and Propylene Oxide feed.

[45CSR13, Permit Number R13-1517, Condition 4.1.3., Emission Unit ID (8400)]

- 5.1.4. *Operation and Maintenance of Air Pollution Control Equipment.* The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.

[45CSR§13-5.140.]

[45CSR13, Permit Number R13-1517, Condition 4.1.4., Equipment ID(s) (C-1087-1, C-8110, C-8130)]

- 5.1.5. Emissions from the equipment identified in 5.1.1 above shall be routed to and controlled by those control devices identified in Section 1.0 under Specialty Surfactants prior to venting emissions to the atmosphere, excepting only periods of emergency repairs of control equipment and unanticipated control equipment failure for reasons beyond the reasonable control of the permittee, or as otherwise allowed by this permit or applicable regulation.

In the event that both the Caustic Scrubber (C-8110) and the Water Scrubber (C-8130) are off-line (e.g. due to plant turnaround), storage tank emissions that normally vent to the scrubber system are authorized to be discharged directly to the air. During such outages, there shall be no materials transferred into tanks that normally vent to the scrubber system.

Due to unavoidable malfunction of equipment or other conditions resulting in emissions exceeding the levels established in this permit, the Director may grant the permittee a variance to operate the related production equipment for periods not to exceed ten (10) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the malfunction. In cases of major equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the permittee and approved by the Director. During such times, the permittee shall take all reasonable and practicable steps to minimize emissions.

[45CSR13, Permit Number R13-1517, Condition 4.1.5., Equipment ID(s) (C-1087-1, C-8110, C-8130)]

- 5.1.6. The permittee shall implement a Leak Detection and Repair Program (“LDAR”) compliant with the HON equipment leak requirements in 40 CFR 63, Subpart H for all equipment covered by 40 CFR 63, Subpart PPP (as well as equipment in TAP service). For the remainder of the Specialty Surfactants Plant, the permittee shall implement a LDAR Program compliant with 45CSR§21-37, excluding the fugitive emission components associated with the equipment listed below that have been determined as insignificant fugitive emission sources provided that the total organic liquid vapor pressure is maintained at or below 0.01 mm Hg at 20°C.

Tanks 8323, 8324, 8332, 8333, 8343, 8344, 8353, 8354, 8363, 8364, 8373, 8381, 8382, 8383, 8706, 8709, 8721, 8723, and 8725.

temperature of the catalyst bed of Condition 6.1.2.i.ii. and during which the GAC is being replaced per Condition 6.1.2.i.v shall not exceed 240 hours per year.
[45CSR13, R13-3308, 4.1.2., 45CSR34, 40 CFR §§63.7925(a), and (b)(1)]

6.1.3. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 (MIGCS CO) and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR13, R13-3308, 4.1.3. and 45CSR§13-5.140.]

6.2. Monitoring Requirements

6.2.1. For the purposes of demonstrating compliance with Condition 6.1.1.a., the permittee shall determine the average total VOHAP concentration of a remediation material using direct measurement in accordance with the following.

- The 1st average period after initial startup of the MIGCS, average total VOHAP concentration shall be conducted and determined in accordance with Schedule No. 1 outlined in Table 6.2.1.
- Thereafter, the following schedule is determined based on previous average total VOHAP concentration as outlined in Table 6.2.1:

| Table 6.2.1. Sample Schedule | | | |
|-------------------------------------|-------------------------------------|--|---------------------------|
| Schedule No. | Criteria of Schedule* (ppmw) | Minimum No. Samples Required for the 12-month average | Timing of sampling |
| 1 | Above 400 | 12 | Monthly |
| 2 | At 400 and above 240 | 6 | Bi-monthly |
| 3 | Less than 240 | 4 | Quarterly |

**Criteria of Schedule is the average VOHAP concentration of the previous averaging period.*

The permittee shall use the following procedures:

- a. **Sampling.** Samples of each material stream must be collected from the container, pipeline, or other device used to deliver each material stream prior to entering the remediation material management unit or treatment process in a manner such that volatilization of organics contained in the sample is minimized and an adequately representative sample is collected and maintained for analysis by the selected method.
 - i. The monthly averaging period to be used for determining the average total VOHAP concentration for the material stream on a mass-weighted average basis must be designated and recorded.
 - ii. No less than four samples must be collected to represent the complete range of HAP compositions and HAP quantities that occur in each material stream during the entire averaging period due to normal variations in the material stream(s). Examples of such normal variations are variation of the HAP concentration within a contamination area.
 - iii. All samples must be collected and handled according to written procedures you prepare and documented in a site sampling plan. This plan must describe the procedure by which representative samples of the material stream(s) are collected such that a minimum loss of organics occurs throughout the sample collection and handling process and by which sample integrity is maintained. A

10.0. Source-Specific Requirement [Groundwater/Soil Remediation-- Chlorohydrin/Chlorobenzene (SVE1 and SVE2), Middle Island Source 2 (MI2VE2), and MIGCS (MIGCS1 and MIGCS2) Under 40 C.F.R. 63, Subpart GGGGG]

10.1 Limitations and Standards

- 10.1.1 For each site remediation with an affected source designated under §63.7882 (*process vents, remediation units, and equipment leaks*), you must meet the standards specified in §§63.7885 (10.1.2) through 63.7955, as applicable to your affected source, unless your site remediation meets the requirements for an exemption under the following paragraph.

A site remediation that is completed within 30 consecutive calendar days according to the conditions in paragraphs §63.7884(b)(1) through (3) is not subject to the standards in the paragraph above.
[45CSR34, 40 C.F.R. §63.7884]

- 10.1.2. For the process vents that comprise the affected source designated under 40 CFR §63.7882(a)(1), you must control HAP emissions from the affected process vents according to the standards specified in 40 CFR §63.7890 (*facility wide limit for total organic compounds*), §63.7891 (*design evaluation and closed vent system*), §63.7892 (*inspection and monitoring for process vents*), and §63.7893 (*emission limits and work practice standards for process vents*); or determine the average total volatile organic hazardous air pollutant (VOHAP) concentration, as defined in 40CFR§63.7957 is less than 10 parts per million by weight (ppmw). Determination of the VOHAP concentration is made using the procedures specified in §63.7943.
[45 CSR 34, 40CFR§§63.7885(a), (b), and (b)(1), and (b)(2).]

- 10.1.3. For each remediation material management unit that is part of an affected source designated by 40 CFR §63.7882, you must select and meet the requirements under one of the options specified in §63.7886(b).

You determine that the average total VOHAP concentration, as defined in 40 CFR §63.7957, of the remediation material managed in the remediation material management unit material is less than 500 ppmw. You must follow the requirements in 40 CFR §63.7943 to demonstrate that the VOHAP concentration of the remediation material is less than 500 ppmw. Once the VOHAP concentration for a remediation material has been determined to be less than 500 ppmw, all remediation material management units downstream from the point of determination managing this material meet the requirements of this paragraph unless a remediation process is used that concentrates all, or part of, the remediation material being managed in the unit such that the VOHAP concentration of the material could increase. Any free product returned to the manufacturing process is no longer subject to this subpart.
[45 CSR 34, 40CFR§§63.7886(a) and (b)(2)]

- 10.1.4. For your affected process vents, you must reduce the emissions of total organic compounds (TOC) (minus methane and ethane) to a level below 1.4 kg/hr and 2.8 Mg/yr (3.0 lb/hr and 3.1 tpy) from all affected process vents. If you have multiple affected process vent streams, you may comply using a combination of controlled and uncontrolled process vent streams that achieve this facility-wide emission limit.
[45 CSR 34, 40CFR§§63.7890(a), (b) and (b)(2)]

- 10.1.5. For each closed vent system and control device you use to comply with 10.1.4., you must meet the operating limit requirements and work practice standards in 40 CFR §63.7925(c) through (j) that apply to your closed vent system and control device.
[45 CSR 34, 40CFR§63.7890(c)]

11.0. Source-Specific Requirements for [Groundwater/Soil Remediation Process, Emission Point ID (SVE1, SVE2, and MI2VE2)]

11.1. Limitations and Standards

11.1.1. All emissions of regulated pollutants from the Chlorohydrin (Area 42) Vapor Extractive System (A42VE) and Chlorobenzene Area Vapor Extractive System (CLBVE) shall be routed to the Thermal Oxidizer (A42INC).

[45CSR13, Permit Number R13-2840, Condition 4.1.1, Emission Point ID (SVE1)]

11.1.2 All emissions of regulated pollutants from the Thermal Oxidizer shall be routed to the Packed Bed Scrubber (A42PBS).

[45CSR13, Permit Number R13-2840, Condition 4.1.2, Emission Point ID (SVE1)]

11.1.3 Criteria pollutant emissions vented from the Packed Bed Scrubber A42PBS shall not exceed the following:

| Criteria Pollutant | lb/hr | tpy |
|--------------------|-------|-------|
| NO _x | 0.10 | 0.44 |
| CO | 0.44 | 1.92 |
| SO ₂ | 0.01 | 0.02 |
| PM | 0.01 | 0.01 |
| VOC | 3.46 | 15.07 |

[45CSR13, Permit Number R13-2840, Condition 4.1.3, Emission Point ID (SVE1)]

11.1.4 Hazardous Air Pollutant emissions vented from the Packed Bed Scrubber A42PBS shall not exceed the following:

| Hazardous Air Pollutant | lb/hr | Tpy |
|-------------------------|---------------------|---------------------|
| 1,1,2-Trichloroethane | 0.20 | 0.84 |
| Vinylidene Chloride | 0.15 | 0.65 |
| Ethylene Dichloride | 1.53 | 6.67 |
| Trichloroethene | 0.40 | 1.70 |
| HCl | 0.71 ⁽¹⁾ | 3.33 ⁽²⁾ |
| Other Organic HAPs | 0.46 | 1.61 |
| Total HAPs | 3.44 | 14.79 |

(1) Except when scrubber maintenance (acid-washing) is being performed (see 11.1.15 and 11.1.16).

(2) 3.10 tpy of HCl emissions emitted during normal scrubber operation plus 0.23 tpy of HCl emissions emitted during scrubber maintenance (acid-washing) (see 11.1.15 and 11.1.16.)

[45CSR13, Permit Number R13-2840, Condition 4.1.4, Emission Point ID (SVE1)]

- 11.1.5 The regenerative thermal oxidizer shall be designed, operated and maintained so as to reduce emissions of VOCs by at least 98% or to less than 3.46 pounds per hour.
- 11.1.5.1 The thermal oxidizer shall be operated with a firebox temperature of at least 1400F at all times when the contaminated vent gas is being combusted. Compliance with this requirement shall be based on a daily average.
[45CSR13, Permit Number R13-2840, Condition 4.1.5, Emission Point ID (SVE1)]
- 11.1.6 The packed bed scrubber shall be designed, operated and maintained so as to reduce emissions of HCl by at least 99.5% or to no more than 0.71 pounds per hour except when scrubber maintenance (acid-washing) is being performed.
- 11.1.6.1 The packed bed scrubber shall be operated with a daily average pH of the inlet liquid of at least 7.0 when the contaminated vent gas is being combusted except that during periods of scrubber maintenance (acid-washing), the pH of the inlet liquid shall not be included in this daily average.
[45CSR13, Permit Number R13-2840, Condition 4.1.6, Emission Point ID (SVE1)]
- 11.1.7 Visible emissions from the thermal oxidizer (TO-1) shall not exceed twenty percent (20%) opacity except that an opacity level of up to forty percent (40%) is permitted during startup periods during the first eight (8) minutes of operation of the unit.
[45CSR13, Permit Number R13-2840, Condition 4.1.7, Emission Point ID (SVE1)]
[45CSR§6-4.3.] & [45CSR§6-4.4.]
- 11.1.8. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR13, Permit Number R13-2840, Condition 4.1.8, Emission Point ID (SVE1)]
[45CSR13, Permit Number R13-3025, Condition 4.1.7, Emission Point ID (MI2VE2)]
[45CSR§13-5.110.]
- 11.1.9. All emissions of regulated pollutants from the Vapor Extractive System (MI2VE) shall be routed to the Catalytic Oxidizer (MI2CO).
[45CSR13, Permit Number R13-3025, Condition 4.1.1, Emission Point ID (MI2VE2)]
- 11.1.10. Criteria pollutant emissions vented from the Catalytic Oxidizer MI2CO shall not exceed the following:

| | lb/hr | Tpy |
|-----------------|-------------------|------|
| NO _x | 0.01 | 0.01 |
| CO | 0.01 | 0.01 |
| SO ₂ | 0.01 | 0.02 |
| PM | 0.01 ¹ | 0.01 |
| VOC | 0.46 | 1.24 |

¹Compliance with this limit will ensure compliance with the less stringent limit in 45CSR§6-4.1
[45CSR§6-4.1]
[45CSR13, Permit Number R13-3025, Condition 4.1.2, Emission Point ID (MI2VE2)]

11.1.11. Hazardous Air Pollutant emissions vented from the Catalytic Oxidizer MI2CO shall not exceed the following:

| | lb/hr | tpy |
|-------------------|-------------|-------------|
| Hexane | 0.07 | 0.23 |
| Benzene | 0.13 | 0.42 |
| Total HAPs | 0.30 | 0.87 |

[45CSR13, Permit Number R13-3025, Condition 4.1.3. Emission Point ID (MI2VE2)]

11.1.12. The catalytic oxidizer shall be designed, operated and maintained so as to reduce emissions in accordance with the emission limits specified in conditions 11.1.10 and 11.1.11.

11.1.12.1. The catalytic oxidizer shall be operated with a combustion chamber temperature of at least the 650 °F at all times when the contaminated vent gas is being combusted. Compliance with this requirement shall be based on a daily average

[45CSR13, Permit Number R13-3025, Condition 4.1.4. Emission Point ID (MI2VE2)]

11.1.13. Visible emissions from the catalytic oxidizer MI2CO shall not exceed twenty percent (20%) opacity except that an opacity level of up to forty percent (40%) is permitted during startup periods during the first eight (8) minutes of operation of the unit.

[45CSR13, Permit Number R13-3025, Condition 4.1.5. Emission Point ID (MI2VE2)]
 [45CSR§6-4.3.] & [45CSR§6-4.4.]

11.1.14. Catalyst shall be replaced in accordance with manufacturer specifications.

[45CSR13, Permit Number R13-3025, Condition 4.1.6. Emission Point ID (MI2VE2)]

11.1.15. Scrubber maintenance (acid-washing) shall be conducted no more than 12 times per year and shall be limited to no more than six (6) hours per each cleaning activity/event.

[45CSR13, Permit Number R13-2840, Condition 4.1.9, Emission Point ID (SVE1)]

11.1.16. HCl emissions resulting from scrubber maintenance (acid-washing) shall not exceed 37.65 pounds per event and 0.23 tons per year.

[45CSR13, Permit Number R13-2840, Condition 4.1.10, Emission Point ID (SVE1)]

11.1.17. Average total volatile organic hazardous air pollutant (VOHAP) concentration, as defined in 40.C.F.R. §63.7957 shall be less than 10 parts per million by weight (ppmw) during times when CLBVE is vented through emission point SVE2. Determination of the VOHAP concentration is made using the procedures specified in 40 C.F.R. §63.7943.

[40 C.F.R. §63.7885(b)(2); 45CSR34, 45CSR13, Permit Number R13-2840, Condition 4.1.11, Emission Point ID (SVE2)]

11.2. Testing Requirements

11.2.1. ~~The permittee shall conduct, or have conducted, testing to determine VOC emission rates to the atmosphere according to the schedule in the following table. The initial test shall be conducted within 6 months of commencement of authorized activity. Said testing may be done using a photo ionization detector or other suitable detector or a sample may be collected and sent to a laboratory for analysis. At the time of the aforementioned testing exhaust flow rates shall also be determined in order to calculate hourly VOC emissions.~~

Table 11.2.1 – Test Requirements

| Test Results | Testing Frequency |
|-----------------------|--------------------|
| < 50% of permit limit | Once per 12 months |
| ≥ 50% of permit limit | Once per 6 months |

~~[45CSR13, Permit Number R13-2840, Condition 4.2.1, Emission Point ID (SVE1)]~~
Reserved.

- 11.2.2 At least monthly visual particulate emissions checks of the packed bed scrubber exhaust stack will be conducted. These checks shall be conducted during periods of operation and for a sufficient time interval to determine if the unit has visible emissions using the procedures outlined in 40 CFR 60, Appendix A, Method 22. If no visible emissions are noted during four consecutive monthly observation periods, visual emissions checks will be conducted quarterly commencing with the next calendar quarter. If no visible emissions are noted during four consecutive calendar quarters, visual checks may be conducted semiannually. If sources of visible emissions are identified during the survey or at any other time, the permittee shall conduct a 40 CFR 60, Appendix A, Method 9 evaluation within 24 hours and restart monthly visual emission checks. A Method 9 evaluation shall not be required if the visible emission condition is corrected within 24 hours and the incinerator is operated at normal operating conditions. A record of each visible emission check required above shall be maintained on site. Said record shall include but not be limited to, the date, time, name of emission unit, the applicable visible emissions requirement, the results of the check, what action (s), if any, was/were taken, and the name of the observer.

~~[45CSR13, Permit Number R13-2840, Condition 4.2.2, Emission Point ID (SVE1)]~~

- 11.2.3 The pH of the scrubber liquid shall be measured at least once per day and shall exclude measurements taken during times when scrubber maintenance (acid-washing) is being performed.

~~[45CSR13, Permit Number R13-2840, Condition 4.2.3, Emission Point ID (SVE1)]~~

- 11.2.4. For the purposes of demonstrating compliance with visible emissions limitations set forth in condition 11.1.13, the permittee shall:

- a. Conduct Method 22 visible emission observations of the oxidizer stack every 6 months to ensure proper operation for a minimum of ten (10) minutes per observation.
- b. In the event visible emissions are observed in excess of the limitations given in condition 11.1.13, the permittee shall take immediate corrective action.

~~[45CSR13, Permit Number R13-3025, Condition 4.2.2, Emission Point ID (MI2VE2)]~~

11.3. Monitoring and Recordkeeping Requirements

- 11.3.1. **Record of Monitoring.** The permittee shall keep records of monitoring information that include the following:

- a. The date, place as defined in this permit and time of sampling or measurements;
- b. The date(s) analyses were performed;
- c. The company or entity that performed the analyses;
- d. The analytical techniques or methods used;
- e. The results of the analyses; and

- f. The operating conditions existing at the time of sampling or measurement.
[45CSR13, Permit Number R13-2840, Condition 4.3.1, Emission Point ID (SVE1)]
[45CSR13, Permit Number R13-3025, Condition 4.3.1, Emission Point ID (MI2VE2)]

- 11.3.2. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR13, Permit Number R13-2840, Condition 4.3.2, Emission Point ID (SVE1)]
[45CSR13, Permit Number R13-3025, Condition 4.3.2, Emission Point ID (MI2VE2)]

- 11.3.3. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

- a. The equipment involved.
- b. Steps taken to minimize emissions during the event.
- c. The duration of the event.
- d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

- e. The cause of the malfunction.
- f. Steps taken to correct the malfunction.
- g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

[45CSR13, Permit Number R13-2840, Condition 4.3.3, Emission Point ID (SVE1)]
[45CSR13, Permit Number R13-3025, Condition 4.3.3, Emission Point ID (MI2VE2)]

- 11.3.4. The permittee shall maintain the following records relating to the RTO.

11.3.4.1 Daily average firebox temperature. Said average shall be determined by monitoring the temperature every 15 minutes to determine an hourly average and then averaging the days 24 hourly averages.

11.3.4.2 Completed maintenance and calibrations.

11.3.4.3 ~~Copy of the testing results required by condition 11.2.1 of this permit.~~
Reserved.

11.3.4.4 Copy of the site specific monitoring plan. The plan may refer to the manufacturers operation and maintenance manual or other documents for procedures covering operation, maintenance, calibrations and inspections.

11.3.4.5 Records of monitoring equipment downtime and corrective actions taken.
[45CSR13, Permit Number R13-2840, Condition 4.3.4, Emission Point ID (SVE1)]

- 11.3.5 The permittee shall maintain the following records relating to the packed bed scrubber.
- 11.3.5.1 Daily average liquid flow rate of the scrubber. Said average shall be determined by monitoring the flow rate every 15 minutes to determine an hourly average and then averaging the day's 24 hourly averages.
 - 11.3.5.2 Daily pH of the scrubber liquid as measured in accordance with Condition 11.2.3.
 - 11.3.5.3 Completed maintenance and calibrations.
 - 11.3.5.4 Copy of the site specific monitoring plan. The plan may refer to the manufacturers' operation and maintenance manual or other documents for procedures covering operation, maintenance, calibrations and inspections.
 - 11.3.5.5 Records of monitoring equipment downtime and corrective actions taken.
[45CSR13, Permit Number R13-2840, Condition 4.3.5, Emission Point ID (SVE1)]
- 11.3.6. The permittee shall maintain the following records relating to the electric catalytic oxidizer.
- 11.3.6.1 Daily average combustion chamber temperature. Said average shall be determined by monitoring the temperature every operating hour when contaminated vent gas is being combusted, then averaging the operating hour readings for each calendar day.
 - 11.3.6.2 Completed maintenance and calibrations.
 - 11.3.6.3 ~~Copy of the testing results required by condition 11.2.1 of this permit.~~
Reserved.
 - 11.3.6.4 Copy of the site specific monitoring plan. The plan may refer to the manufacturer's operation and maintenance manual or other documents for procedures covering operation, maintenance, calibrations and inspections.
 - 11.3.6.5 Records of oxidizer combustion chamber temperature monitoring equipment downtime and corrective actions taken.
[45CSR13, Permit Number R13-3025, Condition 4.3.4, Emission Point ID (MI2VE2)]
- 11.3.7 The permittee shall maintain records of all visual emission observations pursuant to the monitoring required under condition 11.2.4. including any corrective action taken.
[45CSR13, Permit Number R13-3025, Condition 4.3.5, Emission Point ID (MI2VE2)]
- 11.3.8. To demonstrate compliance with Conditions 11.1.15 and 11.1.16, the Permittee shall record the date and duration of each scrubber maintenance (acid-washing) activity.
[45CSR13, Permit Number R13-2840, Condition 4.3.6, Emission Point ID (SVE1)]

11.4. Reporting Requirements

- 11.4.1. Semiannual monitoring reports will be submitted on or before September 15 for the reporting period of January 1 to June 30 and on or before March 15 for the reporting period July 1 to December 31. All instances of deviation from the permit requirements will be clearly identified in such reports.
[45CSR13, Permit Number R13-2840, Condition 4.4.1, Emission Point ID (SVE1)]
[45CSR13, Permit Number R13-3025, Condition 4.4.1, Emission Point ID (MI2VE2)]