



## PART 70 PERMIT TO OPERATE

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to operate the air contaminant source(s) described below, in accordance with the laws, rules, and conditions set forth herein.

Operating Permit Number: OP2016-048  
Expiration Date: **MAR 16 2022**  
Installation ID: 189-1205  
Project Number: 2014-12-047

**Installation Name and Address**

MSD - Missouri River Wastewater  
Treatment Plant  
3455 Creve Coeur Mill Road  
Maryland Heights, MO 63146  
St. Louis County

**Parent Company's Name and Address**

Metropolitan St. Louis Sewer District  
2350 Market Street  
St. Louis, MO 63103

**Installation Description:**

The Metropolitan St. Louis Sewer District (MSD) Missouri River Wastewater Treatment Plant is a sewage treatment installation that has capacity to treat an average daily flow of 38 million gallons with a peak treatment capacity of 80 million gallons per day (MGD). It is configured with an activated sludge process providing secondary treatment.

The installation is located in an ozone non-attainment area and is a major source for nitrogen oxides and carbon monoxide.

for Michael Stoufford  
Prepared by  
Berhanu A. Getahun  
Operating Permit Unit

Kyra L Moore  
Director or Designee  
Department of Natural Resources

**MAR 16 2017**

Effective Date

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## I. Installation Equipment Listing

### EMISSION UNITS WITH LIMITATIONS

The following list provides a description of the equipment at this installation that emits air pollutants and that are identified as having unit-specific emission limitations.

| Emission Unit # | Description of Emission Unit          |
|-----------------|---------------------------------------|
| EP1             | Three (3) Internal Combustion Engines |
| EP3             | Two (2) Boilers                       |
| EP4             | One (1) Emergency Flare               |
| EP5             | Parts Washer                          |

### EMISSION UNITS WITHOUT SPECIFIC LIMITATIONS

The following list provides a description of the equipment that does not have unit specific limitations at the time of permit issuance.

| Emission Unit # | Description of Emission Unit  |
|-----------------|---|
| EP2             | Wastewater Treatment Plant  |
| None            | Six (6) 1,000-Gallon Liquid Propane Storage Tanks                                 |
| None            | Three (3) Portable, Kerosene-Fired, Heaters (2 - 170,000 BTU and 1 - 155,000 BTU) |

## **II. Plant Wide Emission Limitations**

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued. The plant wide conditions apply to all emission units at this installation. All emission units are listed in Section I under Emission Units with Limitations and Emission Units without Limitations.

None

### III. Emission Unit Specific Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued.

| <b>EP1 – Internal Combustion Engines</b> |  |                                   |
|--|--|-----------------------------------|
| Emission Unit                            | Description  | Manufacturer/ Model #             |
| EP1                                      | Three (3) - 5.712 MMBtu/hr (each) Internal Combustion Engines (spark ignition, 4 stroke, lean burn, 482 horse power) fired by digester gas w/ propane backup | Waukesha Model L5108G, 1988 model |

| <b>Permit Condition EP1 - 001</b>   |
|---|
| 10 CSR 10-6.260 Restriction of Emissions of Sulfur Compounds <sup>1</sup> |

**Emission Limitation:**

- 1) The permittee shall not cause or permit the emission into the atmosphere of gases containing more than 500 parts per million by volume (ppmv) of sulfur dioxide or more than 35 milligrams per cubic meter (mg/m<sup>3</sup>) of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three-hour time period. [10 CSR 10-6.260(3)(A)2.]
- 2) The permittee shall be limited to either burning digester gas with a hydrogen sulfide content of no more than 3,600 ppmv (correlates with 500 ppmv of sulfur dioxide, based on a direct relationship between the amount of hydrogen sulfide burned and the amount of sulfur present in the exhaust gas) or burning propane.

**Monitoring:**

The permittee shall analyze and record the hydrogen sulfide concentration of the digester gas on the following schedule when this emission unit is in operation:

- 1) Monthly analyses shall be conducted. If an exceedance is noted then) –
- 2) Weekly analyses shall be conducted for a minimum of four (4) consecutive weeks after exceedance occurs. Should no exceedance of the sulfide limit be detected during this period then) -
- 3) Analyses shall be made once every two (2) weeks for eight (8) consecutive weeks. If an exceedance is noted, monitoring reverts to weekly. Should no exceedance of this limit be detected during this period then monthly monitoring shall be resumed.

<sup>1</sup> 10 CSR 10-6.260 was rescinded on November 30, 2015 and replaced by 10 CSR 10-6.261; however, the provisions of 10 CSR 10-6.260 currently remain in the State Implementation Plan and are federally enforceable. The provisions of 10 CSR 10-6.260 will expire and the provisions of 10 CSR 10-6.261 will become federally enforceable once 10 CSR 10-6.261 is incorporated into the federally-approved SIP as a final EPA action. Because 10 CSR 10-6.261 is not applicable to EP1, this permit condition (EP1 – 001) will expire and the limitations thereof will no longer apply to the installation once 10 CSR 10-6.261 is incorporated into the SIP.

**Record Keeping:**

- 1) The permittee shall maintain an accurate record of the sulfur dioxide concentration in the exhaust gas based on the monitored hydrogen sulfide concentrations (and the direct relationship of hydrogen sulfide in the digester gas to the amount of sulfur dioxide present in the exhaust gas). These records shall be completed and available for review by the 10th day following the end of each month.
- 2) The permittee’s records shall be completed and available for review by the 10<sup>th</sup> day following the end of each month.
- 3) The permittee shall retain records for the previous sixty (60) month period and make them available to the SLCDH Air Pollution Control Program, or its designated agent, at any reasonable time.

**Reporting:**

The permittee shall report any deviations/exceedances of this permit condition using the semi-annual monitoring report and annual compliance certification to the St. Louis County Department of Health (SLCDH) Air Pollution Control Program, 6121 North Hanley Road, Berkeley, Missouri 63134 and the Air Pollution Control Program, Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by Section V of this permit.

**Permit Condition EP1-002**

10 CSR 10-6.075 Maximum Achievable Control Technology Regulations  
 40 CFR Part 63, Subpart ZZZZ National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

**Emission Limitation:**

The permittee must comply with the requirements in Item 13 of Table 2d to Subpart ZZZZ of Part 63 which apply to the facility (listed below). [40 CFR §63.6603(a)]

| For each .....   | The permittee must meet the following requirement, except during periods of startup  | During periods of startup you must   |
|--|--|--|
| Non-emergency, non-black start stationary RICE which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis | a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; <sup>1</sup><br>b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and<br>c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary. | Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. |

<sup>1</sup> The permittee has the option to utilize an oil analysis program as described in 40 CFR §63.6625(i) in order to extend the specified oil change requirement in Table 2d of 40 CFR Subpart ZZZZ.

Pursuant to 40 CFR §63.6625(i), the oil analysis must be performed at the same frequency specified for changing the oil in Table 2d (see table above) to 40 CFR Subpart ZZZZ of Part 63. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is

less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the permittee must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the permittee must change the oil within 2 business days or before commencing operation, whichever is later. The permittee must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

**Monitoring, Operation and Maintenance Requirements:**

- 1) The permittee must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or the permittee must develop its own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR §63.6625(e)]
- 2) The permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Item 13 of Table 2d to Subpart ZZZZ of 40 CFR Part 63 apply. [40 CFR §63.6625(h)]

**Compliance Requirements:**

- 1) The permittee must be in compliance with the emission limitations and operating limitations in Subpart ZZZZ of 40 CFR Part 63 that apply to the permittee at all times. [40 CFR §63.6605(a)]
- 2) The permittee must demonstrate continuous compliance with each emission limitation and operating limitation in Table 2d to Subpart ZZZZ of 40 CFR Part 63 that apply to the permittee according to methods specified in Table 6 to Subpart ZZZZ of 40 CFR Part 63 (item 9) (listed below). [40 CFR §63.6640(a)]

| For Each...  | Complying with the requirements to ... | The permittee must demonstrate continuous compliance by ...  |
|--|--|--|
| Existing non-emergency stationary SI RICE located at an area source of HAP which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis | Work or Management practices           | i Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or<br>ii Develop and follow the permittee's own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. |

**Record Keeping:**

- 1) The permittee must keep the records described in paragraphs (a)(1) through (a)(5), (b)(1) through (b)(3) and (c) of 40 CFR §63.6655. [40 CFR §63.6655(a)]
  - a) A copy of each notification and report that the permittee submitted to comply with Subpart ZZZZ of 40 CFR Part 63, including all documentation supporting any Initial Notification or

- Notification of Compliance Status that the permittee submitted, according to the requirement in 40 CFR §63.10(b)(2)(xiv). [40 CFR §63.6655(a)(1)]
- b) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment. [40 CFR §63.6655(a)(2)]
  - c) Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR §63.6605(b). [40 CFR §63.6655(a)(5)]
- 2) The permittee must keep the records required in Table 6 of Subpart ZZZZ of 40 CFR Part 63 to show continuous compliance with each emission or operating limitation that applies to the permittee. [40 CFR §63.6655(d)]
  - 3) The permittee's records must be in a form suitable and readily available for expeditious review according to 40 CFR §63.10(b)(1). [40 CFR §63.6660(a)]
  - 4) As specified in 40 CFR §63.10(b)(1), the permittee must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. [40 CFR §63.6660(b)]
  - 5) The permittee must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR §63.10(b)(1). [40 CFR §63.6660(c)]

**Reporting:**

- 1) The permittee must report each instance in which the permittee did not meet each emission limitation or operating limitation in Table 2d to Subpart ZZZZ of 40 CFR Part 63 that applies to the permittee. These instances are deviations from the emission and operating limitations in Subpart ZZZZ of 40 CFR Part 63. These deviations must be reported according to the requirements in 40 CFR §63.6650. [40 CFR §63.6640(b)]
- 2) The permittee must also report each instance in which the permittee did not meet the requirements in Table 8 to Subpart ZZZZ of 40 CFR Part 63 — Applicability of General Provisions to Subpart ZZZZ that apply to the permittee. [40 CFR §63.6640(e)]
- 3) *Reporting requirements* [40 CFR §63.6650]
  - a) Pursuant to 40 CFR §63.6650(b)(5), the permittee shall report any deviations/exceedances of this permit condition using the semi-annual monitoring report and annual compliance certification to the Missouri Air Compliance Coordinator at EPA region 7 with complimentary copies to the SLCDH Air Pollution Control Program, 6121 North Hanley Road, Berkeley, Missouri 63134 and the Air Pollution Control Program, Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by Section V of this permit instead of according to the dates specified in paragraphs (b)(1) through (b)(4) of §63.6650.
  - b) The Compliance report must contain the information in paragraphs (c)(1) through (6) of 40 CFR §63.6650. [40 CFR §63.6650(c)]
    - i) Company name and address. [40 CFR §63.6650(c)(1)]
    - ii) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report. [40 CFR §63.6650(c)(2)]
    - iii) Date of report and beginning and ending dates of the reporting period. [40 CFR §63.6650(c)(3)]
    - iv) If the permittee had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by the permittee during a malfunction of an affected source to minimize emissions in



- accordance with 40 CFR §63.6605(b), including actions taken to correct a malfunction. [40 CFR §63.6650(c)(4)]
- v) If there are no deviations from any emission or operating limitations that apply to the permittee, a statement that there were no deviations from the emission or operating limitations during the reporting period. [40 CFR §63.6650(c)(5)]
  - c) For each deviation from an emission or operating limitation that occurs for the stationary RICE where the permittee is not using a CMS to comply with the emission or operating limitations in Subpart ZZZZ of 40 CFR Part 63, the Compliance report must contain the information in paragraphs (c)(1) through (4) of 40 CFR §63.6650 and the information in paragraphs (d)(1) and (2) of 40 CFR §63.6650 (listed below). [40 CFR §63.6650(d)]
    - i) The total operating time of the stationary RICE at which the deviation occurred during the reporting period. [40 CFR §63.6650(d)(1)]
    - ii) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken. [40 CFR §63.6650(d)(2)]
  - d) The permittee must report all deviations as defined in Subpart ZZZZ of 40 CFR Part 63 in the semiannual monitoring report required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). [40 CFR §63.6650(f)]

| <b>EP3 – Boilers</b> |   |                        |
|----------------------|---|------------------------|
| Emission Unit        | Description   | Manufacturer/ Model #  |
| EP3                  | Two (2) – 4.525 MMBtu/hr (each) Boilers fired by digester gas w/ propane backup, installed 2012 | Unilux Model ZF 1000 W |

**Permit Condition EP3 - 001**

10 CSR 10-6.260 Restriction of Emissions of Sulfur Compounds<sup>2</sup>

**Emission Limitation:**

- 1) The permittee shall not cause or permit the emission into the atmosphere of gases containing more than 500 ppmv of sulfur dioxide or more than 35 mg/m<sup>3</sup> of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three-hour time period. [10 CSR 10-6.260(3)(A)2.]
- 2) The permittee shall be limited to either burning digester gas with a hydrogen sulfide content of no more than 3,600 ppmv (correlates with 500 ppmv of sulfur dioxide, based on a direct relationship between the amount of hydrogen sulfide burned and the amount of sulfur present in the exhaust gas) or burning propane.

<sup>2</sup> 10 CSR 10-6.260 was rescinded on November 30, 2015 and replaced by 10 CSR 10-6.261; however, the provisions of 10 CSR 10-6.260 currently remain in the State Implementation Plan and are federally enforceable. The provisions of 10 CSR 10-6.260 will expire and the provisions of 10 CSR 10-6.261 will become federally enforceable once 10 CSR 10-6.261 is incorporated into the federally-approved SIP as a final EPA action. Because 10 CSR 10-6.261 is not applicable to EP3, this permit condition (EP3 – 001) will expire and the limitations thereof will no longer apply to the installation once 10 CSR 10-6.261 is incorporated into the SIP.

**Monitoring:**

The permittee shall analyze and record the hydrogen sulfide concentration of the digester gas on the following schedule when this emission unit is in operation:

- 1) Monthly analyses shall be conducted. If an exceedance is noted then) –
- 2) Weekly analyses shall be conducted for a minimum of four (4) consecutive weeks after exceedance occurs. Should no exceedance of the sulfide limit be detected during this period then) -
- 3) Analyses shall be made once every two (2) weeks for eight (8) consecutive weeks. If an exceedance is noted, monitoring reverts to weekly. Should no exceedance of this limit be detected during this period then monthly monitoring shall be resumed.

**Record Keeping:**

- 1) The permittee shall maintain an accurate record of the sulfur dioxide concentration in the exhaust gas based on the monitored hydrogen sulfide concentrations (and the direct relationship of hydrogen sulfide in the digester gas to the amount of sulfur dioxide present in the exhaust gas). These records shall be completed and available for review by the 10th day following the end of each month.
- 2) The permittee shall retain records for the previous sixty (60) month period and make them available to the SLCDH Air Pollution Control Program, or its designated agent, at any reasonable time.

**Reporting:**

The permittee shall report any deviations/exceedances of this permit condition using the semi-annual monitoring report and annual compliance certification the to the SLCDH Air Pollution Control Program, 6121 North Hanley Road, Berkeley, Missouri 63134 and the Air Pollution Control Program, Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by Section V of this permit.

| <b>EP4 – Emergency Flare</b> |   |   |
|------------------------------|---|---|
| Emission Unit                | Description   | Manufacturer/<br>Model #                |
| EP4                          | One (1) Emergency Flare, 36,000 cubic feet/hr, fired by excess digester gas and supplemental propane, installed June 2012 | Shand & Jurs,<br>Model #97301-171122001 |

| <b>Permit Condition EP4 - 001</b>   |
|---|
| 10 CSR 10-6.260 Restriction of Emissions of Sulfur Compounds <sup>3</sup> |

**Emission Limitation:**

- 1) The permittee shall not cause or permit the emission into the atmosphere of gases containing more than 500 ppmv of sulfur dioxide or more than 35 mg/m<sup>3</sup> of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three-hour time period. [10 CSR 10-6.260(3)(A)2.]

<sup>3</sup> 10 CSR 10-6.260 was rescinded on November 30, 2015 and replaced by 10 CSR 10-6.261; however, the provisions of 10 CSR 10-6.260 currently remain in the State Implementation Plan and are federally enforceable. The provisions of 10 CSR 10-6.260 will expire and the provisions of 10 CSR 10-6.261 will become federally enforceable once 10 CSR 10-6.261 is incorporated into the federally-approved SIP as a final EPA action. Because 10 CSR 10-6.261 is not applicable to EP4, this permit condition (EP4 – 001) will expire and the limitations thereof will no longer apply to the installation once 10 CSR 10-6.261 is incorporated into the SIP.

- 2) The permittee shall be limited to either burning digester gas with a hydrogen sulfide content of no more than 3,600 ppmv (correlates with 500 ppmv of sulfur dioxide, based on a direct relationship between the amount of hydrogen sulfide burned and the amount of sulfur present in the exhaust gas) or burning propane.

**Monitoring:**

The permittee shall analyze and record the hydrogen sulfide concentration of the digester gas on the following schedule when this emission unit is in operation:

- 1) Monthly analyses shall be conducted. If an exceedance is noted then) –
- 2) Weekly analyses shall be conducted for a minimum of four (4) consecutive weeks after exceedance occurs. Should no exceedance of the sulfide limit be detected during this period then) -
- 3) Analyses shall be made once every two (2) weeks for eight (8) consecutive weeks. If an exceedance is noted, monitoring reverts to weekly. Should no exceedance of this limit be detected during this period then monthly monitoring shall be resumed.

**Record Keeping:**

- 1) The permittee shall maintain an accurate record of the sulfur dioxide concentration in the exhaust gas based on the monitored hydrogen sulfide concentrations (and the direct relationship of hydrogen sulfide in the digester gas to the amount of sulfur dioxide present in the exhaust gas). These records shall be completed and available for review by the 10th day following the end of each month.
- 2) The permittee shall retain records for the previous sixty (60) month period and make them available to the SLCDH Air Pollution Control Program, or its designated agent, at any reasonable time.

**Reporting:**

The permittee shall report any deviations/exceedances of this permit condition using the semi-annual monitoring report and annual compliance certification to the SLCDH Air Pollution Control Program, 6121 North Hanley Road, Berkeley, Missouri 63134 and the Air Pollution Control Program, Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by Section V of this permit.

| <b>EP5 – Parts Washer</b> |   |                                   |
|---------------------------|---|-----------------------------------|
| Emission Unit             | Description   | Manufacturer/ Model #             |
| EP5                       | One (1) Solvent Metal Cleaner/Degreaser – 20 gallon capacity used for cleaning and degreasing parts, installed 1988 | Graymills Handi-Kleen Corporation |

| <b>Permit Condition EP5 - 001</b>                                |
|--|
| 10 CSR 10-5.300 Control of Emissions from Solvent Metal Cleaning |

**Emission Limitation:**

- 1) The permittee shall not use cold cleaning solvent with a vapor pressure greater than 1.0 millimeters of Mercury (mmHg) (0.019 psi) at 20 degrees Celsius (20°C) (68 degrees Fahrenheit (68°F)). [10 CSR 10-5.300(3)(A)1.A]
- 2) Exception: The permittee may use an alternative method for reducing cold cleaning emissions if the level of emission control is equivalent to or greater than the requirements of subparagraph (3)(A)1.A and (3)(A)1.B of 10 CSR 10-5.300. The director and the U.S Environmental Protection Agency (EPA) must approve the alternative method. [10 CSR 10-5.300(3)(A)1.D]

**Operational Limitation/Equipment Specification:**

The permittee shall comply with the following operational limitations and equipment specifications unless an exemption under 10 CSR 10-5.300(1)(D) applies:

- 1) Equipment specifications [10 CSR 10-5.300(3)(A)1]:
  - a) Each cold cleaner will have a cover, which will prevent the escape of solvent vapors from the solvent bath while in the closed position, or an enclosed reservoir, which will limit the escape of solvent vapors from the solvent bath whenever parts are not being processed in the cleaner. [10 CSR 10-5.300(3)(A)1.C]
  - b) Exemptions under (1)(D) of the regulation may apply.
  - c) Alternate methods for reducing cold cleaning emissions may be used if the permittee shows the emission control is at least equivalent to the control in (a) above and is approved by the Director and the EPA. [10 CSR 10-5.300(3)(A)1.D]
  - d) When one (1) or more of the following conditions exist, the cover shall be designed to operate easily such that minimal disturbing of the solvent vapors in the tank occurs. (For covers larger than ten (10) square feet, this shall be accomplished by either mechanical assistance or by a power system). [10 CSR 10-5.300(3)(A)1.E]
    - i) The solvent vapor pressure is greater than 0.3 psi measured at one hundred degrees Fahrenheit (100°F). [10 CSR 10-5.300(3)(A)1.E(I)]
    - ii) The solvent is agitated. [10 CSR 10-5.300(3)(A)1.E(II)]
    - iii) The solvent is heated. [10 CSR 10-5.300(3)(A)1.E(III)]
  - e) Each cold cleaner shall have an internal drainage facility so that parts are enclosed under the cover while draining.. [10 CSR 10-5.300(A)1.F]
  - f) If an internal drainage facility as in 10 CSR 10-5.300(3)(A)1.F cannot fit into the cleaning system and the solvent vapor pressure is less than 0.6 psi measured at one hundred degrees Fahrenheit (100°F), then the cold cleaner shall have an external drainage facility which provides for the solvent to drain back into the solvent bath. [10 CSR 10-5.300(3)(A)1.G]
  - g) Solvent sprays shall be a solid fluid stream (not a fine, atomized or shower type spray) and at a pressure which does not cause splashing above or beyond the freeboard. [10 CSR 10-5.300(3)(A)1.H]
  - h) A permanent conspicuous label summarizing the operating procedures shall be affixed to the equipment or in a location readily visible during operation of the equipment. [10 CSR 10-5.300(3)(A)1.I]
  - i) Any cold cleaner which uses a solvent that has a solvent vapor pressure greater than 0.6 psi measured at one hundred degrees Fahrenheit (100°F) or heated above one hundred twenty degrees Fahrenheit (120°F) must use one (1) of the following control devices: [10 CSR 10-5.300(3)(A)1.J]
    - i) A freeboard ratio of at least 0.75 [10 CSR 10-5.300(3)(A)1.J(I)]
    - ii) Water cover (solvent must be insoluble in and heavier than water) [10 CSR 10-5.300(3)(A)1.J(II)]
    - iii) Other control system that has a mass balance demonstrated overall VOC emission reduction efficiency of at least sixty-five percent (65%) and is approved by the Director and EPA prior to use. [10 CSR 10-5.300(3)(A)1.J(III)]
- 2) Operating procedures:
  - a) Cold cleaner covers shall be closed whenever parts are not being handled in the cleaners, or solvent must drain into an enclosed reservoir except when performing maintenance or collecting solvent samples. [10 CSR 10-5.300(3)(B)1.A].

- b) Cleaned parts shall be drained in the free board area for at least fifteen (15) seconds, or until dripping stops, whichever is longer. [10 CSR 10-5.300(3)(B)1.B]
  - c) Whenever a cold cleaner fails to perform within the operating parameters established by 10 CSR 10-5.300, the unit shall be shut down and shall remain shut down until operation is restored to meet 10 CSR 10-5.300's operating requirements. [10 CSR 10-5.300(3)(B)1.C]
  - d) Solvent leaks shall be repaired immediately, or the cold cleaner shall be shut down until the leaks are repaired. [10 CSR 10-5.300(3)(B)1.D]
  - e) Waste material removed from a cold cleaner shall be disposed of by one of the methods listed in 10 CSR 10-5.300 or equivalent method approved by the director and EPA. [10 CSR 10-5.300(3)(B)1.E]
  - f) Waste solvent shall be stored in closed containers only. [10 CSR 10-5.300(3)(B)1.F]
- 3) Operator and Supervisor Training:
- a) Persons who operate a cold cleaner shall be trained in the operational and equipment requirements specified in 10 CSR 10-5.300 for the permittee's particular solvent metal cleaning process. [10 CSR 10-5.300(3)(C)1]
  - b) The supervisor of any person who operates a cold cleaner shall receive equal or greater operational training than the operator. [10 CSR 10-5.300(3)(C)2]
  - c) Persons who operate a cold cleaner shall receive a procedural review at least once each twelve (12) months. [10 CSR 10-5.300(3)(C)3]

**Monitoring/ Recordkeeping:**

- 1) The permittee shall maintain the following records for each purchase of cold cleaner solvent (Attachment E): [10 CSR 10-5.300(4)(B)]
  - a) Name and address of the solvent supplier. [10 CSR 10-5.300(4)(B)1]
  - b) Date of purchase. [10 CSR 10-5.300(4)(B)2]
  - c) Type of solvent purchased. [10 CSR 10-5.300(4)(B)3]
  - d) Vapor pressure of solvent in mm Hg at 20°C or 68°F. [10 CSR 10-5.300(4)(B)4]
- 2) The permittee shall keep records of all types and amounts of solvents containing waste material from cleaning or degreasing operations transferred either to a contract reclamation service or to a disposal facility and all amounts distilled on the premises. (see Attachment C). The record also shall include maintenance and repair logs that occurred on the degreaser and any associated control equipment (Attachments D). These records shall be kept current and made available for review on a monthly basis. The director may require additional recordkeeping if necessary to adequately demonstrate compliance with 10 CSR 10-5.300. [10 CSR 10-5.300(4)(A)]
- 3) The permittee shall keep records of solvent metal cleaning training as required by 10 CSR 10-5.300(3)(C) (Attachment F).
- 4) All records shall be retained for five years and be available to the director upon request. [10 CSR 10-5.300(4)E]

**Reporting:**

The permittee shall report any deviations/exceedances of this permit condition using the semi-annual monitoring report and annual compliance certification to the to the SLCDH Air Pollution Control Program, 6121 North Hanley Road, Berkeley, Missouri 63134, and the Missouri Department of Natural Resources Air Pollution Control Program, Compliances and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by Section V of this permit.

## IV. Core Permit Requirements

The installation shall comply with each of the following regulations or codes. Consult the appropriate sections in the Code of Federal Regulations (CFR), the Code of State Regulations (CSR), and local ordinances for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued. The following are only excerpts from the regulation or code, and are provided for summary purposes only.

### 10 CSR 10-6.045 Open Burning Requirements

- 1) General Provisions. The open burning of tires, petroleum-based products, asbestos containing materials, and trade waste is prohibited, except as allowed below. Nothing in this rule may be construed as to allow open burning which causes or constitutes a public health hazard, nuisance, a hazard to vehicular or air traffic, nor which violates any other rule or statute. [10 CSR 10-6.045(3)]
- 2) Certain types of materials may be open burned provided an open burning permit is obtained from the director. The permit will specify the conditions and provisions of all open burning. The permit may be revoked if the owner or operator fails to comply with the conditions or any provisions of the permit. [10 CSR 10-6.045(3)(B)]

### 10 CSR 10-6.050 Start-up, Shutdown and Malfunction Conditions

- 1) In the event of a malfunction, which results in excess emissions that exceed one hour, the permittee shall submit to the director within two business days, in writing, the following information: [10 CSR 10-6.050(3)(A)]
  - a) Name and location of installation;
  - b) Name and telephone number of person responsible for the installation;
  - c) Name of the person who first discovered the malfunction and precise time and date that the malfunction was discovered.
  - d) Identity of the equipment causing the excess emissions;
  - e) Time and duration of the period of excess emissions;
  - f) Cause of the excess emissions;
  - g) Air pollutants involved;
  - h) Estimate of the magnitude of the excess emissions expressed in the units of the applicable requirement and the operating data and calculations used in estimating the magnitude;
  - i) Measures taken to mitigate the extent and duration of the excess emissions; and
  - j) Measures taken to remedy the situation that caused the excess emissions and the measures taken or planned to prevent the recurrence of these situations.
- 2) The permittee shall submit the paragraph 1 information to the director in writing at least ten days prior to any maintenance, start-up or shutdown activity, which is expected to cause an excessive release of emissions that exceed one hour. If notice of the event cannot be given ten days prior to the planned occurrence, it shall be given as soon as practicable prior to the activity. [10 CSR 10-6.050(3)(B)]
- 3) Upon receipt of a notice of excess emissions issued by an agency holding a certificate of authority under section 643.140, RSMo, the permittee may provide information showing that the excess emissions were the consequence of a malfunction, start-up or shutdown. The information, at a minimum, should be the paragraph 1 list and shall be submitted not later than 15 days after receipt of the notice of excess emissions. Based upon information submitted by the permittee or any other pertinent information available, the director or the commission shall make a determination whether the excess emissions constitute a malfunction, start-up or shutdown and whether the nature, extent

and duration of the excess emissions warrant enforcement action under section 643.080 or 643.151, RSMo. [10 CSR 10-6.050(3) (C)]

- 4) Nothing in this rule shall be construed to limit the authority of the director or commission to take appropriate action, under sections 643.080, 643.090 and 643.151, RSMo to enforce the provisions of the Air Conservation Law and the corresponding rule. [10 CSR 10-6.050(3) (D)]
- 5) Compliance with this rule does not automatically absolve the permittee of liability for the excess emissions reported. [10 CSR 10-6.050(3) (E)]

#### **10 CSR 10-6.060 Construction Permits Required**

The permittee shall not commence construction, modification, or major modification of any installation subject to this rule, begin operation after that construction, modification, or major modification, or begin operation of any installation which has been shut down longer than five years without first obtaining a permit from the permitting authority. [10 CSR 10-6.060(1) (C)]

#### **10 CSR 10-6.065 Operating Permits**

- 1) The permittee shall file a complete application for renewal of this operating permit at least six months before the date of permit expiration. In no event shall this time be greater than eighteen months. [10 CSR 10-6.065(6)(B)1.A]
- 2) The permittee shall retain the most current operating permit issued to this installation on-site. The permittee shall immediately make such permit available to any Missouri Department of Natural Resources personnel upon request. [10 CSR 10-6.065(6)(C)3.B]

#### **10 CSR 10-6.080 Emission Standards for Hazardous Air Pollutants and 40 CFR Part 61 Subpart M National Emission Standard for Asbestos**

The permittee shall follow the procedures and requirements of 40 CFR Part 61, Subpart M for any activities occurring at this installation which would be subject to provisions for 40 CFR Part 61, Subpart M, National Emission Standard for Asbestos. [100 CSR 10-6.080(3)(M)]

#### **10 CSR 10-6.100 Alternate Emission Limits**

Proposals for alternate emission limitations shall be submitted on Alternate Emission Limits Permit forms provided by the department. [10 CSR 10.6.100(3)(A)(1)]. An installation owner or operator must obtain an Alternate Emission Limits Permit in accordance with 10 CSR 10-6.100 before alternate emission limits may become effective. [10 CSR 10-6.100(3)(A)(2)]

#### **10 CSR 10-6.110 Reporting Emission Data, Emission Fees and Process Information**

- 1) The permittee shall submit a Full Emissions Report either electronically via MoEIS, which requires Form 1.0 signed by an authorized company representative, or on Emission Inventory Questionnaire (EIQ) paper forms on the frequency specified in Table 4 of 10 CSR 10-6.100 and in accordance with the requirements of 10 CSR 10-6.110. Alternate methods of reporting the emissions, such as spreadsheet file, can be submitted for approval by the director. [10 CSR 10-6.110(4)(B) and (C)]
- 2) Public Availability of Emission Data and Process Information. Any information obtained pursuant to the rule(s) of the Missouri Air Conservation Commission that would not be entitled to confidential treatment under 10 CSR 10-6.210 shall be made available to any member of the public upon request. [10 CSR 10-6.110(3)(D)]
- 3) The permittee shall pay an annual emission fee per ton of applicable pollutant emissions identified in Table 2 of 10 CSR 10-6.110. [10 CSR 10-6.110(3)(A)].

### **10 CSR 10-6.130 Controlling Emissions During Episodes of High Air Pollution Potential**

This rule specifies the conditions that establish an air pollution alert (yellow/orange/red/purple), or emergency (maroon) and the associated procedures and emission reduction objectives for dealing with each. The permittee shall submit an appropriate alert plan if required by the Director.

[10 CSR 10-6.130(4)]

### **10 CSR 10-6.150 Circumvention**

The permittee shall not cause or permit the installation or use of any device or any other means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission or air contaminant which violates a rule of the Missouri Air Conservation Commission.

### **10 CSR 10-6.165 Restriction of Emission of Odors**

**This requirement is not federally enforceable.**

The permittee may not cause, permit or allow the emission of odorous matter in concentrations and frequencies or for durations that odor can be perceived when one volume of odorous air is diluted with seven volumes of odor-free air for two separate trials not less than 15 minutes apart within the period of one hour. This odor evaluation shall be taken at two locations outside of the installation's property boundary one upwind and one downwind. [10 CSR 10-6-130(4)] The permittee shall not be deemed to be in violation of this provision unless measurements taken using the test methods set forth in 10 CSR 10-6.165(5) show an exceedance of the standard set forth in 10 CSR 10-6.165(3).

### **10 CSR 10-6.170**

#### **Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin**

- 1) The permittee shall not cause or allow to occur any handling, transporting or storing of any material; construction, repair, cleaning or demolition of a building or its appurtenances; construction or use of a road, driveway or open area; or operation of a commercial or industrial installation without applying reasonable measures as may be required to prevent, or in a manner which allows or may allow, fugitive particulate matter emissions to go beyond the premises of origin in quantities that the particulate matter may be found on surfaces beyond the property line of origin. The nature or origin of the particulate matter shall be determined to a reasonable degree of certainty by a technique proven to be accurate and approved by the director. [10 CSR 10-6.170(1)(A)]
- 2) The permittee shall not cause nor allow to occur any fugitive particulate matter emissions to remain visible in the ambient air beyond the property line of origin. [10 CSR 10-6.170(1)(B)]
- 3) Should it be determined that noncompliance has occurred, the director may require reasonable control measures as may be necessary. These measures may include, but are not limited to, the following: [10 CSR 10-6.170(2)]
  - a) Revision of procedures involving construction, repair, cleaning and demolition of buildings and their appurtenances that produce particulate matter emissions; [10 CSR 10-6.170(2)(A)]
  - b) Paving or frequent cleaning of roads, driveways and parking lots; [10 CSR 10-6.170(2)(B)]
  - c) Application of dust-free surfaces; [10 CSR 10-6.170(2)(C)]
  - d) Application of water; and [10 CSR 10-6.170(2)(D)]
  - e) Planting and maintenance of vegetative ground cover. [10 CSR 10-6.170(2)(E)]

### **10 CSR 10-6.180 Measurement of Emissions of Air Contaminants**

- 1) The director may require any person responsible for the source of emission of air contaminants to make or have made tests to determine the quantity or nature, or both, of emission of air contaminants



from the source. The director may specify testing methods to be used in accordance with good professional practice. The director may observe the testing. All tests shall be performed by qualified personnel. [10 CSR 10-6.180(1)]

- 2) The director may conduct tests of emissions of air contaminants from any source. Upon request of the director, the person responsible for the source to be tested shall provide necessary ports in stacks or ducts and other safe and proper sampling and testing facilities, exclusive of instruments and sensing devices as may be necessary for proper determination of the emission of air contaminants. [10 CSR 10-6.180(2)]
- 3) The director shall be given a copy of the test results in writing and signed by the person responsible for the tests. [10 CSR 10-6.180(1)]

### **10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants**

#### **Emission Limitation:**

- 1) The permittee shall not cause or permit to be discharged into the atmosphere from any source, not exempted under 10 CSR 10-6.220, any visible emissions with an opacity greater than 20%. [10 CSR 10-6.220(3)(A)]
- 2) Exception: The permittee may discharge into the atmosphere visible emissions of up to 40% for a period not aggregating more than one (1) six (6) minutes period in any 60 minutes. [10 CSR 10-6.220(3)(B)]

#### **Monitoring:**

- 1) The permittee shall conduct opacity readings on each emission unit using the procedures contained in USEPA Test Method 22. The permittee is only required to take readings when the emission unit is operating and when the weather conditions allow. If the permittee observes no visible or other significant emissions using these procedures, then no further observations are required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, a source representative would then conduct a Method 9 observation.
- 2) The permittee must maintain the following monitoring schedule:
  - a) The permittee shall conduct weekly observations for a minimum of eight (8) consecutive weeks after permit issuance.
  - b) Should the permittee observe no violations of this regulation during this period then-
    - i) The permittee may observe once every two (2) weeks for a period of eight (8) weeks.
    - ii) If a violation is noted, monitoring reverts to weekly.
    - iii) Should no violation of this regulation be observed during this period then-
      - (1) The permittee may observe once per month.
      - (2) If a violation is noted, monitoring reverts to weekly.
- 3) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.

#### **Recordkeeping:**

- 1) The permittee shall maintain records of all observation results using Attachment A (or its equivalent), noting:
  - a) Whether any air emissions (except for water vapor) were visible from the emission units;
  - b) All emission units from which visible emissions occurred;
  - c) Whether the visible emissions were normal for the process;
  - d) The permittee shall maintain records of any equipment malfunctions, which may contribute to visible emissions; and,

- 2) The permittee shall maintain records of any Method 9 test performed in accordance with this permit condition. (See Attachment B).

### **10 CSR 10-6.250 Asbestos Projects – Certification, Accreditation, and Business Exemption Requirements**

The permittee shall conduct all asbestos abatement projects within the procedures established for certification and accreditation by 10 CSR 10-6.250.

- 1) This rule requires individuals who work in asbestos abatement projects to be certified by the Missouri Department of Natural Resources Air Pollution Control Program. [10 CSR 10-6.250(3)(A)].
- 2) This rule requires training providers who offer training for asbestos abatement occupations to be accredited by the Missouri Department of Natural Resources Air Pollution Control Program. [10 CSR 10-6.250(3)(D)]
- 3) This rule requires persons who hold exemption status from certain requirements of this rule to allow the department to monitor training provided to employees. [10 CSR 10-6.250(3)(E)]

### **10 CSR 10-6.280 Compliance Monitoring Usage**

- 1) The permittee is not prohibited from using the following in addition to any specified compliance methods for the purpose of submission of compliance certificates: [10 CSR 10-6.280(3)(A)]
  - a) Monitoring methods outlined in 40 CFR Part 64; [10 CSR 10-6.280(3)(A)1.]
  - b) Monitoring method(s) approved for the permittee pursuant to 10 CSR 10-6.065, “Operating Permits”, and incorporated into an operating permit; and [10 CSR 10-6.280(3)(A)2.]
  - c) Any other monitoring methods approved by the director. [10 CSR 10-6.280(3)(A)3.]
- 2) Any credible evidence may be used for the purpose of establishing whether a permittee has violated or is in violation of any such plan or other applicable requirement. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred at an installation: [10 CSR 10-6.280(3)(B)]
  - a) Monitoring methods outlined in 40 CFR Part 64; [10 CSR 10-6.280(3)(B)1.]
  - b) A monitoring method approved for the permittee pursuant to 10 CSR 10-6.065, “Operating Permits”, and incorporated into an operating permit; and [10 CSR 10-6.280(3)(B)2.]
  - c) Compliance test methods specified in the rule cited as the authority for the emission limitations. [10 CSR 10-6.280(3)(B)3.]
- 3) The following testing, monitoring or information gathering methods are presumptively credible testing, monitoring, or information gathering methods: [10 CSR 10-6.280(5)]
  - a) Applicable monitoring or testing methods, cited in: [10 CSR 10-6.280(5)(A)]
    - i) 10 CSR 10-6.030, “Sampling Methods for Air Pollution Sources”;
    - ii) 10 CSR 10-6.040, “Reference Methods”;
    - iii) 10 CSR 10-6.070, “New Source Performance Standards”;
    - iv) 10 CSR 10-6.080, “Emission Standards for Hazardous Air Pollutants”; or
  - b) Other testing, monitoring, or information gathering methods, if approved by the director, that produce information comparable to that produced by any method listed above. [10 CSR 10-6.280(5)(B)]

### **10 CSR 10-5.040 Control of Emission From Hand-Fired Equipment**

No owner or operator shall operate applicable hand-fired, fuel-burning equipment unless the owner or operator meets the conditions set forth in 10 CSR 10-5.040(3). This regulation shall apply to all hand-fired fuel-burning equipment at commercial facilities including, but not limited to, furnaces, heating and

cooking stoves and hot water furnaces. It shall not apply to wood-burning fireplaces and wood-burning stoves in dwellings, nor to fires used for recreational purpose, nor to fires used solely for the preparation of food by barbecuing or to other equipment exempted under 10 CSR 10-5.104(1). Hand-fired fuel-burning equipment is any stove, furnace, or other fuel-burning device in which fuel is manually introduced directly into the combustion chamber.

[10 CSR 10-5.040(2)(B) and 10 CSR 10-6.020(2)(H)(3)]

**10 CSR 10-5.060 Refuse Not to be Burned in Fuel Burning Installations  
(Rescinded on February 11, 1979 - Contained in State Implementation Plan)**

No person shall burn or cause or permit the burning of refuse in any installation which is designed for the primary purpose of burning fuel.

**40 CFR Part 82 Protection of Stratospheric Ozone - Title VI**

- 1) The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
  - a) All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to 40 CFR §82.106. [40 CFR §82.106(a) and 40 CFR §82.102].
  - b) The placement of the required warning statement must comply with the requirements of 40 CFR §82.108.
  - c) The form of the label bearing the required warning statement must comply with the requirements of 40 CFR §82.110.
  - d) No person may modify, remove, or interfere with the required warning statement except as described in 40 CFR §82.112.
- 2) The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners (MVACs) in Subpart B of 40 CFR Part 82:
  - a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices described in 40 CFR §82.156.
  - b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment described in 40 CFR §82.158.
  - c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR §82.161.
  - d) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with the record keeping requirements of 40 CFR §82.166. ("MVAC-like" appliance as defined at 40 CFR §82.152).
  - e) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to 40 CFR §82.156.
  - f) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR §82.166.
- 3) If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR part 82, Subpart A, Production and Consumption Controls.
- 4) If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements contained in 40 CFR

part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant.

- 5) The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program. *Federal Only - 40 CFR part 82*

## V. General Permit Requirements

The installation shall comply with each of the following requirements. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued.

### 10 CSR 10-6.065(6)(C)1.B Permit Duration

This permit is issued for a term of five years, commencing on the date of issuance. This permit will expire at the end of this period unless renewed.

### 10 CSR 10-6.065(6)(C)1.C General Record Keeping and Reporting Requirements

#### 1) Record Keeping

- a) All required monitoring data and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report or application. [10 CSR 10-6.065(6)(C)1.C.(II)(b)]
- b) Copies of all current operating and construction permits issued to this installation shall be kept on-site for as long as the permits are in effect. Copies of these permits shall be made immediately available to any SLCDH Air Pollution Control Program or Missouri Department of Natural Resources' personnel upon request.

#### 2) Reporting

- a) All reports shall be submitted to SLCDH Air Pollution Control Program, 6121 North Hanley Road, Berkeley, Missouri 63134 and the Missouri Department of Natural Resources Air Pollution Control Program, Compliance and Enforcement Section, P. O. Box 176, Jefferson City, MO 65102.
- b) The permittee shall submit a report of all required monitoring by:  
[10 CSR 10-6.065(6)(C)1.C. (III)]
  - i) October 1st for monitoring which covers the January through June time period, and
  - ii) April 1st for monitoring which covers the July through December time period.
- c) Each report shall identify any deviations from emission limitations, monitoring, record keeping, reporting, or any other requirements of the permit, this includes deviations or Part 64 exceedances.
- d) Submit supplemental reports as required or as needed. All reports of deviations shall identify the cause or probable cause of the deviations and any corrective actions or preventative measures taken. [10 CSR 10-6.065(6)(C)1.C.(III)(c)]
  - i) Notice of any deviation resulting from an emergency (or upset) condition as defined in paragraph (6)(C)7.A of 10 CSR 10-6.065 (Emergency Provisions) shall be submitted to the permitting authority either verbally or in writing within two working days after the date on which the emission limitation is exceeded due to the emergency, if the permittee wishes to assert an affirmative defense. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that indicate an emergency occurred and the permittee can identify the cause(s) of the emergency. The permitted installation must show that it was operated properly at the time and that during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or requirements in the permit. The notice must contain a description of the emergency, the steps taken to mitigate emissions, and the corrective actions taken. [10 CSR 10-6.065(6)(C)1.C.(III)(c)I]

- ii) Any deviation that poses an imminent and substantial danger to public health, safety or the environment shall be reported as soon as practicable. [10 CSR 10-6.065(6)(C)1.C.(III)(c)II]
- iii) Any other deviations identified in the permit as requiring more frequent reporting than the permittee's semiannual report shall be reported on the schedule specified in this permit, and no later than ten days after any exceedance of any applicable rule, regulation, or other restriction. [10 CSR 10-6.065(6)(C)1.C.(III)(c)III]
- e) Every report submitted shall be certified by the responsible official, except that, if a report of a deviation must be submitted within ten days after the deviation, the report may be submitted without a certification if the report is resubmitted with an appropriate certification within ten days after that, together with any corrected or supplemental information required concerning the deviation. [10 CSR 10-6.065(6)(C)1.C.(III)(d)]
- f) The permittee may request confidential treatment of information submitted in any report of deviation. [10 CSR 10-6.065(6)(C)1.C.(III)(e)]

#### **10 CSR 10-6.065(6)(C)1.D Risk Management Plan Under Section 112(r)**

If the installation is required to develop and register a risk management plan pursuant to section 112(r) of the Act, the permittee will verify that it has complied with the requirement to register the plan.

#### **10 CSR 10-6.065(6)(C)1.F Severability Clause**

In the event of a successful challenge to any part of this permit, all uncontested permit conditions shall continue to be in force. All terms and conditions of this permit remain in effect pending any administrative or judicial challenge to any portion of the permit. If any provision of this permit is invalidated, the permittee shall comply with all other provisions of the permit.

#### **10 CSR 10-6.065(6)(C)1.G General Requirements**

- 1) The permittee must comply with all of the terms and conditions of this permit. Any noncompliance with a permit condition constitutes a violation and is grounds for enforcement action, permit termination, permit revocation and re-issuance, permit modification or denial of a permit renewal application. [10 CSR 10-6.065(6)(C)1.G.(I)]
- 2) The permittee may not use as a defense in an enforcement action that it would have been necessary for the permittee to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. [10 CSR 10-6.065(6)(C)1.G.(II)]
- 3) The permit may be modified, revoked, reopened, reissued or terminated for cause. Except as provided for minor permit modifications, the filing of an application or request for a permit modification, revocation and reissuance, or termination, or the filing of a notification of planned changes or anticipated noncompliance, does not stay any permit condition. [10 CSR 10-6.065(6)(C)1.G.(III)]
- 4) This permit does not convey any property rights of any sort, nor grant any exclusive privilege. [10 CSR 10-6.065(6)(C)1.G.(IV)]
- 5) The permittee shall furnish to the Air Pollution Control Program, upon receipt of a written request and within a reasonable time, any information that the Air Pollution Control Program reasonably may require to determine whether cause exists for modifying, reopening, reissuing or revoking the permit or to determine compliance with the permit. Upon request, the permittee also shall furnish to the Air Pollution Control Program copies of records required to be kept by the permittee. The permittee may make a claim of confidentiality for any information or records submitted pursuant to 10 CSR 10-6.065(6)(C)1. [10 CSR 10-6.065(6)(C)1.G.(V)]

### **10 CSR 10-6.065(6)(C)1.H Incentive Programs Not Requiring Permit Revisions**

No permit revision will be required for any installation changes made under any approved economic incentive, marketable permit, emissions trading, or other similar programs or processes provided for in this permit.

### **10 CSR 10-6.065(6)(C)3 Compliance Requirements**

- 1) Any document (including reports) required to be submitted under this permit shall contain a certification signed by the responsible official. [10 CSR 10-6.065(6)(C)3.A]
- 2) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized officials of the Missouri Department of Natural Resources, or their authorized agents, to perform the following (subject to the installation's right to seek confidential treatment of information submitted to, or obtained by, the Air Pollution Control Program): [10 CSR 10-6.065(6)(C)3.B]
  - a) Enter upon the premises where a permitted installation is located or an emissions-related activity is conducted, or where records must be kept under the conditions of this permit;
  - b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
  - c) Inspect, at reasonable times and using reasonable safety practices, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
  - d) As authorized by the Missouri Air Conservation Law, Chapter 643, RSMo or the Act, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the terms of this permit, and all applicable requirements as outlined in this permit.
- 3) All progress reports required under an applicable schedule of compliance shall be submitted semiannually (or more frequently if specified in the applicable requirement). These progress reports shall contain the following: [10 CSR 10-6.065(6)(C)3.D]
  - a) Dates for achieving the activities, milestones or compliance required in the schedule of compliance, and dates when these activities, milestones or compliance were achieved, and
  - b) An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measures adopted.
- 4) The permittee shall submit an annual certification that it is in compliance with all of the federally enforceable terms and conditions contained in this permit, including emissions limitations, standards, or work practices. These certifications shall be submitted annually by April 1st, unless the applicable requirement specifies more frequent submission. These certifications shall be submitted to EPA Region VII, 11201 Renner Blvd., Lenexa, KS 66219, as well as SLCDH Air Pollution Control Program, 6121 North Hanley Road, Berkeley, Missouri 63134 and the Missouri Department of Natural Resources the Air Pollution Control Program, Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102. All deviations and Part 64 exceedances and excursions must be included in the compliance certifications. The compliance certification shall include the following: [10 CSR 10-6.065(6)(C)3.E]
  - a) The identification of each term or condition of the permit that is the basis of the certification;
  - b) The current compliance status, as shown by monitoring data and other information reasonably available to the installation;
  - c) Whether compliance was continuous or intermittent;
  - d) The method(s) used for determining the compliance status of the installation, both currently and over the reporting period; and

- e) Such other facts as the Air Pollution Control Program will require in order to determine the compliance status of this installation.

#### **10 CSR 10-6.065(6)(C)6 Permit Shield**

- 1) Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements as of the date that this permit is issued, provided that: [10 CSR 10-6.065(6)(C)6.A]
  - a) The applicable requirements are included and specifically identified in this permit, or
  - b) The permitting authority, in acting on the permit revision or permit application, determines in writing that other requirements, as specifically identified in the permit, are not applicable to the installation, and this permit expressly includes that determination or a concise summary of it.
- 2) Be aware that there are exceptions to this permit protection. The permit shield does not affect the following: [10 CSR 10-6.065(6)(C)6.B]
  - a) The provisions of section 303 of the Act or section 643.090, RSMo concerning emergency orders,
  - b) Liability for any violation of an applicable requirement which occurred prior to, or was existing at, the time of permit issuance,
  - c) The applicable requirements of the acid rain program,
  - d) The authority of the Environmental Protection Agency and the Air Pollution Control Program of the Missouri Department of Natural Resources to obtain information, or
  - e) Any other permit or extra-permit provisions, terms or conditions expressly excluded from the permit shield provisions.

#### **10 CSR 10-6.065(6)(C)7 Emergency Provisions**

- 1) An emergency or upset as defined in 10 CSR 10-6.065(6)(C)7.A shall constitute an affirmative defense to an enforcement action brought for noncompliance with technology-based emissions limitations. To establish an emergency- or upset-based defense, the permittee must demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, the following:
  - a) That an emergency or upset occurred and that the permittee can identify the source of the emergency or upset,
  - b) That the installation was being operated properly,
  - c) That the permittee took all reasonable steps to minimize emissions that exceeded technology-based emissions limitations or requirements in this permit, and
  - d) That the permittee submitted notice of the emergency to the Air Pollution Control Program within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and any corrective actions taken.
- 2) Be aware that an emergency or upset shall not include noncompliance caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

#### **10 CSR 10-6.065(6)(C)8 Operational Flexibility**

An installation that has been issued a Part 70 operating permit is not required to apply for or obtain a permit revision in order to make any of the changes to the permitted installation described below (and in subparagraph (6)(C)8.A of 10 CSR 10-6.065) if the changes are not Title I modifications, the changes do not cause emissions to exceed emissions allowable under the permit, and the changes do not result in the emission of any air contaminant not previously emitted. The permittee shall notify the SLCDH Air Pollution Control Program, 6121 North Hanley Road, Berkeley, Missouri 63134 and the Missouri



Department of Natural Resources Air Pollution Control Program, Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 11201 Renner Blvd., Lenexa, KS 66219, at least seven days in advance of these changes, except as allowed for emergency or upset conditions. Emissions allowable under the permit means a federally enforceable permit term or condition determined at issuance to be required by an applicable requirement that establishes an emissions limit (including a work practice standard) or a federally enforceable emissions cap that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject.

- 1) Section 502(b)(10) changes. Changes that, under section 502(b)(10) of the Act, contravene an express permit term may be made without a permit revision, except for changes that would violate applicable requirements of the Act or contravene federally enforceable monitoring (including test methods), record keeping, reporting or compliance requirements of the permit.
  - a) Before making a change under this provision, The permittee shall provide advance written notice to the SLCDH Air Pollution Control Program, 6121 North Hanley Road, Berkeley, Missouri 63134 and the Missouri Department of Natural Resources Air Pollution Control Program, Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 11201 Renner Blvd., Lenexa, KS 66219, describing the changes to be made, the date on which the change will occur, and any changes in emission and any permit terms and conditions that are affected. The permittee shall maintain a copy of the notice with the permit, and the APCP shall place a copy with the permit in the public file. Written notice shall be provided to the EPA and the APCP as above at least seven days before the change is to be made. If less than seven days notice is provided because of a need to respond more quickly to these unanticipated conditions, the permittee shall provide notice to the EPA and the APCP as soon as possible after learning of the need to make the change.
  - b) The permit shield shall not apply to these changes.

#### **10 CSR 10-6.065(6)(C)9 Off-Permit Changes**

- 1) Except as noted below, the permittee may make any change in its permitted operations, activities or emissions that is not addressed in, constrained by or prohibited by this permit without obtaining a permit revision. Insignificant activities listed in the permit, but not otherwise addressed in or prohibited by this permit, shall not be considered to be constrained by this permit for purposes of the off-permit provisions of this section. Off-permit changes shall be subject to the following requirements and restrictions:
  - a) The change must meet all applicable requirements of the Act and may not violate any existing permit term or condition; the permittee may not change a permitted installation without a permit revision if this change is subject to any requirements under Title IV of the Act or is a Title I modification;
  - b) The permittee must provide contemporaneous written notice of the change to the SLCDH Air Pollution Control Program, 6121 North Hanley Road, Berkeley, Missouri 63134 and the Missouri Department of Natural Resources Air Pollution Control Program, Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 11201 Renner Blvd., Lenexa, KS 66219. This notice shall not be required for changes that are insignificant activities under 10 CSR 10-6.065(6)(B)3. This written notice shall describe each change, including the date, any change in emissions, pollutants emitted and any applicable requirement that would apply as a result of the change.
  - c) The permittee shall keep a record describing all changes made at the installation that result in emissions of a regulated air pollutant subject to an applicable requirement and the emissions resulting from these changes; and

- d) The permit shield shall not apply to these changes.

#### **10 CSR 10-6.065(6)(E)6 Reopening-Permit for Cause**

This permit may be reopened for cause if:

- 1) The Missouri Department of Natural Resources (MDNR) receives notice from the Environmental Protection Agency (EPA) that a petition for disapproval of a permit pursuant to 40 CFR § 70.8(d) has been granted, provided that the reopening may be stayed pending judicial review of that determination,
- 2) SLCDH, MDNR or EPA determines that the permit contains a material mistake or that inaccurate statements were made which resulted in establishing the emissions limitation standards or other terms of the permit,
- 3) Additional applicable requirements under the Act become applicable to the installation; however, reopening on this ground is not required if—:
  - a) The permit has a remaining term of less than three years;
  - b) The effective date of the requirement is later than the date on which the permit is due to expire;
  - or
  - c) The additional applicable requirements are implemented in a general permit that is applicable to the installation and the installation receives authorization for coverage under that general permit;
  - or
- 4) SLCDH, MDNR or EPA determines that the permit must be reopened and revised to assure compliance with applicable requirements.

#### **10 CSR 10-6.065(6)(E)1.C Statement of Basis**

This permit is accompanied by a statement setting forth the legal and factual basis for the permit conditions (including references to applicable statutory or regulatory provisions). This Statement of Basis, while referenced by the permit, is not an actual part of the permit.

#### **10 CSR 10-6.020(2)(R)34 Responsible Official**

The application utilized in the preparation of this permit was signed by Kenneth M. Gambaro, P.E., Operations Division Manager. If this person terminates employment, or is reassigned different duties such that a different person becomes the responsible person to represent and bind the installation in environmental permitting affairs, the owner or operator of this air contaminant source shall notify the Director of the Air Pollution Control Program of the change. Said notification shall be in writing and shall be submitted within 30 days of the change. The notification shall include the name and title of the new person assigned by the source owner or operator to represent and bind the installation in environmental permitting affairs. All representations, agreement to terms and conditions and covenants made by the former responsible person that were used in the establishment of limiting permit conditions on this permit will continue to be binding on the installation until such time that a revision to this permit is obtained that would change said representations, agreements and covenants.

## **VI. Attachments**

Attachments follow.

















## STATEMENT OF BASIS

### INSTALLATION DESCRIPTION

The Metropolitan St. Louis Sewer District (MSD) Missouri River Wastewater Treatment Plant is a sewage treatment installation that has capacity to treat an average daily flow of 38 million gallons with a peak treatment capacity of 80 million gallons per day (MGD). It is configured with an activated sludge process providing secondary treatment.

Equipment on-site includes fine screens, grit chambers, pre-aeration basins, primary clarifiers, aeration basins, final clarifiers, ultraviolet disinfection, and anaerobic digesters. Three (3) internal combustion engines and two (2) boilers combust digester gas, with propane as back-up fuel. Excess digester gas is burned in one (1) waste gas flare. There is a parts washer on-site.

The installation is located in an ozone non-attainment area and is a major source for nitrogen oxides and carbon monoxide.

### Updated Potential to Emit for the Installation

| Pollutant                          | Potential to Emit (tons/yr) <sup>1</sup> |
|------------------------------------|--|
| PM <sub>10</sub>                   | 1.99                                     |
| PM <sub>2.5</sub>                  | 1.94                                     |
| Sulfur Oxides (SO <sub>x</sub> )   | 25.43                                    |
| Nitrogen Oxides (NO <sub>x</sub> ) | 313.68                                   |
| Volatile Organic Compounds         | 29.26                                    |
| Carbon Monoxide (CO)               | 145.24                                   |
| Hazardous Air Pollutants (HAP's)   | 7.04                                     |
| Ammonia (NH <sub>3</sub> )         | 280.43                                   |

<sup>1</sup>Each emission unit was evaluated at 8,760 hours of uncontrolled annual operation unless otherwise noted.

- The wastewater treatment plant (EP2) has a design flow of 38 MGD and a peak design flow of 80 MGD. Potential emissions for VOC and HAPs are based on emission factors obtained from the plant odor study and on peak flow.

### Reported Air Pollutant Emissions, tons per year

| Pollutants   | 2015 | 2014 | 2013 | 2012 | 2011 |
|--|------|------|------|------|------|
| Particulate Matter<br>≤ Ten Microns (PM <sub>10</sub> )  | 0.25 | 0.34 | 0.34 | 0.29 | 0.27 |
| Particulate Matter<br>≤ 2.5 Microns (PM <sub>2.5</sub> ) | 0.24 | 0.33 | 0.34 | 0.29 | 0.27 |
| Sulfur Oxides (SO <sub>x</sub> )                         | 3.57 | 4.76 | 2.08 | 9.13 | 3.66 |

| Pollutants                         | 2015  | 2014   | 2013  | 2012  | 2011   |
|------------------------------------|-------|--------|-------|-------|--------|
| Nitrogen Oxides (NO <sub>x</sub> ) | 65.37 | 106.49 | 97.27 | 87.94 | 89.31  |
| Volatile Organic Compounds (VOC)   | 8.84  | 11.64  | 11.52 | 10.55 | 11.11  |
| Carbon Monoxide (CO)               | 15.21 | 11.87  | 16.53 | 12.73 | 7.83   |
| Lead (Pb)                          | 0.00  | 0.00   | 0.00  | 0.00  | 0.00   |
| Hazardous Air Pollutants (HAPs)    | 2.11  | 1.88   | 2.22  | 2.08  | 2.33   |
| Ammonia (NH <sub>3</sub> )         | 93.87 | 83.35  | 98.53 | 92.26 | 103.16 |

**Permit Reference Documents**

These documents were relied upon in the preparation of the operating permit. Because they are not incorporated by reference, they are not an official part of the operating permit.

- 1) Part 70 Operating Permit Application, received December 23, 2014;
- 2) 2014 Emissions Inventory Questionnaire, received April 28, 2015; and
- 3) U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*; Volume I, Stationary Point and Area Sources, Fifth Edition.

**Applicable Requirements Included in the Operating Permit but Not in the Application or Previous Operating Permits**

None

**Other Air Regulations Determined Not to Apply to the Operating Permit**

The Air Pollution Control Program (APCP) has determined the following requirements do not apply to this installation at this time for the reasons stated.

- 1) 10 CSR 10-5.520, *Control of VOC Emissions from Existing Major Sources*.  
 This rule is not applicable to this installation, as it is not a major source of VOC emissions.
- 2) 10 CSR 10-5.455, *Control of Emission from Solvent Cleanup Operations*  
 This regulation applies to certain solvent cleanup operations at which cleaning solvent VOCs are emitted at 500 lbs/day or greater. Since the maximum potential VOC emissions from the parts washer (EP5) is less than 500 lbs/day and cold cleaning is exempted from this rule, 10 CSR 10-5.455 is not applicable.
- 3) 10 CSR 10-6.220, *Restriction of Emission of Visible Air Contaminants*  
 This rule does not apply to the internal combustion engines (EP1) since 10 CSR 10-6.220(1)(A) exempts stationary internal combustion engines operated in the St. Louis metropolitan area.

MDNR is currently revising 10 CSR 10-6.220 and the proposed rule, once finalized, is anticipated to exempt emission units that combust digester gas and propane from the requirements of the section. Thus, once this regulatory amendment is promulgated, all emissions units identified in this permit will be exempt from this requirement.

- 4) 10 CSR 10-6.261, *Control of Sulfur Dioxide Emissions*
  - a) According to 10 CSR 10-6.261(3)(B)(2)(B), indirect heating sources located in Franklin, Jefferson, St. Louis, St. Charles Counties, or City of St. Louis with a total rated capacity of less than two thousand (2,000) million Btu's per hour that do not burn coal or any fuel oil are not subject to the requirements of this rule.
  - b) 10 CSR 10-6.261 does not apply to units that use digester gas or propane as fuel.

### **Construction Permit History**

The following revisions were made to construction permits for this installation:

None

### **New Source Performance Standards (NSPS) Applicability**

- 1) 40 CFR Part 60, Subpart D, *Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971.*

The provisions of this subpart apply to each fossil-fuel-fired steam generating unit of more than 73 megawatts heat input rate (250 million Btu per hour) constructed or modified after August 17, 1971 and not covered under Subpart D.

None of the boilers are rated at greater than 73 megawatts heat input rate (250 million Btu per hour), therefore this subpart does not apply to this installation.

- 2) 40 CFR Part 60, Subpart Da, *Standards of Performance for Electric Utility Steam Generating Units for Which Construction is commenced After September 18, 1978.*

The provisions of this subpart apply to each electric utility fossil-fuel (either alone or in combination with any other fuel) fired steam generating unit of more than 73 megawatts heat input rate (250 million Btu per hour) constructed or modified after September 18, 1978.

None of the boilers are electric utility steam generating units as defined in this subpart nor are rated at greater than 73 megawatts heat input rate (250 million Btu per hour), therefore this subpart does not apply to this installation.

- 3) 40 CFR Part 60, Subpart Db, *Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units.*

The provisions of this subpart apply to each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 MW (100 million Btu per hour).

None of the boilers are rated at greater than 29 megawatts heat input rate (100 million Btu per hour), therefore this subpart does not apply to this installation.

- 4) 40 CFR Part 60, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*

Subpart Dc applies to each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million Btu/hr) or less, but greater than or equal to 2.9 MW (10 million Btu/hr).

This regulation does not apply to the boilers at this installation, EP3, because they are less than 10 MMBtu each and were installed in 1988, which is prior to the NSPS date of June 9, 1989.

- 5) 40 CFR Part 60, Subparts K, *Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction Or Modification Commenced After June 11, 1973, and Prior to May 19, 1978.*  
40 CFR Part 60, Subpart Ka, *Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction Or Modification Commenced After May 19, 1978, and Prior to July 23, 1984*

The installation does not have any petroleum storage vessels as defined in these subparts that are subject to this regulation.

- 6) 40 CFR Part 60, Subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction Or Modification Commenced After July 23, 1984.*

This subpart is not applicable to any tanks on site. All tanks on site fall below the applicability threshold of 19,812.75 gallons.

- 7) 40 CFR 60 Subpart JJJJ, *Standards of Performance for Spark Ignition Internal Combustion Engines.*  
This subpart does not apply because the spark ignition internal combustion engines were installed prior to the applicability date of June 12, 2006.

#### **Maximum Achievable Control Technology (MACT) Applicability**

- 1) 40 CFR Part 63, Subpart T - *National Emission Standards for Halogenated Solvent Cleaning*  
The provisions of this subpart apply to each individual batch vapor, in-line vapor, in-line cold, and batch cold solvent cleaning machine that uses any solvent containing methylene chloride, perchloroethylene, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride or chloroform, or any combination of these halogenated HAP solvents, in a total concentration greater than 5 percent by weight, as a cleaning and/or drying agent. Wipe cleaning activities, such as using a rag containing halogenated solvent are not covered under the provisions of this subpart.

The maintenance cold cleaner unit does not use halogenated solvents as defined in 40 CFR 63.460, therefore the parts washer is not subject to the MACT standards for halogenated solvent cleaning.

- 2) 40 CFR Part 63 Subpart VVV, *National Emission Standards for Hazardous Air Pollutants: Publicly Owned Treatment Works*  
The plant is considered an existing non-industrial source under this rule and is not a major source of HAP emissions. As an existing non-industrial source, the plant does not have additional control requirements and is not required to submit a notification of compliance status under this subpart.

3) 40 CFR Part 63, Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*

MSD – Missouri River Wastewater Treatment Plant operates three 482 horsepower spark ignition, 4 stroke, lean burn internal combustion engines (SI ICE) fired by digester gas w/ propane backup. The ICEs are subject to Subpart ZZZZ.

For these engines and according to this subpart, the installation is required to change oil/filter, inspect spark plugs, & inspect hoses/belts every 1,440 hours of operation or annually. Alternately, the permittee may utilize an oil analysis program as described in 40 CFR §63.6625(i) in order to extend the oil change requirement specified in Table 2d of 40 CFR Subpart ZZZZ.

4) 40 CFR Part 63 Subpart DDDDD, *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters*

The Subpart applies to a facility that owns or operates a industrial boilers, institutional boilers, commercial boilers, and process heaters that is a major source, or is located at a major source, or is part of a major source of HAP emissions. A process heater is defined as a unit in which the combustion gases do not directly come into contact with process material or gases in the combustion chamber (e.g., indirect fired). A boiler is defined as an enclosed device using controlled flame combustion and having the primary purpose of recovering thermal energy in the form of steam or hot water.

This regulation does not apply the boilers at this facility because the installation is an area source of hazardous air pollutants (HAPs).

5) 40 CFR Part 63 Subpart JJJJJ, *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*

This regulation applies to boilers at area source facilities that burn coal, oil, biomass, or non-waste materials. Boilers burning gaseous fuels as defined in this regulation would not be affected by the rule.

This regulation does not apply to the boilers because these boilers are digester gas and propane fired units. The rule exempts boilers fired with these types of fuels. According to this rule, gas-fired boiler includes any boiler that burns gaseous fuels not combined with any solid fuels, burns liquid fuel only during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel.

### **National Emission Standards for Hazardous Air Pollutants (NESHAP) Applicability**

The provisions of 40 CFR Part 61 Subpart M – *National Emission Standard for Asbestos*, §61.145(a), Standard for demolition and renovation, apply to the installation.

### **Compliance Assurance Monitoring (CAM) Applicability**

40 CFR Part 64, *Compliance Assurance Monitoring (CAM)*

The CAM rule applies to each pollutant specific emission unit that:

- Is subject to an emission limitation or standard, and
- Uses a control device to achieve compliance, and

- Has pre-control emissions that exceed or are equivalent to the major source threshold. 40 CFR Part 64 is not applicable because none of the pollutant-specific emission units uses a control device to achieve compliance with a relevant standard.

### Other Regulatory Determinations

1) 10 CSR 10-6.260, *Restriction of Emissions of Sulfur Compounds*

10 CSR 10-6.260(3)(A)2. applies to EP1, the three internal combustion engines and EP4, the emergency flare because these are sources of sulfur compounds, but are not sources of indirect heating. 10 CSR 10-6.260 (3)(B)3.B. applies to EP3, the boilers, because they are sources of indirect heating with a capacity of less than 2,000 MMBtu/hr; however, 10 CSR 10-6.260(3)(B)3.B does not contain any emission limit/standard for units that burn gaseous fuels/digester gas.

10 CSR 10-6.260 was rescinded on November 30, 2015 and replaced by 10 CSR 10-6.261; however, the provisions of 10 CSR 10-6.260 currently remain in the State Implementation Plan and thus are federally enforceable. The provisions of 10 CSR 10-6.260 will expire and the provisions of 10 CSR 10-6.261 will become federally enforceable once 10 CSR 10-6.261 is incorporated into the federally-approved SIP as a final EPA action. Because 10 CSR 10-6.261 is not applicable to EP1, EP3 or EP4, the permit conditions incorporating the requirements of 10 CSR 10-260 will expire and the limitations thereof will no longer apply to the installation once 10 CSR 10-6.261 is incorporated into the SIP..

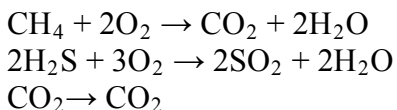
Compliance Determination with 10 CSR 10-6.260:

10 CSR 10-6.260 limits the SO<sub>2</sub> concentration from EP1 and EP4 at 500 ppmv. Digester gas is the only combustion fuel that would produce significant SO<sub>2</sub> emissions at the MSD Missouri River Treatment Plant. The calculation for theoretical exhaust SO<sub>2</sub> concentration based on stoichiometric combustion of digester gas at Missouri River is shown below.

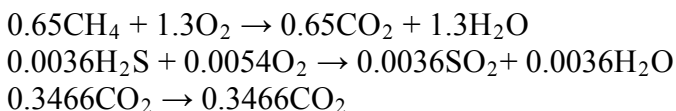
The digester gas at Missouri River has the following average composition:

65% CH<sub>4</sub>, 0.36% H<sub>2</sub>S, 34.64% CO<sub>2</sub>

Given the stoichiometric assumption, no O<sub>2</sub> is expected to remain following combustion; the following combustion reactions will take place:



Using these balanced chemical equations, the stoichiometric oxygen requirement for the complete combustion of 1 standard cubic feet (scf) of digester gas calculated as follows:



The total amount of O<sub>2</sub> needed for combustion is 1.3054 scf, which is calculated by adding all of the O<sub>2</sub> on the reactant side. Since the composition of air is 79% N<sub>2</sub> and 21% O<sub>2</sub> by volume; dividing the stoichiometric O<sub>2</sub> volume by the percentage of O<sub>2</sub> in air yields the amount of

combustion air necessary for stoichiometric combustion. This is displayed in the following equation:

$$\frac{(1.3054 \text{ scf } O_2) \times (1 \text{ scf air})}{(0.21 \text{ scf } O_2)} = 6.2162 \text{ scf combustion air}$$

Since combustion is stoichiometric, all available  $O_2$  will react with the methane and hydrogen sulfide, and  $N_2$  in the combustion air will pass through un-reacted. The amount of  $N_2$  present in the combustion air and thus the exhaust is:

$$(6.2162 \text{ scf air}) \frac{(0.79 \text{ scf } N_2)}{(1 \text{ scf air})} = 4.9107 \text{ scf } N_2$$

Adding all of the volumes for the products gives the estimated volume of exhaust gas for the combustion of 1 scf of digester gas:

|        |               |                   |
|--------|---------------|-------------------|
| $N_2$  | 4.9097        | = 4.9107 scf      |
| $CO_2$ | 0.65 + 0.3466 | = 0.9966 scf      |
| $H_2O$ | 1.3 + 0.0036  | = 1.3036 scf      |
| $SO_2$ | 0.0036        | = 0.0036 scf      |
|        |               | <u>7.2145 scf</u> |

The  $SO_2$  concentration in the exhaust gas in ppmv:

$$conc. SO_2 = \frac{0.0036 \text{ scf } H_2S}{7.2145 \text{ scf exhaust gas}} = 499 \text{ ppmv}$$

Based on the above calculation, applicable combustion sources at Missouri River will have  $SO_2$  concentrations at or below 499 ppmv, which is below the 500 ppmv limit in 10 CSR 10-6.260, for digester gas with  $H_2S$  concentrations of 3600 ppmv or less.

Note:  $H_2S$  in digester gas is controlled with a ferrous chloride addition of 100-1000 ppm, depending on the amount of rainfall. Therefore, the exhaust gas from the engines would never be expected to be out of compliance with the rule.

2) 10 CSR 10-6.400, *Restriction of Particulate Matter from Industrial Processes*

10 CSR 10-6.400 restricts the emission of particulate matter (PM) from any operation, process, or activity that emits PM. While the boilers (EP3), flare (EP4), and internal combustion engines (EP1) at the installation may emit some filterable PM, these emission sources are exempt from this regulation.

- a) The provisions of 10 CSR 10-6.400 do not apply to the burning of fuel for indirect heating; thus, the boilers (EP3) at the installation are exempt under 10 CSR 10-6.400(1)(B)6.



- b) The flare (EP4) emits less than 0.5 pounds per hour of PM as shown below and is exempt under 10 CSR 10-6.400(1)12. The flare's maximum hourly design rate is 36,000 cubic feet per hour.

PM Emission Factor for Digester Gas = 4.94 lb/MMcf ((WebFire emission factor for <10 MM Btu/hr boiler burning natural gas; Assume 65% of digester gas is natural gas.)

Flare PM Emissions =  $(36,000 \times 10^{-6})$  MMcf  $\times$  4.94 lb/MMcf = 0.18 lb pm/hr

- c) As shown below, the IC engines (EP1) emit less than 0.5 pounds per hour of PM and are exempt under 10 CSR 10-6.400(1)12. The IC engines have a maximum capacity of 17.136 MM Btu/hr.

PM Emission factor:

PM10 filterable EF =  $7.71 \times 10^{-5}$  lb/MM Btu

PM10 condensable EF =  $9.91 \times 10^{-3}$  lb/MM Btu

PM total =  $7.71 \times 10^{-5} + 9.91 \times 10^{-3} = 9.99 \times 10^{-3}$  lb/MM Btu

(Per AP-42, Chapter 3.2, Table 3.2-2)

IC Engines PM Emissions:

$17.136$  MMBtu/hr  $\times$   $9.99 \times 10^{-3}$  lb/MM Btu = 0.17 lb PM/hr

- 3) 10 CSR 10-6.405, *Restriction of Particulate Matter Emissions from Fuel Burning Equipment Used for Indirect Heating.*

The applicable emission limit for the boilers (EP3) is 0.40 pounds particulate matter per million Btus of heat input per 10 CSR 10-6.405 (3)(E) for new sources with a heat input rate of less than ten (10) MMBtu per hour. The total heat input of the boilers at this facility is 4.686 MMBtu/hr.

**Digester Gas:**

Emission Factor (EPA FIRE SCC 50100423) = 8.2 lb/10<sup>6</sup> scf CH<sub>4</sub> gas; digester gas = 65% CH<sub>4</sub>  
Heat Content Digester Gas = 600 Btu/scf (AP-42 Table 3.1-7);

Digester Gas Emissions =  $(8.2 \text{ lb PM/MMscf CH}_4 \times 0.65) / (600 \text{ MMBtu/MMscf})$

= 0.009 lb PM/MMBtu is less than 0.40 lb PM/MMBtu heat input

**Propane:**

Based the current emission factor for propane in AP-42 Section 1.5, 0.7 lb/10<sup>3</sup> gal, PM emissions for propane are well below the amount allowed by rule as demonstrated below:

$4.686 \text{ MMBtu/hr} \times (1,000 \text{ gal}/91.5 \text{ MMBtu}) \times (0.7 \text{ lbs PM}/1,000 \text{ gal}) = 0.36 \text{ lbs PM/hr}/4.686$

= 0.008 lbs PM/MMBtu heat input is less than the allowable limit.

As shown above the boilers will always be in compliance and according to 10 CSR 10-6.045(1)(C) are exempt from this rule.

**Other Regulations Not Cited in the Operating Permit or the Above Statement of Basis**

Any regulation which is not specifically listed in either the Operating Permit or in the above Statement of Basis does not appear, based on this review, to be an applicable requirement for this installation for one or more of the following reasons:

1. The specific pollutant regulated by that rule is not emitted by the installation;
2. The installation is not in the source category regulated by that rule;
3. The installation is not in the county or specific area that is regulated under the authority of that rule;
4. The installation does not contain the type of emission unit which is regulated by that rule;
5. The rule is only for administrative purposes.

Should a later determination conclude that the installation is subject to one or more of the regulations cited in this Statement of Basis or other regulations which were not cited, the installation shall determine and demonstrate, to the APCP's satisfaction, the installation's compliance with that regulation(s). If the installation is not in compliance with a regulation which was not previously cited, the installation shall submit to the APCP a schedule for achieving compliance for that regulation(s).

## Response to Public Comments

The draft P70 Operating Permit, Project 2014-12-047, for MSD - Missouri River Wastewater Treatment Plant (189-1205) was placed on public notice as of September 9, 2016, for a 30-day comment period. The public notice was published on the Department of Natural Resources' Air Pollution Control Program's web page at: <http://dnr.mo.gov/env/apcp/permit-public-notices.htm>, on Friday, September 9, 2016. On October 6, 2016, the Air Pollution Control Program received comments from Mark A. Smith, Air Permitting and Compliance Branch Chief for EPA Region VII.

**Comment #1:** First, the emission limitation requirements and the monitoring requirements in Permit Condition EPI-001; Permit Condition EP3-001; and Permit Condition EP4-001 are not practically enforceable, as written. EPA's primary guidance on practical enforceability is contained in "Guidance on Limiting Potential to Emit in New Source Permitting," dated June 13, 1989. One of the important measures of practical enforceability is for the requirements to identify the "who," "what," "where," "when," "how," and "how often." The emission limitation and monitoring requirements in Permit Condition EPI-001; Permit Condition EP3-001; and Permit Condition EP4-001 appear to be statement of facts, even though they are intended to be enforced on the permittee. EPA recommends MDNR revise these requirements to ensure practical enforceability.

**Response to Comment:** *The permit conditions are revised as recommended.*

**Comment #2:** Permit Condition EPI-001; Permit Condition EP3-001; and Permit Condition EP4-001 all include a monitoring and record keeping requirement and MDNR's customary practice is to include an attachment, detailing the information to be recorded to demonstrate compliance, for public review and comment. However, there are no examples of the record keeping compliance data sheets for Permit Condition EPI-001; Permit Condition EP3-001; and Permit Condition EP4-001 and EPA recommends that MDNR attach the examples to these three (3) permit conditions.

**Response to Comment:** *The permittee uses a readily established electronic recordkeeping system to demonstrate compliance with 10 CSR 10-6.260. Therefore, the Air Pollution Control Program does not believe an example recordkeeping form is necessary. EPA may request to review the installation records to determine compliance. The SLCDH Air Pollution Control Program regularly reviews recordkeeping forms during site inspections.*

**Comment #3:** Permit Condition EPI-002 incorporates the applicable requirements from Maximum Achievable Control Technology (MACT) standards as required by 40 CFR Part 63, Subpart ZZZZ: National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. The MSD-MO River WWTP is an area source of hazardous air pollutants (HAPs) and currently MDNR relies on EPA for the compliance management of area source MACT HAPs. Therefore, the compliance reporting for Permit Condition EPI-002 should be submitted to the Missouri Air Compliance Coordinator at EPA Region 7 with complimentary copies to SLCDH Air Pollution Control Program and MDNR's Air Pollution Control Programs Compliance and Enforcement Section as necessary and EPA recommends MDNR modify the reporting requirement 3) a) in Permit Condition EPI-002.

**Response to Comment:** *EPA has been added as the recipient of compliance information associated with Permit Condition EPI-002.*



Jeremiah W. (Jay) Nixon, Governor • Harry D. Bozoian, Director

## DEPARTMENT OF NATURAL RESOURCES

dnr.mo.gov

**MAR 16 2017**

Mr. Kenneth M. Gambaro, P.E.  
MSD - Missouri River Wastewater Treatment Plant  
3455 Creve Coeur Mill Road  
Maryland Heights, MO 63146

Re: MSD - Missouri River Wastewater Treatment Plant, 189-1205  
Permit Number: OP2016-048

Dear Mr. Gambaro:

Enclosed with this letter is your Part 70 operating permit. Please review this document carefully. Operation of your installation in accordance with the rules and regulations cited in this document is necessary for continued compliance. It is very important that you read and understand the requirements contained in your permit.


This permit may include requirements with which you may not be familiar. If you would like the department to meet with you to discuss how to understand and satisfy the requirements contained in this permit, an appointment referred to as a Compliance Assistance Visit (CAV) can be set up with you. To request a CAV, please contact your local regional office or fill out an online request. The regional office contact information can be found at <http://dnr.mo.gov/regions/>. The online CAV request can be found at <http://dnr.mo.gov/cav/compliance.htm>.

You may appeal this permit to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.078.16 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you have any questions or need additional information regarding this permit, please do not hesitate to contact Berhanu Getahun at the St. Louis Regional Office, 7545 S. Lindbergh, Suite 210, St. Louis, MO 63125, or by telephone at (314) 416-2960. You may also contact me with the Department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102, or by telephone at (573) 751-4817. Thank you for your time and attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

  
Michael J. Stansfield, P.E.  
Operating Permit Unit Chief

MJS:bgj

Enclosures

c: PAMS File: 2014-12-047

