

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law (Chapter 644 RSMo, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

| | |
|---------------------------------|--|
| Permit No. | MO-0124940 |
| Owner: | Dogwood Power Management, LLC |
| Address: | 8840 Stanford Blvd, Suite 3700, Columbia, MD 21045 |
| Continuing Authority: | same as above |
| Address: | same as above |
| Facility Name: | Dogwood Energy Facility |
| Facility Address: | 25111 E. 175 th Street, P.O. Box 110, Pleasant Hill, MO 64080 |
| Legal Description: | See page 2 |
| UTM Coordinates: | See page 2 |
| Receiving Stream: | See page 2 |
| First Classified Stream and ID: | See page 2 |
| USGS Basin & Sub-watershed No.: | See page 2 |

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION


Power Plant; SIC #4911; NAICS 221112.
See page 2.

This permit authorizes only stormwater and cooling water discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas.

October 1, 2020
Effective Date


Edward B. Galbraith, Director, Division of Environmental Quality

September 30, 2025
Expiration Date


Chris Wieberg, Director, Water Protection Program

FACILITY DESCRIPTION (CONTINUED)

Dogwood Energy Facility is a nominal 650 MW 2x1 natural gas-fired combined cycle electric generating facility. The facility is currently an intermediate plant, meaning that it operates less than a baseload (>60%) but more than a peaking (<10%) plant. The facility uses two natural gas-fired Siemens-Westinghouse Model 501FD2 turbines that exhaust to two heat recovery steam generators (HRSG) with duct burners and power augmentation that are capable of producing a nominal 650 MW during peak production. The HRSG uses the heat recovered from the gas turbine exhaust in addition to the supplemental heat from the duct burner to provide steam to power a common steam-electric generator for further power generation. Power augmentation is accomplished by injecting steam from the HRSG into the combustion turbine. A seven-cell cooling tower draws heat from the water used to cool the steam condenser. Solids removed from the system are sent to a landfill.

OUTFALL #001 - Primarily stormwater and occasional cooling water blowdown is discharged.

Legal Description: SE ¼, SW ¼, Sec. 13, T46N, R31W, Cass County
UTM Coordinates: X = 387142, Y = 4294614
Receiving Stream: Tributary to Big Creek
First Classified Stream and ID: Big Creek (P) WBID# 1250; 303(d) Listed
USGS Basin & Sub-watershed No.: South Grand (10290108-0302)
Design flow: 2.79 MGD
Actual flow: Dependent upon precipitation

OUTFALL #002 - Stormwater only; removed from permit, no monitoring required.

PERMITTED FEATURE #003 - Domestic wastewater septic tank that flows into an evaporation non-discharging lagoon. Emergency discharge only is allowed. Sludge is retained in septic tank and periodically pumped out.

Legal Description: SE ¼, SW ¼, Sec. 13, T46N, R31W, Cass County
UTM Coordinates: X = 387151, Y = 4294734
Receiving Stream: Tributary to Big Creek
First Classified Stream and ID: Big Creek (P) WBID# 1250; 303(d) Listed
USGS Basin & Sub-watershed No.: South Grand (10290108-0302)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

| OUTFALL #001 main outfall | TABLE A-1 FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS | | | | | |
|---|---|----------------------------|-------------------|--------------------|--------------------------|----------------|
| The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective on October 1, 2020 and remain in effect until expiration of the permit. Such discharges shall be controlled, limited, and monitored by the permittee as specified below: | | | | | | |
| EFFLUENT PARAMETERS | UNITS | FINAL EFFLUENT LIMITATIONS | | | MONITORING REQUIREMENTS | |
| | | DAILY MAXIMUM | WEEKLY AVERAGE | MONTHLY AVERAGE | MEASUREMENT FREQUENCY | SAMPLE TYPE |
| LIMIT SET: SA | | | | | | |
| PHYSICAL | | | | | | |
| Flow | MGD | * | | * | twice/year φ | 24 hr. total |
| Precipitation ¥ | Inches | * | | -- | twice/year φ | measured |
| CONVENTIONAL | | | | | | |
| Chlorine, Total Residual ‡ | µg/L | * | | * | twice/year φ | grab |
| Oil & Grease | mg/L | 15 | | 10 | twice/year φ | grab |
| pH † | SU | 6.0 - 9.0 | | | twice/year φ | grab |
| Settleable Solids | mL/L/hr | 1.5 | | 1.0 | twice/year φ | grab |
| Total Suspended Solids | mg/L | 100 | | 50 | twice/year φ | grab |
| MONITORING REPORTS SHALL BE SUBMITTED <u>TWICE YEARLY</u> ; THE FIRST REPORT IS DUE JANUARY 28, 2021 . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS. | | | | | | |

| PERMITTED FEATURE #003 emergency discharge | TABLE A-2 FINAL MONITORING REQUIREMENTS | | | |
|---|--|-------------------------|--------------------------|----------------|
| The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit, but only under the conditions listed in Special Conditions 5. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited, and monitored by the permittee as specified below: | | | | |
| EFFLUENT PARAMETERS | UNITS | MONITORING REQUIREMENTS | | |
| | | DAILY MAXIMUM | MEASUREMENT FREQUENCY | SAMPLE TYPE |
| LIMIT SET: U | | | | |
| PHYSICAL | | | | |
| Flow | MGD | * | once/discharge | event total |
| CONVENTIONAL | | | | |
| BOD ₅ | mg/L | * | once/discharge | grab |
| Chlorine, Total Residual | µg/L | * | once/discharge | grab |
| E. coli | #/100mL | * | once/discharge | grab |
| pH † | SU | 6.5 to 9.0 | once/discharge | grab |
| TSS | mg/L | * | once/discharge | grab |
| NUTRIENTS | | | | |
| Ammonia as N | mg/L | * | once/discharge | grab |
| MONITORING REPORTS SHALL BE SUBMITTED BY THE 28 TH DAY OF THE MONTH FOLLOWING DISCHARGE CESSATION. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS. | | | | |

* Monitoring requirement only

¥ Precipitation data may be obtained from the nearest rain gauge or weather monitoring station. Data only need be obtained on the day of the discharge from which sampling occurred. The facility is not required to submit monthly average data as this data is easily obtained online.

† The facility will report the actual minimum and maximum values. pH is not to be averaged.

‡ The facility is not required to sample for total residual chlorine if there is no discharge of cooling tower water within the monitoring period. Report “no discharge” for this parameter.

φ Twice Yearly Sampling Schedule:

| MINIMUM BI-ANNUAL SAMPLING REQUIREMENTS | | | |
|---|--|--|---------------|
| | MONTHS | SAMPLE | REPORT IS DUE |
| First Half of Year | January, February, March, April, May, June | Sample at least once during any month of the half year | July 28th |
| Second Half of Year | July, August, September, October, November, December | Sample at least once during any month of the half year | January 28th |

B. STANDARD CONDITIONS

In addition to specified conditions stated herein, this permit is subject to the attached Part I and Part III standard conditions dated August 1, 2014 and August 1, 2019, respectively, and hereby incorporated as though fully set forth herein.

C. SPECIAL CONDITIONS

1. Spills, Overflows, and Other Unauthorized Discharges.
 - (a) Any spill, overflow, or other discharge(s) not specifically authorized above are unauthorized discharges.
 - (b) Should an unauthorized discharge cause or permit any contaminants to discharge or enter waters of the state, the unauthorized discharge must be reported to the regional office as soon as practicable but no more than 24 hours after the discovery of the discharge. If the spill or overflow needs to be reported after normal business hours or on the weekend, the facility must call the Department’s 24 hour spill line at 573-634-2436.
2. Electronic Discharge Monitoring Report (eDMR) Submission System.
 - (a) Discharge Monitoring Reporting Requirements. The permittee must electronically submit compliance monitoring data via the eDMR system. Standard Conditions Part I, Section B, #7 indicates the eDMR system is currently the only Department approved reporting method for this permit.
 - (b) Programmatic Reporting Requirements. All reports must be electronically submitted as an attachment to the eDMR system until such a time when the current or a new system is available to allow direct input of the data. After such a system has been made available by the Department, required data shall be directly input into the system by the next report due date
 - (1) Collection System Maintenance Annual Reports;
 - (2) Any additional report required by the permit excluding bypass reporting.
 - (c) The following shall be submitted electronically after such a system has been made available by the Department:
 - (1) General Permit Applications/Notices of Intent to discharge (NOIs);
 - (2) Notices of Termination (NOTs);
 - (3) No Exposure Certifications (NOEs);
 - (4) Low Erosivity Waivers, and Other Waivers from Stormwater Controls (LEWs); and
 - (5) Bypass reporting, See Special Condition #1 for 24-hr. bypass reporting requirements.
 - (d) Electronic Submission: access the eDMR system via: <https://edmr.dnr.mo.gov/edmr/E2/Shared/Pages/Main/Login.aspx>
 - (e) Electronic Reporting Waivers. The permittee must electronically submit compliance monitoring data and reports unless a waiver is granted by the Department in compliance with 40 CFR Part 127. The permittee may obtain an electronic reporting waiver by first submitting an eDMR Waiver Request Form: <http://dnr.mo.gov/forms/780-2692-f.pdf>. The Department will either approve or deny this electronic reporting waiver request within 120 calendar days. Only permittees with an approved waiver request may submit monitoring data and reports on paper to the Department for the period the approved electronic reporting waiver is effective.
3. Stormwater Pollution Prevention Plan (SWPPP).

The facility’s SIC code or description is found in 40 CFR 122.26(b)(14) and/or 10 CSR 20-6.200(2) and hence shall implement a Stormwater Pollution Prevention Plan (SWPPP). The facility’s SWPPP must continue to be implemented upon permit effective date. The SWPPP must be kept on-site and should not be sent to the Department unless specifically requested. The SWPPP must be reviewed and updated annually or if site conditions affecting stormwater change. The permittee shall select, install, use, operate, and maintain the Best Management Practices prescribed in the SWPPP in accordance with the concepts and methods described in: *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (EPA 833-B-09-002) C.

SPECIAL CONDITIONS (CONTINUED)

published by the EPA in 2015 https://www.epa.gov/sites/production/files/2015-11/documents/swppp_guide_industrial_2015.pdf. The purpose of the SWPPP and the Best Management Practices (BMPs) listed herein is the prevention of pollution of waters of the state. A deficient BMP means it may reduce its effectiveness at preventing pollution [644.016(17)] to waters of the state. Corrective action describes the steps the facility took to eliminate the deficiency.

The SWPPP must include:

- (a) A listing of specific contaminants and their control measures (or BMPs) and a narrative explaining how BMPs are implemented to control and minimize the amount of contaminants potentially entering stormwater.
 - (b) A map with all outfalls and structural BMPs marked.
 - (c) A schedule for at least once per month site inspections and brief written reports. The inspection report must include precipitation information for the entire period since last inspection, as well as observations and evaluations of BMP effectiveness. Throughout coverage under this permit, the facility must perform ongoing SWPPP review and revision to incorporate any site condition changes.
 - (1) Operational deficiencies must be corrected within seven (7) calendar days.
 - (2) Structural deficiencies must be corrected within fourteen (14) calendar days.
 - (3) Deficiencies projected to take longer than 14 days to correct must be reported as an uploaded attachment through the eDMR system with the DMRs. The initial report shall consist of the deficiency noted, the proposed remedies, the interim or temporary remedies (including proposed timing of the placement of the interim measures), and an estimate of the timeframe needed to wholly complete the repairs or construction. If required by the Department, the permittee shall work with the regional office to determine the best course of action. The permittee should consider temporary structures to control stormwater runoff. The facility shall correct the major structural deficiency as soon as reasonably achievable.
 - (4) All actions taken to correct the deficiencies shall be included with the written report, including photographs, and kept with the SWPPP. Additionally, corrective action of major structural deficiencies shall be reported as an uploaded attachment through the eDMR system with the DMRs.
 - (5) BMP failure causing discharge through an unregistered outfall is considered an illicit discharge and must be reported in accordance with Standard Conditions Part I.
 - (6) Inspection reports must be kept on site with the SWPPP and maintained for a period of three (3) years. These must be made available to Department personnel upon request. Electronic versions of the documents and photographs are acceptable.
 - (d) A provision for designating an individual to be responsible for environmental matters and a provision for providing training to all personnel involved in housekeeping, material handling (including but not limited to loading and unloading), storage, and staging of all operational, maintenance, storage, and cleaning areas. Proof of training shall be submitted upon request by the Department.
4. Site-wide minimum Best Management Practices (BMPs). At a minimum, the permittee shall adhere to the following:
- (a) Prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicle maintenance, equipment cleaning, warehouse activities, and other areas, and thereby prevent the contamination of stormwater from these substances.
 - (b) Ensure adequate provisions are provided to prevent and to protect embankments from erosion.
 - (c) Provide collection facilities and arrange for proper disposal of waste products including but not limited to petroleum waste products, and solvents.
 - (d) Store all paint, solvents, petroleum products and petroleum waste products (except fuels), and storage containers (such as drums, cans, or cartons) so these materials are not exposed to stormwater or provide other prescribed BMPs such as plastic lids and/or portable spill pans to prevent the commingling of stormwater with container contents. Commingled water may not be discharged under this permit. Provide spill prevention control, and/or management sufficient to prevent any spills of these pollutants from entering waters of the state. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater. Spill records should be retained on-site.
 - (e) Provide good housekeeping practices on the site to keep trash from entry into waters of the state.
 - (f) Provide sediment and erosion control sufficient to prevent or control sediment loss off of the property.
5. This permit does not authorize the routine discharge of wastewater from permitted feature #003. An emergency discharge is authorized when rainfall exceeds the 10-year 365-day rainfall event (chronic) or the 25-year 24-hour rainfall event (catastrophic) storm criteria and is maintained as follows:
- (a) To maintain structural integrity, basins shall be inspected at least monthly, the berms of the lagoon shall be mowed and kept free of any deep-rooted vegetation, animal dens, or other potential sources of damage, any leaks or issues shall be noted. Records of the inspections shall be maintained and made available upon request.
 - (b) The facility shall ensure adequate provisions are provided to prevent surface water runoff into the lagoon, to divert stormwater runoff from around the storage basin(s), and protect embankments from erosion.
 - (c) The minimum and maximum operating water levels for the lagoon shall be clearly marked.

C. SPECIAL CONDITIONS (CONTINUED)

- (d) The lagoon shall be operated and maintained to achieve and maintain no discharge status; including water elevations up to the maximum operating level.
- 6. The full implementation of this operating permit, which includes implementation of any applicable schedules of compliance, shall constitute compliance with all applicable federal and state statutes and regulations in accordance with RSMo 644.051.16, and the CWA section 402(k); however, this permit may be reopened and modified, or alternatively revoked and reissued to comply with any applicable effluent standard or limitation issued or approved under Clean Water Act Sections 301(b)(2)(C) and (D), §304(b)(2), and §307(a) (2), if the effluent standard or limitation so issued or approved contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or controls any pollutant not limited in the permit. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, termination, notice of planned changes, or anticipated non-compliance does not stay any permit condition.
- 7. All outfalls and permitted features must be clearly marked in the field.
- 8. Report no discharge when a discharge does not occur during the report period. It is a violation of this permit to report no-discharge when a discharge has occurred.
- 9. Oil/Water Separators. This site operates oil water separator tanks for the treatment of wastewater and falls under 10 CSR 26-2.010(2)(B). OWS, as disclosed by the permittee are hereby authorized and shall be operated per manufacturer's specifications. The specifications and operating records must be made accessible to Department staff upon request. Oil water separator sludge is considered used oil; sludge must be disposed of in accordance with 10 CSR 25-11.279.
- 10. Reporting of Non-Detects.
 - (a) Compliance analysis conducted by the permittee or any contracted laboratory shall be conducted in such a way the precision and accuracy of the analyzed result can be enumerated. See sufficiently sensitive test method requirements in Standard Conditions Part I, Section A, #4 regarding proper testing and detection limits used for sample analysis. For the purposes of this permit, the definitions in 40 CFR 136 apply; method detection limit (MDL) and laboratory established reporting limit (RL) are used interchangeably in this permit.
 - (b) The permittee shall not report a sample result as "non-detect" without also reporting the MDL. Reporting "non-detect" without also including the MDL will be considered failure to report, which is a violation of this permit.
 - (c) For the daily maximum, the permittee shall report the highest value; if the highest value was a non-detect, use the less than "<" symbol and the laboratory's highest method detection limit (MDL) or the highest reporting limit (RL); whichever is higher (e.g. <6).
 - (d) When calculating monthly averages, zero shall be used in place of any value(s) not detected. Where all data used in the average are below the MDL or RL, the highest MDL or RL shall be reported as "<#" for the average as indicated in item (c).
- 11. Failure to pay fees associated with this permit is a violation of the Missouri Clean Water Law (644.055 RSMo).
- 12. This permit does not cover land disturbance activities.
- 13. This permit does not authorize the placement of fill materials in flood plains, placement of solid materials into any waterway, the obstruction of stream flow, or changing the channel of a defined drainage course. The facility must contact the U.S. Army Corps of Engineers (Corps) to determine if a CWA §404 Department of Army permit or §401 water quality certification is required for the project.
- 14. Renewal Application Requirements.
 - (a) This facility shall submit an appropriate and complete application to the Department no less than 180 days from the expiration date listed on page 1 of the permit.
 - (b) Application materials shall include complete Form A, and Form C, and Form D. If the form names have changed, then the facility should ensure they are submitting the correct forms as required by regulation. Sampling for all parameters on Form D is required by law for all process wastewater at this facility.
 - (c) The facility must sample the stormwater outfalls and provide analysis for every parameter contained in the permit at any outfall for at the site in accordance with 10 CSR 20-6.200(2)(C)1.E(I) and (II)
 - (d) The facility may use the electronic submission system to submit the application to the Program, if available.

D. NOTICE OF RIGHT TO APPEAL

If you were adversely affected by this decision, you may be entitled to pursue an appeal before the administrative hearing commission (AHC) pursuant to Sections 621.250 and 644.051.6 RSMo. 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. Any appeal should be directed to:

Administrative Hearing Commission
U.S. Post Office Building, Third Floor
131 West High Street, P.O. Box 1557
Jefferson City, MO 65102-1557
Phone: 573-751-2422
Fax: 573-751-5018
Website: <https://ahc.mo.gov>

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0124940
DOGWOOD ENERGY FACILITY

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollutant Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of stormwater from certain point sources. All such discharges are unlawful without a permit (Section 301 of the "Clean Water Act"). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Missouri State Operating Permits (MSOPs) are issued by the Director of the Missouri Department of Natural Resources (Department) under an approved program, operating in accordance with federal and state laws (Federal "Clean Water Act" and "Missouri Clean Water Law" Section 644 as amended). MSOPs are issued for a period of five (5) years unless otherwise specified for less.

As per [40 CFR Part 124.8(a)] and [10 CSR 20-6.020(1)(A)2.] a factsheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the Missouri State Operating Permit (MSOP or operating permit) listed below. A factsheet is not an enforceable part of an operating permit.

PART I. FACILITY INFORMATION

Facility Type: Industrial, Categorical; <1 MGD
Facility SIC Code(s): 4911
Facility NAICS Code: 221112
Application Date: 03/10/2020
Expiration Date: 09/30/2020
Last Inspection: 05/14/2013

FACILITY DESCRIPTION:

Dogwood Energy Facility is a nominal 650 MW 2x1 natural gas-fired combined cycle electric generating facility. The facility is currently an intermediate plant, meaning that it operates less than a baseload (>60%) but more than a peaking (<10%) plant. The facility uses two natural gas-fired Siemens-Westinghouse Model 501FD2 turbines that exhaust to two heat recovery steam generators (HRSG) with duct burners and power augmentation that are capable of producing a nominal 650 MW during peak production. The HRSG uses the heat recovered from the gas turbine exhaust in addition to the supplemental heat from the duct burner to provide steam to power a common steam-electric generator for further power generation. Power augmentation is accomplished by injecting steam from the HRSG into the combustion turbine. A seven-cell cooling tower draws heat from the water used to cool the steam condenser. Solids removed from the system are sent to a landfill.

The site encompasses 69 acres, of which 26 acres is fenced, 15 acres is industrial, and 11 acres is non-industrial. Plant drains, cooling tower blowdown, and an oil-water separator are all discharged to the on-site treatment facility. All water is evaporated or recycled for reuse in various plant systems. Solids removed from the system are sent to a landfill as a permitted special waste.

The charter number for the continuing authority for this facility is FL1184129; this number was verified by the permit writer to be associated with the facility and precisely matches the continuing authority reported by the facility.

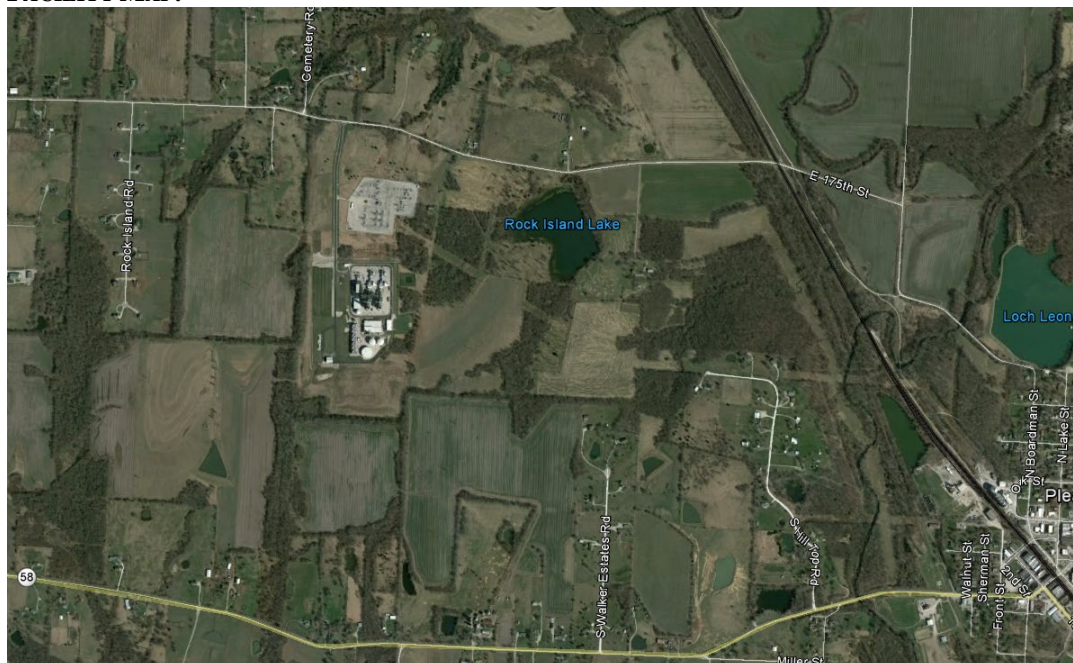
In accordance with 40 CFR 122.21(f)(6), the permittee reported the facility does hold other environmental permits.

PERMITTED FEATURES TABLE:

| PERMITTED FEATURES | AVERAGE FLOW (MGD) | DESIGN FLOW (MGD) | TREATMENT LEVEL | EFFLUENT TYPE |
|--------------------|------------------------------|-------------------|--------------------|---|
| #001 | dependent upon precipitation | 2.79 | BMPs | Stormwater and occasional cooling tower |
| #003 | no discharge | 0 | aeration, settling | Domestic wastewater |

FACILITY PERFORMANCE HISTORY & COMMENTS:

The electronic discharge monitoring reports were reviewed for the last permit term and showed one exceedance for Total Suspended Solids. The facility was in compliance during the last inspection.

FACILITY MAP:**PART II. RECEIVING WATERBODY INFORMATION****RECEIVING WATERBODY TABLE:**

| OUTFALL | WATERBODY NAME | CLASS | WBID | DESIGNATED USES | DISTANCE TO SEGMENT (TOTAL) | 12-DIGIT HUC |
|---------|------------------------|-------|------|--|-----------------------------|------------------------------|
| ALL | Tributary to Big Creek | n/a | n/a | GEN | | South Grand 10290108-0302 |
| | Big Creek | P | 1250 | AQL (WWH), HHP, IRR LWP, SCR, WBC-B | 1.46 mi | |

Classes are representations of hydrologic flow volume or lake basin size as defined in 10 CSR 20-7.031(1)(F). L1: Lakes with drinking water supply - wastewater discharges are not permitted to occur to L1 watersheds per 10 CSR 20-7.015(3)(C); L2: major reservoirs; L3: all other public and private lakes; P: permanent streams; C: streams which may cease flow in dry periods but maintain pools supporting aquatic life; E: streams which do not maintain surface flow; and W: wetland. Losing streams are defined in 10 CSR 20-7.031(1)(O) and are designated on the Losing Stream dataset or determined by the Department to lose 30% or more of flow to the subsurface.

WBID = Waterbody Identification: Missouri Use Designation Dataset per 10 CSR 20-7.031(1)(Q) and (S) as 100K Extant-Remaining Streams or newer; data can be found as an ArcGIS shapefile on MSDIS at ftp://msdis.missouri.edu/pub/Inland_Water_Resources/MO_2014_WQS_Stream_Classifications_and_Use.shp.zip; New C streams described on the dataset per 10 CSR 20-7.031(2)(A)3. as 100K Extent Remaining Streams.

10 CSR 20-7.031(1)(C)1.: **ALP** = Aquatic Life Protection (formerly AQL); current uses are defined to ensure the protection and propagation of fish shellfish and wildlife, further subcategorized as: WWH = Warm Water Habitat; CLH = Cool Water Habitat; CDH = Cold Water Habitat; EAH = Ephemeral Aquatic Habitat; MAH = Modified Aquatic Habitat; LAH = Limited Aquatic Habitat. This permit uses ALP effluent limitations in 10 CSR 20-7.031 Table A1-B3 for all habitat designations unless otherwise specified.

10 CSR 20-7.031(1)(C)2.: Recreation in and on the water

WBC = Whole Body Contact recreation where the entire body is capable of being submerged;

WBC-A = whole body contact recreation supporting swimming uses and has public access;

WBC-B = whole body contact recreation not included in WBC-A;

SCR = Secondary Contact Recreation (like fishing, wading, and boating)

10 CSR 20-7.031(1)(C)3. to 7.:

HHP (formerly HHF) = Human Health Protection as it relates to the consumption of fish and drinking of water;

IRR = irrigation for use on crops utilized for human or livestock consumption

LWW = Livestock and Wildlife Watering (current narrative use is defined as LWP = Livestock and Wildlife Protection);

DWS = Drinking Water Supply, includes aquifers per 10 CSR 20-7.031(5)

IND = industrial water supply

10 CSR 20-7.031(1)(C)8. to 11.: Wetlands (10 CSR 20-7.031 Tables A1-B3 currently does not have corresponding habitat use criteria for these defined uses): WSA = storm- and flood-water storage and attenuation; WHP = habitat for resident and migratory wildlife species; WRC = recreational, cultural, educational, scientific, and natural aesthetic values and uses; WHC = hydrologic cycle maintenance.

10 CSR 20-7.031(6): **GRW** = Groundwater

20 CSR 20-7.031(4): GEN = general criteria; acute toxicity criteria applicable to all waters even those lacking designated uses

n/a = not applicable

EXISTING WATER QUALITY:

The receiving waterbody has no relevant water quality data available.

303(D) LIST:

Section 303(d) of the federal Clean Water Act requires each state identify waters not meeting water quality standards and for which adequate water pollution controls have not been required. Water quality standards protect such beneficial uses of water as whole body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock, and wildlife. The 303(d) list helps state and federal agencies keep track of impaired waters not addressed by normal water pollution control programs. <http://dnr.mo.gov/env/wpp/waterquality/303d/303d.htm>

- Applicable; Big Creek is listed on the 2014 Missouri 303(d) list for *E. coli*.
 - This facility is only allowed emergency discharges of domestic wastewater and is not considered to contribute to the impairment.

TOTAL MAXIMUM DAILY LOAD (TMDL):

A TMDL is a calculation of the maximum amount of a given pollutant a water body can absorb before its water quality is affected; hence, the purpose of a TMDL is to determine the pollutant loading a specific waterbody can assimilate without exceeding water quality standards. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan or TMDL may be developed. The TMDL shall include the WLA calculation. <http://dnr.mo.gov/env/wpp/tmdl/>

- ✓ Applicable; this facility falls within the watershed of Big Creek and is associated with the 2006 EPA approved TMDL for sediments.
 - This facility is considered to be a source of the above listed pollutant(s) but is not considered to contribute to the impairment.

UPSTREAM OR DOWNSTREAM IMPAIRMENTS:

The permit writer has reviewed upstream and downstream stream segments of this facility for impairments.

- ✓ This facility is located at the top of the watershed therefore no upstream is present at this location/outfalls.
- ✓ The permit writer has noted the receiving streams impairments downstream of the facility. See the 303(d) list and TMDL sections above.

DESIGNATION OF WATERS OF THE STATE:

Per Missouri's technology-based effluent regulations [10 CSR 20-7.015], waters of the state are divided into seven categories [10 CSR 20-7.015(2) through (8)]. Effluent limitations derived on a site specific basis are discussed in PART IV: EFFLUENTS LIMITS

DETERMINATIONS.

- Missouri or Mississippi River
- Lake or Reservoir
- Losing
- Metropolitan No-Discharge
- Special Stream
- Subsurface Water
- ✓ All other waters
 - This is a stormwater only permit.
 - This is a land application only permit.

LAKE NUMERIC NUTRIENT CRITERIA:

Water quality standards per 10 CSR 20-7.031(5)(N) describe nutrient criteria requirements assigned to lakes (which include reservoirs) in Missouri, equal to or greater than 10 acres during normal pool conditions. The Department's Nutrient Criteria Implementation Plan (NCIP) may be reviewed at: <https://dnr.mo.gov/env/wpp/rules/documents/nutrient-implementation-plan-final-072618.pdf> Discharges of wastewater in to lakes or lake watersheds designated as L1 (drinking water use) are prohibited per 10 CSR 20-7.015(3)(C).

- ✓ Not applicable; this facility does not discharge nutrients.

RECEIVING WATERBODY MONITORING REQUIREMENTS:

No receiving water monitoring requirements are recommended at this time.

MIXING CONSIDERATIONS:

For all outfalls, mixing zone and zone of initial dilution are not allowed per 10 CSR 20-7.031(5)(A)4.B.(I)(a) and (b), as the base stream flow does not provide dilution to the effluent.

PART III. RATIONALE AND DERIVATION OF PERMIT CONDITIONS

ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:

As per [10 CSR 20-7.015(4)(A)], discharges to losing streams shall be permitted only after other alternatives including land application, discharges to a gaining stream and connection to a regional wastewater treatment facility have been evaluated and determined to be unacceptable for environmental and/or economic reasons.

- ✓ Not applicable; the facility does not discharge to a losing stream as defined by [10 CSR 20-2.010(36)] & [10 CSR 20-7.031(1)(N)], or is an existing facility.

ANTIBACKSLIDING:

Federal Regulations [CWA §303(d)(4); CWA §402(c); 40 CFR Part 122.44(l)] require a reissued permit to be as stringent as the previous permit with some exceptions. Backsliding (a less stringent permit limitation) is only allowed under certain conditions.

- ✓ The Department determined technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b).
 - Previous permits included effluent limits for pH of 6.5 to 9.0 SU for Outfall #001. State regulations at 10 CSR 20-7.015(9)(I)1 allow for pH effluent limits of 6.0 to 9.0 SU. It is the permit writer's best professional judgement that these limits are applicable to this outfall which discharges only stormwater and cooling tower water. Therefore, the permit effluent limits for pH for Outfall #001 have been changed to 6.0 to 9.0 SU.
 - The previous permit special conditions contained a specific set of prohibitions related to general criteria (GC) found in 10 CSR 20-7.031(4); however, there was no determination as to whether the discharges have reasonable potential to cause or contribute to excursion of those general water quality criteria in the previous permit. This permit assesses each general criteria as listed in the previous permit's special conditions. Federal regulations 40 CFR 122.44(d)(1)(iii) requires instances where reasonable potential (RP) to cause or contribute to an exceedance of a water quality standard exists, a numeric limitation must be included in the permit. Rather than conducting the appropriate RP determination, the previous permit simply placed the prohibitions in the permit. These conditions were removed from the permit. Appropriate reasonable potential determinations were conducted for each general criterion listed in 10 CSR 20-7.031(4)(A) through (I) and effluent limitations were placed in the permit for those general criteria where it was determined the discharge had reasonable potential to cause or contribute to excursions of the general criteria. Specific effluent limitations were not included for those general criteria where it was determined the discharges will not cause or contribute to excursions of general criteria. Removal of the prohibitions does not reduce the protections of the permit or allow for impairment of the receiving stream. The permit maintains sufficient effluent limitations, monitoring requirements and best management practices to protect water quality while maintaining permit conditions applicable to permittee disclosures and in accordance with 10 CSR 20-7.031(4) where no water contaminant by itself or in combination with other substances shall prevent the water of the state from meeting the following conditions:
 - (A) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses.
 - For all outfalls, there is no RP for putrescent bottom deposits preventing full maintenance of beneficial uses because nothing disclosed by the permittee indicates putrescent wastewater would be discharged from the facility.
 - For outfall #001 there is reasonable potential for the discharge of unsightly or harmful bottom deposits in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses. Because there is RP, this criterion is protected by limitations on settleable solids. Permitted Feature #003 does not have RP for settleable solids as only emergency discharges are allowed.
 - (B) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses.
 - For outfall #001 there is reasonable potential for the discharge of oil in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses. Because there is RP, this criterion is protected by limitations on oil and grease. Permitted Feature #003 does not have RP for oil as only emergency discharges are allowed.
 - For all outfalls, there is no RP for scum and floating debris in sufficient amounts to be unsightly preventing full maintenance of beneficial uses because nothing disclosed by the permittee indicates scum and floating debris will be present in sufficient amounts to impair beneficial uses.
 - (C) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses.
 - For outfall #001, it was determined outfall #001 shows RP for substances in sufficient amounts to cause unsightly color or turbidity. Limitations were applied on TSS to protect for this criterion.
 - For all outfalls, there is no RP for offensive odor in sufficient amounts preventing full maintenance of beneficial uses because nothing disclosed by the permittee indicates offensive odor will be present in sufficient amounts to impair beneficial uses.
 - (D) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life.

- The permit writer considered specific toxic pollutants when writing this permit. Numeric effluent limitations are included for those pollutants could be discharged in toxic amounts. These effluent limitations are protective of human health, animals, and aquatic life.
- (E) Waters shall maintain a level of water quality at their confluences to downstream waters that provides for the attainment and maintenance of the water quality standards of those downstream waters, including waters of another state.
 - This criteria was not assessed for antibacksliding as this is a new requirement, approved by the EPA on July 30, 2019.
- (F) There shall be no significant human health hazard from incidental contact with the water.
 - This criterion is very similar to (D) above. See Part IV, Effluent Limits Derivation below.
- (G) There shall be no acute toxicity to livestock or wildlife watering.
 - This criterion is very similar to (D) above. See Part IV, Effluent Limits Derivation below.
- (H) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community.
 - It has been established any physical or chemical changes are covered by the specific numeric effluent limitations established in the permit.
 - For all outfalls, there is no RP for hydrologic changes impairing the natural biological community because nothing disclosed by the permittee indicates this is occurring.
- (I) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.
 - There are no solid waste disposal activities or any operation which has reasonable potential to cause or contribute to the materials listed above being discharged through any outfall.

ANTIDEGRADATION REVIEW:

Process water discharges with new, altered, or expanding flows, the Department is to document, by means of antidegradation review, if the use of a water body's available assimilative capacity is justified. In accordance with Missouri's water quality regulations for antidegradation [10 CSR 20-7.031(3)], degradation may be justified by documenting the socio-economic importance of a discharge after determining the necessity of the discharge. Facilities must submit the antidegradation review request to the Department prior to establishing, altering, or expanding discharges. See <http://dnr.mo.gov/env/wpp/permits/antideg-implementation.htm>

- ✓ Not applicable; the facility has not submitted information proposing expanded or altered process water discharge; no further degradation proposed therefore no further review necessary.

This permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) which must include an alternative analysis (AA) of the BMPs. The SWPPP must be developed, implemented, updated, and maintained at the facility. Failure to implement and maintain the chosen alternative, is a permit violation. The AA is a structured evaluation of BMPs to determine which are reasonable and cost effective. Analysis should include practices designed to be 1) non-degrading, 2) less degrading, or 3) degrading water quality. The chosen BMP will be the most reasonable and cost effective while ensuring the highest statutory and regulatory requirements are achieved and the highest quality water attainable for the facility is discharged. The analysis must demonstrate why "no discharge" or "no exposure" are not feasible alternatives at the facility. Existing facilities with established SWPPPs and BMPs need not conduct an additional alternatives analysis unless new BMPs are established to address BMP failures or benchmark exceedances. This structured analysis of BMPs serves as the antidegradation review, fulfilling the requirements of 10 CSR 20-7.015(9)(A)5 and 7.031(3). For stormwater discharges with new, altered, or expanding discharges, the stormwater BMP chosen for the facility, through the AA performed by the facility, must be implemented and maintained at the facility. Failure to implement and maintain the chosen BMP alternative is a permit violation; see SWPPP.

- ✓ Applicable; the facility must review and maintain stormwater BMPs as appropriate.

BEST MANAGEMENT PRACTICES:

Minimum site-wide best management practices are established in this permit to ensure all permittees are managing their sites equally to protect waters of the state from certain activities which could cause negative effects in receiving water bodies. While not all sites require a SWPPP because the SIC codes are specifically exempted in 40 CFR 122.26(b)(14), these best management practices are not specifically included for stormwater purposes. These practices are minimum requirements for all industrial sites to protect waters of the state. If the minimum best management practices are not followed, the facility may violate general criteria [10 CSR 20-7.031(4)]. Statutes are applicable to all permitted facilities in the state, therefore pollutants cannot be released unless in accordance with RSMo 644.011 and 644.016 (17).

COST ANALYSIS FOR COMPLIANCE (CAFCOM):

Pursuant to Section 644.145, RSMo, when incorporating a new requirement for discharges from publicly owned facilities, or when enforcing provisions of this chapter or the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq., pertaining to any portion of a publicly owned facility, the Department of Natural Resources shall make a "finding of affordability" on the costs to be incurred and the impact of any rate changes on ratepayers upon which to base such permits and decisions, to the extent allowable under this chapter

and the Federal Water Pollution Control Act. This process is completed through a cost analysis for compliance. Permits not including new requirements may be deemed affordable.

- ✓ The Department is not required to complete a cost analysis for compliance because the facility is not publicly owned.

CHANGES IN DISCHARGES OF TOXIC POLLUTANT:

This special condition reiterates the federal rules found in 40 CFR 122.44(f) and 122.42(a)(1). In these rules, the facility is required to report changes in amounts of toxic substances discharged. Toxic substances are defined in 40 CFR 122.2 as "...any pollutant listed as toxic under section 307(a)(1) or, in the case of "sludge use or disposal practices," any pollutant identified in regulations implementing section 405(d) of the CWA." Section 307 of the clean water act then refers to those parameters found in 40 CFR 401.15. The permittee should also consider any other toxic pollutant in the discharge as reportable under this condition.

COMPLIANCE AND ENFORCEMENT:

Enforcement is the action taken by the Water Protection Program (WPP) to bring an entity into compliance with the Missouri Clean Water Law, its implementing regulations, and/or any terms and conditions of an operating permit. The primary purpose of the enforcement activity in the WPP is to resolve violations and return the entity to compliance.

- ✓ Not applicable; the permittee/facility is not currently under Water Protection Program enforcement action.

DOMESTIC WASTEWATER, SLUDGE, AND BIOSOLIDS:

Domestic wastewater is defined as wastewater (i.e., human sewage) originating primarily from the sanitary conveyances of bathrooms and kitchens. Domestic wastewater excludes stormwater, animal waste, process waste, and other similar waste.

- ✓ Applicable; this facility uses a wastewater system which the Department of Natural Resources must authorize in accordance with 19 CSR 20-3.060(6)(D) as Department of Health and Senior Services rules only provide for the use of a lagoon for single residences. Terms and conditions for the domestic wastewater system are included in this permit.

Sewage sludge is solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works. Biosolids are solid materials resulting from domestic wastewater treatment meeting federal and state criteria for productive use (i.e. fertilizer) and after having pathogens removed.

Additional information: <http://extension.missouri.edu/main/DisplayCategory.aspx?C=74> (WQ422 through WQ449).

- ✓ Applicable; sludge is removed by contract hauler.

EFFLUENT LIMITATIONS:

Effluent limitations derived and established for this permit are based on current operations of the facility and applied per 10 CSR 20-7.015(9)(A). Any flow through the outfall is considered a discharge and must be sampled and reported as provided in the permit. Future permit action due to facility modification may contain new operating permit terms and conditions which supersede the terms and conditions, including effluent limitations, of this operating permit. Daily maximums and monthly averages are required per 40 CFR 122.45(d)(1) for continuous discharges (not from a POTW).

EFFLUENT LIMITATION GUIDELINE:

Effluent Limitation Guidelines, or ELGs, are found at 40 CFR 400-499. These are limitations established by the EPA based on the SIC code and the type of work a facility is conducting. Most ELGs are for process wastewater and some address stormwater. All are technology based limitations which must be met by the applicable facility at all times.

- ✓ The facility has an associated ELG (40 CFR 423) for the facility's SIC code, however, none of the limits apply to this facility.

ELECTRONIC DISCHARGE MONITORING REPORT (EDMR) SUBMISSION SYSTEM:

The U.S. Environmental Protection Agency (EPA) promulgated a final rule on October 22, 2015, to modernize Clean Water Act reporting for municipalities, industries, and other facilities by converting to an electronic data reporting system. The final rule requires regulated entities and state and federal regulators to use information technology to electronically report data required by the National Pollutant Discharge Elimination System (NPDES) permit program instead of filing paper reports. To comply with the federal rule, the Department is requiring all permittees to begin submitting discharge monitoring data and reports online.

Per 40 CFR 127.15 and 127.24, permitted facilities may request a temporary waiver for up to 5 years or a permanent waiver from electronic reporting from the Department. To obtain an electronic reporting waiver, a permittee must first submit an eDMR Waiver Request Form: <http://dnr.mo.gov/forms/780-2692-f.pdf>. A request must be made for each facility. If more than one facility is owned or operated by a single entity, then the entity must submit a separate request for each facility based on its specific circumstances. An approved waiver is not transferable.

The Department must review and notify the facility within 120 calendar days of receipt if the waiver request has been approved or rejected [40 CFR 124.27(a)]. During the Department review period as well as after a waiver is granted, the facility must continue

submitting a hard-copy of any reports required by their permit. The Department will enter data submitted in hard-copy from those facilities allowed to do so and electronically submit the data to the EPA on behalf of the facility.

To assist the facility in entering data into the eDMR system, the permit describes limit sets in each table in Part A of the permit. The data entry personnel should use these identifiers to ensure data entry is being completed appropriately.

- ✓ The permittee/facility is currently using the eDMR data reporting system.

GENERAL CRITERIA CONSIDERATIONS:

In accordance with 40 CFR 122.44(d)(1), effluent limitations shall be placed into permits for pollutants determined to cause, have reasonable potential to cause, or to contribute to, an excursion above any water quality standard, including narrative water quality criteria. In order to comply with this regulation, the permit writer has completed a reasonable potential determination on whether discharges have reasonable potential to cause, or contribute to an excursion of the general criteria listed in 10 CSR 20-7.031(4). In instances where reasonable potential exists, the permit includes limitations within the permit to address the reasonable potential. In discharges where reasonable potential does not exist, the permit may include monitoring to later determine the discharge's potential to impact the narrative criteria. Additionally, RSMo 644.076.1, as well as Section D – Administrative Requirements of Standard Conditions Part I of this permit state it shall be unlawful for any person to cause or allow any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law or any standard, rule, or regulation promulgated by the commission. See Part IV for specific determinations.

GROUNDWATER MONITORING:

Groundwater is a water of the state according to RSMo 644.016(27), is subject to regulations at 10 CSR 20-7.015(7) and 10 CSR 20-7.031(6), and must be protected accordingly.

- ✓ This facility is not required to monitor groundwater for the water protection program.

LAND APPLICATION:

Land application, or surficial dispersion of wastewater and/or sludge, is performed by facilities to maintain a basin as no-discharge. Requirements for these types of operations are found in 10 CSR 20-6.015; authority to regulate these activities is from RSMo 644.026.

- ✓ Not applicable; this permit does not authorize operation of a surficial land application system to disperse wastewater or sludge.

LAND DISTURBANCE:

Land disturbance, sometimes called construction activities, are actions which cause disturbance of the root layer or soil; these include clearing, grading, and excavating of the land. 40 CFR 122.26(b)(14) and 10 CSR 20-6.200(3) requires permit coverage for these activities. Coverage is not required for facilities when only providing maintenance of original line and grade, hydraulic capacity, or to continue the original purpose of the facility.

- ✓ Not applicable; this permit does not provide coverage for land disturbance activities. The facility may obtain a separate land disturbance permit (MORA) online at <https://dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm>; MORA permits do not cover disturbance of contaminated soils, however, site specific permits such as this one can be modified to include appropriate controls for land disturbance of contaminated soils by adding site-specific BMP requirements and additional outfalls.

MAJOR WATER USER:

Any surface or groundwater user with a water source and the equipment necessary to withdraw or divert 100,000 gallons (or 70 gallons per minute) or more per day combined from all sources from any stream, river, lake, well, spring, or other water source is considered a major water user in Missouri. All major water users are required by law to register water use annually (Missouri Revised Statutes Chapter 256.400 Geology, Water Resources and Geodetic Survey Section). <https://dnr.mo.gov/pubs/pub2236.htm>

- ✓ Not applicable; this permittee cannot withdraw water from the state in excess of 70 gpm/0.1 MGD.

NUTRIENT MONITORING:

Nutrient monitoring is required for facilities characteristically or expected to discharge nutrients (nitrogenous compounds and/or phosphorus) when the design flow is equal to or greater than 0.1 MGD per 10 CSR 20-7.015(9)(D)8.

- ✓ This is a stormwater only/no-discharge permit therefore not subject to provisions found in 10 CSR 20-7.015 per 10 CSR 20-7.015(1)(C). The domestic wastewater outfall is no-discharge; the intermittent cooling tower discharges and stormwater are not expected to have nutrients added by the facility.

OIL/WATER SEPARATORS:

Oil water separator (OWS) tank systems are frequently found at industrial sites where process water and stormwater may contain oils and greases, oily wastewaters, or other immiscible liquids requiring separation. Food industry discharges typically require pretreatment prior to discharge to municipally owned treatment works. Per 10 CSR 26-2.010(2)(B), all oil water separator tanks must be operated according to manufacturer's specifications and authorized in NPDES permits per 10 CSR 26-2.010(2) or may be regulated as a petroleum tank.

- ✓ Applicable; the OWS, as disclosed by the permittee, discharges to a cooling tower basin that does not discharge. Sludge generated by OWS is subject to Special Conditions. See SLUDGE – INDUSTRIAL below.

PRETREATMENT:

This permit does not regulate pretreatment requirements for facilities discharging to an accepting permitted wastewater treatment facility. If applicable, the receiving entity (the publicly owned treatment works - POTW) is to ensure compliance with any effluent limitation guidelines for pretreatment listed in 40 CFR Subchapter N per 10 CSR 20-6.100. Pretreatment regulations per RSMo 644.016 are limitations on the introduction of pollutants or water contaminants into publicly owned treatment works or facilities.

✓ Not applicable, this facility does not discharge wastewater to a POTW.

REASONABLE POTENTIAL (RP):

Federal regulation [40 CFR Part 122.44(d)(1)(i)] requires effluent limitations for all pollutants which are (or may be) discharged at a level causing or have the reasonable potential to cause (or contribute to) an in-stream excursion above narrative or numeric water quality standards. Per 10 CSR 20-7.031(4), general criteria shall be applicable to all waters of the state at all times; however, acute toxicity criteria may be exceeded by permit in zones of initial dilution, and chronic toxicity criteria may be exceeded by permit in mixing zones. If the permit writer determines any given pollutant has the reasonable potential to cause or contribute to an in-stream excursion above the WQS, the permit must contain effluent limits for the pollutant per 40 CFR Part 122.44(d)(1)(iii) and the most stringent limits per 10 CSR 20-7.031(9)(A). Permit writers may use mathematical reasonable potential analysis (RPA) using the Technical Support Document for Water Quality Based Toxics Control (TSD) methods (EPA/505/2-90-001) as found in Section 3.3.2, or may also use reasonable potential determinations (RPD) as provided in Sections 3.1.2, 3.1.3, and 3.2 of the TSD.

✓ Not applicable; a mathematical RPA was not conducted for this facility.

SAMPLING FREQUENCY JUSTIFICATION:

Sampling and reporting frequency was generally retained from previous permit. 40 CFR 122.45(d)(1) indicates all continuous discharges shall be permitted with daily maximum and monthly average limits. Minimum sampling frequency for all parameters is annually per 40 CFR 122.44(i)(2).

Sampling frequency for stormwater-only outfalls is typically quarterly even though BMP inspection occurs monthly. The facility may sample more frequently if additional data is required to determine if best management operations and technology are performing as expected.

SAMPLING TYPE JUSTIFICATION:

Sampling type was continued from the previous permit. The sampling types are representative of the discharges, and are protective of water quality. Discharges with altering effluent should have composite sampling; discharges with uniform effluent can have grab samples. Grab samples are usually appropriate for stormwater. Parameters which must have grab sampling are: pH, ammonia, *E. coli*, total residual chlorine, free available chlorine, hexavalent chromium, dissolved oxygen, total phosphorus, volatile organic compounds, and others.

SCHEDULE OF COMPLIANCE (SOC):

A schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (actions, effluent limits, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit. SOC's are allowed under 40 CFR 122.47 and 10 CSR 20-7.031(11) providing certain conditions are met.

A SOC is not allowed:

- For effluent limitations based on technology-based standards established in accordance with federal requirements, if the deadline for compliance established in federal regulations has passed. 40 CFR 125.3.
- For a newly constructed facility in most cases. Newly constructed facilities must meet applicable effluent limitations when discharge begins, because the facility has installed the appropriate control technology as specified in a permit or antidegradation review. A SOC is allowed for a new water quality based effluent limit not included in a previously public noticed permit or antidegradation review, which may occur if a regulation changes during construction.
- To develop a TMDL, UAA, or other study associated with development of a site specific criterion. A facility is not prohibited from conducting these activities, but a SOC may not be granted for conducting these activities.

In order to provide guidance in developing SOC's, and to attain a greater level of consistency, the Department issued a policy on development of SOC's on October 25, 2012. The policy provides guidance to permit writers on standard time frames for schedules for

Not applicable; this permit does not contain a SOC.

SPILLS, OVERFLOWS, AND OTHER UNAUTHORIZED DISCHARGE REPORTING:

Per 260.505 RSMo, any emergency involving a hazardous substance must be reported to the Department's 24 hour Environmental Emergency Response hotline at (573) 634-2436 at the earliest practicable moment after discovery. The Department may require the submittal of a written report detailing measures taken to clean up a spill. These reporting requirements apply whether or not the spill results in chemicals or materials leaving the permitted property or reaching waters of the state. This requirement is in addition to the noncompliance reporting requirement found in Standard Conditions Part I. <http://dnr.mo.gov/env/esp/spillbill.htm>

Any other spills, overflows, or unauthorized discharges reaching waters of the state must be reported to the regional office during normal business hours, or after normal business hours, to the Department's 24 hour Environmental Emergency Response spill line at 573-634-2436.

SLUDGE – INDUSTRIAL:

Industrial sludge is solid, semi-solid, or liquid residue generated during the treatment of industrial process or non-process wastewater in a treatment works; including but not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment process; scum and solids filtered from water supplies and backwashed; and any material derived from industrial sludge.

- ✓ Applicable; sludge is removed by hauled to a permitted landfill. The permitted management strategy must be followed, see permit under Facility Description. If the permitted management strategy cannot be followed, the permittee must obtain a permit modification.

STANDARD CONDITIONS:

The standard conditions Part I attached to this permit incorporate all sections of 40 CFR 122.41(a) through (n) by reference as required by law. These conditions, in addition to the conditions enumerated within the standard conditions should be reviewed by the permittee to ascertain compliance with this permit, state regulations, state statutes, federal regulations, and the Clean Water Act. Standard Conditions Part III, if attached to this permit, incorporate requirements dealing with domestic wastewater, sludge, and land application.

STORMWATER PERMITTING: LIMITATIONS AND BENCHMARKS:

Because of the fleeting nature of stormwater discharges, the Department, under the direction of EPA guidance, has determined monthly averages are capricious measures of stormwater discharges. The *Technical Support Document for Water Quality Based Toxics Control* (EPA/505/2-90-001; 1991) Section 3.1 indicates most procedures within the document apply only to water quality based approaches, not end-of-pipe technology-based controls. Hence, stormwater-only outfalls will generally only contain a maximum daily limit (MDL), benchmark, or monitoring requirement as dictated by site specific conditions, the BMPs in place, past performance of the facility, and the receiving water's current quality.

Sufficient rainfall to cause a discharge for one hour or more from a facility would not necessarily cause significant flow in a receiving stream. Acute Water Quality Standards (WQSs) are based on one hour of exposure, and must be protected at all times. Therefore, industrial stormwater facilities with toxic contaminants present in the stormwater may have the potential to cause a violation of acute WQSs if toxic contaminants occur in sufficient amounts. In this instance, the permit writer may apply daily maximum limitations.

Conversely, it is unlikely for rainfall to cause a discharge for four continuous days from a facility; if this does occur however, the receiving stream will also likely sustain a significant amount of flow providing dilution. Most chronic WQSs are based on a four-day exposure with some exceptions. Under this scenario, most industrial stormwater facilities have limited potential to cause a violation of chronic water quality standards in the receiving stream.

A standard mass-balance equation cannot be calculated for stormwater because stormwater flow and flow in the receiving stream cannot be determined for conditions on any given day or storm event. The amount of stormwater discharged from the facility will vary based on current and previous rainfall, soil saturation, humidity, detention time, BMPs, surface permeability, etc. Flow in the receiving stream will vary based on climatic conditions, size of watershed, area of surfaces with reduced permeability (houses, parking lots, and the like) in the watershed, hydrogeology, topography, etc. Decreased permeability may increase the stream flow dramatically over a short period of time (flash).

Numeric benchmark values are based on site specific requirements taking in to account a number of factors but cannot be applied to any process water discharges. First, the technology in place at the site to control pollutant discharges in stormwater is evaluated. The permit writer also evaluates other similar permits for similar activities. A review of the guidance forming the basis of Environmental Protection Agency's (EPA's) *Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity* (MSGP) may also occur. Because precipitation events are sudden and momentary, benchmarks based on state or federal standards or recommendations use the Criteria Maximum Concentration (CMC) value, or acute standard may also be used. The CMC is the estimate of the highest concentration of a material in surface water to which an aquatic community can be exposed briefly without resulting in an unacceptable effect. The CMC for aquatic life is intended to be protective of the vast majority of the aquatic communities in the United States. If a facility has not disclosed BMPs applicable to the pollutants for the site, the permittee may not be eligible for benchmarks.

40 CFR 122.44(b)(1) requires the permit implement the most stringent limitations for each discharge, including industrially exposed stormwater; and 40 CFR 122.44(d)(1)(i) and (iii) requires the permit to include water-quality based effluent limitations where reasonable potential has been found. However, because of the non-continuous nature of stormwater discharges, staff are unable to perform statistical Reasonable Potential Analysis (RPA) under most stormwater discharge scenarios. Reasonable potential determinations (RPDs; see REASONABLE POTENTIAL above) using best professional judgment are performed.

Benchmarks require the facility to monitor, and if necessary, replace and update stormwater control measures. Benchmark concentrations are not effluent limitations. A benchmark exceedance, therefore, is not a permit violation; however, failure to take corrective action is a violation of the permit. Benchmark monitoring data is used to determine the overall effectiveness of control measures and to assist the permittee in knowing when additional corrective actions may be necessary to comply with the conditions of the permit.

BMP inspections typically occur more frequently than sampling. Sampling frequencies are based on the facility's ability to comply with the benchmarks and the requirements of the permit. Inspections should occur after large rain events and any other time an issue is noted; sampling after a benchmark exceedance may need to occur to show the corrective action taken was meaningful.

When a permitted feature or outfall consists of only stormwater, a benchmark may be implemented at the discretion of the permit writer, if there is no RP for water quality excursions.

- ✓ Applicable, this facility has stormwater-only outfalls where benchmarks or limitations were deemed appropriate contaminant measures.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP):

In accordance with 40 CFR 122.44(k), Best Management Practices (BMPs) must be used to control or abate the discharge of pollutants when: 1) Authorized under section 304(e) of the Clean Water Act (CWA) for the control of toxic pollutants and hazardous substances from ancillary industrial activities; 2) Authorized under section 402(p) of the CWA for the control of stormwater discharges; 3) Numeric effluent limitations are infeasible; or 4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA. In accordance with the EPA's *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (EPA 833-B-09-002) published by the EPA in 2015 https://www.epa.gov/sites/production/files/2015-11/documents/swppp_guide_industrial_2015.pdf, BMPs are measures or practices used to reduce the amount of pollution entering waters of the state from a permitted facility. BMPs may take the form of a process, activity, or physical structure. Additionally in accordance with the Stormwater Management, a SWPPP is a series of steps and activities to 1) identify sources of pollution or contamination, and 2) select and carry out actions which prevent or control the pollution of storm water discharges. Additional information can be found in *Stormwater Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices* (EPA 832-R-92-006; September 1992).

A SWPPP must be prepared by the permittee if the SIC code is found in 40 CFR 122.26(b)(14) and/or 10 CSR 20-6.200(2). A SWPPP may be required of other facilities where stormwater has been identified as necessitating better management. The purpose of a SWPPP is to comply with all applicable stormwater regulations by creating an adaptive management plan to control and mitigate stream pollution from stormwater runoff. Developing a SWPPP provides opportunities to employ appropriate BMPs to minimize the risk of pollutants being discharged during storm events. The following paragraph outlines the general steps the permittee should take to determine which BMPs will work to achieve the benchmark values or limits in the permit. This section is not intended to be all encompassing or restrict the use of any physical BMP or operational and maintenance procedure assisting in pollution control. Additional steps or revisions to the SWPPP may be required to meet the requirements of the permit.

Areas which should be included in the SWPPP are identified in 40 CFR 122.26(b)(14). Once the potential sources of stormwater pollution have been identified, a plan should be formulated to best control the amount of pollutant being released and discharged by each activity or source. This should include, but is not limited to, minimizing exposure to stormwater, good housekeeping measures, proper facility and equipment maintenance, spill prevention and response, vehicle traffic control, and proper materials handling. Once a plan has been developed the facility will employ the control measures determined to be adequate to achieve the benchmark values discussed above. The facility will conduct monitoring and inspections of the BMPs to ensure they are working properly and re-evaluate any BMP not achieving compliance with permitting requirements. For example, if sample results from an outfall show values of TSS above the benchmark value, the BMP being employed is deficient in controlling stormwater pollution. Corrective action should be taken to repair, improve, or replace the failing BMP. This internal evaluation is required at least once per month but should be continued more frequently if BMPs continue to fail. If failures do occur, continue this trial and error process until appropriate BMPs have been established.

For new, altered, or expanded stormwater discharges, the SWPPP shall identify reasonable and effective BMPs while accounting for environmental impacts of varying control methods. The antidegradation analysis must document why no discharge or no exposure options are not feasible. The selection and documentation of appropriate control measures shall serve as an alternative analysis of technology and fulfill the requirements of antidegradation [10 CSR 20-7.031(3)]. For further guidance, consult the antidegradation implementation procedure (<http://dnr.mo.gov/env/wpp/docs/AIP050212.pdf>).

Alternative Analysis (AA) evaluation of the BMPs is a structured evaluation of BMPs which are reasonable and cost effective. The AA evaluation should include practices designed to be: 1) non-degrading; 2) less degrading; or 3) degrading water quality. The glossary of AIP defines these three terms. The chosen BMP will be the most reasonable and effective management strategy while ensuring the highest statutory and regulatory requirements are achieved and the highest quality water attainable for the facility is discharged. The AA evaluation must demonstrate why "no discharge" or "no exposure" is not a feasible alternative at the facility. This

structured analysis of BMPs serves as the antidegradation review, fulfilling the requirements of 10 CSR 20-7.031(3) Water Quality Standards and *Antidegradation Implementation Procedure* (AIP), Section II.B.

If parameter-specific numeric benchmark exceedances continue to occur and the permittee feels there are no practicable or cost-effective BMPs which will sufficiently reduce a pollutant concentration in the discharge to the benchmark values established in the permit, the permittee can submit a request to re-evaluate the benchmark values. This request needs to include 1) a detailed explanation of why the facility is unable to comply with the permit conditions and unable to establish BMPs to achieve the benchmark values; 2) financial data of the company and documentation of cost associated with BMPs for review and 3) the SWPPP, which should contain adequate documentation of BMPs employed, failed BMPs, corrective actions, and all other required information. This will allow the Department to conduct a cost analysis on control measures and actions taken by the facility to determine cost-effectiveness of BMPs. The request shall be submitted in the form of an operating permit modification, which includes an appropriate fee; the application is found at: <https://dnr.mo.gov/forms/#WaterPollution>

✓ Applicable; a SWPPP shall be developed and implemented for this facility.

SUFFICIENTLY SENSITIVE ANALYTICAL METHODS:

Please review Standard Conditions Part 1, section A, number 4. The analytical and sampling methods used shall conform to the reference methods listed in 10 CSR 20-7.015 and/or 40 CFR 136 unless alternates are approved by the Department and incorporated within this permit. The facility shall use sufficiently sensitive analytical methods for detecting, identifying, and measuring the concentrations of pollutants. The facility shall ensure the selected methods are able to quantify the presence of pollutants in a given discharge at concentrations low enough to determine compliance with Water Quality Standards in 10 CSR 20-7.031 or effluent limitations unless provisions in the permit allow for other alternatives. A method is “sufficiently sensitive” when; 1) the method quantifies the pollutant below the level of the applicable water quality criterion or; 2) the method minimum level is above the applicable water quality criterion, but the amount of pollutant in a facility’s discharge is high enough the method detects and quantifies the level of pollutant in the discharge, or 3) the method has the lowest minimum level of the analytical methods approved under 10 CSR 20-7.015 and or 40 CFR 136. These methods are also required for parameters listed as monitoring only, as the data collected may be used to determine if numeric limitations need to be established. A permittee is responsible for working with their contractors to ensure the analysis performed is sufficiently sensitive.

UNDERGROUND INJECTION CONTROL (UIC):

The UIC program for all classes of wells in the State of Missouri is administered by the Missouri Department of Natural Resources and approved by EPA pursuant to section 1422 and 1425 of the Safe Drinking Water Act (SDWA) and 40 CFR 147 Subpart AA. Injection wells are classified based on the liquids which are being injected. Class I wells are hazardous waste wells which are banned by RSMo 577.155; Class II wells are established for oil and natural gas production; Class III wells are used to inject fluids to extract minerals; Class IV wells are also banned by Missouri in RSMo 577.155; Class V wells are shallow injection wells; some examples are heat pump wells and groundwater remediation wells. Domestic wastewater being disposed of sub-surface is also considered a Class V well. In accordance with 40 CFR 144.82, construction, operation, maintenance, conversion, plugging, or closure of injection wells shall not cause movement of fluids containing any contaminant into Underground Sources of Drinking Water (USDW) if the presence of any contaminant may cause a violation of drinking water standards or groundwater standards under 10 CSR 20-7.031, or other health based standards, or may otherwise adversely affect human health. If the director finds the injection activity may endanger USDWs, the Department may require closure of the injection wells, or other actions listed in 40 CFR 144.12(c), (d), or (e). In accordance with 40 CFR 144.26, the permittee shall submit a Class V Well Inventory Form for each active or new underground injection well drilled, or when the status of a well changes, to the Missouri Department of Natural Resources, Geological Survey Program, P.O. Box 250, Rolla, Missouri 65402. The Class V Well Inventory Form can be requested from the Geological Survey Program or can be found at the following web address: <http://dnr.mo.gov/forms/780-1774-f.pdf> Single family residential septic systems and non-residential septic systems used solely for sanitary waste and having the capacity to serve fewer than 20 persons a day are excluded from the UIC requirements (40 CFR 144.81(9)).

✓ Not applicable; the permittee has not submitted materials indicating the facility will be performing UIC at this site.

VARIANCE:

Per the Missouri Clean Water Law §644.061.4, variances shall be granted for such period of time and under such terms and conditions as specified by the commission in its order. The variance may be extended by affirmative action of the commission. In no event shall the variance be granted for a period of time greater than is reasonably necessary for complying with the Missouri Clean Water Law §§644.006 to 644.141 or any standard, rule or regulation promulgated pursuant to Missouri Clean Water Law §§644.006 to 644.141.

✓ Not applicable; this permit is not drafted under premise of a petition for variance.

WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:

As per [10 CSR 20-2.010; definitions], the WLA is the amount of pollutant each discharger is allowed to discharge into the receiving stream without endangering water quality. Two general types of effluent limitations, technology-based effluent limits (TBELs) and water quality based effluent limits (WQBELs) are reviewed. If one limit does not provide adequate protection for the receiving water, then the other must be used per 10 CSR 20-7.015(9)(A). Total Maximum Daily Loads, if required for this facility, were also reviewed.

✓ Not applicable; wasteload allocations were either not calculated or were not based on TSD methods.

WASTELOAD ALLOCATION (WLA) MODELING:

Permittees may submit site specific studies to better determine the site specific wasteload allocations applied in permits.

✓ Not applicable; a WLA study was either not submitted or determined not applicable by Department staff.

WATER QUALITY STANDARD REVISION:

In accordance with section 644.058, RSMo, the Department is required to utilize an evaluation of the environmental and economic impacts of modifications to water quality standards of twenty-five percent or more when making individual site-specific permit decisions.

✓ This operating permit does not contain requirements for a water quality standard changing twenty-five percent or more since the previous operating permit.

PART IV. EFFLUENT LIMITS DETERMINATIONS**OUTFALL #001 – MAIN FACILITY OUTFALL****EFFLUENT LIMITATIONS TABLE:**

| PARAMETERS | UNIT | DAILY MAX | MONTHLY AVG. | PREVIOUS PERMIT LIMITS | MINIMUM SAMPLING FREQUENCY | REPORTING FREQUENCY | SAMPLE TYPE |
|-------------------------|---------|------------|--------------|------------------------|----------------------------|---------------------|--------------|
| PHYSICAL | | | | | | | |
| FLOW | MGD | * | * | SAME | TWICE/YEAR | TWICE/YEAR | 24 HR. TOTAL |
| PRECIPITATION | INCHES | * | -- | SAME | TWICE/YEAR | TWICE/YEAR | 24 HR. TOTAL |
| CONVENTIONAL | | | | | | | |
| OIL & GREASE | MG/L | 15 | 10 | SAME | TWICE/YEAR | TWICE/YEAR | GRAB |
| pH ‡ | SU | 6.0 TO 9.0 | -- | 6.5 TO 9.0 | TWICE/YEAR | TWICE/YEAR | GRAB |
| SETTLABLE SOLIDS | ML/L/HR | 1..5 | 1.0 | SAME | TWICE/YEAR | TWICE/YEAR | GRAB |
| TOTAL RESIDUAL CHLORINE | µG/L | * | * | SAME | CONDITIONAL | TWICE/YEAR | GRAB |
| TOTAL SUSPENDED SOLIDS | MG/L | 100 | 50 | SAME | TWICE/YEAR | TWICE/YEAR | GRAB |

* - Monitoring requirement only

‡ The facility will report the minimum and maximum pH values; pH is not to be averaged.

PHYSICAL:**Flow**

In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to ensure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the Department, which may require the submittal of an operating permit modification. The facility will report the total flow in millions of gallons per day (MGD), semi-annual monitoring continued from previous permit.

Precipitation

Monitoring only requirement; measuring the amount of precipitation [(10 CSR 20-6.200(2)(C)1.E(VI)] during an event is necessary to ensure adequate stormwater management exists at the site. Knowing the amount of potential stormwater runoff can provide the permittee a better understanding of any specific control measures be employed to ensure protection of water quality. The facility will provide the 24 hour accumulation value of precipitation from the day of sampling the other parameters.

CONVENTIONAL:**Oil & Grease**

15 mg/L daily maximum; 10 mg/L monthly average; continued from previous permit. Oil and grease is considered a conventional pollutant. Oil and grease is a comprehensive test which measures for gasoline, diesel, crude oil, creosote, kerosene, heating oils, heavy fuel oils, lubricating oils, waxes, and some asphalt and pitch. The test can also detect some volatile organics such as benzene, toluene, ethylbenzene, or toluene, but these constituents are often lost during testing due to their boiling points. Oils and greases of different densities will possibly form sheen or unsightly bottom deposits at levels which vary from 10 mg/L. To protect the general criteria, it is the responsibility of the permittee to visually observe the discharge and receiving waters for sheen or bottom deposits. DMR data from the previous permit cycle showed no exceedances.

AQL Chronic: 10 mg/L per 10 CSR 20-7.031 Table A1

Set chronic standard equal to chronic WLA per TSD §5.4.2 (EPA/505/2-90-001); multiply by 1.5 to obtain acute limit.

10 mg/L * 1.5 = 15 mg/L

pH

6.0 to 9.0 SU. Technology based limits [10 CSR 20-7.015(9)(I)1.] are applicable to this outfall. The permit writer has determined there is no reasonable potential to affect water quality therefore technology limitations for wastewater are applied.

Settleable Solids (SS)

The first classified stream is listed on a TMDL for sediment. There is no water quality standard for SS; however, sediment discharges can negatively impact aquatic life habitat. Solids monitoring allows the permittee to identify increases in sediment and solids that may indicate uncontrolled materials leaving the site (see sections on SWPPP and BMPs). Similar facilities have permit limits of **1.5 mL/L/hour** daily maximum and **1.0 mL/L/hour** monthly average are typical and achievable. Limits were continued from the previous permit. DMR data from the previous permit cycle showed no exceedances.

Total Residual Chlorine

The facility stated they could have an occasional discharge of the cooling tower system which would release chlorine-treated water into the stormwater settling basin. All makeup water is supplied by the city of Kansas City. The facility is not required to sample for total residual chlorine if there is no discharge of cooling tower water within the monitoring period. The facility will report “no discharge” for this parameter. Currently, Missouri’s protection of aquatic life standard for chronic exposure is 10 µg/L; acute exposure is 19 µg/L. Current analytical methods cannot detect these low numbers however, hence the most sensitive method shall be employed to monitor for this parameter according to 40 CFR 136. The method chosen should, at a minimum, determine TRC at 130 µg/L. The facility has not had limits for this parameter in the past. Monitoring is required to determine if the facility has the potential to cause or contribute to chlorine residuals in excess of the water quality standards. DMR data from the previous permit cycle showed no exceedances.

Total Suspended Solids (TSS)

The first classified stream is listed on a TMDL for sediment. There is no water quality standard for TSS; however, sediment discharges can negatively impact aquatic life habitat. TSS is also a valuable indicator parameter. TSS monitoring allows the permittee to identify increases in TSS that may indicate uncontrolled materials leaving the site. The effluent limitation guideline for this facility has TSS limits for low volume waste and metal cleaning wastes. The daily maximum is 100 mg/L and the monthly average is 30 mg/L however, solids are sent to the on-site treatment for removal and are not discharged to waters of the state. The previous permit had **100 mg/L** daily maximum and **50 mg/L** for the monthly average; these values have been reassessed and determined they remain protective of the receiving water’s quality from stormwater. DMR data from the previous permit cycle showed no exceedances.

PERMITTED FEATURE #003 – NO-DISCHARGE DOMESTIC WASTEWATER SYSTEM

Effluent limitations derived and established in the below Effluent Limitations Table are based on current operations of the facility.

EFFLUENT LIMITATIONS TABLE:

| PARAMETERS | UNIT | DAILY MAX | MONTHLY AVG. | PREVIOUS PERMIT LIMITS | MINIMUM SAMPLING FREQUENCY | REPORTING FREQUENCY | SAMPLE TYPE |
|--------------------------|---------|------------|--------------|------------------------|----------------------------|---------------------|-------------|
| PHYSICAL | | | | | | | |
| FLOW | MGD | * | -- | SAME | ONCE/DISCHARGE | ONCE/DISCHARGE | EVENT TOTAL |
| CONVENTIONAL | | | | | | | |
| BOD ₅ | mg/L | * | -- | SAME | ONCE/DISCHARGE | ONCE/DISCHARGE | GRAB |
| CHLORINE, TOTAL RESIDUAL | µg/L | * | -- | SAME | ONCE/DISCHARGE | ONCE/DISCHARGE | GRAB |
| <i>E. COLI</i> | #/100mL | * | -- | SAME | ONCE/DISCHARGE | ONCE/DISCHARGE | GRAB |
| pH | SU | 6.5 to 9.0 | -- | SAME | ONCE/DISCHARGE | ONCE/DISCHARGE | GRAB |
| TSS | mg/L | * | -- | SAME | ONCE/DISCHARGE | ONCE/DISCHARGE | GRAB |
| NUTRIENTS | | | | | | | |
| AMMONIA AS N | mg/L | * | -- | SAME | ONCE/DISCHARGE | ONCE/DISCHARGE | GRAB |

* - Monitoring requirement only

‡ The facility will report the minimum and maximum pH values; pH is not to be averaged.

PHYSICAL:**Flow**

In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to ensure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the

permittee to inform the Department, which may require the submittal of an operating permit modification. The facility will report the total flow in millions of gallons per day (MGD), semi-annual monitoring continued from previous permit.

CONVENTIONAL:

Biochemical Oxygen Demand (BOD₅)

Monitoring only for emergency discharge. Conventional pollutant for domestic wastewater.

Chlorine, Total Residual (TRC)

Monitoring only for emergency discharge. Conventional pollutant for domestic wastewater.

Escherichia coli (E. coli)

Monitoring only for emergency discharge. Conventional pollutant for domestic wastewater.

pH

6.5 to 9.0 SU – instantaneous grab sample. Water quality limits [10 CSR 20-7.031(5)(E)] are applicable to this outfall. The stormwater at the site is highly variable in pH, limitations are appropriate as the stormwater has the potential to violate water quality.

Total Suspended Solids (TSS)

Monitoring only for emergency discharge. Conventional pollutant for domestic wastewater.

NUTRIENTS:

Ammonia, Total as Nitrogen

Monitoring only for emergency discharge. Conventional pollutant for domestic wastewater.

PART V. ADMINISTRATIVE REQUIREMENTS

On the basis of preliminary staff review and the application of applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the operating permit. The proposed determinations are tentative pending public comment.

PERMIT SYNCHRONIZATION:

The Department of Natural Resources is currently undergoing a synchronization process for operating permits. Permits are normally issued on a five-year term, but to achieve synchronization many permits will need to be issued for less than the full five years allowed by regulation. The intent is all permits within a watershed will move through the Watershed Based Management (WBM) cycle together will all expire in the same fiscal year. <http://dnr.mo.gov/env/wpp/cpp/docs/watershed-based-management.pdf>. This will allow further streamlining by placing multiple permits within a smaller geographic area on public notice simultaneously, thereby reducing repeated administrative efforts. This will also allow the Department to explore a watershed based permitting effort at some point in the future. Renewal applications must continue to be submitted within 180 days of expiration, however, in instances where effluent data from the previous renewal is less than two years old, such data may be re-submitted to meet the requirements of the renewal application. If the permit provides a schedule of compliance for meeting new water quality based effluent limits beyond the expiration date of the permit, the time remaining in the schedule of compliance will be allotted in the renewed permit.

✓ This permit will maintain synchronization by expiring the end of the 3rd quarter, 2025.

PUBLIC NOTICE:

The Department shall give public notice a draft permit has been prepared and its issuance is pending. <http://dnr.mo.gov/env/wpp/permits/pn/index.html>. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in or with water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and permittee must be notified of the denial in writing.

The Department must issue public notice of a pending operating permit or of a new or reissued statewide general permit. The public comment period is the length of time not less than 30 days following the date of the public notice which interested persons may submit written comments about the proposed permit.

For persons wanting to submit comments regarding this proposed operating permit, then please refer to the Public Notice page located at the front of this draft operating permit. The Public Notice page gives direction on how and where to submit appropriate comments.

✓ The Public Notice period for this operating permit was from August 7, 2020 to September 7, 2020. One comment was made, with minor changes made to language in the permit based on the comment.

DATE OF FACT SHEET: SEPTEMBER 8, 2020

COMPLETED BY:

GREG CALDWELL, ENVIRONMENTAL SCIENTIST
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION - INDUSTRIAL UNIT
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STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
REVISED
AUGUST 1, 2014

These Standard Conditions incorporate permit conditions as required by 40 CFR 122.41 or other applicable state statutes or regulations. These minimum conditions apply unless superseded by requirements specified in the permit.

Part I – General Conditions

Section A – Sampling, Monitoring, and Recording

1. **Sampling Requirements.**
 - a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
 - b. All samples shall be taken at the outfall(s) or Missouri Department of Natural Resources (Department) approved sampling location(s), and unless specified, before the effluent joins or is diluted by any other body of water or substance.
2. **Monitoring Requirements.**
 - a. Records of monitoring information shall include:
 - i. The date, exact place, and time of sampling or measurements;
 - ii. The individual(s) who performed the sampling or measurements;
 - iii. The date(s) analyses were performed;
 - iv. The individual(s) who performed the analyses;
 - v. The analytical techniques or methods used; and
 - vi. The results of such analyses.
 - b. If the permittee monitors any pollutant more frequently than required by the permit at the location specified in the permit using test procedures approved under 40 CFR Part 136, or another method required for an industry-specific waste stream under 40 CFR subchapters N or O, the results of such monitoring shall be included in the calculation and reported to the Department with the discharge monitoring report data (DMR) submitted to the Department pursuant to Section B, paragraph 7.
3. **Sample and Monitoring Calculations.** Calculations for all sample and monitoring results which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in the permit.
4. **Test Procedures.** The analytical and sampling methods used shall conform to the reference methods listed in 10 CSR 20-7.015 unless alternates are approved by the Department. The facility shall use sufficiently sensitive analytical methods for detecting, identifying, and measuring the concentrations of pollutants. The facility shall ensure that the selected methods are able to quantify the presence of pollutants in a given discharge at concentrations that are low enough to determine compliance with Water Quality Standards in 10 CSR 20-7.031 or effluent limitations unless provisions in the permit allow for other alternatives. A method is “sufficiently sensitive” when; 1) the method minimum level is at or below the level of the applicable water quality criterion for the pollutant or, 2) the method minimum level is above the applicable water quality criterion, but the amount of pollutant in a facility’s discharge is high enough that the method detects and quantifies the level of pollutant in the discharge, or 3) the method has the lowest minimum level of the analytical methods approved under 10 CSR 20-7.015. These methods are also required for parameters that are listed as monitoring only, as the data collected may be used to determine if limitations need to be established. A permittee is responsible for working with their contractors to ensure that the analysis performed is sufficiently sensitive.
5. **Record Retention.** Except for records of monitoring information required by the permit related to the permittee’s sewage sludge use and disposal activities, which shall be retained for a period of at least five (5) years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

6. **Illegal Activities.**
 - a. The Federal Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under the permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than two (2) years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four (4) years, or both.
 - b. The Missouri Clean Water Law provides that any person or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than six (6) months, or by both. Second and successive convictions for violation under this paragraph by any person shall be punished by a fine of not more than \$50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.

Section B – Reporting Requirements

1. **Planned Changes.**
 - a. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility when:
 - i. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
 - ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42;
 - iii. The alteration or addition results in a significant change in the permittee’s sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;
 - iv. Any facility expansions, production increases, or process modifications which will result in a new or substantially different discharge or sludge characteristics must be reported to the Department 60 days before the facility or process modification begins. Notification may be accomplished by application for a new permit. If the discharge does not violate effluent limitations specified in the permit, the facility is to submit a notice to the Department of the changed discharge at least 30 days before such changes. The Department may require a construction permit and/or permit modification as a result of the proposed changes at the facility.
2. **Non-compliance Reporting.**
 - a. The permittee shall report any noncompliance which may endanger health or the environment. Relevant information shall be provided orally or via the current electronic method approved by the Department, within 24 hours from the time the permittee becomes aware of the circumstances, and shall be reported to the appropriate Regional Office during normal business hours or the Environmental Emergency Response hotline at 573-634-2436 outside of normal business hours. A written submission shall also be provided within five (5) business days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.



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- b. The following shall be included as information which must be reported within 24 hours under this paragraph.
 - i. Any unanticipated bypass which exceeds any effluent limitation in the permit.
 - ii. Any upset which exceeds any effluent limitation in the permit.
 - iii. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit required to be reported within 24 hours.
 - c. The Department may waive the written report on a case-by-case basis for reports under paragraph 2. b. of this section if the oral report has been received within 24 hours.
3. **Anticipated Noncompliance.** The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The notice shall be submitted to the Department 60 days prior to such changes or activity.
 4. **Compliance Schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date. The report shall provide an explanation for the instance of noncompliance and a proposed schedule or anticipated date, for achieving compliance with the compliance schedule requirement.
 5. **Other Noncompliance.** The permittee shall report all instances of noncompliance not reported under paragraphs 2, 3, and 6 of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph 2. a. of this section.
 6. **Other Information.** Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.
 7. **Discharge Monitoring Reports.**
 - a. Monitoring results shall be reported at the intervals specified in the permit.
 - b. Monitoring results must be reported to the Department via the current method approved by the Department, unless the permittee has been granted a waiver from using the method. If the permittee has been granted a waiver, the permittee must use forms provided by the Department.
 - c. Monitoring results shall be reported to the Department no later than the 28th day of the month following the end of the reporting period.
- b. Notice.
 - i. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.
 - ii. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Section B – Reporting Requirements, paragraph 5 (24-hour notice).
 - c. Prohibition of bypass.
 - i. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless:
 1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 3. The permittee submitted notices as required under paragraph 2. b. of this section.
 - ii. The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three (3) conditions listed above in paragraph 2. c. i. of this section.
3. **Upset Requirements.**
 - a. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph 3. b. of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
 - b. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - i. An upset occurred and that the permittee can identify the cause(s) of the upset;
 - ii. The permitted facility was at the time being properly operated; and
 - iii. The permittee submitted notice of the upset as required in Section B – Reporting Requirements, paragraph 2. b. ii. (24-hour notice).
 - iv. The permittee complied with any remedial measures required under Section D – Administrative Requirements, paragraph 4.
 - c. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

Section C – Bypass/Upset Requirements

1. **Definitions.**
 - a. *Bypass*: the intentional diversion of waste streams from any portion of a treatment facility, except in the case of blending.
 - b. *Severe Property Damage*: substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
 - c. *Upset*: an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
2. **Bypass Requirements.**
 - a. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2. b. and 2. c. of this section.

Section D – Administrative Requirements

1. **Duty to Comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Missouri Clean Water Law and Federal Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.
 - a. The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.
 - b. The Federal Clean Water Act provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed \$25,000 per day for each violation. The Federal Clean Water Act provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement



STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
REVISED
AUGUST 1, 2014

imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.

- c. Any person may be assessed an administrative penalty by the EPA Director for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000.
 - d. It is unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law, or any standard, rule or regulation promulgated by the commission. In the event the commission or the director determines that any provision of sections 644.006 to 644.141 of the Missouri Clean Water Law or standard, rules, limitations or regulations promulgated pursuant thereto, or permits issued by, or any final abatement order, other order, or determination made by the commission or the director, or any filing requirement pursuant to sections 644.006 to 644.141 of the Missouri Clean Water Law or any other provision which this state is required to enforce pursuant to any federal water pollution control act, is being, was, or is in imminent danger of being violated, the commission or director may cause to have instituted a civil action in any court of competent jurisdiction for the injunctive relief to prevent any such violation or further violation or for the assessment of a penalty not to exceed \$10,000 per day for each day, or part thereof, the violation occurred and continues to occur, or both, as the court deems proper. Any person who willfully or negligently commits any violation in this paragraph shall, upon conviction, be punished by a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than one year, or both. Second and successive convictions for violation of the same provision of this paragraph by any person shall be punished by a fine of not more than \$50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.
2. **Duty to Reapply.**
- a. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.
 - b. A permittee with a currently effective site-specific permit shall submit an application for renewal at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Department. (The Department shall not grant permission

for applications to be submitted later than the expiration date of the existing permit.)

- c. A permittee with currently effective general permit shall submit an application for renewal at least 30 days before the existing permit expires, unless the permittee has been notified by the Department that an earlier application must be made. The Department may grant permission for a later submission date. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)
3. **Need to Halt or Reduce Activity Not a Defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
4. **Duty to Mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
5. **Proper Operation and Maintenance.** The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.
6. **Permit Actions.**
- a. Subject to compliance with statutory requirements of the Law and Regulations and applicable Court Order, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:
 - i. Violations of any terms or conditions of this permit or the law;
 - ii. Having obtained this permit by misrepresentation or failure to disclose fully any relevant facts;
 - iii. A change in any circumstances or conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
 - iv. Any reason set forth in the Law or Regulations.
 - b. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.
7. **Permit Transfer.**
- a. Subject to 10 CSR 20-6.010, an operating permit may be transferred upon submission to the Department of an application to transfer signed by the existing owner and the new owner, unless prohibited by the terms of the permit. Until such time the permit is officially transferred, the original permittee remains responsible for complying with the terms and conditions of the existing permit.
 - b. The Department may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Missouri Clean Water Law or the Federal Clean Water Act.
 - c. The Department, within 30 days of receipt of the application, shall notify the new permittee of its intent to revoke or reissue or transfer the permit.
8. **Toxic Pollutants.** The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the Federal Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.
9. **Property Rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.



STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
REVISED
AUGUST 1, 2014

10. **Duty to Provide Information.** The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.
11. **Inspection and Entry.** The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the Department), upon presentation of credentials and other documents as may be required by law, to:
 - a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the 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 any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
 - d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Federal Clean Water Act or Missouri Clean Water Law, any substances or parameters at any location.
12. **Closure of Treatment Facilities.**
 - a. Persons who cease operation or plan to cease operation of waste, wastewater, and sludge handling and treatment facilities shall close the facilities in accordance with a closure plan approved by the Department.
 - b. Operating Permits under 10 CSR 20-6.010 or under 10 CSR 20-6.015 are required until all waste, wastewater, and sludges have been disposed of in accordance with the closure plan approved by the Department and any disturbed areas have been properly stabilized. Disturbed areas will be considered stabilized when perennial vegetation, pavement, or structures using permanent materials cover all areas that have been disturbed. Vegetative cover, if used, shall be at least 70% plant density over 100% of the disturbed area.
13. **Signatory Requirement.**
 - a. All permit applications, reports required by the permit, or information requested by the Department shall be signed and certified. (See 40 CFR 122.22 and 10 CSR 20-6.010)
 - b. The Federal Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six (6) months per violation, or by both.
 - c. The Missouri Clean Water Law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan, or other document filed or required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than ten thousand dollars, or by imprisonment for not more than six months, or by both.
14. **Severability.** The provisions of the permit are severable, and if any provision of the permit, or the application of any provision of the permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of the permit, shall not be affected thereby.

STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
August 1, 2019

PART III – BIOSOLIDS AND SLUDGE FROM DOMESTIC TREATMENT FACILITIES

SECTION A – GENERAL REQUIREMENTS

1. PART III Standard Conditions pertain to biosolids and sludge requirements under the Missouri Clean Water Law and regulations for domestic and municipal wastewater and also incorporates federal sludge disposal requirements under 40 CFR Part 503 for domestic wastewater. The Environmental Protection Agency (EPA) has principal authority for permitting and enforcement of the federal sludge regulations under 40 CFR Part 503 for domestic biosolids and sludge.
2. PART III Standard Conditions apply only to biosolids and sludge generated at domestic wastewater treatment facilities, including public owned treatment works (POTW) and privately owned facilities.
3. Biosolids and Sludge Use and Disposal Practices:
 - a. The permittee is authorized to operate the biosolids and sludge generating, treatment, storage, use, and disposal facilities listed in the facility description of this permit.
 - b. The permittee shall not exceed the design sludge/biosolids volume listed in the facility description and shall not use biosolids or sludge disposal methods that are not listed in the facility description, without prior approval of the permitting authority.
 - c. For facilities operating under general operating permits that incorporate Standard Conditions PART III, the facility is authorized to operate the biosolids and sludge generating, treatment, storage, use and disposal facilities identified in the original operating permit application, subsequent renewal applications or subsequent written approval by the department.
4. Biosolids or Sludge Received from other Facilities:
 - a. Permittees may accept domestic wastewater biosolids or sludge from other facilities as long as the permittee's design sludge capacity is not exceeded and the treatment facility performance is not impaired.
 - b. The permittee shall obtain a signed statement from the biosolids or sludge generator or hauler that certifies the type and source of the sludge
5. Nothing in this permit precludes the initiation of legal action under local laws, except to the extent local laws are preempted by state law.
6. This permit does not preclude the enforcement of other applicable environmental regulations such as odor emissions under the Missouri Air Pollution Control Law and regulations.
7. This permit may (after due process) be modified, or alternatively revoked and reissued, to comply with any applicable biosolids or sludge disposal standard or limitation issued or approved under Section 405(d) of the Clean Water Act or under Chapter 644 RSMo.
8. In addition to Standard Conditions PART III, the Department may include biosolids and sludge limitations in the special conditions portion or other sections of a site specific permit.
9. Exceptions to Standard Conditions PART III may be authorized on a case-by-case basis by the Department, as follows:
 - a. The Department may modify a site-specific permit following permit notice provisions as applicable under 10 CSR 20-6.020, 40 CFR § 124.10, and 40 CFR § 501.15(a)(2)(ix)(E).
 - b. Exceptions cannot be granted where prohibited by the federal sludge regulations under 40 CFR Part 503.

SECTION B – DEFINITIONS

1. Best Management Practices are practices to prevent or reduce the pollution of waters of the state and include agronomic loading rates (nitrogen based), soil conservation practices, spill prevention and maintenance procedures and other site restrictions.
2. Biosolids means organic fertilizer or soil amendment produced by the treatment of domestic wastewater sludge.
3. Biosolids land application facility is a facility where biosolids are spread onto the land at agronomic rates for production of food, feed or fiber. The facility includes any structures necessary to store the biosolids until soil, weather, and crop conditions are favorable for land application.
4. Class A biosolids means a material that has met the Class A pathogen reduction requirements or equivalent treatment by a Process to Further Reduce Pathogens (PFRP) in accordance with 40 CFR Part 503.
5. Class B biosolids means a material that has met the Class B pathogen reduction requirements or equivalent treatment by a Process to Significantly Reduce Pathogens (PSRP) in accordance with 40 CFR Part 503.
6. Domestic wastewater means wastewater originating from the sanitary conveniences of residences, commercial buildings, factories and institutions; or co-mingled sanitary and industrial wastewater processed by a (POTW) or a privately owned facility.
7. Feed crops are crops produced primarily for consumption by animals.
8. Fiber crops are crops such as flax and cotton.
9. Food crops are crops consumed by humans which include, but is not limited to, fruits, vegetables and tobacco.
10. Industrial wastewater means any wastewater, also known as process wastewater, not defined as domestic wastewater. Per 40 CFR Part 122.2, process wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product. Land application of industrial wastewater, residuals or sludge is not authorized by Standard Conditions PART III.
11. Mechanical treatment plants are wastewater treatment facilities that use mechanical devices to treat wastewater, including, sand filters, extended aeration, activated sludge, contact stabilization, trickling filters, rotating biological contact systems, and other similar facilities. It does not include wastewater treatment lagoons or constructed wetlands for wastewater treatment.
12. Plant Available Nitrogen (PAN) is nitrogen that will be available to plants during the growing seasons after biosolids application.
13. Public contact site is land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.
14. Sludge is the solid, semisolid, or liquid residue removed during the treatment of wastewater. Sludge includes septage removed from septic tanks or equivalent facilities. Sludge does not include carbon coal byproducts (CCBs), sewage sludge incinerator ash, or grit/screenings generated during preliminary treatment of domestic sewage.
15. Sludge lagoon is part of a mechanical wastewater treatment facility. A sludge lagoon is an earthen or concrete lined basin that receives sludge that has been removed from a wastewater treatment facility. It does not include a wastewater treatment lagoon or sludge treatment units that are not a part of a mechanical wastewater treatment facility.
16. Septage is the sludge pumped from residential septic tanks, cesspools, portable toilets, Type III marine sanitation devices, or similar treatment works such as sludge holding structures from residential wastewater treatment facilities with design populations of less than 150 people. Septage does not include grease removed from grease traps at a restaurant or material removed from septic tanks and other similar treatment works that have received industrial wastewater. The standard for biosolids from septage is different from other sludges. See Section H for more information.

SECTION C – MECHANICAL WASTEWATER TREATMENT FACILITIES

1. Biosolids or sludge shall be routinely removed from wastewater treatment facilities and handled according to the permit facility description and the requirements of Standard Conditions PART III or in accordance with Section A.3.c., above.
2. The permittee shall operate storage and treatment facilities, as defined by Section 644.016(23), RSMo, so that there is no biosolids or sludge discharged to waters of the state. Agricultural storm water discharges are exempt under the provisions of Section 644.059, RSMo.
3. Mechanical treatment plants shall have separate biosolids or sludge storage compartments in accordance with 10 CSR 20, Chapter 8. Failure to remove biosolids or sludge from these storage compartments on the required design schedule is a violation of this permit.

SECTION D – BIOSOLIDS OR SLUDGE DISPOSED AT OTHER TREATMENT FACILITY OR BY CONTRACT HAULER

1. Permittees that use contract haulers, under the authority of their operating permit, to dispose of biosolids or sludge, are responsible for compliance with all the terms of this permit. Contract haulers that assume the responsibility of the final disposal of biosolids or sludge, including biosolids land application, must obtain a Missouri State Operating Permit unless the hauler transports the biosolids or sludge to another permitted treatment facility.
2. Testing of biosolids or sludge, other than total solids content, is not required if biosolids or sludge are hauled to a permitted wastewater treatment facility, unless it is required by the accepting facility.

SECTION E – INCINERATION OF SLUDGE

1. Please be aware that sludge incineration facilities may be subject to the requirements of 40 CFR Part 503 Subpart E, Missouri Air Conservation Commission regulations under 10 CSR 10, and solid waste management regulations under 10 CSR 80, as applicable.
2. Permittee may be authorized under the facility description of this permit to store incineration ash in lagoons or ash ponds. This permit does not authorize the disposal of incineration ash. Incineration ash shall be disposed in accordance with 10 CSR 80; or, if the ash is determined to be hazardous, with 10 CSR 25.
3. In addition to normal sludge monitoring, incineration facilities shall report the following as part of the annual report, mass of sludge incinerated and mass of ash generated. Permittee shall also provide the name of the ash disposal facility and permit number if applicable.

SECTION F – SURFACE DISPOSAL SITES AND BIOSOLIDS AND SLUDGE LAGOONS

1. Please be aware that surface disposal sites of biosolids or sludge from wastewater treatment facilities may be subject to other laws including the requirements in 40 CFR Part 503 Subpart C, Missouri Air Conservation Commission regulations under 10 CSR 10, and solid waste management regulations under 10 CSR 80, as applicable.
2. Biosolids or sludge storage lagoons are temporary facilities and are not required to obtain a permit as a solid waste management facility under 10 CSR 80. In order to maintain biosolids or sludge storage lagoons as storage facilities, accumulated biosolids or sludge must be removed routinely, but not less than once every two years unless an alternate schedule is approved in the permit. The amount of biosolids or sludge removed will be dependent on biosolids or sludge generation and accumulation in the facility. Enough biosolids or sludge must be removed to maintain adequate storage capacity in the facility.
 - a. In order to avoid damage to the lagoon seal during cleaning, the permittee may leave a layer of biosolids or sludge on the bottom of the lagoon, upon prior approval of the Department; or
 - b. Permittee shall close the lagoon in accordance with Section I.

SECTION G – LAND APPLICATION OF BIOSOLIDS

1. The permittee shall not land apply biosolids unless land application is authorized in the facility description, the special conditions of the issued NPDES permit, or in accordance with Section A.3.c., above.
2. This permit only authorizes “Class A” or “Class B” biosolids derived from domestic wastewater to be land applied onto grass land, crop land, timber, or other similar agricultural or silviculture lands at rates suitable for beneficial use as organic fertilizer and soil conditioner.
3. Class A Biosolids Requirements: Biosolids shall meet Class A requirements for application to public contact sites, residential lawns, home gardens or sold and/or given away in a bag or other container.
4. Class B biosolids that are land applied to agricultural and public contact sites shall comply with the following restrictions:
 - a. Food crops that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of biosolids.
 - b. Food crops below the surface of the land shall not be harvested for 20 months after application of biosolids when the biosolids remain on the land surface for four months or longer prior to incorporation into the soil.
 - c. Food crops below the surface of the land shall not be harvested for 38 months after application of biosolids when the biosolids remain on the land surface for less than four months prior to incorporation into the soil.
 - d. Animal grazing shall not be allowed for 30 days after application of biosolids.
 - e. Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of biosolids.
 - f. Turf shall not be harvested for one year after application of biosolids if used for lawns or high public contact sites in close proximity to populated areas such as city parks or golf courses.
 - g. After Class B biosolids have been land applied to public contact sites with high potential for public exposure, as defined in 40 CFR § 503.31, such as city parks or golf courses, access must be restricted for 12 months.
 - h. After Class B biosolids have been land applied public contact sites with low potential for public exposure as defined in 40 CFR § 503.31, such as a rural land application or reclamation sites, access must be restricted for 30 days.
5. Pollutant limits
 - a. Biosolids shall be monitored to determine the quality for regulated pollutants listed in Table 1, below. Limits for any pollutants not listed below may be established in the permit.
 - b. The number of samples taken is directly related to the amount of biosolids or sludge produced by the facility (See Section J, below). Samples should be taken only during land application periods. When necessary, it is permissible to mix biosolids with lower concentrations of biosolids as well as other suitable Department approved material to achieve pollutant concentration below those identified in Table 1, below.
 - c. Table 1 gives the ceiling concentration for biosolids. Biosolids which exceed the concentrations in Table 1 may not be land applied.

TABLE 1

| Biosolids ceiling concentration | |
|---------------------------------|------------------------------------|
| Pollutant | Milligrams per kilogram dry weight |
| Arsenic | 75 |
| Cadmium | 85 |
| Copper | 4,300 |
| Lead | 840 |
| Mercury | 57 |
| Molybdenum | 75 |
| Nickel | 420 |
| Selenium | 100 |
| Zinc | 7,500 |

- d. Table 2 below gives the low metal concentration for biosolids. Because of its higher quality, biosolids with pollutant concentrations below those listed in Table 2 can safely be applied to agricultural land, forest, public contact sites, lawns, home gardens or be given away without further analysis. Biosolids containing metals in concentrations above the low metals concentrations but below the ceiling concentration limits may be land applied but shall not exceed the annual loading rates in Table 3 and the cumulative loading rates in Table 4. The permittee is required to track pollutant loading onto application sites for parameters that have exceeded the low metal concentration limits.

TABLE 2

| Biosolids Low Metal Concentration | |
|-----------------------------------|------------------------------------|
| Pollutant | Milligrams per kilogram dry weight |
| Arsenic | 41 |
| Cadmium | 39 |
| Copper | 1,500 |
| Lead | 300 |
| Mercury | 17 |
| Nickel | 420 |
| Selenium | 100 |
| Zinc | 2,800 |

- e. Annual pollutant loading rate.

Table 3

| Biosolids Annual Loading Rate | |
|-------------------------------|--------------------------|
| Pollutant | Kg/ha (lbs./ac) per year |
| Arsenic | 2.0 (1.79) |
| Cadmium | 1.9 (1.70) |
| Copper | 75 (66.94) |
| Lead | 15 (13.39) |
| Mercury | 0.85 (0.76) |
| Nickel | 21 (18.74) |
| Selenium | 5.0 (4.46) |
| Zinc | 140 (124.96) |

- f. Cumulative pollutant loading rates.

Table 4

| Biosolids Cumulative Pollutant Loading Rate | |
|---|-----------------|
| Pollutant | Kg/ha (lbs./ac) |
| Arsenic | 41 (37) |
| Cadmium | 39 (35) |
| Copper | 1500 (1339) |
| Lead | 300 (268) |
| Mercury | 17 (15) |
| Nickel | 420 (375) |
| Selenium | 100 (89) |
| Zinc | 2800 (2499) |

6. Best Management Practices. The permittee shall use the following best management practices during land application activities to prevent the discharge of biosolids to waters of the state.
- Biosolids shall not be applied to the land if it is likely to adversely affect a threatened or endangered species listed under § 4 of the Endangered Species Act or its designated critical habitat.
 - Apply biosolids only at the agronomic rate of nitrogen needed (see 5.c. of this section).
 - The applicator must document the Plant Available Nitrogen (PAN) loadings, available nitrogen in the soil, and crop

nitrogen removal when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kgTN; or 2) When biosolids are land applied at an application rate greater than two dry tons per acre per year.

- i. PAN can be determined as follows:
(Nitrate + nitrite nitrogen) + (organic nitrogen x 0.2) + (ammonia nitrogen x volatilization factor¹).
¹ Volatilization factor is 0.7 for surface application and 1 for subsurface application. Alternative volatilization factors and mineralization rates can be utilized on a case-by-case basis.
- ii. Crop nutrient production/removal to be based on crop specific nitrogen needs and realistic yield goals. **NOTE:** There are a number of reference documents on the Missouri Department of Natural Resources website that are informative to implement best management practices in the proper management of biosolids, including crop specific nitrogen needs, realistic yields on a county by county basis and other supporting references.
- iii. Biosolids that are applied at agronomic rates shall not cause the annual pollutant loading rates identified in Table 3 to be exceeded.
- d. Buffer zones are as follows:
 - i. 300 feet of a water supply well, sinkhole, water supply reservoir or water supply intake in a stream;
 - ii. 300 feet of a losing stream, no discharge stream, stream stretches designated for whole body contact recreation, wild and scenic rivers, Ozark National Scenic Riverways or outstanding state resource waters as listed in the Water Quality Standards, 10 CSR 20-7.031;
 - iii. 150 feet of dwellings or public use areas;
 - iv. 100 feet (35 feet if biosolids application is down-gradient or the buffer zone is entirely vegetated) of lake, pond, wetlands or gaining streams (perennial or intermittent);
 - v. 50 feet of a property line. Buffer distances from property lines may be waived with written permission from neighboring property owner.
 - vi. For the application of dry, cake or liquid biosolids that are subsurface injected, buffer zones identified in 5.d.i. through 5.d.iii above, may be reduced to 100 feet. The buffer zone may be reduced to 35 feet if the buffer zone is permanently vegetated. Subsurface injection does not include methods or technology reflective of combination surface/shallow soil incorporation.
- e. Slope limitation for application sites are as follows:
 - i. For slopes less than or equal to 6 percent, no rate limitation;
 - ii. Applied to a slope 7 to 12 percent, the applicator may apply biosolids when soil conservation practices are used to meet the minimum erosion levels;
 - iii. Slopes > 12 percent, apply biosolids only when grass is vegetated and maintained with at least 80 percent ground cover at a rate of two dry tons per acre per year or less.
 - iv. Dry, cake or liquid biosolids that are subsurface injected, may be applied on slopes not to exceed 20 percent. Subsurface injection does not include the use of methods or technology reflective of combination surface/shallow soil incorporation.
- f. No biosolids may be land applied in an area that it is reasonably certain that pollutants will be transported into waters of the state.
- g. Biosolids may be land applied to sites with soil that are snow covered, frozen, or saturated with liquid when site restrictions or other controls are provided to prevent pollutants from being discharged to waters of the state during snowmelt or stormwater runoff. During inclement weather or unfavorable soil conditions use the following management practices:
 - i. A maximum field slope of 6% and a minimum 300 feet grass buffer between the application site and waters of the state. A 35 feet grass buffer may be utilized for the application of dry, cake or liquid biosolids that are subsurface injected. Subsurface injection does not include the use of methods or technology reflective of combination surface/shallow soil incorporation;
 - ii. A maximum field slope of 2% and 100 feet grass buffer between the application site and waters of the state. A 35 feet grass buffer may be used for the application of dry, cake or liquid biosolids that are subsurface injected. Subsurface injection does not include the use of methods or technology reflective of combination surface/shallow soil incorporation;
 - iii. Other best management practices approved by the Department.

SECTION H – SEPTAGE

1. Haulers that land apply septage must obtain a state permit. An operating permit is not required for septage haulers who transport septage to another permitted treatment facility for disposal.
2. Do not apply more than 30,000 gallons of septage per acre per year or the volume otherwise stipulated in the operating permit.
3. Septic tanks are designed to retain sludge for one to three years which will allow for a larger reduction in pathogens and vectors, as compared to mechanical treatment facilities.
4. Septage must comply with Class B biosolids regarding pathogen and vector attraction reduction requirements before it may be applied to crops, pastures or timberland. To meet required pathogen and vector reduction requirements, mix 50 pounds of hydrated lime for every 1,000 gallons of septage and maintain a septage pH of at least 12 pH standard units for 30 minutes or more prior to application.
5. Lime is to be added to the pump truck and not directly to the septic tanks, as lime would harm the beneficial bacteria of the septic tank.
6. As residential septage contains relatively low levels of metals, the testing of metals in septage is not required.

SECTION I– CLOSURE REQUIREMENTS

1. This section applies to all wastewater facilities (mechanical and lagoons) and sludge or biosolids storage and treatment facilities. It does not apply to land application sites.
2. Permittees of a domestic wastewater facility who plan to cease operation must obtain Department approval of a closure plan which addresses proper removal and disposal of all sludges and/or biosolids. Permittee must maintain this permit until the facility is closed in accordance with the approved closure plan per 10 CSR 20 – 6.010 and 10 CSR 20 – 6.015.
3. Biosolids or sludge that are left in place during closure of a lagoon or earthen structure or ash pond shall not exceed the agricultural loading rates as follows:
 - a. Biosolids and sludge shall meet the monitoring and land application limits for agricultural rates as referenced in Section G, above.
 - b. If a wastewater treatment lagoon has been in operation for 15 years or more without sludge removal, the sludge in the lagoon qualifies as a Class B biosolids with respect to pathogens due to anaerobic digestion, and testing for fecal coliform is not required. For other lagoons, testing for fecal coliform is required to show compliance with Class B biosolids limitations. In order to reach Class B biosolids requirements, fecal coliform must be less than 2,000,000 colony forming units or 2,000,000 most probable number. All fecal samples must be presented as geometric mean per gram.
 - c. The allowable nitrogen loading that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. For a grass cover crop, the allowable PAN is 300 pounds/acre. Alternative, site-specific application rates may be included in the closure plan for department consideration.
 - i. PAN can be determined as follows:
$$(\text{Nitrate} + \text{nitrite nitrogen}) + (\text{organic nitrogen} \times 0.2) + (\text{ammonia nitrogen} \times \text{volatilization factor}^1).$$
¹ Volatilization factor is 0.7 for surface application and 1 for subsurface application. Alternative volatilization factors and mineralization rates can be utilized on a case-by-case basis.
4. Domestic wastewater treatment lagoons with a design treatment capacity less than or equal to 150 persons, are “similar treatment works” under the definition of septage. Therefore the sludge within the lagoons may be treated as septage during closure activities. See Section B, above. Under the septage category, residuals may be left in place as follows:
 - a. Testing for metals or fecal coliform is not required.
 - b. If the wastewater treatment lagoon has been in use for less than 15 years, mix lime with the sludge at a rate of 50 pounds of hydrated lime per 1000 gallons (134 cubic feet) of sludge.
 - c. The amount of sludge that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. 100 dry tons/acre of sludge may be left in the basin without testing for nitrogen. If 100 dry tons/acre or more will be left in the lagoon, test for nitrogen and determine the PAN using the calculation above. Allowable PAN loading is 300 pounds/acre.
5. Biosolids or sludge left within the domestic lagoon shall be mixed with soil on at least a 1 to 1 ratio, and unless otherwise approved, the lagoon berm shall be demolished, and the site shall be graded and contain $\geq 70\%$ vegetative density over 100% of the site so as to avoid ponding of storm water and provide adequate surface water drainage without creating erosion. Alternative biosolids or sludge and soil mixing ratios may be included in the closure plan for department consideration.
6. Lagoon and earthen structure closure activities shall obtain a storm water permit for land disturbance activities that equal or exceed one acre in accordance with 10 CSR 20-6.200.
7. When closing a mechanical wastewater plant, all biosolids or sludge must be cleaned out and disposed of in accordance with the Department approved closure plan before the permit for the facility can be terminated.
 - a. Land must be stabilized which includes any grading, alternate use or fate upon approval by the Department, remediation, or other work that exposes sediment to stormwater per 10 CSR 20-6.200. The site shall be graded and contain $\geq 70\%$ vegetative density over 100% of the site, so as to avoid ponding of storm water and provide adequate

- surface water drainage without creating erosion.
- b. Hazardous Waste shall not be land applied or disposed during mechanical plant closures unless in accordance with Missouri Hazardous Waste Management Law and Regulations pursuant to 10 CSR 25.
 - c. After demolition of the mechanical plant, the site must only contain clean fill defined in Section 260.200.1(6) RSMo as uncontaminated soil, rock, sand, gravel, concrete, asphaltic concrete, cinderblocks, brick, minimal amounts of wood and metal, and inert solids as approved by rule or policy of the Department for fill, reclamation, or other beneficial use. Other solid wastes must be removed.
8. If biosolids or sludge from the domestic lagoon or mechanical treatment plant exceeds agricultural rates under Section G and/or I, a landfill permit or solid waste disposal permit must be obtained if the permittee chooses to seek authorization for on-site sludge disposal under the Missouri Solid Waste Management Law and regulations per 10 CSR 80, and the permittee must comply with the surface disposal requirements under 40 CFR Part 503, Subpart C.

SECTION J – MONITORING FREQUENCY

1. At a minimum, biosolids or sludge shall be tested for volume and percent total solids on a frequency that will accurately represent sludge quantities produced and disposed. Please see the table below.

TABLE 5

| Biosolids or Sludge produced and disposed (Dry Tons per Year) | Monitoring Frequency (See Notes 1, and 2) | | |
|---|--|---|----------------------------------|
| | Metals, Pathogens and Vectors, Total Phosphorus, Total Potassium | Nitrogen TKN, Nitrogen PAN ¹ | Priority Pollutants ² |
| 319 or less | 1/year | 1 per month | 1/year |
| 320 to 1650 | 4/year | 1 per month | 1/year |
| 1651 to 16,500 | 6/year | 1 per month | 1/year |
| 16,501+ | 12/year | 1 per month | 1/year |

¹ Calculate plant available nitrogen (PAN) when either of the following occurs: 1) when biosolids are greater than 50,000 mg/kg TN; or 2) when biosolids are land applied at an application rate greater than two dry tons per acre per year.

² Priority pollutants (40 CFR 122.21, Appendix D, Tables II and III) are required only for permit holders that must have a pre-treatment program. Monitoring requirements may be modified and incorporated into the operating permit by the Department on a case-by-case basis.

Note 1: Total solids: A grab sample of sludge shall be tested one per day during land application periods for percent total solids. This data shall be used to calculate the dry tons of sludge applied per acre.

Note 2: Table 5 is not applicable for incineration and permit holders that landfill their sludge.

2. Permittees that operate wastewater treatment lagoons, peak flow equalization basins, combined sewer overflow basins or biosolids or sludge lagoons that are cleaned out once a year or less, may choose to sample only when the biosolids or sludge is removed or the lagoon is closed. Test one composite sample for each 319 dry tons of biosolids or sludge removed from the lagoon during the reporting year or during lagoon closure. Composite sample must represent various areas at one-foot depth.
3. Additional testing may be required in the special conditions or other sections of the permit.
4. Biosolids and sludge monitoring shall be conducted in accordance with federal regulation 40 CFR § 503.8, Sampling and analysis.

SECTION K – RECORD KEEPING AND REPORTING REQUIREMENTS

1. The permittee shall maintain records on file at the facility for at least five years for the items listed in Standard Conditions PART III and any additional items in the Special Conditions section of this permit. This shall include dates when the biosolids or sludge facility is checked for proper operation, records of maintenance and repairs and other relevant information.
2. Reporting period
 - a. By February 19th of each year, applicable facilities shall submit an annual report for the previous calendar year period for all mechanical wastewater treatment facilities, sludge lagoons, and biosolids or sludge disposal facilities.
 - b. Permittees with wastewater treatment lagoons shall submit the above annual report only when biosolids or sludge are removed from the lagoon during the report period or when the lagoon is closed.
3. Report Form. The annual report shall be prepared on report forms provided by the Department or equivalent forms approved by the Department.
4. Reports shall be submitted as follows:
Major facilities, which are those serving 10,000 persons or more or with a design flow equal to or greater than 1 million gallons per day or that are required to have an approved pretreatment program, shall report to both the Department and EPA if the facility land applied, disposed of biosolids by surface disposal, or operated a sewage sludge incinerator. All other facilities shall maintain their biosolids or sludge records and keep them available to Department personnel upon request. State reports shall be submitted to the address listed as follows:

DNR regional or other applicable office listed in the
permit (see cover letter of permit)
ATTN: Sludge Coordinator

Reports to EPA must be electronically submitted online via the Central Data Exchange at: <https://cdx.epa.gov/> Additional information is available at: <https://www.epa.gov/biosolids/compliance-and-annual-reporting-guidance-about-clean-water-act-laws>

5. Annual report contents. The annual report shall include the following:
 - a. Biosolids and sludge testing performed. If testing was conducted at a greater frequency than what is required by the permit, all test results must be included in the report.
 - b. Biosolids or sludge quantity shall be reported as dry tons for the quantity produced and/or disposed.
 - c. Gallons and % solids data used to calculate the dry ton amounts.
 - d. Description of any unusual operating conditions.
 - e. Final disposal method, dates, and location, and person responsible for hauling and disposal.
 - i. This must include the name and address for the hauler and sludge facility. If hauled to a municipal wastewater treatment facility, sanitary landfill, or other approved treatment facility, give the name of that facility.
 - ii. Include a description of the type of hauling equipment used and the capacity in tons, gallons, or cubic feet.
 - f. Contract Hauler Activities:

If using a contract hauler, provide a copy of a signed contract from the contractor. Permittee shall require the contractor to supply information required under this permit for which the contractor is responsible. The permittee shall submit a signed statement from the contractor that he has complied with the standards contained in this permit, unless the contract hauler has a separate biosolids or sludge use permit.
 - g. Land Application Sites:
 - i. Report the location of each application site, the annual and cumulative dry tons/acre for each site, and the landowners name and address. The location for each spreading site shall be given as a legal description for nearest ¼, ¼, Section, Township, Range, and county, or UTM coordinates. The facility shall report PAN when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kg TN; or 2) when biosolids are land applied at an application rate greater than two dry tons per acre per year.
 - ii. If the “Low Metals” criteria are exceeded, report the annual and cumulative pollutant loading rates in pounds per acre for each applicable pollutant, and report the percent of cumulative pollutant loading which has been reached at each site.
 - iii. Report the method used for compliance with pathogen and vector attraction requirements.
 - iv. Report soil test results for pH and phosphorus. If no soil was tested during the year, report the last date when tested and the results.

A134547

RECEIVED

MAR 10 2020



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
**FORM A – APPLICATION FOR NONDOMESTIC PERMIT UNDER MISSOURI
CLEAN WATER LAW**

FOR AGENCY USE ONLY

CHECK NUMBER

DATE RECEIVED

FEE SUBMITTED

JET PAY CONFIRMATION NUMBER

PLEASE READ ALL THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM.
SUBMITTAL OF AN INCOMPLETE APPLICATION MAY RESULT IN THE APPLICATION BEING RETURNED.

IF YOUR FACILITY IS ELIGIBLE FOR A NO EXPOSURE EXEMPTION:

Fill out the No Exposure Certification Form (Mo 780-2828): <https://dnr.mo.gov/forms/780-2828-f.pdf>

1. REASON FOR APPLICATION:

- ☒ a. This facility is now in operation under Missouri State Operating Permit (permit) MO – 0124940, is submitting an application for renewal, and there is no proposed increase in design wastewater flow. Annual fees will be paid when invoiced and there is no additional permit fee required for renewal.
- ☐ b. This facility is now in operation under permit MO – _____, is submitting an application for renewal, and there is a proposed increase in design wastewater flow. Antidegradation Review may be required. Annual fees will be paid when invoiced and there is no additional permit fee required for renewal.
- ☐ c. This is a facility submitting an application for a new permit (for a new facility). Antidegradation Review may be required. New permit fee is required.
- ☐ d. This facility is now in operation under Missouri State Operating Permit (permit) MO – _____ and is requesting a modification to the permit. Antidegradation Review may be required. Modification fee is required.

2. FACILITY

| | | | |
|---|-----------------------|---|-------------------|
| NAME Dogwood Energy Facility | | TELEPHONE NUMBER WITH AREA CODE (816) 540-6500 | |
| ADDRESS (PHYSICAL) 25111 E. 175th Street, PO Box 110 | CITY Pleasant Hill | STATE MO | ZIP CODE 64080 |

3. OWNER

| | | | |
|--|------------------|---|-------------------|
| NAME Dogwood Power Management, LLC - Contact: Frank Schneider | | TELEPHONE NUMBER WITH AREA CODE (443) 542-5124 | |
| EMAIL ADDRESS frank.schneider@kelsonenergy.com | | | |
| ADDRESS (MAILING) 8840 Stanford Blvd, Suite 3700 | CITY Columbia | STATE MD | ZIP CODE 21045 |

4. CONTINUING AUTHORITY

| | | | |
|-----------------------|------|---------------------------------|----------|
| NAME same as owner | | TELEPHONE NUMBER WITH AREA CODE | |
| EMAIL ADDRESS | | | |
| ADDRESS (MAILING) | CITY | STATE | ZIP CODE |

5. OPERATOR CERTIFICATION

| | | | |
|-------------------|--------------------|---------------------------------|----------|
| NAME | CERTIFICATE NUMBER | TELEPHONE NUMBER WITH AREA CODE | |
| ADDRESS (MAILING) | CITY | STATE | ZIP CODE |

6. FACILITY CONTACT

| | | |
|--|-----------------------------------|---|
| NAME Kyle Schnabel | TITLE Environmental Specialist | TELEPHONE NUMBER WITH AREA CODE (816) 540-6504 |
| E-MAIL ADDRESS Kyle.Schnabel@naes.com | | |

7. DOWNSTREAM LANDOWNER(S) Attach additional sheets as necessary.

| | | | |
|------------------------------------|-----------------------|-------------|-------------------|
| NAME Richard and Susan Ingels | | | |
| ADDRESS 25907 East 175th Street | CITY Pleasant Hill | STATE MO | ZIP CODE 64080 |

MO 780-1479 (02-19)

8. ADDITIONAL FACILITY INFORMATION**8.1 Legal Description of Outfalls. (Attach additional sheets if necessary.)**

For Universal Transverse Mercator (UTM), use Zone 15 North referenced to North American Datum 1983 (NAD83)

001 SE 1/4 SW 1/4 Sec 13 T 146N R 31W Cass County
UTM Coordinates Easting (X): 387142 Northing (Y): 4294614
002 1/4 1/4 Sec T R County
UTM Coordinates Easting (X): Northing (Y):
003 SE 1/4 SW 1/4 Sec 13 T 146N R 31W Cass County
UTM Coordinates Easting (X): 387151 Northing (Y): 4294734
004 1/4 1/4 Sec T R County
UTM Coordinates Easting (X): Northing (Y):

8.2 Primary Standard Industrial Classification (SIC) and Facility North American Industrial Classification System (NAICS) Codes.

Primary SIC 4911 and NAICS 22112 SIC and NAICS
SIC and NAICS

9. ADDITIONAL FORMS AND MAPS NECESSARY TO COMPLETE THIS APPLICATION

- A. Is this permit for a manufacturing, commercial, mining, solid/hazardous waste, or silviculture facility? YES ☐ NO ☒
If yes, complete Form C.
- B. Is the facility considered a "Primary Industry" under EPA guidelines (40 CFR Part 122, Appendix A): YES ☒ NO ☐
If yes, complete Forms C and D.
- C. Is wastewater land applied? YES ☐ NO ☒
If yes, complete Form I.
- D. Are sludge, biosolids, ash, or residuals generated, treated, stored, or land applied? YES ☐ NO ☒
If yes, complete Form R.
- E. Have you received or applied for any permit or construction approval under the CWA or any other environmental regulatory authority? YES ☒ NO ☐
If yes, please include a list of all permits or approvals for this facility. **Renewal application for the Title V Air Permit was submitted on 8/7/2019.**
- F. Do you use cooling water in your operations at this facility? YES ☒ NO ☐
If yes, please indicate the source of the water: Kansas City Municipal Water
- G. Attach a map showing all outfalls and the receiving stream at 1" = 2,000' scale. **Refer to attached figure.**

10. ELECTRONIC DISCHARGE MONITORING REPORT (eDMR) SUBMISSION SYSTEM

Per 40 CFR Part 127 National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, reporting of effluent limits and monitoring shall be submitted by the permittee via an electronic system to ensure timely, complete, accurate, and nationally consistent set of data. **One of the following must be checked in order for this application to be considered complete.** Please visit <http://dnr.mo.gov/env/wpp/edmr.htm> to access the Facility Participation Package.

- ☐ - You have completed and submitted with this permit application the required documentation to participate in the eDMR system.
- ☒ - You have previously submitted the required documentation to participate in the eDMR system and/or you are currently using the eDMR system. Information submitted on 1/27/2020
- ☐ - You have submitted a written request for a waiver from electronic reporting. See instructions for further information regarding waivers.

11. FEES

Permit fees may be paid by attaching a check, or online by credit card or eCheck through the JetPay system. Use the URL provided to access JetPay and make an online payment: <https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/>

12. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME AND OFFICIAL TITLE (TYPE OR PRINT)

MICHAEL CHAPMAN, PROJECT DIRECTOR

TELEPHONE NUMBER WITH AREA CODE

413-542-5123

SIGNATURE

Michael Chy

DATE SIGNED

MAR 4, 2020



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH
**FORM C – APPLICATION FOR DISCHARGE PERMIT – MANUFACTURING, COMMERCIAL,
MINING, SILVICULTURE OPERATIONS, AND STORMWATER**

GENERAL INFORMATION (PLEASE SEE INSTRUCTIONS)

1.0 NAME OF FACILITY

Dogwood Energy Facility

1.1 THIS FACILITY IS OPERATING UNDER MISSOURI STATE OPERATING PERMIT (MSOP) NUMBER:

MO-0124940

1.2 IS THIS A NEW FACILITY? PROVIDE CONSTRUCTION PERMIT (CP) NUMBER IF APPLICABLE.

No

1.3 Describe the nature of the business, in detail. Identify the goods and services provided by the business. Include descriptions of all raw, intermediate, final products, byproducts, or waste products used in the production or manufacturing process, stored outdoors, loaded or transferred and any other pertinent information for potential sources of wastewater or stormwater discharges.

Dogwood Energy Facility is a 650 MW 2x1 natural gas combined cycle electric generating facility. The facility is an intermediate plant, meaning that it can be a baseload or peaking Plant. The facility uses two natural gas-fired Siemens-Westinghouse Model 501FD2 turbines connected to two heat recovery steam generators (HRSG) with duct burners and power augmentation that are capable of producing 650 MW during peak production. The HRSG uses the heat recovered from the gas turbine exhaust in addition to the supplemental heat from the duct burner to provide steam to power a common steam-electric generator for further power generation. Power augmentation is accomplished by injecting steam from the HRSG into the combustion turbine. A seven-cell cooling tower draws heat from the water used to cool the steam condenser.

Outfall 001 primarily discharges industrial stormwater. Occasionally, municipal water is diverted to the basin if the facility overfills the cooling towers. Depending on the amount, this water may or may not discharge from Outfall 001.

FLOWS, TYPE, AND FREQUENCY

2.0 Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in item B. Construct a water balance on the line drawing by showing average and maximum flows between intakes, operations, treatment units, evaporation, public sewers, and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

2.1 For each outfall (1) below, provide: (2) a description of all operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, stormwater runoff, and any other process or non-process wastewater, (3) the average flow and maximum flow (put max in parentheses) contributed by each operation and the sum of those operations, (4) the treatment received by the wastewater, and (5) the treatment type code. Continue on additional sheets if necessary.

| 1. OUTFALL NO. | 2. OPERATION(S) CONTRIBUTING FLOW; INCLUDE ALL PROCESSES AND SUB PROCESSES AT EACH OUTFALL | 3. AVERAGE FLOW AND (MAXIMUM FLOW), INCLUDE UNITS. | 4. TREATMENT DESCRIPTION | 5. TREATMENT CODES FROM TABLE A |
|----------------|--|--|--------------------------|---------------------------------|
| 001 | Cooling tower overflow (from basin) | 2.79 MGD | Evaporation | 1-F |
| | | | Sedimentation (settling) | 1-U |
| 003 | No discharge | 0 MGD | Aeration | |
| | | | Evaporation | 1-F |
| | | | Sedimentation (settling) | 1-U |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Attach additional pages if necessary.

2.2 INTERMITTENT DISCHARGES

Except for stormwater runoff, leaks, or spills, are any of the discharges described in items 2.0 or 2.1 intermittent or seasonal?

☒ Yes (complete the following table)

☐ No (go to section 2.3)

| 1. OUTFALL NUMBER | 2. OPERATION(S) CONTRIBUTING FLOW | 3. FREQUENCY | | 4. FLOW | | | | C. DURATION <i>(in days)</i> |
|-------------------|-----------------------------------|--|--|------------------------------|----------------------|--|--------------------|---------------------------------|
| | | | | A. FLOW RATE <i>(in mgd)</i> | | B. TOTAL VOLUME <i>(specify with units)</i> | | |
| | | A. DAYS PER WEEK <i>(specify average)</i> | B. MONTHS PER YEAR <i>(specify average)</i> | 1. MAXIMUM DAILY | 2. LONG TERM AVERAGE | 4. LONG TERM DAILY | 3. MAXIMUM AVERAGE | |
| 001 | | | | 0.92 | 0.51 | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

2.3 PRODUCTION

A. Does an effluent limitation guideline (ELG) promulgated by EPA under section 304 of the Clean Water Act apply to your facility? Indicate the part and subparts applicable.

☒ Yes 40 CFR 423 Subpart(s) N/A ☐ No (go to section 2.5)

B. Are the limitations in the effluent guideline(s) expressed in terms of production (or other measure of operation)? Describe in C below.

☐ Yes (complete C.) ☐ No (go to section 2.5)

C. If you answered "yes" to B, list the quantity representing an actual measurement of your maximum level of production, expressed in the terms and units used in the applicable effluent guideline and indicate the affected outfalls.

| A. OUTFALL(S) | B. QUANTITY PER DAY | C. UNITS OF MEASURE | D. OPERATION, PRODUCT, MATERIAL, ETC. (specify) |
|---------------|---------------------|---------------------|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

2.4 IMPROVEMENTS

A. Are you required by any federal, state, or local authority to meet any implementation schedule for the construction, upgrading, or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

☐ Yes (complete the following table) ☒ No (go to 2.6)

| 1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC. | 2. AFFECTED OUTFALLS | 3. BRIEF DESCRIPTION OF PROJECT | 4. FINAL COMPLIANCE DATE | |
|---|----------------------|---------------------------------|--------------------------|--------------|
| | | | A. REQUIRED | B. PROJECTED |
| | | | | |
| | | | | |

B. Optional: provide below or attach additional sheets describing water pollution control programs or other environmental projects which may affect discharges. Indicate whether each program is underway or planned, and indicate actual or planned schedules for construction. This may include proposed bmp projects for stormwater.

2.5 SLUDGE MANAGEMENT

Describe the removal of any industrial or domestic biosolids or sludges generated at your facility. Include names and contact information for any haulers used. Note the frequency, volume, and methods (incineration, landfilling, composting, etc) used. See Form A for additional forms which may need to be completed.

Not applicable

DATA COLLECTION AND REPORTING REQUIREMENTS FOR APPLICANTS

3.0 EFFLUENT (AND INTAKE) CHARACTERISTICS (SEE INSTRUCTIONS)

A. & B. See instructions before continuing – complete one Table 1 for **each outfall** (and intake) – annotate the outfall (intake) number or designation in the space provided. The facility is not required to complete intake data unless required by the department or rule.

C. Use the space below to list any pollutants listed in the instructions section 3.0 C. Table B which you know or have reason to believe is discharged or may be discharged from any outfall not listed in parts 3.0 A or B on Table 1. For every pollutant listed, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

| 1. POLLUTANT | 2. SOURCE | 3. OUTFALL(S) | 4. ANALYTICAL RESULTS (INCLUDE UNITS) |
|--------------|-----------|---------------|---------------------------------------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

3.1 Whole Effluent Toxicity Testing

A. To your knowledge, have any Whole Effluent Toxicity (WET) tests been performed on the facility discharges (or on receiving waters in relation to your discharge) within the last three years?

☐ Yes (go to 3.1 B) ☒ No (go to 3.2)

3.1 B

Disclose wet testing conditions, including test duration (chronic or acute), the organisms tested, and the testing results. Provide any results of toxicity identification evaluations (TIE) or toxicity reduction evaluations (TRE) if applicable. Please indicate the conclusions of the test(s) including any pollutants identified as causing toxicity and steps the facility is taking to remedy the toxicity.

Not applicable

3.2 CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported herein, above, or on Table 1 performed by a contract laboratory or consulting firm?

☒ Yes (list the name, address, telephone number, and pollutants analyzed by each laboratory or firm.) ☐ No (go to 4.0)

| A. LAB NAME | B. ADDRESS | C. TELEPHONE (area code and number) | D. POLLUTANTS ANALYZED (list or group) |
|-------------------------------|-------------------------------------|--|---|
| Pace Analytical Services, LLC | 9608 Loret Blvd Lenexa, KS 66219 | (913) 599-5665 | |
| | | | |

4.0 STORMWATER

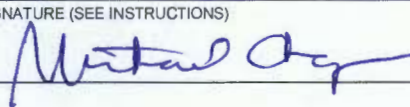
4.1
Do you have industrial stormwater discharges from the site? If so, attach a site map outlining drainage areas served by each outfall. Indicate the following attributes within each drainage area: pavement or other impervious surfaces; buildings; outdoor storage areas; material loading and unloading areas; outdoor industrial activities; structural stormwater control measures; hazardous waste treatment, storage, and disposal units; and wells or springs in the area.

| OUTFALL NUMBER | TOTAL AREA DRAINED (PROVIDE UNITS) | TYPES OF SURFACES (VEGETATED, STONE , PAVED, ETC) | BEST MANAGEMENT PRACTICES EMPLOYED; INCLUDE STRUCTURAL BMPs AND TREATMENT DESIGN FLOW FOR BMPs DESCRIBE HOW FLOW IS MEASURED |
|-------------------|--|--|--|
| 001 | 28.9 acres | Vegetated, paved, aggregate | Berms, covers, oil/water separator, temporary erosion and sediment BMPs |
| | | | Flows from 001 are estimated from NWS climatic data (refer to Question 4.2 |
| | | | on this form and Section 2.2 of the Supplemental Report) |
| | | | |
| | | | |
| | | | |
| | | | |

4.2 STORMWATER FLOWS
Provide the date of sampling with the flows, and how the flows were estimated.
Refer to Section 2.2 of the Supplemental Report; estimates from 2014-2019 based on NWS Pleasant Hill, MO Climatic data

SIGNATORY REQUIREMENTS

5.0 CERTIFICATION
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

| | |
|---|---------------------------------|
| NAME AND OFFICIAL TITLE (TYPE OR PRINT) | TELEPHONE NUMBER WITH AREA CODE |
| MICHAEL CHAPMAN | 443-542-5123 |
| SIGNATURE (SEE INSTRUCTIONS) | DATE SIGNED |
|  | MAR 4, 2020 |

SEE INSTRUCTIONS; PLEASE PRINT OR TYPE.

You may report some or all of this information on separate sheet (use similar format) instead of completing these pages.

FORM C TABLE 1 FOR 3.0 - ITEMS A AND B

| | | |
|---------------------------------------|---|-----------------|
| EFFLUENT (AND INTAKE) CHARACTERISTICS | THIS OUTFALL IS: Process water and stormwater | OUTFALL NO. 001 |
|---------------------------------------|---|-----------------|

3.0 PART A – You must provide the results of at least one analysis for every pollutant in Part A. Complete one table for each outfall or proposed outfall. See instructions.

| 1. POLLUTANT | VALUES | | | | | | 3. UNITS (specify if blank) | | |
|---|------------------------|----------|--------------------------|----------|-----------------------------|----------|-----------------------------|-----------------------------------|---------|
| | A. MAXIMUM DAILY VALUE | | B. MAXIMUM 30 DAY VALUES | | C. LONG TERM AVERAGE VALUES | | D. NO. OF ANALYSES | A. CONCENTRATION | B. MASS |
| | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | |
| A. Biochemical Oxygen Demand, 5-day (BOD ₅) | Refer to report | | | | | | | | |
| B. Chemical Oxygen Demand (COD) | Refer to report | | | | | | | | |
| C. Total Organic Carbon (TOC) | Refer to report | | | | | | | | |
| D. Total Suspended Solids (TSS) | 132 | | 132 | | 33.99 | | 12 | mg/L | |
| E. Ammonia as N | Refer to report | | | | | | | | |
| F. Flow | VALUE 0.92 | | VALUE 0.92 | | VALUE 0.51 | | 12 | MILLIONS OF GALLONS PER DAY (MGD) | |
| G. Temperature (winter) | VALUE Refer to report | | VALUE | | VALUE | | | °F | |
| H. Temperature (summer) | VALUE Refer to report | | VALUE | | VALUE | | | °F | |
| I. pH | MINIMUM 7.0 | | MAXIMUM 8.8 | | AVERAGE 7.96 | | 12 | STANDARD UNITS (SU) | |

3.0 PART B – Mark "X" in column 2A for each pollutant you know or have reason to believe is present. Mark "X" in column 2B for each pollutant you believe to be absent. If you mark Column 2A for any pollutant, you must provide the results for at least one analysis for the pollutant. Complete one table for each outfall (intake). Provide results for additional parameters not listed here in Part 3.0 C.

| 1. POLLUTANT AND CAS NUMBER (if available) | 2. MARK "X" | | 3. VALUES | | | | | | | 4. UNITS | |
|--|------------------------|-----------------------|------------------------|------|--------------------------|------|-----------------------------|------|-----------------------|------------------|---------|
| | A. BELIEVED PRESENT | B. BELIEVED ABSENT | A. MAXIMUM DAILY VALUE | | B. MAXIMUM 30 DAY VALUES | | C. LONG TERM AVERAGE VALUES | | D. NO. OF ANALYSES | A. CONCENTRATION | B. MASS |
| | | | CONCENTRATION | MASS | CONCENTRATION | MASS | CONCENTRATION | MASS | | | |

Subpart 1 – Conventional and Non-Conventional Refer to supplemental report (Section 2.1.4)

| | | | | | | | | | | | |
|--------------------------------------|---|---|---------|--|---------|--|---------|--|--|--|--|
| A. Alkalinity (CaCO ₃) | X | | MINIMUM | | MINIMUM | | MINIMUM | | | | |
| B. Bromide (24959-67-9) | | X | | | | | | | | | |
| C. Chloride (16887-00-6) | X | | | | | | | | | | |
| D. Chlorine, Total Residual | X | | | | | | | | | | |
| E. Color | | X | | | | | | | | | |
| F. Conductivity | X | | | | | | | | | | |
| F. Cyanide, Amenable to Chlorination | | X | | | | | | | | | |

| 1. POLLUTANT AND CAS NUMBER (if available) | 2. MARK "X" | | 3. VALUES | | | | | | | 4. UNITS | |
|---|------------------------|-----------------------|------------------------|---------|-------------------------|------|----------------------------|------|-----------------------|------------------|---------|
| | A. BELIEVED PRESENT | B. BELIEVED ABSENT | A. MAXIMUM DAILY VALUE | | B. MAXIMUM 30 DAY VALUE | | C. LONG TERM AVERAGE VALUE | | D. NO. OF ANALYSES | A. CONCENTRATION | B. MASS |
| | | | CONCENTRATION | MASS | CONCENTRATION | MASS | CONCENTRATION | MASS | | | |
| Subpart 1 – Conventional and Non-Conventional Pollutants (Continued) | | | | | | | | | | | |
| G. <i>E. coli</i> | | X | 387142 | 4294614 | | | | | | | |
| H. Fluoride (16984-48-8) | | X | | | | | | | | | |
| I. Nitrate plus Nitrate (as N) | X | | | | | | | | | | |
| J. Kjeldahl, Total (as N) | X | | | | | | | | | | |
| K. Nitrogen, Total Organic (as N) | X | | | | | | | | | | |
| L. Oil and Grease | X | | 4911 | | <5 | | <5 | | 12 | mg/L | |
| M. Phenols, Total | | X | | | | | | | | | |
| N. Phosphorus (as P), Total (7723-14-0) | | X | | | | | | | | | |
| O. Sulfate (as SO ₄) (14808-79-8) | X | | | | | | | | | | |
| P. Sulfide (as S) | X | 221112 | | | | | | | | | |
| Q. Sulfite (as SO ₃) (14265-45-3) | X | | | | | | | | | | |
| R. Surfactants | | | | | | | | | | | |
| S. Trihalomethanes, Total | | | | | | | | | | | |
| Subpart 2 – Metals | | | | | | | | | | | |
| 1M. Aluminum, Total Recoverable (7429-90-5) | X | | | | | | | | | | |
| 2M. Antimony, Total Recoverable (7440-36-9) | | X | | | | | | | | | |
| 3M. Arsenic, Total Recoverable (7440-38-2) | X | | | | | | | | | | |
| 4M. Barium, Total Recoverable (7440-39-3) | | X | | | | | | | | | |
| 5M. Beryllium, Total Recoverable (7440-41-7) | | X | | | | | | | | | |
| 6M. Boron, Total Recoverable (7440-42-8) | X | | | | | | | | | | |
| 7M. Cadmium, Total Recoverable (7440-43-9) | X | | | | | | | | | | |
| 8M. Chromium III Total Recoverable (16065-83-1) | X | | | | | | | | | | |
| 9M. Chromium VI, Dissolved (18540-29-9) | X | | | | | | | | | | |
| 10M. Cobalt, Total Recoverable (7440-48-4) | | X | | | | | | | | | |

| 1. POLLUTANT AND CAS NUMBER (if available) | 2. MARK "X" | | 3. VALUES | | | | | | | 4. UNITS | |
|--|------------------------|-----------------------|------------------------|------|-------------------------|------|----------------------------|------|-----------------------|------------------|---------|
| | A. BELIEVED PRESENT | B. BELIEVED ABSENT | A. MAXIMUM DAILY VALUE | | B. MAXIMUM 30 DAY VALUE | | C. LONG TERM AVERAGE VALUE | | D. NO. OF ANALYSES | A. CONCENTRATION | B. MASS |
| | | | CONCENTRATION | MASS | CONCENTRATION | MASS | CONCENTRATION | MASS | | | |
| Subpart 2 – Metals (Continued) | | | | | | | | | | | |
| 11M. Copper, Total Recoverable (7440-50-8) | X | | | | | | | | | | |
| 12M. Iron, Total Recoverable (7439-89-6) | X | | | | | | | | | | |
| 13M. Lead, Total Recoverable (7439-92-1) | | X | | | | | | | | | |
| 14M. Magnesium, Total Recoverable (7439-95-4) | | X | | | | | | | | | |
| 15M. Manganese, Total Recoverable (7439-96-5) | | X | | | | | | | | | |
| 16M. Mercury, Total Recoverable (7439-97-6) | | X | | | | | | | | | |
| 17M. Methylmercury (22967926) | | X | | | | | | | | | |
| 18M. Molybdenum, Total Recoverable (7439-98-7) | X | | | | | | | | | | |
| 19M. Nickel, Total Recoverable (7440-02-0) | | X | | | | | | | | | |
| 20M. Selenium, Total Recoverable (7782-49-2) | X | | | | | | | | | | |
| 21M. Silver, Total Recoverable (7440-22-4) | | X | | | | | | | | | |
| 22M. Thallium, Total Recoverable (7440-28-0) | | X | | | | | | | | | |
| 23M. Tin, Total Recoverable (7440-31-5) | | X | | | | | | | | | |
| 24M. Titanium, Total Recoverable (7440-32-6) | | X | | | | | | | | | |
| 25M. Zinc, Total Recoverable (7440-66-6) | | X | | | | | | | | | |
| Subpart 3 – Radioactivity | | | | | | | | | | | |
| 1R. Alpha Total | | X | | | | | | | | | |
| 2R. Beta Total | | X | | | | | | | | | |
| 3R. Radium Total | | X | | | | | | | | | |
| 4R. Radium 226 plus 228 Total | | X | | | | | | | | | |



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH
**FORM D – APPLICATION FOR DISCHARGE PERMIT –
PRIMARY INDUSTRIES**

FOR AGENCY USE ONLY

CHECK NO.

DATE RECEIVED

FEE SUBMITTED

NOTE: DO NOT ATTEMPT TO COMPLETE THIS FORM BEFORE READING THE ACCOMPANYING INSTRUCTIONS

1.00 NAME OF FACILITY

Dogwood Energy Facility

1.10 THIS FACILITY IS NOW IN OPERATION UNDER MISSOURI OPERATING PERMIT NUMBER

MO 0012490

This form is to be filled out in addition to forms A and C "Application for Discharge Permit" for the industries listed below:

INDUSTRY CATEGORY

| | |
|-----------------------------------|---|
| Adhesives and sealants | Ore mining |
| Aluminum forming | Organic chemicals manufacturing |
| Auto and other laundries | Paint and ink formulation |
| Battery manufacturing | Pesticides |
| Coal mining | Petroleum refining |
| Coil coating | Pharmaceutical preparations |
| Copper forming | Photographic equipment and supplies |
| Electric and electronic compounds | Plastic and synthetic materials manufacturing |
| Electroplating | Plastic processing |
| Explosives manufacturing | Porcelain enameling |
| Foundries | Printing and publishing |
| Gum and wood chemicals | Pulp and paperboard mills |
| Inorganic chemicals manufacturing | Rubber processing |
| Iron and steel manufacturing | Soap and detergent manufacturing |
| Leather tanning and finishing | Steam electric power plants |
| Landfill | Textile mills |
| Mechanical products manufacturing | Timber products processing |
| Nonferrous metals manufacturing | |

APPLICATION FOR DISCHARGE PERMIT FORM D – PRIMARY INDUSTRIES

Refer to supplemental report

| TABLE II | |
|-----------------------|-----------------------|
| NPDES # (IF ASSIGNED) | OUTFALL NUMBER 001 |

1.30 If you are a primary industry and this outfall contains process wastewater, refer to Table A in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-A for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. Mark "X" in column 2-B for each pollutant you know or have reason to believe is present. Mark "X" in column 2-C for each pollutant you believe to be absent. If you mark either columns 2-A or 2-B for any pollutant, you must provide the results of at least one analysis for that pollutant. Note that there are seven pages to this part, please review each carefully. Complete one table (all seven pages) for each outfall. See instructions for additional details and requirements.

| 1. POLLUTANT AND CAS NUMBER (if available) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | D. NO. OF ANALYSES | 4. UNITS | | 5. INTAKE (optional) | | |
|--|---------------------------|-------------------------------|------------------------------|------------------------|----------|---|----------|--|----------|--------------------------|--------------------------|---------|-----------------------------|-------------------------|--|
| | A. TESTING REQUIRED | B. BELIEVE D PRESENT | C. BELIEVE D ABSENT | A. MAXIMUM DAILY VALUE | | B. MAXIMUM 30 DAY VALUE (if available) | | C. LONG TERM AVRG. VALUE (if available) | | | A. CONCEN- TRATION | B. MASS | A. LONG TERM AVRG. VALUE | B. NO OF ANALYSES | |
| | | | | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | | (1) CONCENTRATION | (2) MASS | |
| METALS, AND TOTAL PHENOLS | | | | | | | | | | | | | | | |
| 1M. Antimony, Total (7440-36-9) | ✓ | | | | | | | | | | | | | | |
| 2M. Arsenic, Total (7440-38-2) | ✓ | | | | | | | | | | | | | | |
| 3M. Beryllium, Total (7440-41-7) | ✓ | | | | | | | | | | | | | | |
| 4M. Cadmium, Total (7440-43-9) | ✓ | | | | | | | | | | | | | | |
| 5M. Chromium III (18065-83-1) | ✓ | | | | | | | | | | | | | | |
| 6M. Chromium VI (18540-29-9) | ✓ | | | | | | | | | | | | | | |
| 7M. Copper, Total (7440-50-8) | ✓ | | | | | | | | | | | | | | |
| 8M. Lead, Total (7439-92-1) | ✓ | | | | | | | | | | | | | | |
| 9M. Magnesium Total (7439-95-4) | ✓ | | | | | | | | | | | | | | |
| 10M. Mercury, Total (7439-97-6) | ✓ | | | | | | | | | | | | | | |
| 11M. Molybdenum Total (7439-98-7) | ✓ | | | | | | | | | | | | | | |
| 12M. Nickel, Total (7440-02-0) | ✓ | | | | | | | | | | | | | | |
| 13M. Selenium, Total (7782-49-2) | ✓ | | | | | | | | | | | | | | |
| 14M. Silver, Total (7440-22-4) | ✓ | | | | | | | | | | | | | | |
| 15M. Thallium, Total (7440-28-0) | ✓ | | | | | | | | | | | | | | |
| 16M. Tin Total (7440-31-5) | ✓ | | | | | | | | | | | | | | |
| 17M. Titanium Total (7440-32-6) | ✓ | | | | | | | | | | | | | | |
| 18M. Zinc, Total (7440-66-6) | ✓ | | | | | | | | | | | | | | |

CONTINUED FROM PAGE 3

| | | | | | | | | | | | | | | | | |
|--|-------------------------------------|----------------------------|---------------------------|-------------------------------|-----------------|---|-----------------|--|-----------------|---------------------------|-------------------------|-----------------|---------------------------------|-----------------------------|--------------------------|--|
| 19M. Cyanide, Amenable to Chlorination | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | |
| 20M. Phenols, Total | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | |
| DIOXIN | | | | | | | | | | | | | | | | |
| 2,3,7,8 – Tetra – chlorodibenzo-P-Dioxin (1764-01-6) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | DESCRIBE RESULTS | | | | | | | | | | | | |
| 1. POLLUTANT AND CAS NUMBER (if available) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | | 4. UNITS | | 5. INTAKE (optional) | | |
| | A. TESTING REQUIRED | B. BELIEVED PRESENT | C. BELIEVED ABSENT | A. MAXIMUM DAILY VALUE | | B. MAXIMUM 30 DAY VALUE (if available) | | C. LONG TERM AVRG. VALUE (if available) | | D. NO. OF ANALYSES | A. CONCENTRATION | B. MASS | A. LONG TERM AVRG. VALUE | | B. NO OF ANALYSES | |
| | | | | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | | (1) CONCENTRATION | (2) MASS | | |
| | | | | | | | | | | | | | | | | |
| GC/MS FRACTION – VOLATILE COMPOUNDS | | | | | | | | | | | | | | | | |
| 1V. Acrolein (107-02-8) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | |
| 2V. Acrylonitrile (107-13-1) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | |
| 3V. Benzene (71-43-2) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | |
| 4V. Bis (Chloromethyl) Ether (542-88-1) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | |
| 5V. Bromoform (75-25-2) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | |
| 6V. Carbon Tetrachloride (56-23-5) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | |
| 7V. Chlorobenzene (108-90-7) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | |
| 8V. Chlorodibromomethane (124-48-1) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | |
| 9V. Chloroethane (75-00-3) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | |
| 10V. 2-Chloroethylvinyl Ether (110-75-8) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | |
| 11V. Chloroform (67-66-3) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | |
| 12V. Dichlorobromomethane (75-27-4) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | |
| 13V. Dichlorodifluoromethane (75-71-8) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | |
| 14V. 1,1 – Dichloroethane (75-34-3) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | |
| 15V. 1,2 – Dichloroethane (107-06-2) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | |
| 16V. 1,1 – Dichloroethylene (75-35-4) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | |
| 17V. 1,3 – Dichloropropane (78-87-5) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | |
| 18V. 1,2 – Dichloropropylene (542-75-6) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | |
| 19V. Ethylbenzene (100-41-4) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | |
| 20V. Methyl Bromide (74-83-9) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | |
| 21V. Methyl Chloride (74-87-3) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | |

| | |
|-----------------------|----------------|
| NPDES # (IF ASSIGNED) | OUTFALL NUMBER |
|-----------------------|----------------|

CONTINUED FROM THE FRONT

| 1. POLLUTANT AND CAS NUMBER (if available) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | 4. UNITS | | 5. INTAKE (optional) | | |
|--|-------------------------|---------------------------|--------------------------|------------------------|----------|---|----------|---|----------|-----------------------|--------------------------|---------|-----------------------------|-------------|----------------------|
| | A. TESTING RE-QUIRED | B. BELIEVED PRESENT | C. BELIEVED ABSENT | A. MAXIMUM DAILY VALUE | | B. MAXIMUM 30 DAY VALUE (if available) | | C. LONG TERM AVRG. VALUE (if available) | | D. NO. OF ANALYSES | A. CONCEN- TRATION | B. MASS | A. LONG TERM AVRG. VALUE | | B. NO OF ANALYSES |
| | | | | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | | (1) CONCENTRATION | (2) MASS | |
| | | | | | | | | | | | | | | | |
| GC/MS FRACTION – VOLATILE COMPOUNDS (continued) | | | | | | | | | | | | | | | |
| 22V. Methylene Chloride (75-09-2) | ✓ | ┘ | ┘ | | | | | | | | | | | | |
| 23V. 1,1,2,2 – Tetra- chloroethane (79-34-5) | ✓ | ┘ | ┘ | | | | | | | | | | | | |
| 24V. Tetrachloroethylene (127-18-4) | ✓ | ┘ | ┘ | | | | | | | | | | | | |
| 25V. Toluene (108-88-3) | ✓ | ┘ | ┘ | | | | | | | | | | | | |
| 26V. 1,2 – Trans Dichloroethylene (156-60-5) | ✓ | ┘ | ┘ | | | | | | | | | | | | |
| 27V. 1,1,1 – Tri – chloroethane (71-55-6) | ✓ | ┘ | ┘ | | | | | | | | | | | | |
| 28V. 1,1,2 – Tri- chloroethane (79-00-5) | ✓ | ┘ | ┘ | | | | | | | | | | | | |
| 29V. Trichloro – ethylene (79-01-6) | ✓ | ┘ | ┘ | | | | | | | | | | | | |
| 30V. Trichloro – fluoromethane (75-69-4) | ✓ | ┘ | ┘ | | | | | | | | | | | | |
| 31V. Vinyl Chloride (75-01-4) | ✓ | ┘ | ┘ | | | | | | | | | | | | |
| GC/MS FRACTION – ACID COMPOUNDS | | | | | | | | | | | | | | | |
| 1A. 2 – Chlorophenol (95-57-8) | ✓ | ┘ | ┘ | | | | | | | | | | | | |
| 2A. 2,4 – Dichloro – phenol (120-83-2) | ✓ | ┘ | ┘ | | | | | | | | | | | | |
| 3A. 2,4 – Dimethyl – phenol (105-67-9) | ✓ | ┘ | ┘ | | | | | | | | | | | | |
| 4A. 4,6 – Dinitro - O- Cresol (534-52-1) | ✓ | ┘ | ┘ | | | | | | | | | | | | |
| 5A. 2,4 – Dinitro – phenol (51-28-5) | ✓ | ┘ | ┘ | | | | | | | | | | | | |
| 6A. 2-Nitrophenol (88-75-5) | ✓ | ┘ | ┘ | | | | | | | | | | | | |
| 7A. 4-Nitrophenol (100-02-7) | ✓ | ┘ | ┘ | | | | | | | | | | | | |
| 8A. P – Chloro – M Cresol (59-50-7) | ✓ | ┘ | ┘ | | | | | | | | | | | | |
| 9A. Pentachloro – phenol (87-86-5) | ✓ | ┘ | ┘ | | | | | | | | | | | | |
| 10A. Phenol (108-952) | ✓ | ┘ | ┘ | | | | | | | | | | | | |
| 11A. 2,4,6 – Trichloro- phenol (88-06-2) | ✓ | ┘ | ┘ | | | | | | | | | | | | |
| 12A. 2 - methyl – 4,6 dinitrophenol (534-52-1) | ✓ | ┘ | ┘ | | | | | | | | | | | | |

CONTINUED FROM THE FRONT

| 1. POLLUTANT AND CAS NUMBER (if available) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | | | 4. UNITS | | 5. INTAKE (optional) | | | | | |
|--|-------------------------------------|---------------------------|--------------------------|------------------------|----------|---|----------|---|----------|-----------------------|--------------------------|----------|-----------------------------|----------------------|----------------------|--|--|--|--|
| | A. TESTING REQUIRED | B. BELIEVED PRESENT | C. BELIEVED ABSENT | A. MAXIMUM DAILY VALUE | | B. MAXIMUM 30 DAY VALUE (if available) | | C. LONG TERM AVRG. VALUE (if available) | | D. NO. OF ANALYSES | A. CONCEN- TRATION | B. MASS | A. LONG TERM AVRG. VALUE | | B. NO OF ANALYSES | | | | |
| | | | | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | | (1) CONCENTRATION | (2) MASS | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS | | | | | | | | | | | | | | | | | | | |
| 1B. Acenaphthene (83-32-9) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | |
| 2B. Acenaphthylene (208-96-8) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | |
| 3B. Anthracene (120-12-7) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | |
| 4B. Benzidine (92-87-5) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | |
| 5B. Benzo (a) Anthracene (56-55-3) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | |
| 6B. Benzo (a) Pyrene (50-32-8) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | |
| 7B. 3,4 – Benzo(a)fluoranthene (205-99-2) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | |
| 8B. Benzo (ghi) Perylene (191-24-2) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | |
| 9B. Benzo (k) Fluoranthene (207-08-9) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | |
| 10B. Bis (2-Chloroethoxy) Methane (111-91-1) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | |
| 11B. Bis (2-Chloroethyl) Ether (111-44-4) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | |
| 12B. Bis (2- Chloroisopropyl) Ether (39638-32-9) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | |
| 13B. Bis (2-Ethylhexyl) Phthalate (117-81-7) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | |
| 14B. 4-Bromophenyl Phenyl Ether (101-55-3) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | |
| 15B. Butyl Benzyl Phthalate (85-68-7) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | |
| 16B. 2- Chloronaphthalene (91-58-7) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | |
| 17B. 4-Chlorophenyl Phenyl Ether (7005-72-3) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | |
| 18B. Chrysene (218-01-9) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | |
| 19B. Dibenzo (a,h) Anthracene (53-70-3) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | |
| 20B. 1,2 – Dichlorobenzene (95-50-1) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | |
| 21B. 1,3 – Dichlorobenzene (541-73-1) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | |

CONTINUED FROM PAGE 5

NPDES # (IF ASSIGNED)

OUTFALL NUMBER

| 1. POLLUTANT AND CAS NUMBER (if available) | 2. MARK "X" | | | 3. EFFLUENT | | | | | | 4. UNITS | | 5. INTAKE (optional) | | | |
|---|-------------------------------------|---------------------------|--------------------------|------------------------|----------|---|----------|---|----------|-----------------------|--------------------------|----------------------|-----------------------------|-------------|----------------------|
| | A. TESTING REQUIRED | B. BELIEVED PRESENT | C. BELIEVED ABSENT | A. MAXIMUM DAILY VALUE | | B. MAXIMUM 30 DAY VALUE (if available) | | C. LONG TERM AVRG. VALUE (if available) | | D. NO. OF ANALYSES | A. CONCEN- TRATION | B. MASS | A. LONG TERM AVRG. VALUE | | B. NO OF ANALYSES |
| | | | | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | (1) CONCENTRATION | (2) MASS | | | | (1) CONCENTRATION | (2) MASS | |
| GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (continued) | | | | | | | | | | | | | | | |
| 22B. 1, 4-Dichlorobenzene (106-46-7) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 23B. 3, 3'-Dichlorobenzidine (91-94-1) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 24B. Diethyl Phthalate (84-66-2) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 25B. Dimethyl Phthalate (131-11-3) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 26B. Di-N-butyl Phthalate (84-74-2) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 27B. 2,4-Dinitrotoluene (121-14-2) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 28B. 2,6-Dinitrotoluene (606-20-2) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 29B. Di-N-Octylphthalate (117-84-0) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 31B. Fluoranthene (206-44-0) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 32B. Fluorene (86-73-7) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 33B. Hexachlorobenzene (87-68-3) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 34B. Hexachlorobutadiene (87-68-3) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 35B. Hexachloro-cyclopentadiene (77-47-4) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 36B. Hexachloroethane (67-72-1) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 37B. Indeno (1,2,3-c-d) Pyrene (193-39-5) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 38B. Isophorone (78-59-1) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 39B. Naphthalene (91-20-3) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 40B. Nitrobenzene (98-95-3) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 41B. N-Nitro-sodimethylamine (62-75-9) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |

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| GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued) | | | | | | | | | | | | | | | |
| 42B. N-Nitroso N-Propylamine (621-64-7) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 43B. N-Nitro- sodiphenylamine (86-30- 6) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 44B. Phenanthrene (85-01-8) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 45B. Pyrene (129-00-0) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 46B. 1,2,4-Tri chlorobenzene (120-82-1) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| GC/MS FRACTION - PESTICIDES | | | | | | | | | | | | | | | |
| 1P. Aldrin (309-00-2) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 2P. α-BHC (319-84-6) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 3P. β-BHC (319-84-6) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 4P. γ-BHC (58-89-9) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 5P. δ-BHC (319-86-8) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 6P. Chlordane (57-74-9) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 7P. 4,4'-DDT (50-29-3) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 8P. 4,4'-DDE (72-55-9) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 9P. 4,4'-DDD (72-54-8) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 10P. Dieldrin (60-57-1) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 11P. α-Endosulfan (115-29-7) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 12P. β-Endosulfan (115-29-7) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 13P. Endosulfan Sulfate (1031-07-8) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 14P. Endrin (72-20-8) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 15P. Endrin Aldehyde (7421-93-4) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |
| 16P. Heptachlor (76-44-8) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | |

NPDES # (IF ASSIGNED)

OUTFALL NUMBER

MO 780-1516 (06-13)

2.00 POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

A. IS ANY POLLUTANT LISTED IN ITEM 1.30 A SUBSTANCE OR A COMPONENT OF A SUBSTANCE WHICH YOU DO OR EXPECT THAT YOU WILL OVER THE NEXT FIVE YEARS USE OR MANUFACTURE AS AN INTERMEDIATE OR FINAL PRODUCT OR BYPRODUCT?

☐ YES (LIST ALL SUCH POLLUTANTS BELOW)

☒ NO (GO TO B)

B. ARE YOUR OPERATIONS SUCH THAT YOUR RAW MATERIALS, PROCESSES OR PRODUCTS CAN REASONABLE BE EXPECTED TO VARY SO THAT YOUR DISCHARGES OF POLLUTANTS MAY DURING THE NEXT FIVE YEARS EXCEED TWO TIMES THE MAXIMUM VALUES REPORTED IN ITEM 1.30?

☐ YES (COMPLETE C BELOW)

☒ NO (GO TO SECTION 3.00)

C. IF YOU ANSWERED "YES" TO ITEM B, EXPLAIN BELOW AND DESCRIBE IN DETAIL THE SOURCES AND EXPECTED LEVELS OF SUCH POLLUTANTS THAT YOU ANTICIPATE WILL BE DISCHARGED FROM EACH OUTFALL OVER THE NEXT FIVE YEARS, TO THE BEST OF YOUR ABILITY AT THIS TIME. CONTINUE ON ADDITIONAL SHEETS IF YOU NEED MORE SPACE.

3.00 CONTRACT ANALYSIS INFORMATION

WERE ANY OF THE ANALYSES REPORTED IN 1.30 PERFORMED BY A CONTRACT LABORATORY OR CONSULTING FIRM?

☐ YES (LIST THE NAME, ADDRESS, AND TELEPHONE NUMBER OF, AND ANALYZED BY, EACH SUCH LABORATORY OR FIRM BELOW)

☐ NO (GO TO SECTION 4.00)

| A. NAME | B. ADDRESS | C. TELEPHONE (area code and number) | D. POLLUTANTS ANALYZED (list) |
|---------|------------|-------------------------------------|-------------------------------|
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4.00 CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

NAME AND OFFICIAL TITLE (TYPE OR PRINT)

MICHAEL CHAPMAN

PHONE NUMBER (AREA CODE AND NUMBER)

443-542-5123

SIGNATURE

Michael Chapman

DATE SIGNED

MAR 4, 2020

NPDES Permit Renewal Application Supplemental Report

March 2020

Contents

| | | |
|-------|---|---|
| 1.0 | Introduction | 1 |
| 2.0 | Supplemental Information and Permit Revisions | 2 |
| 2.1 | Supplemental Information | 2 |
| 2.1.1 | Form A, Item 9.G..... | 2 |
| 2.1.2 | Form C, Item 2.0..... | 2 |
| 2.1.3 | Form C, Item 2.2..... | 2 |
| 2.1.4 | Form C, Item 3.0..... | 2 |
| 2.1.5 | Form D, Table II (Item 1.3)..... | 3 |
| 2.2 | Requested Permit Revisions | 3 |
| 2.2.1 | Remove Outfall 002 | 3 |
| 2.2.2 | Revise pH Monitoring Requirements | 3 |

List of Tables

| | | |
|---------|-----------------------------------|---|
| Table 1 | Outfall 001 DMR Data Summary..... | 3 |
|---------|-----------------------------------|---|

List of Figures

| | |
|----------|------------------|
| Figure 1 | Project Location |
|----------|------------------|

List of Attachments

| | |
|--------------|-------------------------------|
| Attachment A | Facility Process Flow Diagram |
|--------------|-------------------------------|

1.0 Introduction

This document is an addendum to the permit renewal application forms for Dogwood Energy Facility's (Facility) National Pollutant Discharge Elimination System (NPDES) Missouri State Operating Permit (MSOP), MO-0124940. The Facility is located in Pleasant Hill, Missouri. The purpose of this document is to provide supplemental information and request specific revisions to the MSOP with the renewal application, which are included in Section 2.0.

2.0 Supplemental Information and Permit Revisions

This section provides supplemental information for requested permitted revisions and the following Missouri Department of Natural Resources (MDNR) application forms:

- Form A – Application for Nondomestic Permit Under Missouri Clean Water Law, Form No. 780-1479 (Form A);
- Form C – Application for Discharge Permit – Manufacturing, Commercial, Mining, Silviculture Operations, and Stormwater, Form No. 780-1514 (Form C); and
- Form D – Application for Discharge Permit – Primary Industries, Form No. 780-1516 (Form D).

2.1 Supplemental Information

The following section headings below correspond to items on Form A, C, and D.

2.1.1 Form A, Item 9.G

2.0 Attach a map showing all outfalls and the receiving stream at 1" = 2,000' scale.

Figure 1 is a map of the Facility location that shows the Facility outfalls and the receiving stream.

2.1.2 Form C, Item 2.0

2.0 Attach a line drawing showing the water flow through the facility.

Attachment A contains the process flow diagram for the Facility.

2.1.3 Form C, Item 2.2

2.2 Intermittent Discharges

The Facility estimates flows from Outfall 001 using National Weather Service climatic data from Pleasant Hill, Missouri, when discharges from Outfall 001 are only stormwater. This outfall is also permitted for "occasional cooling water discharges"; however, a cooling water discharge has not occurred.

2.1.4 Form C, Item 3.0

3.0 Effluent and Intake Characteristics

As MDNR is aware, Outfall 001 rarely discharges. At the time of this application, Outfall 001 has not discharged since October 10, 2019. Due to this, the Facility has not been able to collect a discharge sample for the unreported, required parameters in Item 3.0, Part A and Item 3.0 Part B. To provide representative data from Outfall 001, the Facility plans to collect a sample and submit the required monitoring data once a discharge event occurs. The Facility will notify MDNR (within 30-days) if Outfall 001 does not discharge by July 1, 2020.

Form C, Item 3.0 and Table 1 below includes data from the Facility's Discharge Monitoring Reports (DMRs) since August 1, 2016, the previous renewal date of the MSOP.

Table 1 Outfall 001 DMR Data Summary

| Parameter | Units | Number of Samples | Average | Minimum | Maximum |
|------------------------------|---------|-------------------|---------|---------|---------|
| Flow | MGD | 5 | 0.54 | 0.27 | 0.79 |
| Oil and Grease | mg/L | 6 | <5.0 | <5.0 | <5.0 |
| pH | SU | 6 | 7.8 | 7.0 | 8.4 |
| Total Suspended Solids (TSS) | mg/L | 6 | 45.2 | 19.0 | 132 |
| Total Settleable Solids | mL/L/hr | 6 | <0.20 | <0.20 | <0.20 |

No discharges have occurred at Permitted Feature 003 since the MSOP was previously renewed on August 1, 2016; Dogwood considers Permitted Feature 003 to be a no-discharge system.

2.1.5 Form D, Table II (Item 1.3)

Table II (1.30) Required Sampling

As MDNR is aware, Outfall 001 rarely discharges. At the time of this application, Outfall 001 has not discharged since October 10, 2019. Due to this, the Facility has not been able to collect a discharge sample for the unreported, required parameters in Item 3.0, Part A and Item 3.0 Part B. To provide representative data from Outfall 001, the Facility plans to collect a sample and submit the required monitoring data once a discharge event occurs. The Facility will notify MDNR (within 30-days) if Outfall 001 does not discharge by July 1, 2020.

2.2 Requested Permit Revisions

The following sections address permit revision requests for the MSOP renewal.

2.2.1 Remove Outfall 002

Outfall 002 does not have exposure to industrial activity and thus, does not have permitting requirements. Because of this, the Facility requests the removal of Outfall 002 from the MSOP.

2.2.2 Revise pH Monitoring Requirements

The pH range in the current MSOP for Outfall 001 and Permitted Feature 003 is listed as 6.5-9.0 SU. The Facility requests that the allowable pH range for these discharges be revised to 6.0 to 9.0 SU, as supported by the following:

- Federal pH effluent limitation guidelines (ELG) range from 6.0 to 9.0 SU for the steam electric power generating point source category (40 CFR 423).

-
- Missouri pH effluent regulations allow a range of 6.0 to 9.0 SU for industrial discharges, per 10 CSR 20 70.15 (9)(I)1.
 - Discharges of Outfall 001 (and Permitted Feature 003, in the unlikely event of a discharge) correspond to precipitation events, during which the flow of the receiving stream increases and provides ample assimilative capacity to protect water quality; therefore, a pH of 6.0 to 9.0 SU in the discharge is appropriate.



PROJECT LOCATION
Dogwood Power
Pleasant Hill, MO

FIGURE 1

