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 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.	MO-0004898
Owner:	Evergy, Inc.
Address:	PO Box 418679, Kansas City, MO 64141
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	Lake Road Generating Station
Facility Address:	1413 Lower Lake Road, St. Joseph, MO 64504
Legal Description:	Buchanan County; See following page
UTM Coordinates:	See following page
Receiving Stream:	See following page
First Classified Stream and ID:	Missouri River (P) WBID# 0226 303(d) List
USGS Basin & Sub-watershed No.:	Roys Branch – Missouri River; 10240011-0103

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

FACILITY DESCRIPTION

Electrical generation and steam supplier; SIC # 4911; NAICS # 221112. This facility does not require a certified wastewater operator. Domestic wastewater is managed by sending to POTW.

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

July 1, 2020
Effective Date

October 1, 2021
Modification Date

Edward B. Galbraith, Director, Division of Environmental Quality

June 30, 2025
Expiration Date

Chris Wieberg, Director, Water Protection Program

FACILITY DESCRIPTION (CONTINUED)

OUTFALL #001 – Wastewater, neutralization if needed
Cooling tower blowdown 0.473 (1.221) MGD
Boiler blowdown 0.083 (0.137) MGD
Evaporative cooler blowdown 0.0130 (.0130) MGD/ 1 day per week, 4 months per year
Softener blowdown 0.036 (0.08) MGD
Sodium Zeolite regeneration 0.0164 (0.035) MGD
Demineralizer regeneration 0.0014 (0.0014) MGD/ 1 day per week, 4 months per year
Condenser & boiler drains 0.0043 (0.0158) MGD/ 1 day per week, 6 months per year
Cooling tower drains 0.2 (0.2) MGD/ 1 day per week, 2 months per year
Evaporative cooler drains 0.0012 (0.0012) MGD/ 1 day per week, 2 months per year
Softener drains 0.08 (0.08) MGD/ 1 day per week, 4 months per year
Wash down water 0.0015 (0.0015) MGD
Fire pump test water 0.0918 (0.0918) MGD/ 1 day per week all months of the year
Storm water runoff 0.0134 (0.706) MGD from 10 acres/ intermittent. BMPs applied to stormwater

Legal Description:	SW ¼, SW ¼, Sec 30, T57N, R35W, Buchanan County
UTM Coordinates:	X = 339035; Y = 4398604
Receiving Stream:	Tributary to Brown's Branch
First Classified Stream and ID:	Missouri River (P) WBID# 0226
Intake:	Missouri River (P) WBID# 0226
Design Flow:	2.58 MGD
Actual Flow:	1.015 MGD.

OUTFALL #01A: Cooling tower blowdown 0.473 (1.221) MGD. Discharges through outfall #001.

OUTFALL #002 – Wastewater
Hot lime softener sludge 0.036 (0.080) MGD
Coal pile and area runoff 0.0396 (1.97) MGD
Wash down water 0.012 (0.144) MGD
Stormwater (intermittent) 35 acres; BMPs applied
All wastewaters undergo settling and retention. Water treatment sludge is retained until removed by hauler.

Legal Description:	SW ¼, SW ¼, Sec 30, T57N, R35W, Buchanan County
UTM Coordinates:	X = 339022, Y = 4398579
Receiving Stream:	Tributary to Brown's Branch
First Classified Stream and ID:	Missouri River (P) WBID# 0226
Design Flow:	2.84 MGD
Actual Flow:	0.309 MGD

OUTFALL #003 – wastewater: once through cooling water 45(158) MGD; circulating water pump seals 0.0115 (0.00115) MGD/ 4 days per week, 7 months per year. Undergoes chlorination treatment. Source for once through cooling is Missouri River, source for circulating water pump seal is potable water from the city.

Legal Description:	SW ¼, NW ¼, Sec 30, T57N, R35W, Buchanan County
UTM Coordinates:	X = 338953, Y = 4399186
Receiving Stream:	Missouri River
First Classified Stream and ID:	Missouri River (P) WBID# 0226
Design Flow	158 MGD
Actual Flow:	45.01 MGD

OUTFALL #03A: 2020 antidegradation added reverse osmosis (RO) reject water 0.3672 (0.3672) MGD; and reverse osmosis (RO) filter backwash 0.36 MGD/ 4 hours of 1 day per week each month. Discharges through outfall #003.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Table A-1 was removed during the 2021 modification.

OUTFALL #001 *blowdown and low volume wastes*	**TABLE A-2** **INTERIM 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. These effluent limitations shall become effective on **October 1, 2021** and remain in effect until **June 30, 2030**. Such discharges shall be controlled, limited, and monitored by the permittee as specified below:

EFFLUENT PARAMETERS	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
LIMIT SET: M						
PHYSICAL						
Flow	MGD	*		*	once/week ⁂	24 hr. total
Temperature	°F	*		*	once/week ⁂	measured
CONVENTIONAL						
Chemical Oxygen Demand	mg/L	*		*	once/month	grab
Oil & Grease	mg/L	20		15	once/month	grab
pH †	SU	6.5 to 9.0		6.5 to 9.0	once/week ⁂	grab
Total Suspended Solids	mg/L	100		30	once/month	grab
METALS						
Copper, Total Recoverable	µg/L	73.9		*	once/month	grab
Iron, Total Recoverable	µg/L	*		*	once/month	grab
NUTRIENTS						
Ammonia as N	mg/L	*		*	once/month	grab
Kjeldahl Nitrogen, Total (TKN)	mg/L	*		*	once/month	grab
Nitrate plus Nitrite	mg/L	*		*	once/month	grab
Phosphorus, Total (TP)	mg/L	*		*	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE AUGUST 28, 2022. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
LIMIT SET: A						
METAL						
Thallium, Total Recoverable ▼	µg/L	*		*	once/year	grab
OTHER						
Whole Effluent Toxicity, Chronic See Special Condition #2	TU_c	*			once/year	grab
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE JANUARY 28, 2021. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

OUTFALL #001 *blowdown and low volume wastes*	**TABLE A-3** **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 **July 1, 2030** 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: M						
PHYSICAL						
Flow	MGD	*		*	once/week ⁂	24 hr. total
Temperature	°F	90		*	once/week ⁂	measured
CONVENTIONAL						
Chemical Oxygen Demand	mg/L	*		*	once/month	grab
Oil & Grease	mg/L	20		15	once/month	grab
pH †	SU	6.5 to 9.0		6.5 to 9.0	once/week ⁂	grab
Total Suspended Solids	mg/L	100		30	once/month	grab
METALS						
Copper, Total Recoverable	µg/L	73.9		*	once/month	grab
Iron, Total Recoverable	µg/L	*		*	once/month	grab
NUTRIENTS						
Ammonia as N	mg/L	*		*	once/month	grab
Kjeldahl Nitrogen, Total (TKN)	mg/L	*		*	once/month	grab
Nitrate plus Nitrite	mg/L	*		*	once/month	grab
Phosphorus, Total (TP)	mg/L	*		*	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE AUGUST 28, 2030 THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
LIMIT SET: A						
METAL						
Thallium, Total Recoverable ▼	µg/L	*		*	once/year	grab
OTHER						
Whole Effluent Toxicity, Chronic See Special Condition #2	TU_c	*			once/year	grab
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE JANUARY 28, 2031. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

OUTFALL #01A *cooling tower blowdown*	**TABLE A-4** **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 **July 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: M						
CONVENTIONAL						
Chlorine, Free Available ‡	µg/L	500		200	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE AUGUST 28, 2020. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

‡ If no chlorine was used in a given sampling period, an actual analysis is not necessary; report the permissive value of "analysis not required". If potable water is used during a sampling period, an actual analysis is required at the time of potable water use.

OUTFALL #002 *coal pile runoff and low volume wastes*	**TABLE A-5** **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 **July 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: M						
PHYSICAL						
Flow	MGD	*		*	once/month	24 hr. total
CONVENTIONAL						
Chemical Oxygen Demand	mg/L	*		*	once/month	grab
Oil & Grease	mg/L	20		15	once/month	grab
pH †	SU	6.0 to 9.0		6.0 to 9.0	once/month	grab
Total Suspended Solids	mg/L	50		30	once/month	grab
NUTRIENTS						
Ammonia as N	mg/L	*		*	once/month	grab
Kjeldahl Nitrogen, Total (TKN)	mg/L	*		*	once/month	grab
Nitrate plus Nitrite as N	mg/L	*		*	once/month	grab
Phosphorus, Total P (TP)	mg/L	*		*	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE AUGUST 28, 2020. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
LIMIT SET: A						
OTHER						
Whole Effluent Toxicity, Chronic See Special Condition #2	TU_c	*			once/year	grab
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE JANUARY 28, 2021. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

* Monitoring and reporting requirement only

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

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

OUTFALL #003 *single pass cooling*	**TABLE A-6** **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 **July 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: M						
PHYSICAL						
Effluent Flow (Q_e)	MGD & cfs	*		*	daily	24 hr. total & instantaneous
Effluent Temperature (T_e)	°F	*		*	daily	measured
Stream Flow (Q_s) (instream)	cfs	*		*	daily	measured
Stream Temperature (T_s), (background)	°F	*		*	daily	measured
Temperature: T_{emz} (downstream)	°F	90		*	daily	calculation
Temperature Change: ΔT	°F	5		*	daily	calculation
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE AUGUST 28, 2020. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

Qe: the facility will report the measured flow at outfall #003, the facility will report the total flow for the day in MGD, and the instantaneous flow for cfs.

Te: the facility will report the actual discharge temperature at outfall #003.

Qs: the facility will record the instantaneous stream flow at a nearby gaging station.

Ts: the facility may measure stream temperature at the intake(s) or record the temperature from an upstream, nearby, gaging station

To calculate the temperature of the stream at the edge of the mixing zone, the facility will use the following T_{emz} equation:

$$T_{emz} = [((Q_s/4)T_s + Q_eT_e) / ((Q_s/4) + Q_e))]$$

Where:

- T_{emz} the temperature of the receiving stream at the edge of the thermal mixing zone
- $Q_s/4$ the receiving stream flow in cfs divided by 4
- Q_e effluent flow in cfs
- T_s measured stream temperature
- T_e measured temperature of effluent

To calculate the change in temperature at the edge of the mixing zone, the facility will use the following ΔT equation:

$$\Delta T = [((Q_s/4)T_s + Q_eT_e) / ((Q_s/4) + Q_e)] - T_s$$

Where:

- ΔT the change in temperature in °F at the edge of the thermal mixing zone
- $Q_s/4$ the receiving stream flow in cfs divided by 4
- Q_e effluent flow in cfs
- T_s measured stream temperature
- T_e measured temperature of effluent

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

PERMITTED FEATURE #03A *reverse osmosis system*	**TABLE A-7** **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 **July 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: M						
PHYSICAL						
Flow	MGD	*		*	once/month	24 hr. total
CONVENTIONAL						
Oil & Grease	mg/L	15		10	once/month	grab
pH †	SU	6.0 to 9.0		6.0 to 9.0	once/month	grab
Total Suspended Solids	mg/L	100		30	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE AUGUST 28, 2020. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
LIMIT SET: Q						
METAL						
Iron, Total Recoverable	mg/L	*		*	once/quarter ◊	grab
OTHER						
Chloride	mg/L	*		*	once/quarter ◊	grab
Sulfate	mg/L	*		*	once/quarter ◊	grab
Chloride plus Sulfate	mg/L	*		*	once/quarter ◊	grab
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE OCTOBER 28, 2020. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

* Monitoring and reporting requirement only

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

◊ Quarterly sampling

MINIMUM QUARTERLY SAMPLING REQUIREMENTS			
QUARTER	**MONTHS**	**QUARTERLY EFFLUENT PARAMETERS**	**REPORT IS DUE**
First	January, February, March	Sample at least once during any month of the quarter	April 28th
Second	April, May, June	Sample at least once during any month of the quarter	July 28th
Third	July, August, September	Sample at least once during any month of the quarter	October 28th
Fourth	October, November, December	Sample at least once during any month of the quarter	January 28th

B. SCHEDULE OF COMPLIANCE

Schedules of compliance are allowed per 40 CFR 122.47 and 10 CSR 20-7.031(11). The facility shall attain compliance with final effluent limitations established in this permit as soon as reasonably achievable:

1. Within six months of the effective date of this permit, the permittee shall report progress made in attaining compliance with the final effluent limits.

2. The permittee shall submit interim progress reports detailing progress made in attaining compliance with the final effluent limits every 12 months from effective date. The first report is due by July 1, 2021.

3. *Removed outfall #001 copper SOC at 2021 modification.*

4. Within 10 years of the effective date of this permit, the permittee shall attain compliance with the final effluent limits at outfall #001 for temperature.

5. All permittees using the eDMR system must submit all reports via the electronic reporting system.

C. STANDARD CONDITIONS

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

D. SPECIAL CONDITIONS

1. Impingement and Entrainment
   (a) In accordance with 125.98(b)(2), this permit requires implementation of Best Technology Available (BTA) requirements to prevent impingement mortality per 40 CFR 125 Subpart J.. The following shall be completed by the timeframes listed below or as soon as practicable in accordance with 40 CFR 125.98(c): Operational measures shall be implemented in accordance with 40 CFR 125.92(w) as necessary to minimize impingement of all stages of aquatic life.
   (b) An annual report is due to the department on February 28th of each year for the calendar year term of the permit ending December 31; which must include a
      i. Annual Certification Report in accordance with 40 CFR 125.97(c) to fulfil department requirements at 40 CFR 125.98(k).
      ii. Status update for items under (c). in this section; including operational status after implementation.
   (c) 180 days prior to permit expiration, the following are due to the Department with the application for renewal materials.
      i. Cooling water intake structure data as required by 40 CFR 122.21(r)(3)(iii)
      ii. Cooling water system data as required by 40 CFR 122.21(r)(5)(i), (ii), and (iii)
      iii. Chosen method of compliance with impingement mortality standard as required by 40 CFR 122.21(r)(6) et seq.
      iv. Provide any and all communications with the United States Fish and Wildlife Services or Missouri Department of Conservation, and any other communications regarding the aquatic organisms at the site with any state or federal agency in compliance with 40 CFR 122.21(r)(1)(ii)(C) and 40 CFR 122.21(r)(1)(ii)(H).
   (d) Entrainment characterization shall be completed if the actual intake ever rises above 125 MGD. Currently the Best Technology Available (BTA) for entrainment is flow below 125 MGD for this facility.
   (e) *Added during the 2021 modification.*
   The facility may provide the utilization hours for Unit 4/6 pursuant to 40 CFR 125.94(c)(12). If the utilization hours are below 8% of the preceding 24 month rolling average, special condition 1 (c) i, ii, and iii, are excused at the next renewal. At this time, the impingement BTA determination is low utilization of Unit 4/6 and a BTA decision for the intake for the impingement mortality standard is no upgrade of technology is currently required.

D. SPECIAL CONDITIONS (CONTINUED)

2. Chronic Whole Effluent Toxicity (WET) Test shall be conducted as follows:
   (a) Freshwater Species and Test Methods: Species and short-term test methods for estimating the chronic toxicity of NPDES effluents are found in the most recent edition of *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA/821/R-02/013; Table IA, 40 CFR Part 136).* The permittee shall concurrently conduct 7-day, static renewal toxicity tests with the following species:
      - The fathead minnow, *Pimephales promelas* (Survival and Growth Test Method 1000.0).
      - The daphnid, *Ceriodaphnia dubia* (Survival and Reproduction Test Method 1002.0).
   (b) Chemical and physical analysis of the upstream control sample and effluent sample shall occur immediately upon being received by the laboratory, prior to any manipulation of the effluent sample beyond preservation methods consistent with federal guidelines for WET testing that are required to stabilize the sample during shipping. Where upstream receiving water is not available or known to be toxic, other approved control water may be used.
   (c) Test conditions must meet all test acceptability criteria required by the EPA Method used in the analysis.
   (d) The laboratory shall not chemically dechlorinate the sample.
   (e) The Allowable Effluent Concentration (AEC) is 100%, the dilution series is: 100%, 50%, 25%, 12.5%, and 6.25%.
   (f) All chemical and physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% effluent concentration.
   (g) The facility must submit a full laboratory report for all toxicity testing. The report must include a quantification of chronic toxic units ($TU_c = 100/IC_{25}$) reported according to the *Methods for Measuring the Chronic Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* chapter on report preparation and test review. The 25 percent Inhibition Effect Concentration (IC_{25}) is the toxic or effluent concentration that would cause 25 percent reduction in mean young per female or in growth for the test populations.

3. Single-Pass Cooling Effluent Limits.
   This facility shall not use chlorine or bromine disinfectants in any system discharging to outfall #003 instead of technology limitations per 40 CFR 423.12(b)(6) for single pass cooling.

4. Cooling Towers; 126 priority pollutants.
   40 CFR 423.13(d)(1): The facility shall not utilize cooling tower maintenance chemicals containing any of the 126 priority pollutants (listed in Appendix A of 40 CFR 423 and incorporated by reference including all updates) in any detectable amount with the exception of chromium and zinc. Total recoverable chromium and zinc may be used in cooling tower maintenance chemicals and must be monitored in cooling tower blowdown discharge. The daily maximum and monthly average limit for chromium is 200 µg/L, and the daily maximum and monthly average limit for zinc is 1000 µg/L. The facility will submit the analytical data and attach a report detailing the findings of this special condition annually. The attached report must include the laboratory's detection limit of each pollutant and a copy of the quality check report included with the laboratory narrative. The facility will directly sample a discharge from the cooling towers during a blowdown event prior to mixing with any other effluent.

   Alternatively, the facility may certify priority pollutants (except for Cr and Zn) are not utilized in cooling tower maintenance chemicals by attaching/uploading a narrative explaining the determination. The facility must sample for total recoverable chromium and total recoverable zinc annually and attach the analytical results to the DMR due January 28th of each year for the previous calendar year. A separate test is required for each cooling tower bank.

5. Cooling Towers; Chlorine.
   40 CFR 423.13(d)(2): Neither free available chlorine [or bromine] nor total residual chlorine [or bromine] may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge free available or total residual chlorine [or bromine] at any one time unless the utility can demonstrate to the [state] the units in a particular location cannot operate at or below this level of chlorination.

6. 40 CFR 423.13(a): There shall be no discharge of polychlorinated biphenyl compounds (PCBs) such as those commonly [historically] used for transformer fluid.

7. 40 CFR 423.13(h) and (k): The facility shall not discharge either fly ash or bottom ash transport wastewater upon permit issuance.

8. 40 CFR 423.13(g): The facility shall not discharge flue gas desulphurization wastewater upon permit issuance.

9. 40 CFR 423.13(i): The facility shall not discharge flue gas mercury control wastewater upon permit issuance.

10. The facility shall not discharge chemical metal cleaning wastes [40 CFR 423.13(e)] to waters of the state.

D. SPECIAL CONDITIONS (CONTINUED)

11. 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.

12. 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) Schedule of Compliance Progress Reports;
        (2) Whole Effluent Toxicity (WET) Reports;
        (3) CWA Section 316(b) Annual Reports; and
        (4) 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.
    (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.

13. 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) which must be prepared and implemented 90 days from 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) 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 deficiency of a BMP means it was not effective 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.
        i. Operational deficiencies must be corrected within seven (7) calendar days.
        ii. Minor structural deficiencies must be corrected within fourteen (14) calendar days.
        iii. Major structural deficiencies (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

D. SPECIAL CONDITIONS (CONTINUED)

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.

iv. 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.

v. BMP failure causing discharge through an unregistered outfall is considered an illicit discharge and must be reported in accordance with Standard Conditions Part I.

vi. Inspection reports must be kept on site with the SWPPP and maintained for a period of five (5) 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.

14. 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 surface water intrusion into the wastewater storage basin, to divert stormwater runoff around the wastewater storage basin, 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.

15. Petroleum Secondary Containment.
   Before releasing water accumulated in petroleum secondary containment areas, it must be examined for hydrocarbon odor and presence of sheen to protect the general criteria found at 10 CSR 20-7.031(4).
   (a) If odor or sheen is found, the water shall not be discharged without treatment and shall be disposed of in accordance with legally approved methods, such as being sent to an accepting wastewater treatment facility.
   (b) If the facility wishes to discharge the accumulated stormwater with hydrocarbon odor or presence of sheen, the water shall be treated using an appropriate removal method. Following treatment and before release, the water shall be tested for oil and grease, benzene, toluene, ethylbenzene, and xylene using 40 CFR part 136 methods. All pollutant levels must be below the most protective, applicable standards for the receiving stream, found in 10 CSR 20-7.031 Table A before discharge is authorized. Records of all testing and treatment of water accumulated in secondary containment shall be available on demand to the Department. Electronic records retention is acceptable.

16. 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.

17. All outfalls and permitted features must be clearly marked in the field. The facility is afforded 90 days from permit effective date to place a sign for permitted feature #03A.

D. SPECIAL CONDITIONS (CONTINUED)

18. 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.

19. Changes in Discharges of Toxic Pollutant.
In addition to the reporting requirements under 40 CFR 122.41(1), all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:
    (a) That an activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following notification levels:
        (1) One hundred micrograms per liter (100 µg/L);
        (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile;
        (3) Five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol;
        (4) One milligram per liter (1 mg/L) for antimony;
        (5) Five (5) times the maximum concentration value reported for the pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
        (6) The notification level established by the Department in accordance with 40 CFR 122.44(f).
    (b) That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
        (1) Five hundred micrograms per liter (500 µg/l);
        (2) One milligram per liter (1 mg/l) for antimony;
        (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7).
        (4) The level established by the Director in accordance with 40 CFR 122.44(f).

20. Reporting of Non-Detects.
    (a) An analysis conducted by the permittee or their contracted laboratory shall be conducted in such a way the precision and accuracy of the analyzed result can be enumerated.
    (b) The permittee shall not report a sample result as "non-detect" without also reporting the detection limit of the test or the reporting limit of the laboratory. Reporting as "non-detect" without also including the detection/reporting limit will be considered failure to report, which is a violation of this permit.
    (c) The permittee shall report the non-detect result using the less than "<" symbol and the laboratory's detection/reporting limit (e.g. <6).
    (d) See sufficiently sensitive method requirements in Standard Conditions Part I, Section A, #4 regarding proper detection limits used for sample analysis.
    (e) When calculating monthly averages, one-half of the minimum detection limit (MDL) should be used instead of a zero. Where all data are below the MDL, the "<MDL" shall be reported as indicated in item (C).

21. Failure to pay fees associated with this permit is a violation of the Missouri Clean Water Law (644.055 RSMo).

22. This permit does not cover land disturbance activities.

23. 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 is required.

24. 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, Form C, and Form D. If the form names have changed, then the facility should assure 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.

E. 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
MODIFICATION STATEMENT OF BASIS FOR
MO-0004898
LAKE ROAD GENERATING STATION

This Statement of Basis (Statement) gives pertinent information regarding modification(s) to the above listed operating permit. A Statement is not an enforceable part of a Missouri State Operating Permit. Changes found here supersede previous fact sheet determinations. The permit was revised as appropriate to reflect changes enumerated in this modification.

PART I. FACILITY INFORMATION

The facility's basic information has not changed; see original fact sheet. All changes listed in the statement of basis supersede the original 2020 fact sheet.

PART II. MODIFICATION RATIONALE

ITEM A.

The facility completed a hardness study of Brown's Branch, the receiving stream for outfall #001. Brown's branch is unclassified so receives only acute water quality requirements. The facility requested copper limits be re-calculated utilizing the hardness of Brown's branch instead of the eco-regional hardness of 240 mg/L. The average (50^{th} percentile) of the hardness data collected by the facility over a period of about two months indicate 630 mg/L is the appropriate value to use for the stream hardness.
Acute AQL: e^(0.9422 * ln630 – 1.700300) * (0.960) = 76.099 µg/L [at hardness 630]
Chronic AQL: e^(0.8545 * ln630 – 1.702) * (0.960) = 43.166 µg/L [at hardness 630]
TR Conversion: AQL/Translator = 76.099 / 0.96 = 79.27 [at hardness 630]
TR Conversion: AQL/Translator = 43.166 / 0.96 = 44.964 [at hardness 630]
LTAa: WLAa * LTAa multiplier = 79.27 * 0.321 = 25.452 [CV: 0.6, 99th %ile]
LTAc: WLAc * LTAc multiplier = 44.964 * 0.527 = 23.716 [CV: 0.6, 99th %ile]
use most protective LTA: 23.716
Daily Maximum: MDL = LTA * MDL multiplier = 23.716 * 3.114 = 73.9 µg/L [CV: 0.6, 99th %ile]

These new limits were compared against the requirements for the Missouri River. If the facility was discharging directly into the Missouri River, the monthly average limits would be 175 µg/L therefore the new effluent limits are also protective of downstream as required by 10 CSR 20-7.031(4)(E).

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.

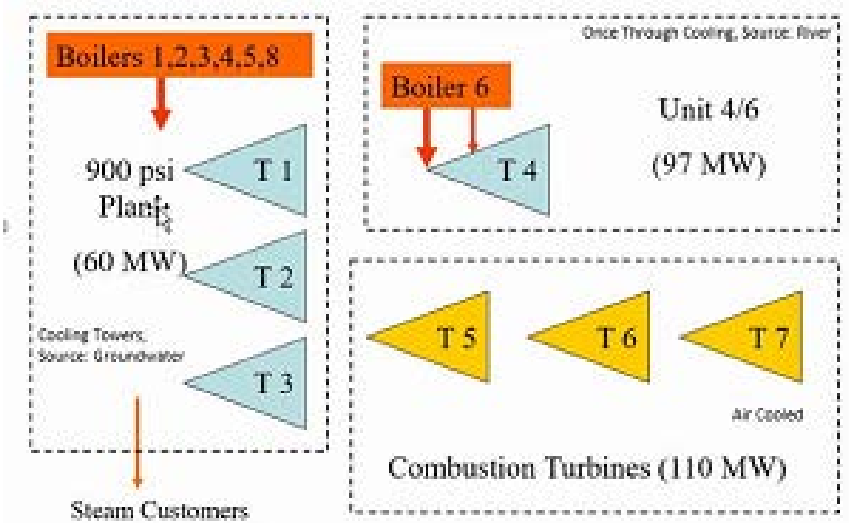
- ✓ Limitations in this operating permit for the reissuance conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 CFR Part 122.44.
  - ✓ Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) which would have justified the application of a less stringent effluent limitation.
    - The hardness of the receiving stream was evaluated; and determined to be higher than the standard ecoregion. By increasing the hardness, the limits for copper increased. The new limit was evaluated and determined to be protective of the receiving stream and downstream.

ITEM B.

The facility stated the Lake Road Generating Station has a cooling water intake structure on the Missouri River. The intake structure is utilized for cooling water of the Lake Road Unit 4/6. The operating hours of Unit 4/6 have significantly been reduced since 2016. Therefore, as of April 2018, this unit has an annual average capacity utilization rate of less than 8% averaged over a 24-month contiguous block as noted in 125.94(c)(12). Due to this, Evergy is requesting a modification within the current permit to reflect the flexibility that is allowed for low capacity utilization power generation units. The facility supplied the operating hours along with the summarized utilization rates associated with Lake Road's Unit 4/6. Unit 4/6 is one unit; boiler 6 fires turbine 4.

After review, the permit writer added the allowance to use a modified application requirement pursuant to 40 CFR 122.25(c)(12); which added item (c)(12) under this section. Item (12) indicates: If an existing facility has a cooling water intake structure used for one or more existing electric generating units, each with an annual average capacity utilization rate of less than 8 percent averaged over a 24-month block contiguous period, the owner or operator may request the Director consider less stringent requirements for impingement mortality for that cooling water intake structure. The Director may, based on review of site-specific data concerning

cooling water system data under 40 CFR 122.21(r)(5), establish the BTA standards for impingement mortality for that cooling water intake structure that are less stringent than paragraphs (c)(1) through (7) of this section.



Special condition #1 was edited to add section (e). See available allowance for low utilization units. The permit writer made an alternative BTA finding that no cooling water intake impingement upgrades are required at this time under the low utilization allowance.

Special Condition #1 (e), the BTA is now listed as low utilization of unit 4/6. The technology performance optimization study is only required if the chosen BTA is 125.94(c) 5 or 6. With the current BTA determined to be low utilization, this study would not be implemented prior to the next renewal. If at the next renewal the facility is >8% utilization, the way special condition #1 (e) is currently written, this study would have to be completed which would assume that 125.94(c) 5 or 6 was determined BTA and fully implemented within the next six months. The facility does not expect to be >8% however, until 2024 occurs, it cannot be assured. Therefore, the optimization study is removed until a differing BTA determination is made and implemented; to ensure that the optimization study is only completed if it is required.

POINT OF CLARIFICATION.

In an email response to the discussion 7/15/2020, the below is the Water Protection Program's position and interpretation of the sampling requirements in the reissued July 1, 2020 permit for outfalls #003 and #03A. In the facility description, outfall #003 does not include the wastewater from #03A from the reverse osmosis (RO) reject wastewater system, even though it is understood that the wastewater from outfall #03A flows to water of the state passively through outfall #003. Because the facility description does not include RO wastewater under outfall #003, a discharge of only reverse osmosis wastewater through outfall #003 is merely a conduit utilized by outfall #03A. The listed sampling requirements (flow and temperature) for outfall #003 are thereby disregarded when once-through cooling or the circulating water pump is not discharging. All applicable parameters for the RO system are implemented on outfall #03A. The facility is only required to sample at outfall #003 when discharging the specified wastewaters listed in the facility description for outfall #003 through that outfall. The facility may not discharge any other wastewater types not specifically authorized under the outfall, while still recognizing that RO wastewater is comingled with cooling wastewater during standard operations. Under this interpretation, is it plausible the facility may report data for outfall #03A, and may report "no discharge" for outfall #003. In this instance, outfall #003 is simply an outlet location for #03A.

No other changes were made.

PART III. ADMINISTRATIVE REQUIREMENTS

On the basis of preliminary staff review, and utilizing current applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue this permit subject to specified effluent limitations, schedules, and special conditions. The changes contained herein require a public notice comment period per 10 CSR 20-6.020. The proposed determinations are tentative pending public comment.

PUBLIC NOTICE:
The Department shall give public notice that a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in and 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 starts August 13, 2021 and ends September 13, 2021. No comments were received.

DATE OF FACT SHEET: AUGUST 2, 2021

COMPLETED BY:
PAM HACKLER, ENVIRONMENTAL SCIENTIST
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION - INDUSTRIAL UNIT
(573) 526-3386
pam.hackler@dnr.mo.gov

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
MO-0004898
LAKE ROAD GENERATING STATION

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: Major, Primary, Categorical; >1 MGD
SIC Code(s):	4911
NAICS Code(s):	221112
Application Date:	12/18/2007 (original); 08/12/2019 (updated forms A, C, D); 11/01/2019 (ownership transfer); 09/23/2019 (antidegradation); 10/13/2019 (revised antideg application)
Expiration Date:	06/12/2008
Last Inspection:	01/23/2008

FACILITY DESCRIPTION:
Lake Road Generating Station (facility) is located on the left bank of the Missouri River at River Mile 445 on the south side of St. Joseph, Missouri. The east is bounded by SW Lower Lake Road, the southwest is bounded by Browns Branch, and the west is bounded by the Missouri River. The north is bounded by Ag Processing, Inc. property. The net generating capacity is 96.8 megawatts (MW) for this facility.

The river intake has two 7-foot wide, 3/8-inch mesh traveling screens. At low water depth, the through-screen velocity is estimated to be 2.8 feet per second (fps). Once-through (single pass) condenser cooling water is withdrawn from the Missouri River at a design rate of 158.41 million gallons per day (MGD) making this facility subject to CWA§ 316(b); 100% of the water withdrawn is used for cooling. The turbine generator uses natural gas to generate electricity, labeled as No. 4 turbine, and discharges to outfall #003.

This facility has one coal-fired, steam electric unit and utilizes well water for the cooling towers which discharge to outfall #001. The five boilers are operated to supply steam for city customers.

The charter number for the continuing authority for this facility is 001371758; 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 the ownership transfer application. The facility submitted a permit ownership transfer form on November 1, 2019.

In accordance with 40 CFR 122.21(f)(6), the permittee reported other permits currently held by this facility. This facility has the following permits: air permit Part 70 Title V, OP2017-046; acid rain program title IV air permit, ORIS code 2098. Air pollution controls consist of NOx control; wastewater is not generated from this device. Waste permit for fly ash landfill – MOID 0702101, landfill was closed 7/5/2000 although the permit remains effective for post-closure care.

PERMITTED FEATURES TABLE:

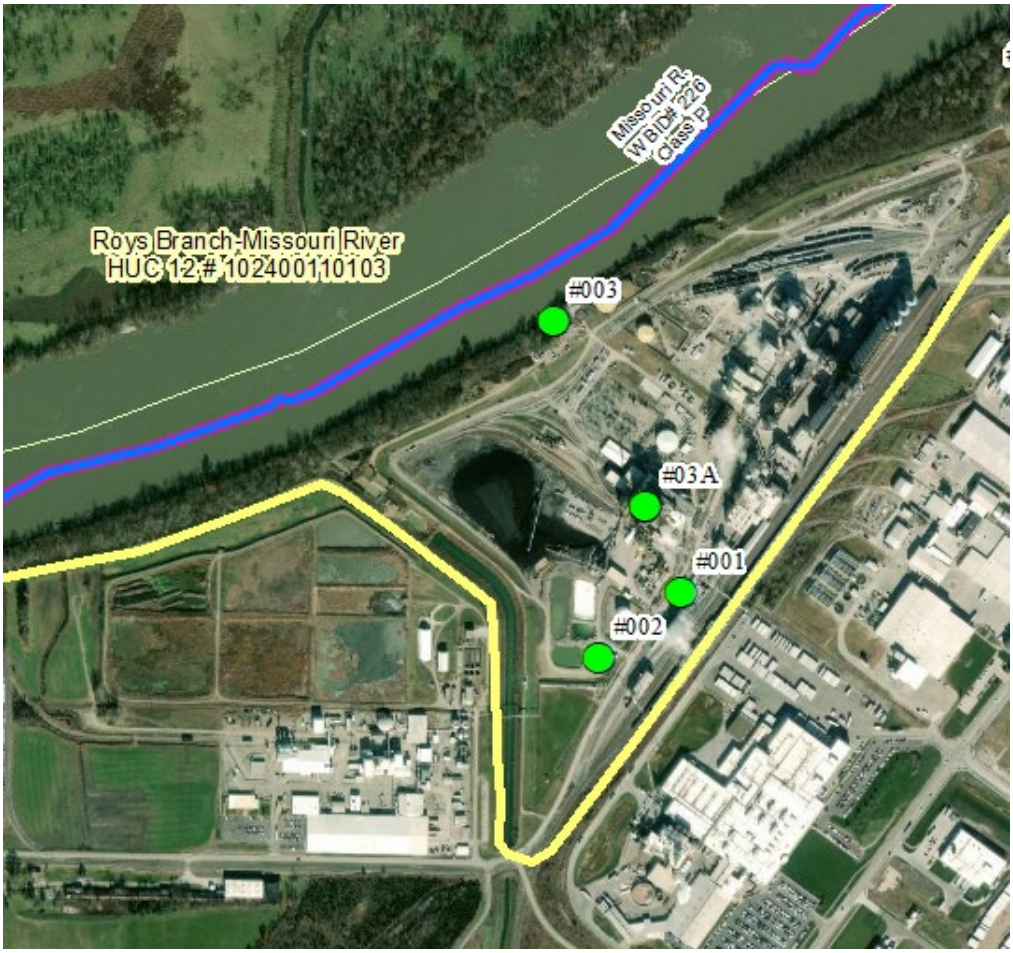
OUTFALL	AVERAGE FLOW	DESIGN FLOW	TREATMENT LEVEL	EFFLUENT TYPE
#001	1.015 MGD	2.58 MGD	neutralization, BMPs applied to stormwater	wastewater, see page 2 of the permit

Outfall	Average Flow	Design Flow	Treatment Level	Effluent type
#002	0.309 MGD	2.84 MGD	settling/retention	wastewater, see page 2 of the permit
#003	45.01 MGD	158 MGD	none	wastewater, see page 2 of the permit

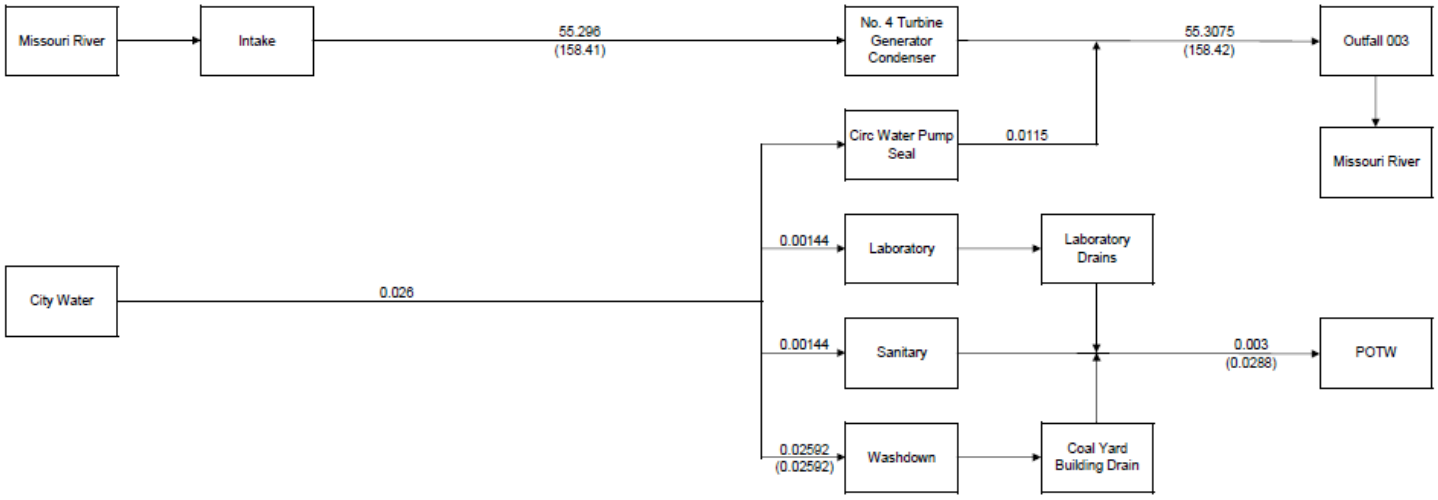
Facility Performance History & Comments:
The electronic discharge monitoring reports were reviewed for the last five years; no exceedances were noted. The facility historically land applied spent water treatment solids; this is no longer the practice and the treatment solids are now sent to a company utility waste landfill. The facility no longer sluices ash; coal ash is sent off for beneficial use or sent to a company utility waste landfill.

The 2008 inspection found no negative operating issues.

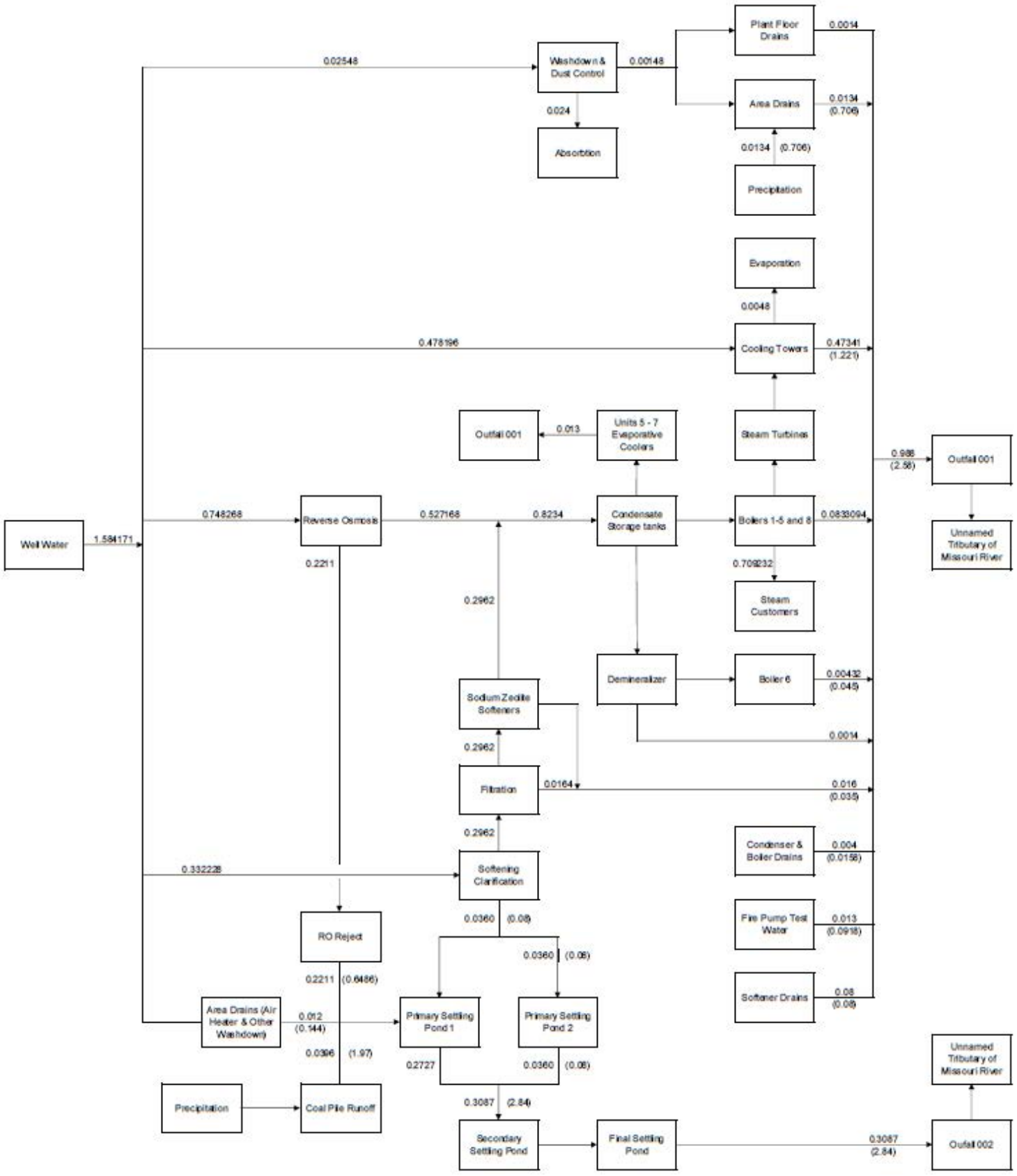
Facility Map:



WATER BALANCE DIAGRAM:



WATER BALANCE DIAGRAM (CONTINUED):



PART II. RECEIVING WATERBODY INFORMATION

RECEIVING WATERBODY'S WATER QUALITY:
The USGS has data available for this stream.

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; The Missouri River is listed on the Missouri 303(d) list for E. coli. This facility is not considered a source of the above listed pollutant(s) or 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; the Missouri River is associated with the 2006 EPA approved TMDL for chlordane and PCBs. Facilities have phased out the use of PCBs in transformers; this facility is not a contributor to this impairment at this time.

UPSTREAM OR DOWNSTREAM IMPAIRMENTS:
The permit writer has reviewed upstream and downstream stream segments of this facility for impairments.

✓ The permit writer has noted upstream and downstream of the facility the stream is on the 303(d) list and has a TMDL. Per 10 CSR 20-7.031(4)(E), the permit conditions were evaluated to account for these impairments.

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:
Per Missouri's Effluent Regulations [10 CSR 20-7.015(1)(B)], waters of the state are divided into seven categories. This facility is subject to effluent limitations derived on a site specific basis which are presented in each outfall's effluent limitation table and further discussed in Part IV: Effluents Limits Determinations.

✓ Missouri or Mississippi River
✓ All Other Waters

RECEIVING WATERBODY TABLE:

OUTFALL	WATERBODY NAME	CLASS	WBID	DESIGNATED USES	DISTANCE TO SEGMENT	12-DIGIT HUC
#001 and #002	Tributary to Missouri River, locally known as Brown's Branch	n/a	n/a	GEN (ALP, HHP, LWP)	0.0 mi	Roys Branch – Missouri River 10240011-0103
#003	Missouri River	P	0226	DWS, GEN, HHP, IND, IRR, LWW, SCR, WBC-B, WWH (ALP)	0.0 mi	

n/a not applicable

Classes are hydrologic classes 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.

Per 10 CSR 20-7.031, the Department defines the Clean Water Commission's water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and 1st classified receiving stream's beneficial water uses are to be maintained in the receiving streams in accordance with [10 CSR 20-7.031(1)(C)]. Uses which may be found in the receiving streams table, above:

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-A2 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 supported 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
IND = industrial water supply

10 CSR 20-7.031(1)(C)8-11.: 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

RECEIVING WATERBODY MONITORING REQUIREMENTS:
No receiving water monitoring requirements are recommended at this time.

MIXING CONSIDERATIONS FOR OUTFALL #003 ONLY:

RECEIVING STREAM LOW-FLOW VALUES:

OUTFALL	RECEIVING STREAM	LOW-FLOW VALUES (CFS)				
		GAGING STATION	1Q10	7Q10	30Q10	60Q10
#001 & #002	Mississippi River	06818000 St. Joseph, MO	15,504	16,921	18,422	n/a

Data were obtained for the last 20 years and were calculated using a Department-developed spreadsheet (available upon request).

MIXING CONSIDERATIONS TABLE: MISSISSIPPI RIVER

MIXING ZONE (CFS) (CHRONIC) [10 CSR 20-7.031(5)(A)5.A.4.B.(III)(a)]				ZONE OF INITIAL DILUTION (CFS) (ACUTE) [10 CSR 20-7.031(5)(A)4.B.(III)(b)]			
1Q10	7Q10	30Q10	60Q10	1Q10	7Q10	30Q10	60Q10
3,876 cfs	4230.25 cfs	4,605.5 cfs	n/a	387.6 cfs	423 cfs	460.55 cfs	n/a

THERMAL MIXING CONSIDERATIONS:
This facility has thermal discharge limitations. See outfall #003 for thermal limitations and derivation.

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 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.

✓ Limitations in this operating permit for the reissuance conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 CFR Part 122.44.
- ✓ Material and substantial alterations or additions to the permitted facility occurred after permit issuance justify the application of a less stringent effluent limitation.
  - The facility has indicated chlorine is not used on the single pass cooling system serving outfall #003. The ELG chlorine monitoring requirement was removed and a special condition was used instead to control for the chlorine requirement. The facility is currently not authorized to use any biocides (including bromine-based) on the single pass cooling system at outfall #003.
- ✓ Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) which would have justified the application of a less stringent effluent limitation.
  - Land application requirements were removed, this permit no longer authorizes this activity.

- ✓ The Department determined technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b).
  - 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 all outfalls, there is no RP for unsightly or harmful bottom deposits preventing full maintenance of beneficial uses because nothing disclosed by the permittee indicates unsightly or harmful bottom deposits would be discharged from the facility.

    (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 all outfalls, there is no RP for oil in sufficient amounts to be unsightly preventing full maintenance of beneficial uses because nothing disclosed by the permittee indicates oil will be present in sufficient amounts to impair beneficial uses.
      - 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 all outfalls, there is no RP for unsightly color or turbidity in sufficient amounts preventing full maintenance of beneficial uses because nothing disclosed by the permittee indicates unsightly color or turbidity will be present in sufficient amounts to impair beneficial uses.
      - 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.
      - The water temperature discharges from outfalls #001 and #003 have the potential to negatively impact the physical changes in the stream. These physical changes could impair the natural biological community.

- It has been established any 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.

▪ The previous permit special condition stated: "Any pesticide discharge from any point source shall comply with the requirements of Federal Insecticide, Fungicide and Rodenticide Act, as amended (7 U.S.C. 136 et. seq.) and the use of such pesticides shall be in a manner consistent with its label."
The permit writer has determined this special condition was outside the scope of NPDES permitting and was removed.

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

✓ Applicable; new, altered, or expanded process water discharge, please see PART VI – ANTIDEGRADATION ANALYSIS. This permit will be issued in accordance with the requirements of the antidegradation review. The limits imposed on outfall #03A are established in accordance with the implementation procedures of the antidegradation review.

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. While no stormwater-only outfalls exist, this facility's stormwater is classified under 40 CFR 122.26(b)(14)(vii) as having stormwater associated with industrial activity and must be controlled appropriately.

BEST MANAGEMENT PRACTICES:
Minimum site-wide best management practices are established in this permit to assure 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).

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 facility is not currently under Water Protection Program enforcement action.

COOLING WATER INTAKE STRUCTURE; CWA § 316(b):
Clean Water Act (CWA) Section 316(b) applies to new or existing facilities operating a cooling water intake structure (CWIS). Section 316(b) requires location, design, construction, and capacity of CWISs reflect the best technology available (BTA) for minimizing adverse environmental impacts (AEI). Under current regulations, existing facilities are subject to CWA 316(b) conditions reflecting BTA for minimizing impingement (and entrainment if over 125 MGD) and on a case-by-case, best professional judgment (BPJ) basis. The Federal Water Pollution Control Act Amendments of 1972 require cooling water intake structures to reflect the best technology available for minimizing adverse environmental impact. Best technology available must consider intake design, location, construction, and capacity. The EPA has finalized the 316(b) standards and they became effective on October 16, 2014 (http://water.epa.gov/lawsregs/lawsguidance/cwa/316b/index.cfm).This facility's intake structure has not been classified or well documented for the water protection program. Data will be provided at the next application when a renewal is due.

DOMESTIC WASTEWATER, SLUDGE, AND BIOSOLIDS:
Domestic wastewater is defined as wastewater originating primarily from the sanitary conveyances of bathrooms and kitchens. Domestic wastewater excludes stormwater, animal waste, process waste, and other similar waste.
✓ Not applicable; this facility discharges domestic wastewater to an off-site permitted wastewater treatment facility (POTW).

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).
✓ Not applicable; the facility does not manage domestic wastewater on-site.

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 Effluent Limit Guideline (ELG) at 40 CFR 4423 applicable to the wastewater and certain stormwater discharge at this site, and is applied under 40 CFR 125.3(a). Should Reasonable Potential be established for any particular parameter, and water-quality derived effluent limits are more protective of the receiving water's quality, the WQS will be used as the limiting factor in accordance with 40 CFR 122.44(d) and 10 CSR 20-7.015(9)(A). See Part IV: EFFLUENT LIMITS DETERMINATION and special conditions.

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 assure 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. There is no permanent storage or disposal of coal combustion residuals for this facility. Groundwater monitoring is occurring under the solid waste program for a historical landfill permitted under the solid waste 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 Statues Chapter 256.400 Geology, Water Resources and Geodetic Survey Section). https://dnr.mo.gov/pubs/pub2236.htm

✓ Applicable; this facility is a major water user and is registered with the state.

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.

✓ Not applicable; the permittee has not disclosed the use of any oil water separators they wish to include under the NPDES permit at this facility at this time and therefore oil water separator tanks are not authorized by this permit. In an email dated 1/14/2020, the facility representative indicated they may install one in the future.

PRETREATMENT:

This permit does not regulate pretreatment requirements for facilities discharging to an accepting permitted wastewater treatment facility. If applicable, the receiving entity (the publically owned treatment works – POTW) is to assure 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.

✓ Applicable; an RPA was conducted on appropriate parameters and was conducted as per (TSD Section 3.3.2). A more detailed version including calculations of this RPA is available upon request. See Wasteload Allocations (WLA) for Limits in this section.

Outfall #001:

Parameter:	Units	CMC Acute	CCC Chronic	Listing	Daily Max	Monthly Average	n#	CV	n Max	MF	RWC Acute	RWC Chronic	RP
Copper, TR	µg/L	31.93	19.71	AQL	31.93	15.92	1	0.600	120	13.19	1583.32	1583.32	Yes
Iron, TR	µg/L	n/a	1000	AQL	1642.67	818.80	1	0.600	3740	13.19	49346.81	49346.81	Yes

Units are (µg/L) unless otherwise noted.
n/a Not Applicable
n number of samples; if the number of samples is 10 or greater, then the CV value must be used in the WQBEL for the applicable constituent.
CV Coefficient of Variation (CV) is calculated by dividing the Standard Deviation of the sample set by the mean of the same sample set.
CCC continuous chronic concentration
CMC continuous maximum concentration
RWC Receiving Water Concentration: concentration of a toxicant or the parameter in the receiving water after mixing (if applicable)
MF Multiplying Factor; 99% confidence level and 99% probability basis
RP Reasonable Potential: an effluent is projected or calculated to cause an excursion above a water quality standard based on a number of factors including, as a minimum, the four factors listed in 40 CFR 122.44(d)(1)(ii).

✓ Applicable; the permit writer conducted an RPD on applicable parameters within the permit. See Part IV: Effluent Limits Determinations below.

✓ Permit writers use the Department's permit writer's manual (http://dnr.mo.gov/env/wpp/permits/manual/permit-manual.htm), the EPA's permit writer's manual (https://www.epa.gov/npdes/npdes-permit-writers-manual), program policies, and best professional judgment. For each parameter in each permit, the permit writer carefully considers all applicable information regarding: technology based effluent limitations, effluent limitation guidelines, water quality standards, stream flows and uses, and all applicable site specific information and data gathered by the permittee through discharge monitoring reports and renewal (or new) application sampling. Best professional judgment is based on the experience of the permit writer, cohorts in the Department and resources at the EPA, research, and maintaining continuity of permits if necessary. For stormwater permits, the permit writer is required per 10 CSR 6.200(6)(B)2 to consider: A. application and other information supplied by the permittee; B. effluent guidelines; C. best professional judgment of the permit writer; D. water quality; and E. BMPs. Part IV provides specific decisions related to this permit.

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. SOCs 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 SOCs, and to attain a greater level of consistency, the Department issued a policy on development of SOCs on October 25, 2012. The policy provides guidance to permit writers on standard time frames for schedules for common activities, and guidance on factors to modify the length of the schedule.

✓ Applicable; the time given for effluent limitations of this permit listed under Interim Effluent Limitations and Final Effluent Limitations were established in accordance with [10 CSR 20-7.031(11)]. The facility has been given a schedule of compliance to meet final effluent limits. See permit Sections A and B for compliance dates. The facility submitted a detailed request for a 10 year allowance for temperature at outfall #003, however, the facility can already meet the limit therefore no schedule is afforded.

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; water treatment sludge is stored in the lagoon until it is removed by a hauler. 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 statues, 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 active 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.

✓ Not applicable; this facility does not have any stormwater-only outfalls.

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; because this is a new requirement, the faciltiy will have 90 days from effective date to establish a SWPPP.

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. 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. 40 CFR 136 lists the approved methods accepted by the Department. Tables A1-B3 at 10 CSR 20-7.031 shows water quality standards.

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.

✓ Applicable; wasteload allocations for toxic parameters were calculated using water quality criteria or water quality model results and by applying the dilution equation below; WLAs are calculated using the *Technical Support Document For Water Quality-Based Toxics Control* or TSD EPA/505/2-90-001; 3/1991.

$$C = \frac{(Cs \times Qs) + (Ce \times Qe)}{(Qe + Qs)}$$

(EPA/505/2-90-001, Section 4.5.5)

Where C = downstream concentration
Cs = upstream concentration
Qs = upstream flow
Ce = effluent concentration
Qe = effluent flow

✓ Acute wasteload allocations designated as daily maximum limits (MDL) were determined using applicable water quality criteria (CMC: criteria maximum concentration) and stream volume of flow at the edge of the zone of initial dilution (ZID).

✓ Chronic wasteload allocations designated as monthly average limits (AML) were determined using applicable chronic water quality criteria (CCC: criteria continuous concentration) and stream volume of flow at the edge of the mixing zone (MZ).

✓ Number of Samples "n": effluent quality is determined by the underlying distribution of daily values, which is determined by the Long Term Average (LTA) associated with a particular Wasteload Allocation (WLA) and by the Coefficient of Variation (CV) of the effluent concentrations. Increasing or decreasing the monitoring frequency does not affect this underlying assumption which should be, at a minimum, targeted to comply with the values dictated by the WLA. Therefore, it is recommended the actual planned frequency of monitoring be used to determine the value of "n" for calculating the AML. However, in situations where monitoring frequency is once per month or less, a higher value for "n" must be assumed for AML derivation purposes. Thus, the statistical procedure being employed using an assumed number of samples is "n = 4". For total ammonia as nitrogen, "n = 30" is used.

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 that has changed twenty-five percent or more since the previous operating permit.

PART IV. EFFLUENT LIMITS DETERMINATIONS

OUTFALL #001 – BLOWDOWN AND LOW VOLUME WASTES

EFFLUENT LIMITATIONS TABLE:

PARAMETERS	UNIT	DAILY MAX	MONTHLY AVG.	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL							
FLOW	MGD	*	*	SAME	ONCE/WEEK	MONTHLY	24 HR. TOT
TEMPERATURE	°F	*	*	NEW/INT	ONCE/WEEK	MONTHLY	GRAB
TEMPERATURE	°F	90	*	FINAL	ONCE/WEEK	MONTHLY	GRAB
CONVENTIONAL							
COD	mg/L	*	*	NEW	ONCE/MONTH	MONTHLY	GRAB
CHLORINE, FREE AVAILABLE (#01A)	µg/L	500	200	NEW	ONCE/MONTH	MONTHLY	GRAB
OIL & GREASE	mg/L	20	15	SAME	ONCE/MONTH	MONTHLY	GRAB
pH †	SU	6.5 to 9.0	6.5 to 9.0	NEW	ONCE/WEEK	MONTHLY	GRAB
TOTAL SUSPENDED SOLIDS (TSS)	mg/L	100	30	NET	ONCE/MONTH	MONTHLY	GRAB
METALS							
COPPER, TR	µg/L	*	*	NEW/INT	ONCE/MONTH	MONTHLY	GRAB
COPPER, TR	µg/L	31.9	*	FINAL	ONCE/MONTH	MONTHLY	GRAB
IRON, TR	µg/L	*	*	NEW	ONCE/MONTH	MONTHLY	GRAB
THALLIUM, TR	µg/L	*	*	NEW	ONCE/YEAR	ANNUALLY	GRAB
NUTRIENTS							
AMMONIA AS N	mg/L	*	*	NEW	ONCE/MONTH	MONTHLY	GRAB
KJELDAHL NITROGEN, TOTAL	mg/L	*	*	NEW	ONCE/MONTH	MONTHLY	GRAB
NITRATE PLUS NITRITE AS N	mg/L	*	*	NEW	ONCE/MONTH	MONTHLY	GRAB
PHOSPHORUS, TOTAL P (TP)	mg/L	*	*	NEW	ONCE/MONTH	MONTHLY	GRAB
OTHER							
WET TEST - CHRONIC	TUc	*	-	NEW	ONCE/YEAR	ANNUALLY	GRAB

* monitoring and reporting requirement only
** monitoring with associated benchmark
† report the minimum and maximum pH values; pH is not to be averaged
new parameter not established in previous state operating permit
int interim parameter requirements prior to end of SOC
final parameter requirements at end of SOC
TR total recoverable

DERIVATION AND DISCUSSION OF LIMITS:

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), weekly monitoring continued from previous permit.

Temperature
In accordance with 10 CSR 20-7.031(5)(D), water contaminant sources shall not cause or contribute to stream temperature in excess of ninety degrees Fahrenheit (90 °F) or change the stream temperature by more than 5 degrees Fahrenheit. While the receiving steam has no designated uses, general criteria still apply. In accordance with 10 CSR 20-7.031(4)(J)1., temperature limits are applied as found in 10 CSR 20-7.031 Table A. The Department's environmental services program sampled outfall #001 February 3, 2009. The data obtained indicate 32.6 °C, which is 90.7 °F. Temperature data for 2/3/2009 at the Rosecrans Memorial Airport (directly across the river) for that day range from 5 to 37 °F, showing that environmental conditions were not a contributing factor in the temperature reading. The data recorded by the Department's lab is above the WQS of 90 °F. This historical data is believed to still be representative of the discharges as this outfall continues to contain boiler blowdown and cooling tower blowdown. The facility does not have sufficient controls installed on the cooling wastewater to meet the new limits therefore an SOC is afforded; see fact sheet Part III SCHEDULE OF COMPLIANCE. Weekly monitoring is required. The facility will report temperature in degrees Fahrenheit.

CONVENTIONAL:

Chemical Oxygen Demand (COD)
Monitoring is included using the permit writer's best professional judgment. There is no numeric water quality standard for COD; however, increased oxygen demand may impact instream water quality. COD is also a valuable indicator parameter. COD monitoring allows the permittee to identify increases in COD which may indicate materials/chemicals coming into contact with wastewater or stormwater causing an increase in oxygen demand. Because this outfall does not receive mixing considerations, increases in COD may more easily impact the receiving stream and could indicate a need for maintenance or improvement of BMPs. The facility reported 10 mg/L in the application.

Chlorine, Free Available
500 µg/L daily maximum, 200 µg/L monthly average. The facility is subject to 40 CFR 423.13(d)(1) for free available chlorine in the cooling tower blowdown. This limitation is established at outfall #01A, an internal monitoring point for the cooling towers prior to mixing with any other waste streams. This monitoring requirement is implemented under 40 CFR 122.44(a)(1).

Oil & Grease
20 mg/L daily maximum; 15 mg/L monthly average; continued from previous permit and per 40 CFR 423.12(b)(3), BPT for low volume waste sources. 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. The facility reported from 0.2 to 1.6 mg/L. The permit writer completed an RPD on this parameter and found no RP based on the last five years of discharge monitoring reporting data. Oils and greases of different densities will possibly form sheen or unsightly bottom deposits at levels less than 15 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. As this outfall contains stormwater, BMPs for capture of oil and grease must be maintained.

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. pH is a fundamental water quality indicator; this is a new weekly monitoring requirement for this outfall. The revised application reported 7.3 to 8.9 SU. The maximum discharge allowance for pH is 9.0, because the value reported by the facility shows RP, permits typically increase the monitoring frequency to assure compliance with the limit. Monitoring is required weekly. Additionally, metals leachability and ammonia availability in wastewater is dependent on pH. Limitations in this permit will protect against aquatic organism toxicity, downstream water quality issues, human health hazard contact, and negative physical changes in accordance with the general criteria at 10 CSR 20-7.031(4) and the Clean Water Act's (CWA) goal of 100% fishable and swimmable rivers and streams.

Total Suspended Solids (TSS)
100 mg/L daily maximum and 30 mg/L monthly average per 40 CFR 423.12(b)(3), BPT for low volume waste sources. Previous permit allowed NET limitations because Missouri River water was used in the boiler seal. However, all source water for outfall #001 is obtained from well water. To qualify for net limitations, the discharge and intake water must be from and to the same waterbody. The facility reported a maximum of 140 mg/L which is above the 100 mg/L daily maximum, this parameter cannot be granted a schedule of compliance as this is a technology limitation. See Part III SCHEDULE OF COMPLIANCE for additional information.

METALS:
Effluent limitations for total recoverable metals were developed using methods and procedures outlined in the *Technical Support Document For Water Quality-based Toxic Controls* (EPA/505/2-90-001) and *The Metals Translator: Guidance For Calculating a Total Recoverable Permit Limit From a Dissolved Criterion* (EPA 823-B-96-007). "Aquatic Life Protection" in 10 CSR 20-7.031

Tables A1 and A2, as well as general criteria protections in 10 CSR 20-7.031(4) apply to this discharge. The hardness value used for hardness-dependent metals calculations was based on the ecoregion's 50th percentile, also known as the median per 10 CSR 20-7.015(1)(CC), and is reported in the calculations below. Per a memorandum dated August 6, 2019, the Director has determined permit writers should use the median of the Level III Ecoregion to calculate permit limits, or site specific data if applicable. Additional use criterion (HHP, DWS, GRW, IRR, or LWW) may also be used, as applicable, to determine the most protective effluent limit for the receiving waterbody's class and uses.

Copper, Total Recoverable
Monthly monitoring required. The facility reported 120 µg/L for this parameter in the renewal application; this parameter has RP as the analytical result is greater than the proposed limitations. The facility is not able to meet the new limits therefore an SOC is afforded; see fact sheet Part III SCHEDULE OF COMPLIANCE. Although the tributary to the Missouri River is unclassified, 10 CSR 20-7.031(4)(D) requires toxicity requirements be met for all waters; toxicity is limited to acute requirements per 10 CSR 20-7.031(4)(J)1. The limitations provided below will protect for acute aquatic toxicity.
Acute AQL: e^(0.9422 * ln240 – 1.700300) * (0.960) = 30.653 µg/L [at hardness 240]
TR Conversion: AQL/Translator = 30.653 / 0.96 = 31.93 [at hardness 240]

Iron, Total Recoverable
Monthly monitoring required. The facility reported 3,740 µg/L for this parameter in the application and in a follow up email dated 1/31/2020 indicated the discharge may be as high as 6 ppm; this parameter requires further monitoring to determine RP for the Missouri River as there is no acute toxic water quality standard for iron.

Thallium, Total Recoverable
The facility reported <50 µg/L for this parameter in the application; this parameter needs further monitoring as a sufficiently sensitive analytical test was not used to determine compliance with Missouri's water quality standards of 6.3 µg/L. Annual monitoring required to provide data for the next permit renewal. See permit for minimal analytical testing requirements.

NUTRIENTS:

Ammonia, Total as Nitrogen
Nitrogen is expected to be present in the discharge (application 0.82 mg/L) therefore monthly monitoring of ammonia is required per 10 CSR-20-7.015(9)(D)8. and 20-7.015(9)(D)8.B. as this facility's design flow is equal to or greater than 1 MGD.

Kjeldahl Nitrogen, Total (TKN)
Nitrogen is expected to be present in this outfall's discharge (application 1.62) therefore monitoring is required per 10 CSR 20-7.015(9)(D)8. Monthly monitoring of total Kjeldahl nitrogen is required per 10 CSR 20-7.015(9)(D)8.B. as this facility's design flow is equal to or above 1 MGD.

Nitrate plus Nitrite
Nitrogen is expected to be present in this outfall's discharge (application 0.31 mg/L) therefore monitoring is required per 10 CSR 20-7.015(9)(D)8. Monthly monitoring of nitrate plus nitrite required per 10 CSR 20-7.015(9)(D)8.B. as this facility's design flow is equal to or above 1 MGD.

Phosphorus, Total P (TP)
Phosphorus is expected to be present in this outfall's discharge (application 0.56 mg/L) therefore monitoring is required per 10 CSR 20-7.015(9)(D)8. Monthly monitoring of phosphorus is required per 10 CSR 20-7.015(9)(D)8.B. as this facility's design flow is equal to or above 1 MGD.

OTHER:

Whole Effluent Toxicity (WET) Test, Chronic
Monitoring is required to determine if reasonable potential exists for the discharge to cause toxicity within the receiving stream. A WET test is a quantifiable method to determine discharges from the facility cause toxicity to aquatic life by itself, in combination with, or through synergistic responses, when mixed with receiving stream water.

Under the federal Clean Water Act (CWA) §101(a)(3), requiring WET testing is reasonably appropriate for site-specific Missouri State Operating Permits for discharges to waters of the state issued under the National Pollutant Discharge Elimination System (NPDES). WET testing is also required by 40 CFR 122.44(d)(1). WET testing ensures the provisions in 10 CSR 20-6 and the Water Quality Standards in 10 CSR 20-7 are being met. Under 10 CSR 20-6.010(8)(A)4, the Department may require other terms and conditions it deems necessary to assure compliance with the CWA and related regulations of the Missouri Clean Water Commission. The following Missouri Clean Water Laws (MCWL) apply: §644.051.3. requires the Department to set permit conditions complying with the MCWL and CWA; §644.051.4 specifically references toxicity as an item we must consider in

writing permits (along with water quality-based effluent limits); and §644.051.5. is the basic authority to require testing conditions. WET tests are required by all facilities meeting the following criteria:

- ✓ Facility is a designated a Major

Annual testing is the minimum testing frequency; monitoring requirements promulgated in 40 CFR 122.44(i)(2) state "requirements to report monitoring results shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the discharge, but in no case less than once per year."

The standard Allowable Effluent Concentration (AEC) for facilities discharging to streams without mixing considerations or lakes is 100%. The standard dilution series for facilities discharging to waterbodies without mixing considerations is 100%, 50%, 25%, 12.5%, & 6.25%.

OUTFALL #002 – COAL PILE RUNOFF AND LOW VOLUME WASTES

EFFLUENT LIMITATIONS TABLE:

PARAMETERS	UNIT	DAILY MAX	MONTHLY AVG.	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL							
FLOW	MGD	*	*	SAME	ONCE/MONTH	MONTHLY	24 HR. TOT
CONVENTIONAL							
COD	mg/L	*	*	NEW	ONCE/MONTH	MONTHLY	GRAB
OIL & GREASE	mg/L	20	15	SAME	ONCE/MONTH	MONTHLY	GRAB
pH †	SU	6.0 to 9.0	6.0 to 9.0	SAME	ONCE/MONTH	MONTHLY	GRAB
TOTAL SUSPENDED SOLIDS (TSS)	mg/L	50	30	100, 30	ONCE/MONTH	MONTHLY	GRAB
NUTRIENTS							
AMMONIA AS N	mg/L	*	*	NEW	ONCE/MONTH	MONTHLY	GRAB
KJELDAHL NITROGEN, TOTAL	mg/L	*	*	NEW	ONCE/MONTH	MONTHLY	GRAB
NITRATE PLUS NITRITE AS N	mg/L	*	*	NEW	ONCE/MONTH	MONTHLY	GRAB
PHOSPHORUS, TOTAL P (TP)	mg/L	*	*	NEW	ONCE/MONTH	MONTHLY	GRAB
OTHER							
WET TEST - CHRONIC	TUc	*	-	NEW	ONCE/YEAR	ANNUALLY	GRAB

* monitoring and reporting requirement only
† report the minimum and maximum pH values; pH is not to be averaged
new parameter not established in previous state operating permit

DERIVATION AND DISCUSSION OF LIMITS:

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), monthly monitoring continued from previous permit.

CONVENTIONAL:

Chemical Oxygen Demand (COD)

Monitoring is included using the permit writer's best professional judgment. There is no numeric water quality standard for COD; however, increased oxygen demand may impact instream water quality. COD is also a valuable indicator parameter. COD monitoring allows the permittee to identify increases in COD which may indicate materials/chemicals coming into contact with wastewater or stormwater causing an increase in oxygen demand. Because this outfall does not receive mixing considerations, increases in COD may more easily impact the receiving stream and could indicate a need for maintenance or improvement of BMPs. The facility reported 17 mg/L in the application.

Oil & Grease

20 mg/L daily maximum; 15 mg/L monthly average; continued from previous permit and per 40 CFR 423.12(b)(3), BPT for low volume waste sources. 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. The facility reported from 0.1 to 3 mg/L. The permit writer completed an RPD on this parameter and found no RP based on the last five years of discharge monitoring reporting data. 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. As this outfall contains stormwater, BMPs for capture of oil and grease must be maintained.

pH
6.0 to 9.0 SU. Technology based limits [10 CSR 20-7.015(9)(I)1. and 40 CFR 423.12(b)(1)] are applicable to this outfall. The permit writer has determined there is no reasonable potential to affect water quality below 6.5 therefore technology limitations for wastewater are applied. The facility's discharge monitoring data indicate the effluent is in the higher range and the facility reported maximum values of 8.8 SU. As the upper limit of both water quality and technology are the same, technology limits can be chosen. pH is a fundamental water quality indicator. Additionally, metals leachability and ammonia availability in wastewater is dependent on pH. Limitations in this permit will protect against aquatic organism toxicity, downstream water quality issues, human health hazard contact, and negative physical changes in accordance with the general criteria at 10 CSR 20-7.031(4) and the Clean Water Act's (CWA) goal of 100% fishable and swimmable rivers and streams.

Total Suspended Solids (TSS)
This outfall contains coal pile runoff therefore the previous technology limits based solely on low-volume waste sources are not protective for the daily maximum. 50 mg/L daily maximum and 30 mg/L monthly average per 40 CFR 423.12(b)(9) for the daily maximum for coal pile runoff and 40 CFR 423.12(b)(3) for the monthly average for low volume waste sources per the definition at 40 CFR 423.11(b). The maximum the facility reported for this outfall is 25 mg/L.

NUTRIENTS:

Ammonia, Total as Nitrogen
Nitrogen is expected to be present in the discharge (application 0.1 mg/L for ammonia) therefore monthly monitoring of ammonia is required per 10 CSR-20-7.015(9)(D)8. and 20-7.015(9)(D)8.B. as this facility's design flow is equal to or greater than 1 MGD.

Kjeldahl Nitrogen, Total (TKN)
Nitrogen is expected to be present in this outfall's discharge (application 1.05 mg/L) therefore monitoring is required per 10 CSR 20-7.015(9)(D)8. Monthly monitoring of total Kjeldahl nitrogen is required per 10 CSR 20-7.015(9)(D)8.B. as this facility's design flow is equal to or above 1 MGD.

Nitrate plus Nitrite
Nitrogen is expected to be present in this outfall's discharge therefore monitoring is required per 10 CSR 20-7.015(9)(D)8. While the application reported <0.2, monitoring is still required to determine total nitrogen. Monthly monitoring of nitrate plus nitrite required per 10 CSR 20-7.015(9)(D)8.B. as this facility's design flow is equal to or above 1 MGD.

Phosphorus, Total P (TP)
Phosphorus is expected to be present in this outfall's discharge therefore monitoring is required per 10 CSR 20-7.015(9)(D)8. Monthly monitoring of phosphorus is required per 10 CSR 20-7.015(9)(D)8.B. as this facility's design flow is equal to or above 1 MGD.

OTHER:

Whole Effluent Toxicity (WET) Test, Chronic
Annual monitoring is required to determine if reasonable potential exists for the discharge to cause toxicity within the receiving stream. A WET test is a quantifiable method to determine discharges from the facility cause toxicity to aquatic life by itself, in combination with, or through synergistic responses, when mixed with receiving stream water.

Under the federal Clean Water Act (CWA) §101(a)(3), requiring WET testing is reasonably appropriate for site-specific Missouri State Operating Permits for discharges to waters of the state issued under the National Pollutant Discharge Elimination System (NPDES). WET testing is also required by 40 CFR 122.44(d)(1). WET testing ensures the provisions in 10 CSR 20-6 and the Water Quality Standards in 10 CSR 20-7 are being met. Under 10 CSR 20-6.010(8)(A)4, the Department may require other terms and conditions it deems necessary to assure compliance with the CWA and related regulations of the Missouri Clean Water Commission. The following Missouri Clean Water Laws (MCWL) apply: §644.051.3. requires the Department to set permit conditions complying with the MCWL and CWA; §644.051.4 specifically references toxicity as an item we must consider in writing permits (along with water quality-based effluent limits); and §644.051.5. is the basic authority to require testing conditions. WET tests are required by all facilities meeting the following criteria:
- ✓ Facility is a designated a Major

Annual testing is the minimum testing frequency; monitoring requirements promulgated in 40 CFR 122.44(i)(2) state "requirements to report monitoring results shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the discharge, but in no case less than once per year."

The standard Allowable Effluent Concentration (AEC) for facilities discharging to streams without mixing considerations or lakes is 100%. The standard dilution series for facilities discharging to waterbodies without mixing considerations is 100%, 50%, 25%, 12.5%, & 6.25%.

OUTFALL #003 – COOLING WASTEWATER

EFFLUENT LIMITATIONS TABLE:

PARAMETERS	UNIT	DAILY MAX	MONTHLY AVG.	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL							
FLOW	MGD/cfs	*	*	NEW	DAILY	MONTHLY	24 HR. TOT
TEMPERATURE	°F	90	*	NEW	DAILY	MONTHLY	SEE PERMIT
TEMPERATURE CHANGE	°F	5	*	NEW	DAILY	MONTHLY	SEE PERMIT

* monitoring and reporting requirement only
† report the minimum and maximum pH values; pH is not to be averaged
new parameter not established in previous state operating permit
TR total recoverable

DERIVATION AND DISCUSSION OF LIMITS:

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), daily monitoring continued from previous permit.

Temperature

In accordance with 10 CSR 20-7.031(5)(D), water contaminant sources shall not cause or contribute to stream temperature in excess of ninety degrees Fahrenheit (90 °F) or change the stream temperature by more than 5 degrees Fahrenheit. The permit writer has reviewed the reported intake and effluent data for this facility. The maximum daily temperature reported was 104 °F. This is without mixing considerations which are afforded by the Missouri River. To determine if this permit requires water quality limits for this facility, the permit writer used the most stringent inputs and qualifiers for the following equation:
Temz = ((Qs/4)Ts+QeTe) / ((Qs/4)+Qe). Temperature data for the Missouri River at St. Joseph was available since 2007. The maximum temperature of the river was about 32 °C, 89.6 °F. The 1Q10 of the river is 15,504 cfs, to be conservative, 14,000 cfs was used. While it is unlikely for both of these conditions to occur simultaneously, they were used to determine the worst case scenario. The resultant discharge temperature at the edge of the mixing zone was 90.5, very slightly over the WQS. Because of this, the permit writer believes the facility has reasonable potential to cause or contribute to thermal exceedances per 40 CFR 122.44(d)(1)(iii), but can immediately meet the limitations due to the large mixing area and small flows therefore an SOC is not afforded for this parameter at this outfall. See the permit for calculations and other requirements. Daily monitoring required as was required for the thermal discharge parameter (TDP). The TDP, 1.41×10^9 BTU/hr, was removed as there is no legal basis for this requirement.

NUTRIENTS:

This is single pass cooling therefore nutrient loading will not be assessed.

PERMITTED FEATURE #03A – REVERSE OSMOSIS INTERNAL OUTFALL

EFFLUENT LIMITATIONS TABLE:

PARAMETERS	UNIT	DAILY MAX	MONTHLY AVG.	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL							
FLOW	MGD	*	*	NEW	ONCE/MONTH	MONTHLY	24 HR. TOT
CONVENTIONAL							
OIL & GREASE	mg/L	15	10	NEW	ONCE/MONTH	MONTHLY	GRAB
pH †	SU	6.0 TO 9.0	6.0 to 9.0	NEW	ONCE/MONTH	MONTHLY	GRAB
TOTAL SUSPENDED SOLIDS (TSS)	mg/L	100	30	NEW	ONCE/MONTH	MONTHLY	GRAB
METALS							
IRON, TR	µg/L	*	*	NEW	ONCE/QUARTER	QUARTERLY	GRAB
OTHER							
CHLORIDE	mg/L	*	*	NEW	ONCE/QUARTER	QUARTERLY	GRAB
SULFATE	mg/L	*	*	NEW	ONCE/QUARTER	QUARTERLY	GRAB
CHLORIDE PLUS SULFATE	mg/L	*	*	NEW	ONCE/QUARTER	QUARTERLY	GRAB

* monitoring and reporting requirement only
† report the minimum and maximum pH values; pH is not to be averaged
new parameter not established in previous state operating permit
TR total recoverable

DERIVATION AND DISCUSSION OF LIMITS:

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), monthly monitoring continued from previous permit.

CONVENTIONAL:

Oil & Grease
15 mg/L daily maximum; 10 mg/L monthly average per 2020 antidegradation review based on Missouri's water quality standards.

pH
6.0 to 9.0 SU. Technology based limits [10 CSR 20-7.015(9)(I)1. and 40 CFR 423.12(b)(1)] are applicable to this outfall per the 2020 antidegradation review. The permit writer has determined there is no reasonable potential to affect water quality due to the large mixing area afforded by the Missouri River therefore technology limitations for wastewater are applied. pH is a fundamental water quality indicator. Additionally, metals leachability and ammonia availability in wastewater is dependent on pH. Limitations in this permit will protect against aquatic organism toxicity, downstream water quality issues, human health hazard contact, and negative physical changes in accordance with the general criteria at 10 CSR 20-7.031(4) and the Clean Water Act's (CWA) goal of 100% fishable and swimmable rivers and streams.

Total Suspended Solids (TSS)
100 mg/L daily maximum and 30 mg/L monthly average per 2020 antidegradation review and 40 CFR 423.15(b)(3), NSPS post 11/17/2015.

METALS:

Iron, Total Recoverable
The 2020 antidegradation review requires quarterly monitoring of this parameter.

NUTRIENTS:
The design flow for this internal outfall is less than 0.1 MGD therefore nutrients will not be assessed at this time.

OTHER:

Chloride
The 2020 antidegradation review requires quarterly monitoring of this parameter.

Sulfate
The 2020 antidegradation review requires quarterly monitoring of this parameter.

Chloride Plus Sulfate
The 2020 antidegradation review requires quarterly monitoring of this parameter.

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 is not being synchronized at this time due to 316(b) requirements.

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 5/15/2020 to 6/15/2020; no comments were received.

DATE OF FACT SHEET: JUNE 18, 2020
COMPLETED BY:
PAM HACKLER, ENVIRONMENTAL SCIENTIST
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION - INDUSTRIAL UNIT
(573) 526-3386
pam.hackler@dnr.mo.gov

PART VI. 2020 ANTIDEGRADATION

Water Quality and Antidegradation Review

For the Protection of Water Quality
and Determination of Effluent Limits for Discharge to ***Missouri River***

by

Lake Road Generating Station

January 2020

1. FACILITY INFORMATION

FACILITY NAME: LAKE ROAD GENERATING STATION NPDES #: MO-0004898
FACILITY TYPE: INDUSTRIAL – Electric Services – SIC #4911
FACILITY DESCRIPTION: Lake Road Generating Station is an industrial steam and electric generating facility located in St. Joseph, MO. The existing facility utilizes a hot lime softener to treat groundwater withdrawn from on-site wells, which is used to make steam for sale and for electricity generation. The facility is proposing to replace the hot lime softener with a Double Pass Reverse Osmosis (RO) System. The proposed project will impact Outfall #003 (#03A), which discharges directly to the Missouri River. The RO reject wastewater will be continuously discharged at approximately 255 gallons per minute (gpm), with a maximum discharge rate of 450 gpm or 0.648 million gallons per day.

COUNTY:	Buchanan	UTM COORDINATES:	X= 338953 / Y= 4399186
12- DIGIT HUC:	10240011-0103	LEGAL DESCRIPTION:	Section 30, T57N, R35W
EDU*:	Central Plains	ECOREGION:	Western Corn Belt Plains

* - Ecological Drainage Unit

2. WATER QUALITY INFORMATION

In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(3)] and federal antidegradation policy at Title 40 Code of Federal Regulation (CFR) Section 131.12 (a), the Missouri Department of Natural Resources (Department) developed a statewide antidegradation policy and corresponding procedures to implement the policy. A proposed discharge to a water body will be required to undergo a level of Antidegradation Review which documents that the use of a water body's available assimilative capacity is justified. Effective August 30, 2008 and revised July 13, 2016, a facility is required to use *Missouri's Antidegradation Implementation Procedure (AIP)* for new and expanded wastewater discharges.

2.1. WATER QUALITY HISTORY:

The operating permit for the facility expired on June 12, 2008. The Department received an updated permit renewal application from the facility dated August 12, 2019, and the permit renewal process is currently ongoing.

The receiving water body, the Missouri River, has an EPA approved TMDL for Chlordane and Polychlorinated Biphenyls (PCBs). The TMDL does not implement limitations or indicate this facility as a cause of the impairment. The Missouri River is also listed on the 2018 Missouri 303(d) list for *Escherichia coli*. This facility is not expected to be a source, as domestic wastewater from the facility is treated at St. Joseph's Wastewater Treatment Plant. A TMDL has not yet been developed.

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	RECEIVING WATERBODY	DISTANCE TO CLASSIFIED SEGMENT (MI)
03A	1.003	none	Missouri River	0.0

3. RECEIVING WATERBODY INFORMATION

WATERBODY NAME	CLASS	WBID	LOW-FLOW VALUES (CFS)**			DESIGNATED USES*
			1Q10	7Q10	30Q10	
Missouri River	P	226	15,504	16,921	18,422	AQL, DWS, IND, IRR, LWP, SCR, HHP, WBC-B

* Irrigation (IRR), Livestock & Wildlife Protection (LWP), Protection of Warm Water Aquatic Life (AQL), Human Health Protection (HHP), Cool Water Fishery (CLF), Cold Water Fishery (CDF), Whole Body Contact Recreation – Category A (WBC-A), Whole Body Contact Recreation – Category B (WBC-B), Secondary Contact Recreation (SCR), Drinking Water Supply (DWS), Industrial (IND), Groundwater (GRW).

** Low Flow Values calculated from USGS 06818000 Missouri River at St. Joseph, MO gaging station data collected from October 1999 to October 2019.

RECEIVING WATER BODY SEGMENT #1: Missouri River
Upper end segment* UTM coordinates: X = 338953 / Y = 4399186 (Outfall)
Lower end segment* UTM coordinates: X= 338566 / Y = 4398987 (Confluence with Tributary to Missouri River)
*Segment is the portion of the stream where discharge occurs. Segment is used to track changes in assimilative capacity and is bound at a minimum by existing sources and confluences with other significant water bodies.

4. GENERAL COMMENTS

Robert Beck, prepared, on behalf of Kansas City Power & Light Company, the *Lake Road Generating Station Antidegradation Review Report* dated September 23, 2019. The report was revised on December 10, 2019 to remove the request to discharge the proposed Reverse Osmosis Wastewater through Outfall #002. The owner and continuing authority of the facility is intended to change from KCP&L Greater Missouri Operations Company to Evergy, Inc. as part of the ongoing permit renewal process.

Applicant elected to determine that all pollutants of concern (POC) are minimally degrading in the receiving stream using existing water quality. This analysis was conducted to fulfill the requirements of the AIP. Information that was provided by the applicant in the submitted report and summary forms in Appendix D was used to develop this review document.

A Geohydrological Evaluation was submitted for this facility upgrade. The stream is gaining for discharge purposes (Appendix C).

A Missouri Department of Conservation Natural Heritage Review Report was obtained by the applicant; MDC found records of wildlife preserves, critical habitats, or state or federal endangered-list species records within or near the defined project area (Appendix B). The applicant should follow the recommendations given in the Natural Heritage Review Report and contact the U.S. Fish and Wildlife Service and the Missouri Department of Conservation for further coordination.

5. ANTIDEGRADATION REVIEW INFORMATION

The following is a review of the *Lake Road Generating Station Antidegradation Review Report* dated September 23, 2019 and revised on December 10, 2019.

5.1. TIER DETERMINATION

Below is a list of pollutants of concern reasonably expected to be in the discharge (see Appendix D). Pollutants of concern are defined as those pollutants "proposed for discharge that affects beneficial use(s) in waters of the state. POCs include pollutants that create conditions unfavorable to beneficial uses in the water body receiving the discharge or proposed to receive the discharge." (AIP, Page 7). Tier 2 was determined or assumed for all POCs.

TABLE 1. POLLUTANTS OF CONCERN AND TIER DETERMINATION

POLLUTANTS OF CONCERN	TIER	DEGRADATION	COMMENT
Total Suspended Solids (TSS)	*	Minimal	40 CFR Part 423
Oil & Grease	2	Minimal	40 CFR Part 423
pH	**	Minimal	40 CFR Part 423
Sulfate	2	Minimal	
Chloride	2	Minimal	
Chloride + Sulfate	2	Minimal	
Iron	2	Minimal	

Tier determination not possible: * No in-stream standards for these parameters. ** Standards for these parameters are ranges

The following Antidegradation Review Summary attachments in Appendix D were used by the applicant:
For pollutants of concern, the attachments are:
☐ Attachment A, Tier 2 with significant degradation.
☒ Attachment B, Tier 2 with minimal degradation.
☐ Attachment D, Tier 1 Review. Additionally, a Tier 2 review must be conducted for each pollutant of concern on the appropriate water body segment

5.2. Existing Water Quality

Existing water quality data was submitted. All POCs were considered to be Tier 2 based on the submitted tier analysis. Existing water quality for the Missouri River was determined using analytical results from a sampling event conducted by the applicant on July 16, 2018 and data from the USGS 06818000 Missouri River at St. Joseph, MO gaging station collected from 2012 to 2018. Low Flow Values were calculated from USGS 06818000 Missouri River at St. Joseph, MO gaging station data collected from October 1999 to October 2019.

5.3. No Discharge Evaluation

According to 10 CSR 20-6.010 (4)(D), reports for the purpose of constructing a wastewater treatment facility shall consider the feasibility of constructing and operating a no discharge facility. Because Missouri's antidegradation implementation procedures specify that if the proposed activity does not result in significant degradation then a demonstration of necessity (i.e., alternatives analysis) and a determination of social and economic importance are not required.

The applicant evaluated several potential no discharge alternatives for the RO System wastewater including thermal evaporation, reuse in other plant processes, discharge to a regional wastewater treatment system, land application, and deep well injection. The no discharge alternatives were determined to be impracticable for a variety of reasons including excessive capital and operational costs, lack of available land for land application, lack of nearby deep injection wells, incompatibility with the regional wastewater treatment plant, and limited facility processes available for water reuse.

5.4. Losing Stream Alternative Discharge Location

Under 10 CSR 20-7.015(4) (A), *discharges to losing stream shall be permitted only after other alternatives including land application, discharge to gaining stream and connection to a regional facility have been evaluated and determined to be unacceptable for environmental and/or economic reasons*.
The Discharge does not discharge to a losing stream segment or will not discharge within 2 miles of a losing stream segment.

5.5. Assimilative Capacity Calculations

Calculated assimilative capacities were much less than 10%. *Missouri's Antidegradation Implementation Procedure* considers the use of less than 10% of the facility's available assimilative capacity as insignificant degradation. The procedures indicate that cumulative degradation is measured from the time that existing water quality is first determined. Because this antidegradation review serves to establish the existing water quality, the proposed expansion of the POCs in Outfall 003 amounts to the sum total of the degradation. We believe that there is no need to determine cumulative degradation for this review.

The following equations were used to complete the assimilative capacity calculations:
FAC = [(WQC*(Qs+Qd))-(EWQ*Qs)]*CF
New Discharge Load = Qd*Cd*CF
Percent of FAC = (New discharge load/FAC)*100

FAC = facility assimilative capacity (lbs/day)
cfs = cubic feet per second
WQC = water quality criterion (µg/L or mg/L)
EWQ = existing water quality
Qs = stream flow (7Q10 or other representative flow) (cfs)
Qd = design flow of new or expanded discharge (cfs)
Cs = pollutant concentration in stream (µg/L or mg/L)
Cd = discharge concentration (ug/L or mg/L)
CF = conversion factor used to convert a pollutant mass loading into the desired units. For example, using a CF of 5.4 to derive a load in "lbs/day" is appropriate when the WQC is represented in mg/L and flow is represented in cfs [(mg/L)*(cfs)*5.4 = (lbs/day)].

Sulfate
Qs: 16,921 cfs
Qd: 1.003 cfs
Cd: 530 mg/L
WQC: 250 mg/L
EWQ: 185.88 mg/L
CF: 5.4
FAC = [(250 mg/L * (16,921 cfs + 1.003 cfs)) – (185.88 mg/L * 16,921 cfs)] * 5.4
FAC = 5,860,216 lbs/day
New discharge load = 1.003 cfs * 530 mg/L * 5.4 = 2,871 lbs/day
Percent of FAC = (2,871 lbs/day / 5,860,216 lbs/day) * 100 = **0.05%**

Chloride
Qs: 16,921 cfs
Qd: 1.003 cfs
Cd: 73.8 mg/L
WQC: 230 mg/L
EWQ: 20.06 mg/L
CF: 5.4
FAC = [(230 mg/L * (16,921 cfs + 1.003 cfs)) – (20.06 mg/L * 16,921 cfs)] * 5.4
FAC = 19,184,177 lbs/day
New discharge load = 1.003 cfs * 73.8 mg/L * 5.4 = 400 lbs/day
Percent of FAC = (400 lbs/day / 19,184,177 lbs/day) * 100 = **0.002%**

Iron
Qs: 16,921 cfs
Qd: 1.003 cfs
Cd: 6,570 µg/L
WQC: 1,000 µg/L
EWQ: 85.22 µg/L
CF: 0.0054
FAC = [(1,000 µg/L * (16,921 cfs + 1.003 cfs)) – (85.22 µg/L * 16,921 cfs)] * 0.0054
FAC = 83,592 lbs/day
New discharge load = 1.003 cfs * 6,570 µg/L * 0.0054 = 35.6 lbs/day
Percent of FAC = (35.6 lbs/day / 83,592 lbs/day) * 100 = **0.04%**

5.6. Demonstration of Necessity and Social and Economic Importance

Missouri's antidegradation implementation procedures specify that if the proposed activity does not result in significant degradation then a demonstration of necessity (i.e., alternatives analysis) and a determination of social and economic importance are not required.

6. General Assumptions of the Water Quality and Antidegradation Review

1. A Water Quality and Antidegradation Review (WQAR) assumes that [10 CSR 20-6.010(3) Continuing Authorities and 10 CSR 20-6.010(4) (D), consideration for no discharge] has been or will be addressed in a Missouri State Operating Permit or Construction Permit Application.
2. A WQAR does not indicate approval or disapproval of alternative analysis as per [10 CSR 20-7.015(4) Losing Streams], and/or any section of the effluent regulations.
3. Changes to Federal and State Regulations made after the drafting of this WQAR may alter Water Quality Based Effluent Limits (WQBEL).
4. Effluent limitations derived from Federal or Missouri State Regulations (FSR) may be WQBEL or Effluent Limit Guidelines (ELG).
5. WQBEL supersede ELG only when they are more stringent. Mass limits derived from technology based limits are still appropriate.
6. A WQAR does not allow discharges to waters of the state, and shall not be construed as a National Pollution Discharge Elimination System or Missouri State Operating Permit to discharge or a permit to construct, modify, or upgrade.
7. Limitations and other requirements in a WQAR may change as Water Quality Standards, Methodology, and Implementation procedures change.
8. Nothing in this WQAR removes any obligations to comply with county or other local ordinances or restrictions.
9. If the proposed treatment technology is not covered in 10 CSR 20-8 Design Guides, the treatment process may be considered a new technology. As a new technology, the permittee will need to work with the review engineer to ensure equipment is sized properly. The operating permit may contain additional requirements to evaluate the effectiveness of the technology once the facility is in operation. This Antidegradation Review is based on the information provided by the facility and is not a comprehensive review of the proposed treatment technology. If the review engineer determines the proposed technology will not consistently meet proposed effluent limits, the permittee will be required to revise their Antidegradation Report.

7. Mixing Considerations

Mixing Zone (MZ): One-quarter (1/4) of the stream volume of flow; [10 CSR 20-7.031(5)(A)4.B.(III)(a)].
Zone of Initial Dilution (ZID): One-tenth (0.1) of the mixing zone volume of flow, not to exceed 10 times the effluent design flow. [10 CSR 20-7.031(5)(A)4.B.(III)(b)].

	Flow (cfs)	MZ (cfs)	ZID (cfs)
7Q10	16,921	4,230	10.03
1Q10	15,504	3,876	10.03
30Q10	18,422	4,606	10.03

8. PERMIT LIMITS AND MONITORING INFORMATION

WASTELOAD ALLOCATION STUDY CONDUCTED (Y OR N):	N	USE ATTAINABILITY ANALYSIS CONDUCTED (Y OR N):	N	WHOLE BODY CONTACT USE RETAINED (Y OR N):	Y

TABLE 2. EFFLUENT LIMITS FOR OUTFALL 003 (NOTE 1)

PARAMETER	UNITS	DAILY MAXIMUM	MONTHLY AVERAGE	BASIS FOR LIMIT (NOTE 2)	MONITORING FREQUENCY
Flow	MGD	*	*	FSR	Once/Month
Total Suspended Solids	mg/L	100	30	TBEL	Once/Month
Oil & Grease	mg/L	15	10	WQBEL	Once/Month
pH	SU	6.0– 9.0	6.0 – 9.0	TBEL	Once/Month
Sulfate	mg/L	*	*	N/A	Once/Quarter
Chloride	mg/L	*	*	N/A	Once/Quarter
Chloride plus Sulfate	mg/L	*	*	N/A	Once/Quarter
Iron	µg/L	*	*	N/A	Once/Quarter

Note 1 – The effluent limits in this table are associated solely with the proposed Reverse Osmosis System effluent wastewater. Effluent Limits for parameters associated with other plant processes will be determined upon permit renewal.

Note 2 – Water Quality-based Effluent Limitation – WQBEL; or Minimally Degrading Effluent Limit –MDEL; or Preferred Alternative Effluent Limit – PEL; or Technology-based Effluent Limit – TBEL; or No Degradation effluent Limit – NDEL; or Federal/State Regulation – FSR; or Not Applicable – N/A. Also, please see the General Assumptions of the WQAR #4 & #5.
* Monitoring requirements only.

9. RECEIVING WATER MONITORING REQUIREMENTS
No receiving water monitoring requirements recommended at this time.

10. DERIVATION AND DISCUSSION OF LIMITS
Wasteload allocations and limits were calculated using the following method:
Water quality-based – Using water quality criteria or water quality model results and the dilution equation below:

(EPA/505/2-90-001, Section 4.5.5)

Where C = downstream concentration
C_s = upstream concentration
Q_s = upstream flow
C_e = effluent concentration
Q_e = effluent flow

Chronic wasteload allocations were determined using applicable chronic water quality criteria (CCC: criteria continuous concentration) and stream volume of flow at the edge of the mixing zone (MZ). Acute wasteload allocations were determined using applicable water quality criteria (CMC: criteria maximum concentration) and stream volume of flow at the edge of the zone of initial dilution (ZID).

Water quality-based maximum daily and average monthly effluent limitations were calculated using methods and procedures outlined in USEPA's "Technical Support Document For Water Quality-based Toxics Control" (EPA/505/2-90-001).

Flow. In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure 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.

Total Suspended Solids (TSS) 30 mg/L monthly average, 100 mg/L maximum daily limit. Technology based limits in accordance with [40 CFR Part 423.12].

pH 6.0-9.0 SU. Technology based limits in accordance with [40 CFR Part 423.12] and [10 CSR 20-7.015] are protective of the water quality standard [10 CSR 20-7.031(5)(E)], due to the buffering capacity of the mixing zone.

Oil and Grease 10 mg/L monthly average, 15 mg/L daily maximum limit in accordance with [10 CSR 20-7.031 Table A1]. The water quality standard is more protective than the Effluent Limit Guideline found in 40 CFR Part 423.12 and therefore must be applied.

Sulfate
Chronic DWS Standard = 250 mg/L
Chronic WLA: Ce =((1.003 cfsDF + 4606 cfsMZ) * 250 – (4606 cfsMZ * 185.88 background)) / 1.003 cfsDF
Ce = 191110.394
LTAc: WLAc * LTAc multiplier = 191110.394 * 0.527 = 100798.013 [CV: 0.6, 99th %ile]
Daily Maximum: MDL = LTA * MDL multiplier = 100798.013 * 3.114 = 313,931.1 mg/L [CV: 0.6, 99th %ile]
Monthly Average: AML = LTA * AML multiplier = 100798.013 * 1.552 = 156,481.3 mg/L [CV: 0.6, 95th %ile, n=4]
Sulfate will be subject to monitoring only requirements, as the facility did not demonstrate reasonable potential to exceed the current water quality standards.

Chloride.
Acute AQL: 860 mg/L
Chronic AQL: 230 mg/L
Acute WLA: Ce = ((1.003 cfsDF + 10.03 cfsZID) * 860 – (10.03 cfsZID * 20.06 background)) / 1.003 cfsDF = 9259.4
Chronic WLA: Ce = ((1.003 cfsDF + 4230.25 cfsMZ) * 230 – (4230.25 cfsMZ * 20.06 background)) / 1.003 cfsDF = 886021.965
LTAa: WLAa * LTAa multiplier = 9259.4 * 0.321 = 2973.038 [CV: 0.6, 99th %ile]
LTAc: WLAc * LTAc multiplier = 886021.965 * 0.527 = 467317.617 [CV: 0.6, 99th %ile]
Use most protective LTA: 2973.038
Daily Maximum: MDL = LTA * MDL multiplier = 2973.038 * 3.114 = 9,259.4 mg/L [CV: 0.6, 99th %ile]
Monthly Average: AML = LTA * AML multiplier = 2973.038 * 1.552 = 4,615.4 mg/L [CV: 0.6, 95th %ile, n=4]
Chloride will be subject to monitoring only requirements, as the facility did not demonstrate reasonable potential to exceed the current water quality standards.

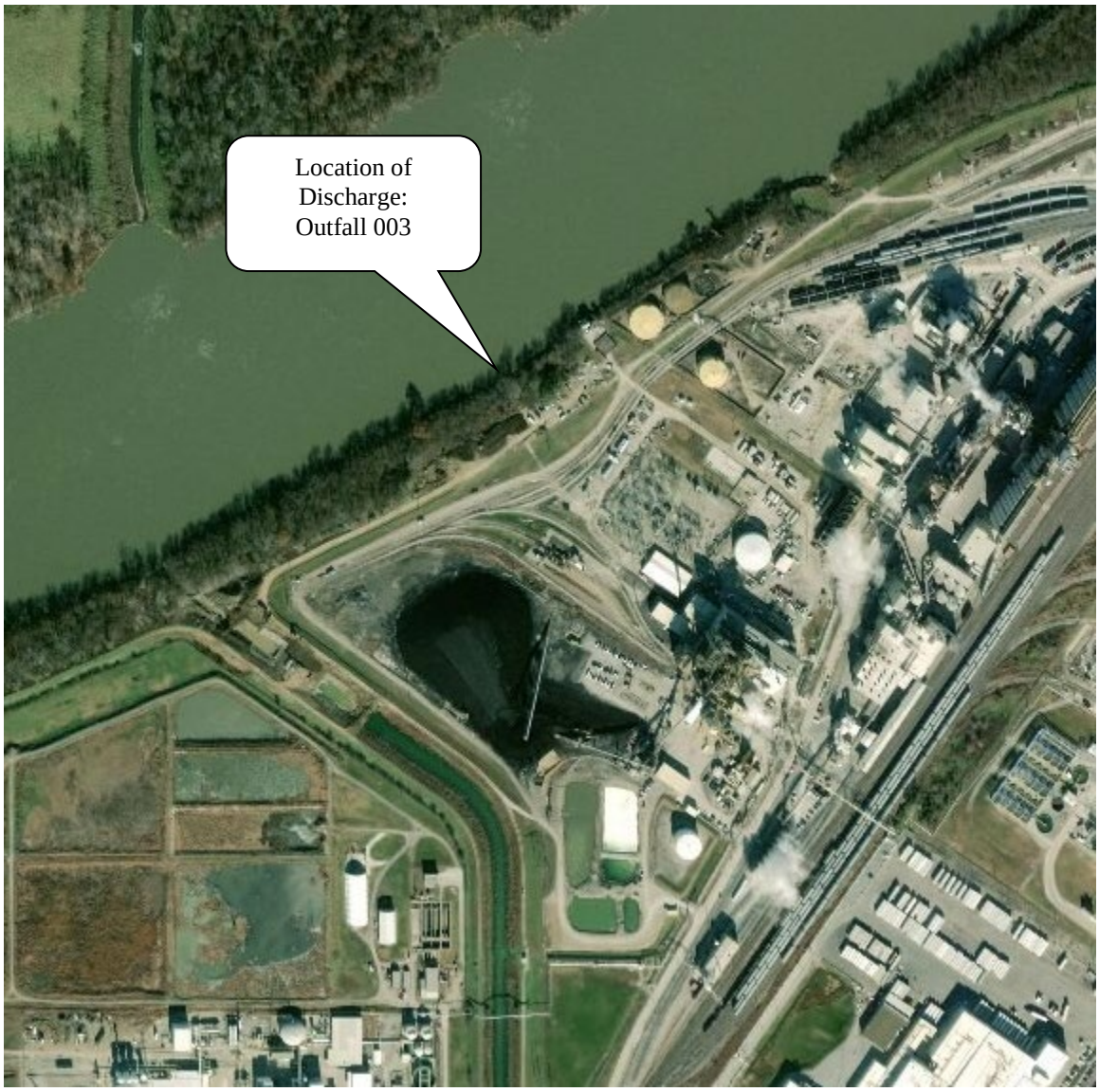
Chloride + Sulfate
Chloride plus Sulfate will be subject to monitoring only requirements, as the facility did not demonstrate reasonable potential to exceed the current water quality standards.

Iron
Chronic AQL: 1000 µg/L
TR Conversion: AQL/Translator = 1000 / 1 = 1000
Chronic WLA: Ce = ((1.003 cfsDF + 4230 cfsMZ) * 1000 – (4230 cfsMZ * 85.22 background)) / 1.003 cfsDF
Ce = 3860696.932
LTAc: WLAc * LTAc multiplier = 3860696.932 * 0.527 = 2036260.679 [CV: 0.6, 99th %ile]
Daily Maximum: MDL = LTA * MDL multiplier = 2036261* 3.114 = 6,341,847.2 µg/L [CV: 0.6, 99th %ile]
Monthly Average: AML = LTA * AML multiplier = 2036261 * 1.552 = 3,161,141.2 µg/L [CV: 0.6, 95th %ile, n=4]
Iron will be subject to monitoring only requirements as the facility did not demonstrate reasonable potential to exceed the current water quality standards.

11. ANTIDEGRADATION REVIEW PRELIMINARY DETERMINATION
The proposed new discharge from the Reverse Osmosis System at the Lake Road Generating Station, design flow 450 gpm, will result in minimal degradation of the segment identified in the Missouri River. Per the requirements of the AIP, the effluent limits in this review were developed to be protective of beneficial uses and to retain the remaining assimilative capacity. The Department has determined that the submitted review is sufficient and meets the requirements of the AIP. No further analysis is needed for this discharge.

Reviewer: Ellen Modglin
Date: January 2020
Unit Chief: John Rustige, P.E.

Appendix A: Map of Discharge Location



Appendix B: Natural Heritage Review

Missouri Department of Conservation

Missouri Department of Conservation's Mission is to protect and manage the forest, fish, and wildlife resources of the state and to facilitate and provide opportunities for all citizens to use, enjoy and learn about these resources.

Natural Heritage Review Level Three Report: Species Listed Under the Federal Endangered Species Act

There are records for species listed under the Federal Endangered Species Act, and possibly also records for species listed Endangered by the state, or Missouri Species and/or Natural Communities of Conservation Concern within or near the the defined Project Area. Please contact the U.S. Fish and Wildlife Service and the Missouri Department of Conservation for further coordination.

Foreword: Thank you for accessing the Missouri Natural Heritage Review Website developed by the Missouri Department of Conservation with assistance from the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, Missouri Department of Transportation and NatureServe. The purpose of this website is to provide information to federal, state and local agencies, organizations, municipalities, corporations and consultants regarding sensitive fish, wildlife, plants, natural communities and habitats to assist in planning, designing and permitting stages of projects.

PROJECT INFORMATION

Project Name and ID Number: Lake Road Generating Station NPDES Permit Renewal #5969
Project Description: Facility is adding a reverse osmosis reject NPDES outfall during the NPDES permit renewal.
Project Type: Waste Transfer, Treatment, and Disposal, Liquid waste/Effluent, Effluent Discharge, New outfall/discharge (e.g., NPDES) to stream
Contact Person: Dawn Hein
Contact Information: dawn.hein@kcpl.com or 816-701-7860

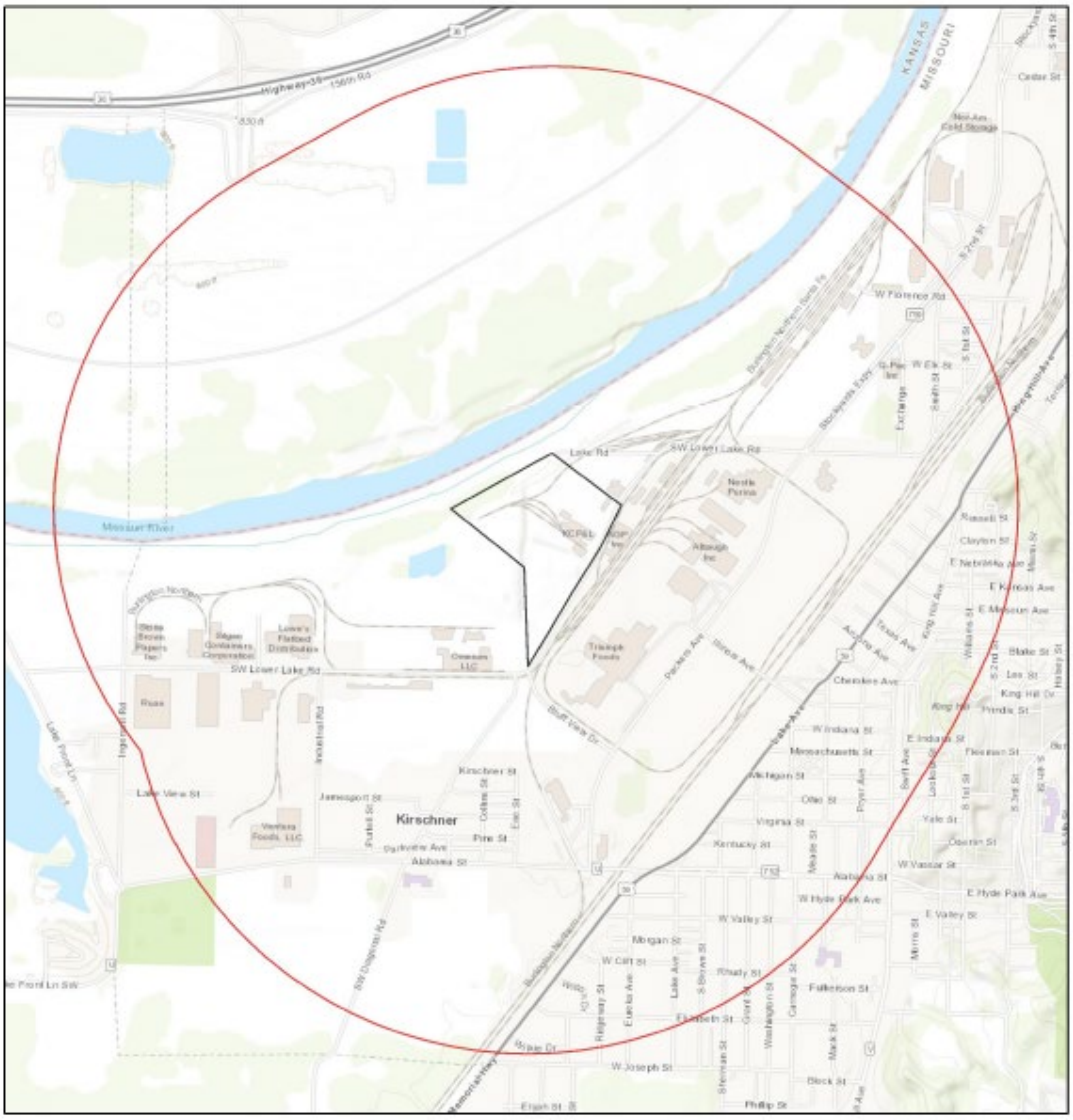
Disclaimer: The NATURAL HERITAGE REVIEW REPORT produced by this website identifies if a species tracked by the Natural Heritage Program is known to occur within or near the area submitted for your project, and shares suggested recommendations on ways to avoid or minimize project impacts to sensitive species or special habitats. If an occurrence record is present, or the proposed project might affect federally listed species, the user must contact the Department of Conservation or U.S. Fish and Wildlife Service for more information. The Natural Heritage Program tracks occurrences of sensitive species and natural communities where the species or natural community has been found. Lack of an occurrence record does not mean that a sensitive plant, animal or natural community is not present on or near the project area. Depending on the project, current habitat conditions, and geographic location in the state, surveys may be necessary. Additionally, because land use conditions change and animals move, the existence of an occurrence record does not mean the species/habitat is still present. Therefore, Reports include information about records near but not necessarily on the project site.

The Natural Heritage Report is not a site clearance letter for the project. It provides an indication of whether or not public lands and sensitive resources are known to be (or are likely to be) located close to the proposed project. Incorporating information from the Natural Heritage Program into project plans is an important step that can help reduce unnecessary impacts to Missouri's sensitive fish, forest and wildlife resources. However, the Natural Heritage Program is only one reference that should be used to evaluate potential adverse project impacts. Other types of information, such as wetland and soils maps and on-site inspections or surveys, should be considered. Reviewing current landscape and habitat information, and species' biological characteristics would additionally ensure that Missouri Species of Conservation Concern are appropriately identified and addressed in planning efforts.

U.S. Fish and Wildlife Service – Endangered Species Act (ESA) Coordination: Lack of a Natural Heritage Program occurrence record for federally listed species in your project area does not mean the species is not present, as the area may never have been surveyed. Presence of a Natural Heritage Program occurrence record does not mean the project will result in negative impacts. The information within this report is not intended to replace Endangered Species Act consultation with the U.S. Fish and Wildlife Service (USFWS) for listed species. Direct contact with the USFWS may be necessary to complete consultation and it is required for actions with a federal connection, such as federal funding or a federal permit; direct contact is also required if ESA concurrence is necessary. Visit the USFWS Information for Planning and Conservation (IPaC) website at https://ecos.fws.gov/ipac/ for further information. This site was developed to help streamline the USFWS environmental review process and is a first step in ESA coordination. The Columbia Missouri Ecological Field Services Office may be reached at 573-234-2132, or by mail at 101 Park Deville Drive, Suite A, Columbia, MO 65203.

Transportation Projects: If the project involves the use of Federal Highway Administration transportation funds, these recommendations may not fulfill all contract requirements. Please contact the Missouri Department of Transportation at 573-526-4778 or www.modot.mo.gov/ehp/index.htm for additional information on recommendations.

Lake Road Generating Station NPDES Permit Renewal



July 3, 2019

1:22,628

0 0.175 0.35 0.7 mi

0 0.3 0.6 1.2 km

Project Boundary

Buffered Project Boundary

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Species or Communities of Conservation Concern within the Area:

There are records for species listed under the Federal Endangered Species Act, and possibly also records for species listed Endangered by the state, or Missouri Species and/or Natural Communities of Conservation Concern within or near the the defined Project Area. Please contact the U.S. Fish and Wildlife Service and the Missouri Department of Conservation for further coordination.

MDC Natural Heritage Review
Resource Science Division
P.O. Box 180
Jefferson City, MO
65102-0180
Phone: 573-522-4115 ext. 3182
NaturalHeritageReview@mdc.mo.gov

U.S. Fish and Wildlife Service
Ecological Service
101 Park Deville Drive
Suite A
Columbia, MO
65203-0007
Phone: 573-234-2132

Other Special Search Results:

No results have been identified for this project location.

Project Type Recommendations:
Waste Transfer, Treatment, and Disposal - Liquid Effluent Discharge - New or Renewal of Permit: Clean Water Act permits issued by other agencies regulate both construction and operation of wastewater systems, and provide many important protections for fish and wildlife resources throughout the project area and at some distance downstream. Fish and wildlife almost always benefit when unnatural pollutants are removed from water, and concerns are minimal if construction is managed to minimize erosion and sedimentation/runoff to nearby streams and lakes, including adherence to any "Clean Water Permit" conditions.
Revegetation of disturbed areas is recommended to minimize erosion, as is restoration with of native plant species compatible with the local landscape and for wildlife needs. Annuals like ryegrass may be combined with native perennials for quicker green-up. Avoid aggressive exotic perennials such as crown vetch and sericea lespedeza.

Project Location and/or Species Recommendations:

Endangered Species Act Coordination - Indiana bats *(Myotis sodalis*, federal- and state-listed endangered) and **Northern long-eared bats** (*Myotis septentrionalis,* federal-listed threatened) may occur near the project area. Both of these species of bats hibernate during winter months in caves and mines. During the summer months, they roost and raise young under the bark of trees in wooded areas, often riparian forests and upland forests near perennial streams. During project activities, avoid degrading stream quality and where possible leave snags standing and preserve mature forest canopy. Do not enter caves known to harbor Indiana bats or Northern long-eared bats, especially from September to April. **If any trees need to be removed for your project, please contact the U.S. Fish and Wildlife Service (Ecological Services, 101 Park Deville Drive, Suite A, Columbia, Missouri 65203-0007; Phone 573-234-2132 ext. 100 for Ecological Services) for further coordination under the Endangered Species Act.**

The project location submitted and evaluated is within the geographic range of nesting Bald Eagles in Missouri. Bald Eagles (*Haliaeetus leucocephalus*) may nest near streams or water bodies in the project area. Nests are large and fairly easy to identify. Adults begin nesting activity in late December and January and young birds leave the nest in late spring to early summer. While no longer listed as endangered, eagles continue to be protected by the federal government under the Bald and Golden Eagle Protection Act. Work managers should be alert for nesting areas within 1500 meters of project activities, and follow federal guidelines at: http://www.fws.gov/midwest/MidwestBird/EaglePermits/index.html if eagle nests are seen.

The project location submitted and evaluated is located within or adjacent to the Mississippi or Missouri rivers. Pallid Sturgeons (*Scaphirhynchus albus*, federal- and state-listed endangered) are big river fish that range widely in the Mississippi and Missouri River system (including parts of some major tributaries). Any project that modifies big river habitat or impacts water quality should consider the possible impact to pallid sturgeon populations. See http://mdc.mo.gov/124 for Best Management Practices. Additional coordination with the U.S. Fish and Wildlife Service under the Endangered Species Act may be necessary (U.S. Fish and Wildlife Service, Ecological Services, 101 Park DeVille Drive, Suite A, Columbia, Missouri 65203-0007; phone 573-234-2132.)

Invasive exotic species are a significant issue for fish, wildlife and agriculture in Missouri. Seeds, eggs, and larvae may be moved to new sites on boats or construction equipment. Please inspect and clean equipment thoroughly before moving between project sites. See http://mdc.mo.gov//9633 for more information.

- Remove any mud, soil, trash, plants or animals from equipment before leaving any water body or work area.
- Drain water from boats and machinery that have operated in water, checking motor cavities, live-well, bilge and transom wells, tracks, buckets, and any other water reservoirs.
- When possible, wash and rinse equipment thoroughly with hard spray or HOT water (?140° F, typically available at do-it-yourself car wash sites), and dry in the hot sun before using again.

Streams and Wetlands – Clean Water Act Permits: Streams and wetlands in the project area should be protected from activities that degrade habitat conditions. For example, soil erosion, water pollution, placement of fill, dredging, in-stream activities, and riparian corridor removal, can modify or diminish aquatic habitats. Streams and wetlands may be protected under the Clean Water Act and require a permit for any activities that result in fill or other modifications to the site. Conditions provided within the U.S. Army Corps of Engineers (USACE) Clean Water Act Section 404 permit (http://www.nwk.usace.army.mil/Missions/RegulatoryBranch.aspx) and the Missouri Department of Natural Resources (DNR) issued Clean Water Act Section 401 Water Quality Certification (http://dnr.mo.gov/env/wpp/401/index.html), if required, should help minimize impacts to the aquatic organisms and aquatic habitat within the area. Depending on your project type, additional permits may be required by the Missouri Department of Natural Resources, such as permits for stormwater, wastewater treatment facilities, and confined animal feeding operations. Visit http://dnr.mo.gov/env/wpp/permits/index.html for more information on DNR permits. Visit both the USACE and DNR for more information on Clean Water Act permitting.

For further coordination with the Missouri Department of Conservation and the U.S. Fish and Wildlife Services, please see the contact information below.

MDC Natural Heritage Review
Resource Science Division
P.O. Box 180
Jefferson City, MO
65102-0180
Phone: 573-522-4115 ext. 3182
NaturalHeritageReview@mdc.mo.gov

U.S. Fish and Wildlife Service
Ecological Service
101 Park Deville Drive
Suite A
Columbia, MO
65203-0007
Phone: 573-234-2132

Miscellaneous Information

FEDERAL Concerns are species/habitats protected under the Federal Endangered Species Act and that have been known near enough to the project site to warrant consideration. For these, project managers must contact the U.S. Fish and Wildlife Service Ecological Services (101 Park Deville Drive Suite A, Columbia, Missouri 65203-0007; Phone 573-234-2132; Fax 573-234-2181) for consultation.

STATE Concerns are species/habitats known to exist near enough to the project site to warrant concern and that are protected under the Wildlife Code of Missouri (RSMo 3 CSR 1 0). "State Endangered Status" is determined by the Missouri Conservation Commission under constitutional authority, with requirements expressed in the Missouri Wildlife Code, rule 3CSR 1 0-4.111. Species tracked by the Natural Heritage Program have a "State Rank" which is a numeric rank of relative rarity. Species tracked by this program and all native Missouri wildlife are protected under rule 3CSR 10-4.110 General Provisions of the Wildlife Code.

Additional information on Missouri's sensitive species may be found at http://mdc.mo.gov/discover-nature/field-guide/endangered-species . Detailed information about the animals and some plants mentioned may be accessed at http://mdc4.mdc.mo.gov/applications/mofwis/mofwis_search1.aspx . If you would like printed copies of best management practices cited as internet URLs, please contact the Missouri Department of Conservation.

Appendix C: Geohydrologic Evaluation

Missouri Department of NATURAL RESOURCES
dnr.mo.gov
Michael L. Parson, Governor
Carol S. Comer, Director

LWE20002
Buchanan County

August 16, 2019

,

RE: Lake Road Generating Station

Dear :

On July 03, 2019, the Missouri Geological Survey received a request to perform a geohydrologic evaluation for the above referenced project located in Buchanan County. Included with this letter is a report that details the geologic and hydrologic conditions at the site and the potential for groundwater contamination in the event of wastewater treatment failure.

Thank you for the evaluation request. If you are in need of further assistance or have questions regarding the report, please contact our office at P.O Box 250, Rolla, Mo 65402-0250, by telephone at 573-368-2100 or gspgeol@dnr.mo.gov.

Sincerely,

MISSOURI GEOLOGICAL SURVEY

John Corley
Geologist
Environmental Geology Section

c: Dawn Hein KCPL Greater Missouri Operations Company
WPP
Kansas City Regional Office

STATE OF MISSOURI
REGISTERED GEOLOGIST
RG 2014001481

08/16/2019

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.

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.

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.
   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 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

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 permittees 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.

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.

May 17, 2021

Ms. Pam Hackler
Missouri Department of Natural Resources
Water Protection Program
P.O. Box 176
Jefferson City, Missouri 65102

RE: Permit Modification Request
Lake Road Generating Station
Buchanan County
Permit No: MO-0004898

Ms. Hackler,

Evergy, the owner/operator of the Lake Road Generating Station, requests the following modifications to the station's NPDES Permit NO. MO-0004898

1) In Table A-2 Effluent Limitations and Monitoring Requirement - Total Recoverable Copper (TR-Cu) limit for Outfall #001.

Under the current NPDES operating permit, Outfall #001 has a schedule of compliance for attaining compliance with TR-Cu. The future limit of 31.9 µg/L becomes effective on July 1, 2022. In an effort to meet future compliance, Evergy has been conducting internal studies. Through this study, Evergy discovered that the receiving stream for Outfall #001, Brown's Branch, has a significantly higher hardness than the ecoregion value that was assigned. The basis for the TR-Cu limit is based on a hardness value of 250 mg/L with all other factors being constants. The site-specific sampling demonstrated that hardness of Brown's Branch ranges from 384 mg/L to 889 mg/L. Table 1, below, shows the hardness results received from third-party lab.

Date	Hardness	Units
2/16/2021	690	mg/L
2/22/2021	532	mg/L
2/25/2021	587	mg/L
3/02/2021	630	mg/L
3/04/2021	541	mg/L
3/09/2021	658	mg/L
3/11/2021	643	mg/L
3/16/2021	889	mg/L
3/18/2021	782	mg/L
3/23/2021	384	mg/L
3/25/2021	592	mg/L

To allow for a TR-Cu limit that is based on site specific conditions, Evergy requests that the calculation utilized to establish the TR-Cu limit utilize the site specific hardness data of the receiving stream versus the ecoregion value.

2) **Special Condition 1. Impingement and Entrainment – Modify requirements under 40 CFR 122.21(r) to include the applicability of 40 CFR 125.94 (c)(12).**

40 CFR 125.94(c)(12) states that:

> *If an existing facility has a cooling water intake structure used for one or more existing electric generating units, each with an annual average capacity utilization rate of less than 8 percent averaged over a 24-month block contiguous period, the owner or operator may request the Director consider less stringent requirements for impingement mortality for that cooling water intake structure. The Director may, based on review of site-specific data concerning cooling water system data under 40 CFR 122.21(r)(5), establish the BTA standards for impingement mortality for that cooling water intake structure that are less stringent than paragraphs (c)(1) through (7) of this section.*

The Lake Road Generating Station has a cooling water intake structure on the Missouri River. The intake structure is utilized for cooling water of the Lake Road Unit 4/6. The operating hours of Unit 4/6 have significantly been reduced since 2016. Therefore, as of April 2018, this unit has an annual average capacity utilization rate of less than 8% averaged over a 24-month contiguous block as noted in 125.94(c)(12). Due to this, Evergy is requesting a modification within the current permit to reflect the flexibility that is allowed for low capacity utilization power generation units. Enclosed are the operating hours along with the summarized utilization rates associated with Lake Road's Unit 4/6.

In addition, Lake Road Unit 4/6 is tentatively scheduled to be shutdown prior to the current permit term ending. The operation of Unit 4/6 is what causes the intake structure, at Lake Road, to be subject to 40 CFR 122.21 (r). Due to this, Evergy is additionally requesting that the permit be modified to provide flexibility, as listed in 40 CFR 122.21 (r)(1)(ii)(F), that would waive the requirements of 40 CFR 122.21 (r)(1)(ii)(A), (B), (C), (D), and (E) if the facility were to pursue the cessation of Lake Road Unit 4/6 prior to permit expiration. The additional units at the Lake Road facility are scheduled to continue operation but do not utilize a cooling water intake structure.

Please note, Special Condition 1., currently acknowledges that the facility is meeting entrainment best technology available (BTA) by keeping flows below 125 MGD. The facility continues to maintain flows well below the 125 MGD for BTA.

Please reach out by calling (785)-575-8113 or emailing at melissa.michels@evergy.com should you have any questions, concerns or need additional information.

Thank you,

Melissa Michels

Cc: J. Morrison
M. Hobbs

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 – _____, 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 – 0004898 and is requesting a modification to the permit. Antidegradation Review may be required. Modification fee is required.

2. FACILITY

NAME		TELEPHONE NUMBER WITH AREA CODE	
Lake Road Generating Station		785-575-8113	
ADDRESS (PHYSICAL)	CITY	STATE	ZIP CODE
1413 Lower Lake Road	St. Joseph	MO	64504

3. OWNER

NAME		TELEPHONE NUMBER WITH AREA CODE	
Evergy, Inc.		785-575-8113	
EMAIL ADDRESS			
melissa.michels@evergy.com			
ADDRESS (MAILING)	CITY	STATE	ZIP CODE
PO Box 418679	Kansas City	MO	64141

4. CONTINUING AUTHORITY

NAME		TELEPHONE NUMBER WITH AREA CODE	
Evergy, Inc.			
EMAIL ADDRESS			
melissa.michels@evergy.com			
ADDRESS (MAILING)	CITY	STATE	ZIP CODE
PO Box 418679	Kansas City	MO	64141

5. OPERATOR CERTIFICATION

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

6. FACILITY CONTACT

NAME	TITLE	TELEPHONE NUMBER WITH AREA CODE
Melissa Michels	Mng. Environmental Services	785-575-8113
E-MAIL ADDRESS		
melissa.michels@evergy.com		

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

NAME			
South St. Joseph Industrial Sewer District			
ADDRESS	CITY	STATE	ZIP CODE
1409 Lower Lake Rd.	St. Joseph	MO	64504

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 NW ¼ SW ¼ Sec 30 T 57N R 35W Buchanan County
UTM Coordinates Easting (X): _____ Northing (Y): _____

002 NW ¼ SW ¼ Sec 30 T 57N R 35W Buchanan County
UTM Coordinates Easting (X): _____ Northing (Y): _____

003 NW ¼ SW ¼ Sec 30 T 57N R 35W Buchanan County
UTM Coordinates Easting (X): _____ Northing (Y): _____

004 ____ ¼ ____ ¼ 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 221112 SIC ____ and NAICS ____
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.

F. Do you use cooling water in your operations at this facility? YES ☑ NO ☐
If yes, please indicate the source of the water: MO River, groundwater or City of St. Joseph

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

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.

☐ - 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.

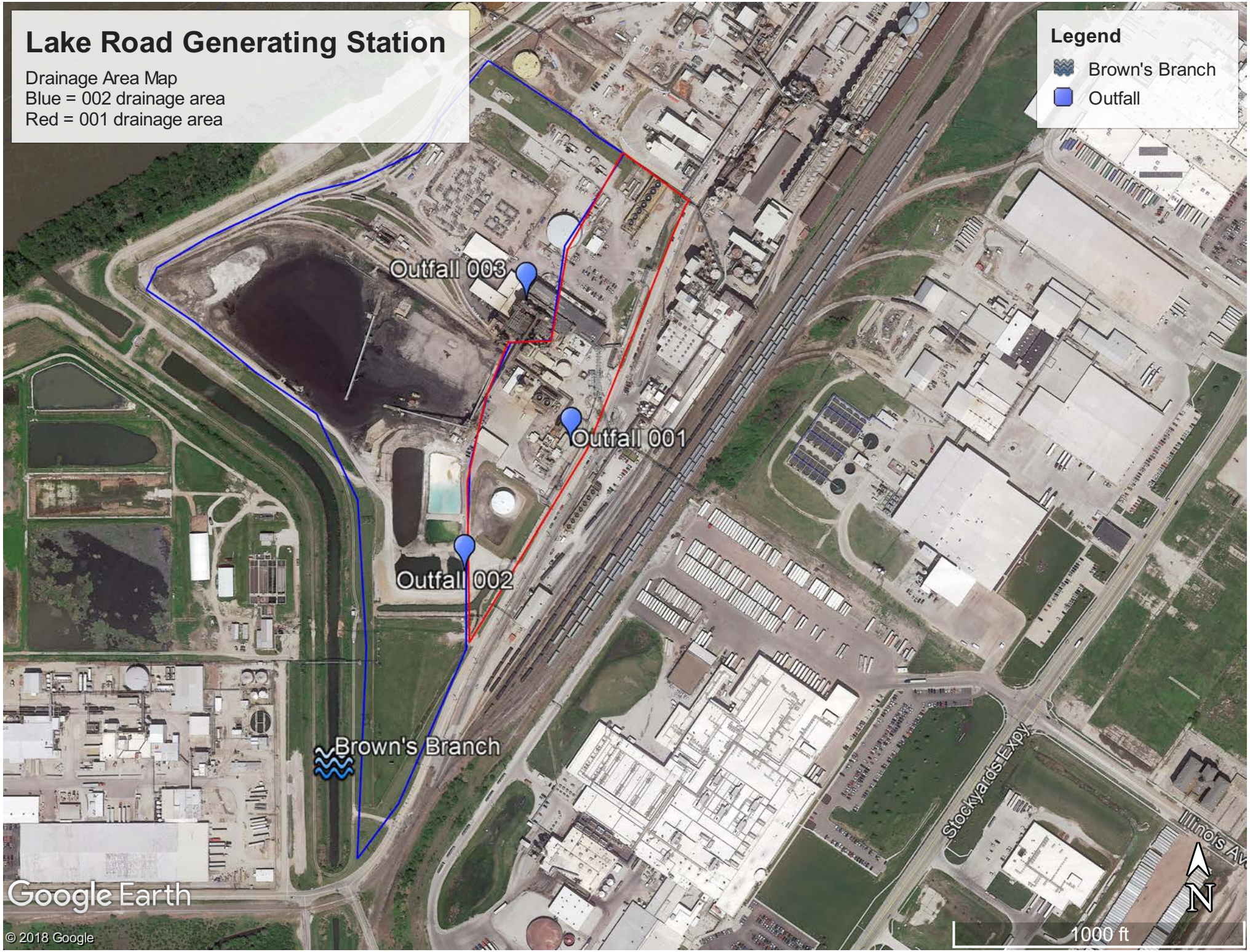
NAME AND OFFICIAL TITLE (TYPE OR PRINT)		TELEPHONE NUMBER WITH AREA CODE
John Bridson	Vice President, Generation	785-575-1515
SIGNATURE		DATE SIGNED
John T. Bridson		5/17/21

LAKE ROAD UNIT 4/6 OPERATING HOURS

Month	2016	2017	2018	2019	2020
January	726.1	12.8	0.0	1.5	6.9
February	490.6	0.0	0.0	17.0	4.4
March	744.0	0.0	0.0	18.7	0.0
April	337.6	55.6	16.6	17.5	4.6
May	24.0	0.0	60.9	17.6	0.0
June	288.8	0.0	63.5	116.8	0.0
July	248.4	159.2	170.9	218.7	41.5
August	196.1	30.5	68.8	218.3	15.1
September	147.3	16.7	32.1	34.8	52.9
October	114.8	2.3	62.1	16.2	71.2
November	72.9	0.0	0.0	0.0	19.8
December	50.2	0.0	1.3	2.2	4.7
	Total Hours Available Per Month				
January	744	744	744	744	744
February	696	672	672	672	696
March	744	744	744	744	744
April	720	720	720	720	720
May	744	744	744	744	744
June	720	720	720	720	720
July	744	744	744	744	744
August	744	744	744	744	744
September	720	720	720	720	720
October	744	744	744	744	744
November	720	720	720	720	720
December	744	744	744	744	744
	Monthly Utilization				
January	98%	2%	0%	0%	1%
February	70%	0%	0%	3%	1%
March	100%	0%	0%	3%	0%
April	47%	8%	2%	2%	1%
May	3%	0%	8%	2%	0%
June	40%	0%	9%	16%	0%
July	33%	21%	23%	29%	6%
August	26%	4%	9%	29%	2%
September	20%	2%	4%	5%	7%
October	15%	0%	8%	2%	10%
November	10%	0%	0%	0%	3%
December	7%	0%	0%	0%	1%

Utilization Summary

Year	12 month rolling utilization (hrs operated) Month	Monthly Utilization	Rolling 12-month annual utilization	24 month average
2016	January	98%		
	February	70%		
	March	100%		
	April	47%		
	May	3%		
	June	40%		
	July	33%		
	August	26%		
	September	20%		
	October	15%		
	November	10%		
	December	7%	39%	
2017	January	2%	31%	
	February	0%	25%	
	March	0%	17%	
	April	8%	14%	
	May	0%	14%	
	June	0%	10%	
	July	21%	9%	
	August	4%	7%	
	September	2%	6%	
	October	0%	5%	
	November	0%	4%	
	December	0%	3%	21%
2018	January	0%	3%	17%
	February	0%	3%	14%
	March	0%	3%	10%
	April	2%	3%	8%
	May	8%	3%	8%
	June	9%	4%	7%
	July	23%	4%	7%
	August	9%	5%	6%
	September	4%	5%	5%
	October	8%	5%	5%
	November	0%	5%	5%
	December	0%	5%	4%
2019	January	0%	5%	4%
	February	3%	6%	4%
	March	3%	6%	4%
	April	2%	6%	4%
	May	2%	5%	4%
	June	16%	6%	5%
	July	29%	6%	5%
	August	29%	8%	6%
	September	5%	8%	6%
	October	2%	8%	7%
	November	0%	8%	7%
	December	0%	8%	7%
2020	January	1%	8%	7%
	February	1%	8%	7%
	March	0%	7%	7%
	April	1%	7%	7%
	May	0%	7%	6%
	June	0%	6%	6%
	July	6%	4%	5%
	August	2%	1%	5%
	September	7%	2%	5%
	October	10%	2%	5%
	November	3%	2%	5%
	December	1%	3%	5%


Lake Road Generating Station
Drainage Area Map
Blue = 002 drainage area
Red = 001 drainage area
Legend
Brown's Branch
Outfall
Outfall 003
Outfall 001
Outfall 002
Brown's Branch
Stockyards Expy
Illinois Av
N
1000 ft
Google Earth
© 2018 Google