STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

MISSOURI STATE OPERATING PERMIT

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

Permit No.	MO-0095362
Owner:	The Empire District Electric Company
Address:	602 South Joplin Avenue, Joplin, MO 64801
Continuing Authority:	same as above
Address:	same as above
Facility Name:	Asbury Renewable Operations Center
Facility Address:	21133 Uphill Lane, Asbury, MO 64832
Legal Description:	Sec 17, T30N, R33W, Jasper Co.
UTM Coordinates:	see page two
Receiving Stream:	see page two
First Classified Stream and ID:	see page two
USGS Basin & Sub-watershed No.:	Blackberry Creek 11070207-0507

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

FACILITY DESCRIPTION

Power Plant (shuttered 3/1/2020) and one coal ash impoundment; SIC # 4911; NAICS # 221112, former power generating facility; this permit continues to authorize the coal ash ponds and closure in-place. New authorized discharges are a utility waste landfill (not constructed): non-contact stormwater and leachate. This facility does not require a certified wastewater operator per 10 CSR 20-9.030 as this facility is privately owned.

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.

April 1, 2022
Effective Date

March 31, 2027
Expiration Date

Chris Wieberg, Director, Water Protection Program

FACILITY DESCRIPTION (CONTINUED)

OUTFALL #001 – Cooling water pond; cooling tower blowdown discharge removed at 2020 permit modification, facility is being demolished. Discharges are stormwater related, but basin has minor amounts of cooling wastewater. Discharges permissible, no sampling requirements as data show no RP. Facility should close this basin per 10 CSR 20-6.010(12).
UTM Coordinates: X = 359462, Y = 4136055

OUTFALL #002 – Ash pond overflow.
UTM Coordinates: X = 360060, Y = 4135728
Receiving Stream: Tributary to Blackberry Creek
First Classified Stream and ID: 100K Extent Remaining Stream (C) WBID# 3960; locally known as Blackberry Creek
Average DMR Flow: 0.65 MGD

OUTFALL #003 – Removed 2020 Modification; former stormwater runoff from railroad loop area, no process water. No longer considered industrially exposed stormwater. UTM Coordinates: X = 360262, Y = 4136480

OUTFALL #004 –removed from all requirements 10/9/2012, formerly domestic sewage treatment; was a former sewage lagoon associated with the P&M Office Building located on Empire property. Building is not currently occupied. All water and sanitary facilities are disconnected. The lagoon collects rainwater only; no industrial exposure. X = 359045, Y = 4136519, Barton Co.

OUTFALL #005 – removed 2020 modification, no industrial exposure; stormwater runoff from the substation yard. Actual flow is dependent upon precipitation. UTM Coordinates: X = 359067, Y = 4136020

FEATURE #006 – domestic wastewater subsurface land application, no surface discharge; single cell lagoon measures 60’ X 100’ at the bottom and is 6’ 8” deep with a 3:1 slope berm. The storage capacity is 64,000 ft^3 with a freeboard of 24”, sludge is stored in the lagoon.
UTM Coordinates: X = 359168, Y = 4136099
Receiving Stream: Tributary to Blackberry Creek
First Classified Stream and ID: 100K Extent Remaining Stream (C) WBID# 3960; locally known as Blackberry Creek
Storage volume capacity: 478,753 gallons, no discharge to surface permitted

OUTFALL #007 – new at 2020 modification; this outfall serves the reclaimed coal pile area and the power plant area. The power plant will be demolished in the future.
UTM Coordinates: X = 359530, Y = 4136348
Receiving Stream: Tributary to Blackberry Creek
First Classified Stream and ID: 100K Extent Remaining Stream (C) WBID# 3960; locally known as Blackberry Creek
Average DMR Flow: 0.47 MGD

OUTFALL #008 – ash pond overflow new at 2020 modification
UTM Coordinates: X = 359625, Y = 4135575
Receiving Stream: Tributary to Blackberry Creek
First Classified Stream and ID: 100K Extent Remaining Stream (C) WBID# 3960; locally known as Blackberry Creek
Average DMR Flow: unknown; no discharge reported yet

OUTFALL #009 – UWL landfill leachate, new at 2022 renewal; antidegradation determination 2018 and 2021
UTM Coordinates: X = 360397, Y = 4135374
Receiving Stream: Tributary to Blackberry Creek
First Classified Stream and ID: 100K Extent Remaining Stream (C) WBID# 3960; locally known as Blackberry Creek

OUTFALL #010 – UWL non-contact stormwater, new at 2022 renewal
UTM Coordinates: X = 360388, Y = 4135395
Receiving Stream: Tributary to Blackberry Creek
First Classified Stream and ID: 100K Extent Remaining Stream (C) WBID# 3960; locally known as Blackberry Creek

OUTFALL #011 – UWL non-contact stormwater, new at 2022 renewal
UTM Coordinates: X = 360020, Y = 4135531
Receiving Stream: Tributary to Blackberry Creek
First Classified Stream and ID: 100K Extent Remaining Stream (C) WBID# 3960; locally known as Blackberry Creek

SM1 – Blackberry Creek upstream monitoring removed from sampling requirements at 2017 renewal. X = 360407, Y = 4136937
SM2 – Blackberry Creek downstream compliance point removed 2017 renewal. X = 361002, Y = 4133067

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALLS #002 AND #008 *ash pond stormwater*	**TABLE A-1** **FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

The facility is authorized to discharge from outfall(s) as specified. The final effluent limitations shall become effective on **April 1, 2022** and remain in effect until **December 31, 2023**. No discharge of contact stormwater is allowed after **December 31, 2023**. Discharges shall be controlled, limited, and monitored by the facility as specified below:

EFFLUENT PARAMETERS	UNITS	FINAL EFFLUENT LIMITATIONS		MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHLY AVERAGE	MINIMUM MEASUREMENT FREQUENCY	SAMPLE TYPE
LIMIT SET: CS					
PHYSICAL					
Flow	MGD	*	*	once/quarter ◊	24 hr. total
CONVENTIONAL					
Chemical Oxygen Demand	mg/L	*	*	once/quarter ◊	grab
Oil & Grease	mg/L	15	10	once/quarter ◊	grab
pH †	SU	6.5 to 9.0	-	once/quarter ◊	grab
Total Suspended Solids	mg/L	100	30	once/quarter ◊	grab
METALS					
Boron, Total Recoverable	µg/L	*	*	once/quarter ◊	grab
Iron, Total Recoverable	µg/L	1000	*	once/quarter ◊	grab
Molybdenum, Total Recoverable	µg/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 JULY 28, 2022.

OUTFALLS #002, #007, AND #008 *reclaimed coal and ash areas stormwater only*	**TABLE A-2 ⁂** **FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

The facility is authorized to discharge from outfall(s) as specified. The final effluent limitations shall become effective on **April 1, 2022** and remain in effect until expiration of the permit. Discharges shall be controlled, limited and monitored by the facility as specified below:

EFFLUENT PARAMETERS	UNITS	FINAL LIMITATIONS		BENCH-MARKS	MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHLY AVERAGE		MINIMUM MEASUREMENT FREQUENCY	SAMPLE TYPE
LIMIT SET: NS						
PHYSICAL						
Flow	MGD	*		-	once/quarter ◊	24 Hr Est.
CONVENTIONAL						
Chemical Oxygen Demand	mg/L	**		90	once/quarter ◊	grab
Oil & Grease	mg/L	**		10	once/quarter ◊	grab
pH †	SU	6.5 to 9.0		-	once/quarter ◊	grab
Total Suspended Solids	mg/L	**		100	once/quarter ◊	grab
METALS						
Boron, Total Recoverable	µg/L	**		2000	once/quarter ◊	grab
Iron, Total Recoverable	µg/L	*		-	once/quarter ◊	grab
Molybdenum, Total Recoverable	µg/L	**		100	once/quarter ◊	grab
OTHER						
Chloride	mg/L	*		-	once/quarter ◊	grab
Sulfate	mg/L	*		-	once/quarter ◊	grab
Chloride plus Sulfate	mg/L	**		1000	once/quarter ◊	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE JULY 28, 2022.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

OUTFALL #009 *landfill leachate*	**TABLE A-3** **FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**			
The facility is authorized to discharge from outfall(s) as specified. The final effluent limitations shall become effective on **April 1, 2022** and remain in effect until expiration of the permit. Discharges shall be controlled, limited, and monitored by the facility as specified below:				
EFFLUENT PARAMETERS	UNITS	FINAL EFFLUENT LIMITATIONS		MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHLY AVERAGE	MINIMUM 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	6.5 to 9.0	-	once/month	grab
Total Suspended Solids	mg/L	100	30	once/month	grab
METALS					
Arsenic, Total Recoverable	µg/L	11	8	once/month	grab
Boron, Total Recoverable	µg/L	3285	1638	once/month	grab
Mercury, Total	µg/L	0.788	0.356	once/month	grab
Molybdenum, Total Recoverable	µg/L	*	*	once/month	grab
Selenium, Total Recoverable	µg/L	8.2	4.1	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 Nitrogen	mg/L	*	*	once/month	grab
Phosphorus, Total (TP)	mg/L	*	*	once/month	grab
OTHER					
Chloride	mg/L	*	*	once/month	grab
Sulfate	mg/L	*	*	once/month	grab
Chloride plus Sulfate	mg/L	1000	*	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE MAY 28, 2022.					
LIMIT SET: A					
OTHER					
Whole Effluent Toxicity, Acute -See Special Condition #1	TUa	0.3 (ML1.0)		once/year	grab
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE JANUARY 28, 2023.					

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

OUTFALLS #010 & #011 *UWL non-contact stormwater*	**TABLE A-4** **FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

The facility is authorized to discharge from outfall(s) as specified. The final effluent limitations shall become effective on **April 1, 2022** and remain in effect until expiration of the permit. Discharges shall be controlled, limited and monitored by the facility as specified below:

EFFLUENT PARAMETERS	UNITS	FINAL LIMITATIONS		BENCH-MARKS	MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHLY AVERAGE		MINIMUM MEASUREMENT FREQUENCY	SAMPLE TYPE
LIMIT SET: Q						
PHYSICAL						
Flow	MGD	*		-	once/quarter ◊	24 Hr Est.
CONVENTIONAL						
Chemical Oxygen Demand	mg/L	**		120	once/quarter ◊	grab
Oil & Grease	mg/L	**		10	once/quarter ◊	grab
pH †	SU	*		-	once/quarter ◊	grab
Total Suspended Solids	mg/L	**		100	once/quarter ◊	grab
METALS						
Boron, Total Recoverable	µg/L	*		-	once/quarter ◊	grab
Molybdenum, Total Recoverable	µg/L	*		-	once/quarter ◊	grab
Selenium, Total Recoverable	µg/L	*		-	once/quarter ◊	grab
OTHER						
Chloride	mg/L	*		-	once/quarter ◊	grab
Sulfate	mg/L	*		-	once/quarter ◊	grab
Chloride plus Sulfate	mg/L	**		1000	once/quarter ◊	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE JULY 28, 2022.

PERMITTED FEATURE #006 *no discharge domestic wastewater structure*	**TABLE A-5** **NO DISCHARGE: FINAL MONITORING REQUIREMENTS**

The facility is not authorized to discharge from this feature. The final requirements shall become effective on **April 1, 2022** and remain in effect until expiration of the permit. This feature shall be monitored and operationally controlled by the facility as specified below:

MONITORING PARAMETERS	UNITS	MONITORING REQUIREMENTS			
		DAILY MINIMUM	MONTHLY AVERAGE	MINIMUM MEASUREMENT FREQUENCY	SAMPLE TYPE
LIMIT SET: B					
Freeboard	feet	2	*	once/month	measured

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE MAY 28, 2022.
NO DISCHARGES ARE AUTHORIZED FROM THIS FEATURE

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

* Monitoring and reporting requirement only

** Monitoring and reporting requirement with benchmark. See Special Conditions for additional requirements.

⁑ This limit set is to be used for stormwater only discharges. This limit set can be used immediately for outfall #007, and after the ash ponds have been closed for the other outfalls. If a report is submitted for an outfall under Table A-1, a report for Table A-2 is not required. The facility should report "no discharge" for A-2 reporting requirements if A-1 is used.

† 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 facility shall report progress made in attaining compliance with the final effluent limits.

2. The facility 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 April 1, 2023.

3. By January 1, 2024 the facility shall attain compliance with the final closure date of the ash ponds. After December 31, 2023, no contact stormwater is allowed for discharge.

4. The facility must submit all reports to swroedmr@dnr.mo.gov

C. STANDARD CONDITIONS

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

D. SPECIAL CONDITIONS

1. Acute Whole Effluent Toxicity (WET) tests shall be conducted as follows: (Outfall #009)
   (a) Freshwater Species and Test Methods: Species and short-term test methods for estimating the acute toxicity of NPDES effluents are found in the most recent edition of *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (EPA/821/R-02/012; Table IA, 40 CFR Part 136). The permittee shall concurrently conduct 48-hour, static, non-renewal toxicity tests with the following species:
      - The fathead minnow, *Pimephales promelas* (Acute Toxicity EPA Test Method 2000.0).
      - The daphnid, *Ceriodaphnia dubia* (Acute Toxicity EPA Test Method 2002.0).
   (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 required to stabilize the sample during shipping. Where upstream receiving water is not available or known to be toxic, other approved control water should 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: 6.25%, 12.5%, 25%, 50%, and 100%.
   (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 acute toxic units ($TU_a = 100/LC_{50}$) reported according to the test methods manual chapter on report preparation and test review. The Lethal Concentration 50% (LC_{50}) is the effluent concentration causing death in 50% of the test organisms at a specific time.
   (h) Accelerated Testing Trigger: If the regularly scheduled acute WET test exceeds the TU_a limit, the permittee shall conduct accelerated follow-up WET testing as prescribed in the following conditions. Results of the follow-up accelerated WET testing shall be reported in TU_a. This permit requires the following additional toxicity testing if any one test result exceeds a TU_a limit.
      (1) A multiple dilution test shall be performed for both test species within 60 calendar days of becoming aware the regularly scheduled WET test exceeded a TU_a limit, and once every two weeks until one of the following conditions are met:
         i. Three consecutive multiple-dilution tests are below the TU_a limit. No further tests need to be performed until the next regularly scheduled test period.
         ii. A total of three multiple-dilution tests exceed the TU_a limit (do not need to be sequential)
      (2) Follow-up tests do not negate an initial test result.
      (3) The permittee shall submit a summary of all accelerated WET test results for the test series along with complete copies of the laboratory reports as received from the laboratory within 14 calendar days of the availability of the third test exceeding a TU_a limit.
      (4) The facility may begin a TIE or TRE during the follow-up testing phase.
   (i) TIE/TRE Trigger: The following shall apply upon the exceedance of the TU_a limit in three accelerated follow-up WET tests. The permittee should contact the Department within 14 calendar days from availability of the test results to ascertain as to whether a TIE or TRE is appropriate. If the permittee does not contact the Department upon the third follow up test exceeding a TU_a limit, a toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. The permittee shall submit a plan for conducting a TIE or TRE within 60 calendar days of the date of the automatic trigger or the Department's direction to perform either a TIE or TRE. The plan shall be based on EPA Methods and include a schedule for completion. This plan must be approved by the Department before the TIE or TRE is begun.

2. The facility shall not discharge historic ash transport water (legacy wastewater) as soon as possible; and shall not discharge ash transport water or wastewater contacting stormwater on or after December 31, 2023. Legacy wastewater is any bottom ash transport water, fly ash transport water, and FGD wastewater generated before the final sluicing date.

3. Groundwater requirements.
   Groundwater Monitoring Program: The permittee shall implement an effective groundwater monitoring program designed to determine if the coal ash impoundments have an impact on groundwater quality. The monitoring system must be capable of comparing up-gradient to down-gradient water quality in the first continuous water-bearing zone beneath the impoundment. The monitoring system must be based upon a thorough hydrogeological characterization of the impoundment area that determines the appropriate hydrostratigraphic unit to monitor, its groundwater gradient(s) and any seasonal variations in its gradient(s). Any hydrogeological characterization conducted for the design of the groundwater monitoring program shall be approved by the department's Missouri Geological Survey. The number of monitoring wells required for the groundwater monitoring program shall be based on site-specific hydrogeologic conditions and sufficient for effective monitoring. To complete the following work plans and reports, the Water Protection Program recommends using applicable portions of the document issued by the Missouri Geological Survey (MGS), dated December 10, 2010, *Guidance for Conducting a Detailed Hydrogeologic Site Characterization and Designing a Groundwater Monitoring Program* as guidance. The plans shall be submitted as two hard copies and one

D. SPECIAL CONDITIONS (CONTINUED)

electronic copy to the Missouri Department of Natural Resources central office: The Water Protection Program at P.O. Box 176, Jefferson City MO 65102-9920. In order to accomplish this, the permittee shall:

(a) At permit issuance, have all elements of the March 2020 GMSAP fully implemented.
(b) After closure, and after groundwater stabilization has occurred, the facility shall collect at least 8 groundwater quality samples at a discrete intervals which must demonstrate each sample is independent and representative of the groundwater being monitored. The facility shall sample for all constituents listed in 40 CFR 257 Table III and Table IV, and 10 CSR 80-11.010 Appendix I.
(c) The facility shall have a 10 year schedule of compliance to meet sulfate at 250 mg/L in the groundwater surrounding the waste mass. Alternatively, the facility may demonstrate under 10 CSR 25-18.010, within the next permit term, through allowances made in 10 CSR 20-7.015(7)(E)6.A, that the groundwater in vicinity of the waste mass is not being contaminated by the waste mass; but that groundwater in this area has a naturally high level of sulfate.
(d) The facility shall also evaluate, through allowances made in 10 CSR 20-7.015(7)(E)6.A, at a minimum, arsenic, boron, and nickel; and any other contaminants demonstrating presence above levels which would require action pursuant to 10 CSR 25-18.010.

4. Impact Statement Describing Hydraulic Connectivity from the Ash Pond(s) to Surface Water
   (a) This permit specifically allows discharge of pollutants from the ash pond(s) to groundwater and through subsurface water to surface water.
   (b) The facility shall complete items below in this section, to determine the impacts (if any) that the closed ash pond has on the nearby classified surface waters of the state or United States.
   (c) If the groundwater on the downgradient edge of the waste mass is above the most stringent surface water quality standard (protection of aquatic life, protection of human health, drinking water, irrigation, or livestock protection) assigned to the receiving surface waterbody, the facility shall provide calculations of daily pollutant loading for each pollutant enumerated in Appendices III and IV in 40 CFR Subpart D and 10 CSR 80-11-010 Appendix I, that has an applicable surface water quality standard.
   (d) A model or calculations which determines fate and rate of transport of each constituent above the specifications listed in (c) is required. The facility may assume all pollutants are unchanged (fate is equal to measured), and provide the expected concentrations in the surface water.
   (e) The facility shall provide the data to support the impact statement conclusions, including well data used, assumptions, and which model(s) was used. All measurements, conclusions, and numeric results shall be supported with a description of the scientific methodology used to complete of the task.
   (f) The impact statement shall include the average estimated and worst-case (maximum) total daily flow volume of all groundwater coming from the ash pond(s) to the nearest classified stream.
   (g) The requirements identified here will be submitted within or before five years of the effective permit date listed on Page 1 of the permit.
   (h) Removal of all coal combustion residual waste from the unlined impoundments will automatically dismiss the requirements in this special condition. The facility must notify the Department as soon as possible after determining this action will occur.

5. Spills, Overflows, and Other Unauthorized Discharges.
   (a) Any spill, overflow, or other discharge(s) not specifically authorized 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.

6. No-Discharge Wastewater Holding Structure(s) Minimum Best Management Practices (BMPs):
   (a) To prevent unauthorized discharges, the no-discharge wastewater structure must be properly designed, operated, and maintained to contain all wastewater plus run-in and direct precipitation.
   (b) During normal weather conditions, the liquid level in the storage structure shall be maintained below the upper operating level, so adequate storage capacity is available for use during adverse weather periods. The liquid level in the storage structure should be lowered on a routine schedule based on the design storage period. Typically this should be accomplished prior to expected seasonal wet and winter climate periods.
   (c) Maintain liquid level in the no-discharge wastewater structure at least 2.0 feet from the bottom of the discharge pipe, top of the basin, or the bottom of the overflow canal, whichever is lowest.
   (d) Monthly inspection of no-discharge wastewater basin(s) shall occur. Inspection notes will be kept at the facility and made available to the Department upon request. Electronic records retention is acceptable.
   (e) The inspections will note any issues with the no-discharge structure and will record the level of liquid as indicated by the depth marker.

D. SPECIAL CONDITIONS (CONTINUED)

7. Any discharge not meeting permitted limits may be pumped and hauled to an accepting wastewater treatment facility, or otherwise properly disposed.

8. Electronic Discharge Monitoring Report (eDMR) Submission System. The NPDES Electronic Reporting Rule, 40 CFR Part 127, reporting of effluent monitoring data and any report required by the permit (unless specifically directed otherwise by the permit), shall be submitted via an electronic system to ensure timely, complete, accurate, and nationally consistent set of data for the NPDES program. The eDMR system is currently the only Department-approved reporting method for this permit unless specified elsewhere in this permit, or a waiver is granted by the Department. The facility must register in the Department's eDMR system through the Missouri Gateway for Environmental Management (MoGEM) before the first report is due. All reports uploaded into the system shall be reasonably named so they are easily identifiable, such as "WET Test Chronic Outfall 002 Jan 2023", or "Outfall004-DailyData-Mar2025".

9. 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 upon permit effective date. The SWPPP must be kept on-site and not sent to the Department unless specifically requested. The SWPPP must be reviewed and updated annually or if site conditions affecting stormwater change. The facility 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 March 2021) https://www.epa.gov/sites/production/files/2021-03/documents/swppp_guide_industrial_2021_030121.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 ineffective at providing the necessary protections for which it was designed. 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 (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) If within the boundaries of a regulated Municipal Separate Storm Sewer System (MS4s), list the name of the regulated MS4.
   (d) 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. A BMP is considered to be disrupted if it is rendered ineffective as a result of damage or improper maintenance. Categorization of a deficiency is reliant on the length of time required to correct each disrupted BMP. Corrective action after discovering a disrupted BMP must be taken as soon as possible. Throughout coverage under this permit, the facility must perform ongoing SWPPP review and revision to incorporate any site condition changes.
      (1) Operational deficiencies are disrupted BMPs which the facility is able to and must correct within 7 calendar days.
      (2) Minor structural deficiencies are disrupted BMPs which the facility is able to and must correct within 14 calendar days.
      (3) Major structural deficiencies (deficiencies projected to take longer than 14 days to correct) are disrupted BMPs which must be reported as an uploaded attachment through the eDMR system with the DMRs. The initial report shall consist of the deficiency noted, the proposed remedies, the interim or temporary remedies (including proposed timing of the placement of the interim measures), and an estimate of the timeframe needed to wholly complete the repairs or construction. If required by the Department, the facility shall work with the regional office to determine the best course of action. The facility should consider temporary structures to control stormwater runoff. The facility shall correct the major structural deficiency as soon as reasonably achievable.
      (4) All actions taken to correct the deficiencies shall be included with the written report, including photographs, and kept with the SWPPP. Additionally, corrective action of major structural deficiencies shall be reported as an uploaded attachment through the eDMR system with the DMRs.
      (5) BMP failure causing discharge through an unregistered outfall is considered an illicit discharge and must be reported in accordance with Standard Conditions Part I.
      (6) Inspection reports must be kept on site with the SWPPP and maintained for a period of five (5) years. These must be made available to Department personnel upon request. Electronic versions of the documents and photographs are acceptable.
   (e) A provision for designating a responsible individual 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.

D. SPECIAL CONDITIONS (CONTINUED)

10. Site-wide minimum Best Management Practices (BMPs). At a minimum, the facility shall adhere to the following:
    (a) Provide good housekeeping practices on the site to keep trash from entry into waters of the state. Dumpsters should remain closed when not in use.
    (b) Prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicle maintenance, equipment cleaning, warehouse activities, and other areas, to prevent the contamination of stormwater from these substances.
    (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, 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) Ensure adequate provisions are provided to prevent surface water intrusion into the domestic wastewater storage basin and to divert stormwater runoff around the domestic wastewater storage basin.
    (f) Wash water for vehicles, building(s), or pavement must be managed by dissipation, infiltration, or discharge through outfall #007.
    (g) Fire protection test water at outside hydrants must be managed so that rills or erosion does not occur. This facility utilizes non-chlorinated water in this process and has authorization to discharge.
    (h) This facility typically only applies snow-melt materials to employee areas. If the facility determines a more broad application area is required, the facility may attempt to eliminate chloride discharge by utilizing a non-chloride containing snow melt materials.

11. Proper and continued operation and maintenance pursuant to 40 CFR 122.41(e). At all times the facility shall properly operate, maintain, and control all systems of treatment and control (and related appurtenances) which are installed or used by the facility 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 facility only when the operation is necessary to achieve compliance with the conditions of the permit.

12. Petroleum Secondary Containment.
    The drainage area around the secondary containment area and the interior of the containment area shall be inspected quarterly. Solids, sludge, and soluble debris shall not be allowed to accumulate in the secondary containment.
    (a) The interior of the secondary containment area shall be checked at least quarterly for signs of leaks, spills, and releases of petroleum.
    (b) All petroleum captured in the secondary containment area shall be expeditiously removed and the source of the petroleum determined. Leaks or otherwise compromised equipment or appurtenances shall be promptly addressed/repaired.
    (c) Before releasing water accumulated in petroleum secondary containment areas, the water and area must be examined for hydrocarbon odor and presence of sheen to protect the general criteria found at 10 CSR 20-7.031(4).
    (d) Unimpacted stormwater (i.e. free from hydrocarbon odor and presence of sheen), should be drained from the secondary containment as soon as reasonably possible after a precipitation event.
    (e) If subparts (a) and (b) above were not followed, impacted stormwater shall not be discharged from the secondary containment and shall instead be managed in accordance with legally approved methods for disposal of process wastewater, such as being sent to an accepting wastewater treatment facility.
    (f) If subparts (a) and (b) were followed, impacted stormwater can only be drained from the secondary containment after removal of all odor or sheen utilizing appropriate methods.
    (g) The area surrounding the secondary containment must be free of signs of vegetative stress or other indicia of petroleum discharge.
    (h) The area below the outlet of the secondary containment area must be maintained to minimize soil washout, such as with stabilized vegetation, rip rap, or by releasing accumulated water slowly.
    (i) Records of all inspections, testing, and/or treatment of water accumulated in secondary containment shall be available on demand to the Department. Electronic records retention is acceptable. These records must be included in the SWPPP.

D. SPECIAL CONDITIONS (CONTINUED)

13. Oil/Water Separators. This site is authorized to operate oil water separator tanks (if considered USTs) for the treatment of wastewater or stormwater and falls under 10 CSR 26-2.010(2)(B) if treating water with petroleum oils. OWS, serving this facility are hereby authorized and shall be operated per manufacturer's specifications. The specifications and operating records must be made accessible to Department staff upon request. Petroleum oil water separator sludge is considered used oil; sludge must be disposed of in accordance with 10 CSR 25-11.279. OWS treating animal, vegetable, or food grade oils are not required to be authorized under these regulations. All best management practices for all OWS systems must be adhered.

14. 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 644.051.16 RSMo for permit shield, and the CWA §402(k) for toxic substances. 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 CWA §§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 already limited in the permit. This permit may be modified, revoked and reissued, or terminated for cause, including determination new pollutants found in the discharge not identified in the application for the new or revised permit. The filing of a request by the facility for a permit modification, termination, notice of planned changes, or anticipated non-compliance does not stay any permit condition.

15. All outfalls and permitted features must be clearly marked in the field.

16. 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.

17. Reporting of Non-Detects.
    (a) Compliance analysis conducted by the facility or any contracted laboratory shall be conducted in such a way the precision and accuracy of the analyzed result can be enumerated. See sufficiently sensitive test method requirements in Standard Conditions Part I, §A, No. 4 regarding proper testing and detection limits used for sample analysis. For the purposes of this permit, the definitions in 40 CFR 136 apply; method detection limit (MDL) and laboratory-established reporting limit (RL) are used interchangeably in this permit. The reporting limits established by the laboratory must be below the lowest effluent limits established for the specified parameter (including any parameter's future limit after an SOC) in the permit unless the permit provides for an ML.
    (b) The facility shall not report a sample result as "non-detect" without also reporting the MDL. Reporting "non-detect" without also including the MDL will be considered failure to report, which is a violation of this permit.
    (c) For the daily maximum, the facility shall report the highest value; if the highest value was a non-detect, use the less than "<" symbol and the laboratory's highest method detection limit (MDL) or the highest reporting limit (RL); whichever is higher (e.g. <6).
    (d) When calculating monthly averages, zero shall be used in place of any value(s) not detected. Where all data used in the average are below the MDL or RL, the highest MDL or RL shall be reported as "<#" for the average as indicated in item (c).

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

19. This permit does not cover land disturbance activities.

20. This permit does not apply to fertilizer products receiving a current exemption under the Missouri Clean Water Law and regulations in 10 CSR 20-6.015(3)(B)8, and are land applied in accordance with the exemption.

21. This permit does not allow stream channel or wetland alterations unless approved by Clean Water Act §404 permitting authorities.

22. This permit does not authorize in-stream treatment, 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.

23. All records required by this permit may be maintained electronically per 432.255 RSMo. These records may be maintained in a searchable format.

D. SPECIAL CONDITIONS (CONTINUED)

24. Changes in Discharges of Toxic Pollutant.
In addition to the reporting requirements under 40 CFR 122.41, all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director per 40 CFR 122.42(a)(1) and (2) as soon as recognizing:
(a) 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) 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 the 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).
(c) Authorization of new or expanded pollutant discharges may be required under a permit modification or renewal, and may require an antidegradation review.

25. This permit does not authorize the facility to accept, treat, or discharge wastewater from other sources unless explicitly authorized herein. If the facility would like to accept, treat, or discharge wastewater from another activity or facility, the permit must be modified to include external wastewater pollutant sources in the permit.

26. Any discharges (or qualified activities such as land application) not expressly authorized in this permit, and not clearly disclosed in the permit application, cannot become authorized or shielded from liability under CWA section 402(k) or Section 644.051.16, RSMo, by disclosure to EPA, state, or local authorities after issuance of this permit via any means, including any other permit applications, funding applications, the SWPPP, discharge monitoring reporting, or during an inspection. Submit a permit modification application, as well as an antidegradation determination if appropriate, to request authorization of new or expanded discharges.

27. Renewal Application Requirements.
(a) This facility shall submit an appropriate and complete application to the Department no less than 180 days prior to the expiration date listed on page 1 of the permit.
(b) Application materials shall include complete Form A, and Form C. If the form names have changed, the facility should ensure they are submitting the correct forms as required by regulation.
(c) The facility may use the electronic submission system to submit the application to the Program, if available.

E. UNDERGROUND INJECTION CONTROL

1. All Class V wells must be registered with Wellhead Protection in accordance with 40 CFR 144.26, and shall comply with the reporting requirements of 40 CFR 144.26. The facility 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 (including closure).

2. Subsurface Wastewater Dispersal System(s) under this permit are deemed Class V well(s). All wells; an inventory form shall be submitted to the Department of Natural Resources' Missouri Geological Survey. Only one submittal is required for the life of the Class V well.

3. The facility shall maintain all service and maintenance records for a period of at least five years. These records shall be made available to Department personnel upon request.

4. Injection Well Requirements:
(a) Well drillers must hold a non-restricted permit and must be registered in Missouri per 10 CSR 23-1.090, be current, and in good standing.
(b) All injection wells must be closed in accordance with 10 CSR 23-4.080.

E. UNDERGROUND INJECTION CONTROL (CONTINUED)

5. The facility shall develop, maintain, and implement an Operation and Maintenance (O&M) manual.
   (a) The manual must include all necessary items to ensure the operation and integrity of the waste handling system.
   (b) The O&M manual must include key operating procedures, an aerial or topographic site map with the feature outlined, and a brief summary of the operation of the facility.
   (c) The O&M manual shall be made available to the operator.
   (d) The O&M manual shall be reviewed and updated at least every five years or when changes have occurred, and be made available to Department personnel upon request.
   (e) The O&M manual may be maintained electronically.

6. Subsurface Distribution System Site Restrictions (10 CSR 20-8.200(7))
   (a) Subsurface land application shall not occur within 100 feet of any well, sinkhole, or losing stream.
   (b) All systems shall not allow effluent to surface, reach waters of the state, effect a stream, or effect any nearby buildings or dwellings.
   (c) Subsurface distribution area(s) access must be controlled to prevent damage from traffic, heavy vehicles, livestock, construction, or digging.
   (d) Subsurface distribution areas shall have adequate surface drainage and maintain vegetation (if appropriate).
   (e) Systems shall be placed at or greater than 10 feet from the property line.

7. Report “operational shutdown” when injection/distribution does not occur during the entire reporting period.

F. 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 621.250 and 644.051.6 RSMo. To appeal, you must file a petition with the AHC within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC. Any appeal should be directed to:

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

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL OF
MO-0095362
ASBURY RENEWABLE OPERATIONS CENTER

The Federal Water Pollution Control Act (Clean Water Act (CWA) §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 (§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 644 RSMo as amended). MSOPs may also cover underground injection, non-discharging facilities, and land application facilities. Permits 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 applicable regulations, rationale for the development of limitations and conditions, and the public participation process for the Missouri State Operating Permit (MSOP or permit) listed below. A factsheet is not an enforceable part of a permit.

PART I. FACILITY INFORMATION

Facility Type: Industrial: Minor (12/02/2005), Categorical; >1 MGD
SIC Code(s): 4911
NAICS Code(s): 221112
Application Date: 09/13/2021
Modification Date: 08/01/2020
Expiration Date: 03/31/2022
Last Inspection: 03/16/2021

FACILITY DESCRIPTION:
Power plant, closed. Ash ponds remain as waste masses and will use ClosureTurf as final cover. New authorization for utility waste landfill discharges if the facility determines a UWL is necessary to house the ash (moved) in the future.

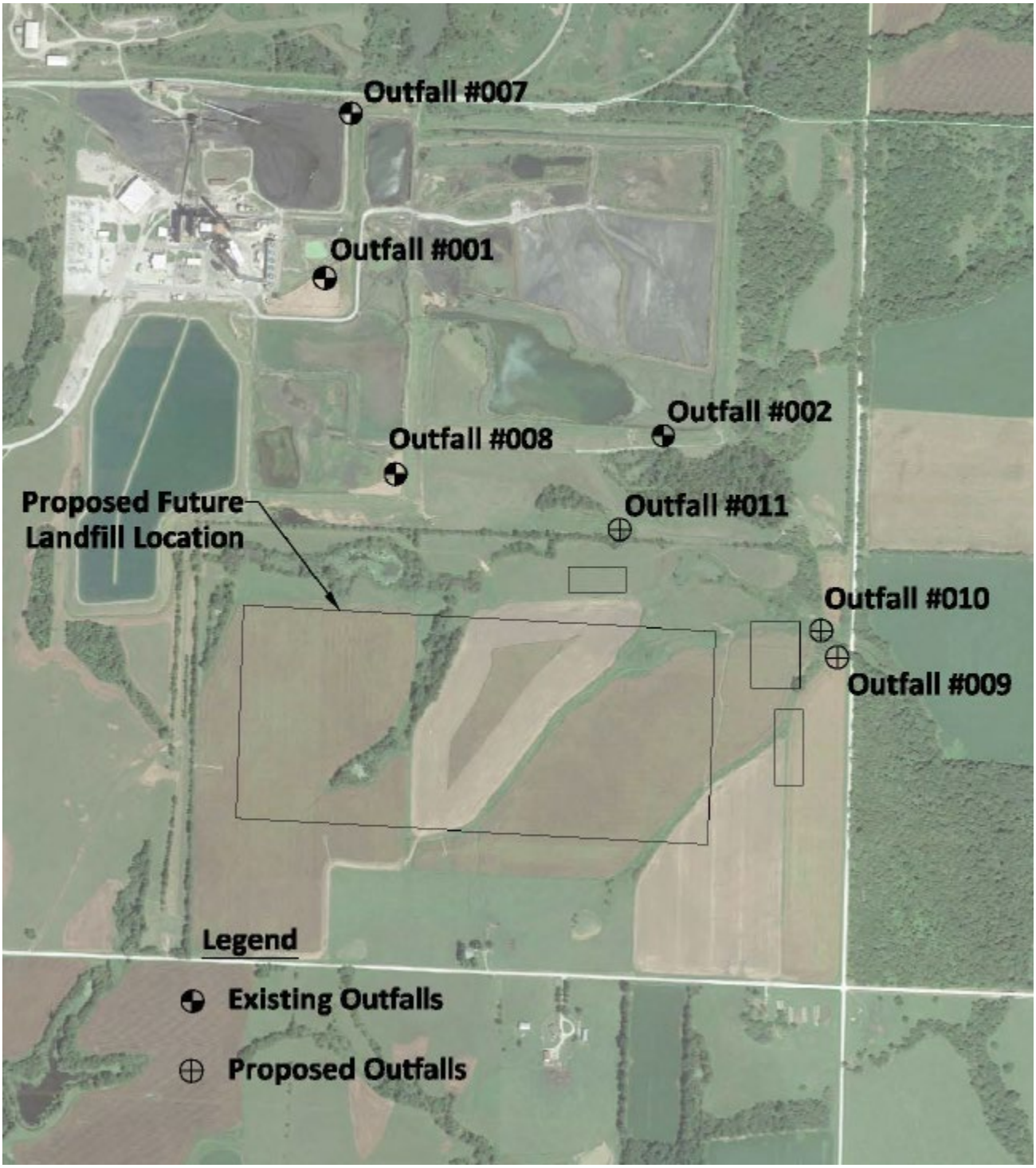
Items listed in the facility (or outfall) description, applicable to the operation, maintenance, control, and resultant effluent quality are required to be enumerated in the facility description. The facility description ensures the facility continues to operate the wastewater (or stormwater) controls listed in the permit to preserve and maintain the effluent quality pursuant to 40 CFR 122.21(e). Any planned changes to the facility (which changes the facility or outfall description) are required to be reported to the Department pursuant to 40 CFR 122.41(l)(1)(ii). If the facility does not or cannot use all of their disclosed treatment devices, this is considered bypassing pursuant to 40 CFR 122.41(m) in the case of wastewater, and BMP disruption in the case of stormwater.

PERMITTED FEATURES TABLE:

OUTFALL	AVERAGE FLOW	DESIGN FLOW	TREATMENT LEVEL	EFFLUENT TYPE
#002	0.65 MGD	n/a stormwater	BMPs	Ash pond, no active wastewater addition; legacy wastewater, and stormwater. Phasing out use of this outfall. 76 acres.
#006	n/a	478,753 (storage volume)	settling, no surface discharge	Domestic wastewater lagoon, treats and discharges to subsurface lines.
#007	0.47 MGD	n/a stormwater	BMPs	Reclaimed Coal Pile Area and Power Plant (to be demolished) stormwater drainage. 40 acres
#008	unknown*	n/a stormwater	BMPs	Ash pond, no active wastewater addition; legacy wastewater, and stormwater. Established in 2020 modification. 22 acres
#009	unknown	unknown	treatment required to meet effluent limits	Landfill Leachate (not yet constructed)
#010	unknown	unknown	BMPs	Landfill non-contact stormwater (not yet constructed)
#011	unknown	unknown	BMPs	Landfill non-contact stormwater (not yet constructed)

BMPs are best management practices.
* No data was submitted for this outfall, expect this to be similar to #002 because serving the same acreage.

FACILITY MAP:



FACILITY PERFORMANCE HISTORY & COMMENTS:
The electronic discharge monitoring reports were reviewed for the last permit term. Data were reviewed for outfall #001; this outfall is receiving continued allowance to discharge but no monitoring requirements are necessary. Facility should consider closing this basin per 10 CSR 20-6.010(12). The iron limit and chloride plus sulfate limit at outfall #002 was exceeded one time each.

The facility uses Asbury Rural Water for the domestic facilities and drinking water. The facility uses an on-site no-discharge sewage lagoon and then a sub-surface lateral field to dispose of domestic waste. The department has added a permitted feature (#006) associated with these structures. The facility has indicated they place about 1500 gallons each day to the sewage lagoon then typically pumps waste to the lateral field as needed to control the lagoon volume 20-30 days per year. Special conditions have been added to the permit to address any issues with this system.

CONTINUING AUTHORITY:
Pursuant to 10 CSR 20-6.010(2)(A) and (E), the Department has received the appropriate continuing authority authorized signature from the facility. The Missouri Secretary of State continuing authority charter number for this facility is F00001872; this number was verified by the permit writer to be associated with the facility and precisely matches the continuing authority reported by the facility.

Pursuant to 10 CSR 20-6.010(2)(B)4, this facility is a Level 4 Authority.
✓ Pursuant to 10 CSR 20-6.010(2)(D), on 2/11/2022 the facility demonstrated the closest collection system was greater than 2000 feet from the property line per 10 CSR 20-6.010(2)(C)3.

OTHER ENVIRONMENTAL PERMITS:
In accordance with 40 CFR 122.21(f)(6), the Department evaluated other environmental permits currently held by this facility. This facility does not appear to hold any additional environmental permits.

PART II. RECEIVING WATERBODY INFORMATION

RECEIVING WATERBODY TABLE:

OUTFALL	WATERBODY NAME	CLASS	WBID	DESIGNATED USES	DISTANCE TO SEGMENT	12-DIGIT HUC
All	100K Extent Remaining Streams	C	3960	GEN, HHP, IRR, LWW, SCR, WBC-B, WWH (ALP)	0 to 0.2 mi	Blackberry Creek (11070207-0507)

Classes are representations of hydrologic flow volume or lake basin size as defined in 10 CSR 20-7.031(1)(F). L1: Lakes with drinking water supply - wastewater discharges are not permitted to occur to L1 watersheds per 10 CSR 20-7.015(3)(C); L2: major reservoirs; L3: all other public and private lakes; P: permanent streams; C: streams which may cease flow in dry periods but maintain pools supporting aquatic life; E: streams which do not maintain surface flow; and W: wetlands. 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 Number: Missouri Use Designation Dataset per 10 CSR 20-7.031(1)(Q) and (S) as 100K Extent-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.

HUC: Hydrologic Unit Code https://water.usgs.gov/GIS/huc.html

Designated Uses:
10 CSR 20-7.031(1)(C)1: **ALP** – Aquatic Life Protection (formerly AQL); current uses are defined to ensure the protection and propagation of fish shellfish and wildlife, further subcategorized as: WWH – Warm Water Habitat; CLH – Cool Water Habitat; CDH – Cold Water Habitat; EAH – Ephemeral Aquatic Habitat; MAH – Modified Aquatic Habitat; LAH – Limited Aquatic Habitat. This permit uses ALP effluent limitations in 10 CSR 20-7.031 Table A1-B3 for all habitat designations unless otherwise specified.
10 CSR 20-7.031(1)(C)2: Recreation in and on the water
WBC is Whole Body Contact recreation where the entire body is capable of being submerged;
WBC-A – whole body contact recreation supporting swimming uses and has public access;
WBC-B – whole body contact recreation not included in WBC-A;
SCR = Secondary Contact Recreation (like fishing, wading, and boating)
10 CSR 20-7.031(1)(C)3 to 7:
HHP (formerly HHF) – Human Health Protection as it relates to the consumption of fish and drinking of water;
IRR – irrigation for use on crops utilized for human or livestock consumption, includes aquifers per 10 CSR 20-7.031(6)(A);
LWW – Livestock and Wildlife Watering (current narrative use is defined as LWP = Livestock and Wildlife Protection), includes aquifers per 10 CSR 20-7.031(6)(A);
DWS – Drinking Water Supply, includes aquifers per 10 CSR 20-7.031(6)(A);
IND – industrial water supply
10 CSR 20-7.031(1)(C)8 to 11: Wetlands (10 CSR 20-7.031 Tables A1-B3) do 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 20-7.015(7) and 10 CSR 20-7.031(6): **GRW** = Groundwater

Other Applicable Criteria:
10 CSR 20-7.031(4): **GEN** – general criteria
10 CSR 20-7.031(5)(N)6: **NNC** – lake numeric nutrient criteria apply
Water Quality Standards Search https://apps5.mo.gov/mocwis_public/waterQualityStandardsSearch.do

WATERS OF THE STATE DESIGNATIONS:
Waters of the state are divided into seven categories per 10 CSR 20-7.015(1)(B)1 through 7. The applicable water of the state category is listed below. Missouri's technology-based effluent regulations are found in [10 CSR 20-7.015] and are implemented in 10 CSR 20-7.015(2) through (8). When implementing technology regulations, considerations are made for the facility type, discharge type, and category of waters of the state. Stormwater discharges and land application sites are not subject to limitations found in 10 CSR 20-7.015. Effluent limitation derivations are discussed in PART IV: EFFLUENTS LIMITS DETERMINATIONS.

- ✓ Subsurface Water; identified at 10 CSR 20-7.015(7), including underground injection control permits, and regulated by 10 CSR 20-7.031(6)
- ✓ All other waters; identified at 10 CSR 20-7.015(B)7 and 10 CSR 20-7.015(8)

EXISTING WATER QUALITY & IMPAIRMENTS:
The receiving waterbody(s) segment(s), upstream, and downstream confluence water quality was reviewed. The USGS https://waterdata.usgs.gov/nwis/sw or the Department's quality data database was reviewed. https://apps5.mo.gov/mocwis_public/wqa/waterbodySearch.do and https://apps5.mo.gov/wqa/ The Department's quality data database was reviewed. https://apps5.mo.gov/mocwis_public/wqa/waterbodySearch.do and https://apps5.mo.gov/wqa/ Impaired waterbodies which may be impacted by discharges from this facility were determined. Impairments include waterbodies on the 305(b) or 303(d) list and those waterbodies or watersheds under a TMDL. https://dnr.mo.gov/water/what-were-doing/water-planning/quality-standards-impaired-waters-total-maximum-daily-loads/tmdls 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. https://dnr.mo.gov/water/what-were-doing/water-planning/quality-standards-impaired-waters-total-maximum-daily-loads/impaired-waters 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. 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 for that watershed may be developed. The TMDL shall include the WLA calculation.

- ✓ This facility discharges to tributaries to Blackberry Creek #3960. The WBID #3184 segment of Blackberry Creek is impaired for chlorides and sulfates in water. The source of the impairment is listed as this facility. The impaired use is for aquatic life. The facility has closed a main contributor, outfall #001, and is closing the ash ponds. The stream should be re-evaluated after 2024.

WATERBODY MIXING CONSIDERATIONS:
For all wastewater outfalls, mixing zone and zone of initial dilution are not allowed per 10 CSR 20-7.031(5)(A)4.B.(I)(a) and (b), as the base stream flow does not provide dilution to the effluent. For information how this regulation is used in determining effluent limits with or without mixing, see WASTELOAD ALLOCATION in Part III. If the base stream flow is above 0.1 cfs, mixing may be applied if 1) zones of passage are present, 2) mixing velocities are sufficient and stream bank configuration allows, 3) the aquatic life support system is maintained, 4) mixing zones do not overlap, 5) there are no drinking water intakes in the vicinity downstream, 6) the stream or lake has available pollutant loading to be allocated, and 7) downstream uses are protected. If mixing was not allowed in this permit, the facility may submit information, such as modeling, as to why mixing should be afforded to the outfall.

PART III. RATIONALE AND DERIVATION OF PERMIT CONDITIONS

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 reissuance conform to the anti-backsliding provisions of CWA §402(o), and 40 CFR 122.44.
  - ✓ 40 CFR 122.44(l)(2)(i); material and substantial alterations or additions to the permitted facility occurred after permit issuance justify the application of a less stringent effluent limitation.
    - This facility is undergoing numerous changes:
      - Outfall #001 was removed because cooling water is no longer generated.
      - Outfalls #002, #007, and #008:
        - Hardness monitoring was removed. The Department currently uses watershed hardness to calculate effluent limits for hardness-dependent metals. The facility may continue to optionally collect hardness data if the facility wishes to submit it for future renewals, although this is unnecessary as closure is occurring.
        - Limits and monitoring for copper is removed. The facility reported non-detections during the last permit term.
        - Previous final permit limits for ammonia were 3.0 mg/L daily maximum, 1.4 mg/L monthly average summer; and 7.5 mg/L daily maximum, 2.9 mg/L monthly average winter. The facility reported from non-detect to 5 mg/L at outfalls #002 and #007; and no discharge was recorded at outfall #008 in the last permit term. The long term average of this parameter is 0.4 mg/L. It is believed nutrients are coming from historic ash conditioners and biotic additions. Instead of continuing monitoring for nutrients, this permit implements the requirement that the ash pond cease discharging historic ash transport water after 12/31/2023.
        - The monthly average limit for iron was removed. The stream flow during storm events is elevated therefore there is not RP for any long term average exceedance. The Daily maximum effluent limit is based on technology standards therefore cannot be changed.
        - The facility is closing the basins therefore limits can be switched to benchmarks when wastewater no longer comingles with stormwater. Because ash pond closure is an iterative process, the facility will make the

determination when the entire stormwatershed is no longer discharging historic ash transport water and then switch to the alternative limit set. The final date for wastewater discharges under limit set CS is 12/31/2023.

- ✓ 40 CFR 122.44(l)(i)(B)(1); 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.
  - No permit conditions meet this backsliding condition.
- ✓ 40 CFR 122.44(l)(i)(B)(2); the Department determined technical mistakes or mistaken interpretations of law were made in issuing the permit under CWA §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 facility 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 facility 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 facility 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 facility 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 facility 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 facility 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 facility 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, including the consideration of WET testing. Numeric effluent limitations are included for those pollutants which could be discharged in toxic amounts. These effluent limitations are protective of human health, animals, and aquatic life. Specific toxic pollutants are discussed below in Derivation and Discussion of Limits, and where appropriate, numeric effluent limitations added.

    (E) N/A

    (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.

- For all outfalls, there is no RP for physical changes impairing the natural biological community because nothing disclosed by the facility indicates this is occurring.
- 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 facility 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 260.200 RSMo, except as the use of such materials is specifically permitted pursuant to 260.200 through 260.247 RSMo.

- 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 https://dnr.mo.gov/document-search/antidegradation-implementation-procedure
Per [10 CSR 20-7.015(4)(A)], new discharges to losing streams shall be permitted only after other alternatives including land application, discharges to a gaining stream, or connection to a regional wastewater treatment facility have been evaluated and determined to be unacceptable for environmental and/or economic reasons.

✓ Not applicable; while the facility has indicated the desire for a new outfall, and there is a new wastewater outfall established under this permit, the overall reduction of pollutants was found in the antidegradation applicability review completed in 2018. This permit establishes outfall #009 as a new wastewater outfall; but has removed several others from service as this facility has ceased generating electricity. The antidegradation requirement was determined inapplicable. Because these are new outfalls, and data was not supplied for the UWL leachate and non-contact stormwater runoff, the permit writer utilized data from other facilities with the same type of wastewater and stormwater discharges. While an antidegradation review was not specifically completed, all new effluent limits must be met upon permit issuance pursuant to 10 CSR 20-7.031(3), because new discharges are not permitted to lower existing water quality in streams. The data will be reviewed in the next renewal and effluent limits may be adjusted at that time.

ASH PONDS:
The Asbury ash impoundment as operated and managed today was constructed in three separate phases. The original impoundment was built in 1970, a lower pond expansion was constructed in 1974 and an upper pond was added to the containment area in 1978. The facility ceased sluicing ash to the impoundments on the final date of generation, March 1, 2020.

Desiccation of CCR impoundments is necessary to safely cap the structure in accordance with the CCR regulation or to remove solids for clean closure. Decanting and dewatering of legacy wastewaters for the purpose of closure may be accomplished using this permit. Within the analysis for pollutants which may be found in the discharge of the ash pond outfalls, the Department has considered the pollutants which are deemed legacy sluice waters. The Department has determined these legacy waters are not chemically different from sluice waters and therefore any discharge must meet total suspended solids and oil and grease limitations within the permit as was deemed applicable by the EPA in the ELG. BMPs established for the removal of water which has possible entrained solids must be disclosed to the department and once approved, must be adhered to.

Coal Combustion Residuals (CCR), often referred to as coal ash, are considered solid waste which are not hazardous wastes under an amendment to RCRA, the Resource Conservation and Recovery Act. Coal ash is residues from the combustion of coal in power plants and captured by pollution control technologies, like precipitators or scrubbers. Potential environmental concerns from coal ash pertain to pollution from impoundment and landfills leaching into groundwater and structural failures of impoundments. The US EPA has imposed the first-ever national rules to ensure the safe disposal and management of coal ash from coal-fired power plants under the nation's primary law for regulating solid waste, 40 CFR 257 Subpart D. While the NPDES program is not an enforcement agency for RCRA, the water protection program, (WPP or program) has viewed these concerns as applicable to NPDES permits as the state has determined groundwater is a water of the state and should be protected.

This operating permit contains a special condition to address concerns regarding ash ponds at this facility and their potential to impact groundwater. Missouri Water Quality Standards 10 CSR 20-7.031(5)(A) states, "Water contaminants shall not cause or contribute to exceedances of Table A, groundwater limits in aquifers and caves..."

The established special condition will allow the department to (1) determine if groundwater is being impacted from either the lined or unlined coal ash impoundments, (2) establish controls, limits, management strategies, and/or groundwater cleanup criteria.

Secondly, a point source does not need to *directly* discharge into a regulated waterbody to be considered a discharge; this is considered hydraulically connected. The Department continues to permit both direct discharges, as well as discharges that are the "functional equivalent" of a direct discharge under the NPDES, UIC, and State program to protect the beneficial uses of Missouri's regulated surface and groundwater. Discharges subsurface in the subsurface to surface regime, are discussed and required for evaluation under this permit.

Missouri has recently clarified that discharges to or into groundwater must also consider hydraulic connections to surface water, meaning discharges to the subsurface in areas of regular surface water interaction (e.g. large river alluvial areas, discharges percolating subsurface, and losing stream situations) may require evaluation of groundwater and surface water protection standards for all pollutants. Additionally, in Missouri's karst geology, areas of losing streams, and sinkholes may need to be evaluated both for groundwater protection, but also for potential nearby areas where this groundwater may re-surface, if a connection to the surface waterbody is suspected.

As Missouri already has laws and regulations protecting both groundwater and surface water, and as the Department already permits no-discharge facilities, underground injection, surficial discharging facilities, discharges to losing streams, and potential groundwater impacts, recent federal Court decisions will not likely result in dramatic differences in permitting pertaining to groundwater protection and groundwater conveyance into surface waters in Missouri. Department permit writers already evaluate protection of all potentially impacted waters of the state. The 2020 *Maui* decision simply clarifies the obligation on facilities and the Department to fully evaluate wastewater generated, stored, discharged, or land applied; and the potential impacts to regulated waters of the state, both surface waters as well as groundwater, and the hydraulic connections between them.

The facility has the choice of what model or guidance to use based on the best fit for the conditions at the site. The document *RBCA Fate and Transport Models: Compendium and Selection Guidance* (ASTM.org) or similar, may be used to determine the obligatory results for the permit conditions. The Department has determined these models can be used to determine compliance with the subsurface to surface scenario, even though they were developed for RBCA.

It is noted that the typical Risk-Based Corrective Action (RBCA) method of determining risk to human health and the environment leaves out a large portion of life – aquatic species. It is unclear why the national guidance dismissed this use of waters. After review of Missouri's water quality standards, the following parameters have lower surface water quality criteria than Missouri groundwater standards or the lowest default target level (DTL) established for groundwater or drinking water in RBCA.

	Missouri Groundwater	RBCA Most Stringent Groundwater DTL	RBCA Most Stringent Drinking Water DTL	Surface Water In-Stream Criteria: Most Stringent
Aluminum	none established	none established	15.6 mg/L	750 µg/L (0.75 mg/L)
Cadmium	5 µg/L	9.31 mg/L	5 µg/L	0.8 µg/L
Copper	1,300 µg/L	624 µg/L	624 µg/L	9.6 µg/L
Mercury	2 µg/L	50.7 µg/L	none established	0.77 µg/L
Selenium	50 µg/L	50 µg/L	50 µg/L	5 µg/L
Zinc	5000 µg/L	4.69 mg/L (4690 µg/L)	4.69 mg/L (4690 µg/L)	125.3 µg/L
Chloride	250 mg/L	none established	none established	230 mg/L

Note, the surface water quality criteria in this table are the most stringent for the entire state. Many factors could influence the final surface water value, including stream: temperature, pH, hardness, or if mixing is afforded to the groundwater upon entering the stream or river system. It is very possible there are more examples of the surface WQSs being more stringent than the groundwater WQSs or DTLs, however, these are the currently the most common parameters of note.

Because Missouri's definitions of pollutants includes water contaminant 644.016(24) RSMo, and water contaminant source 644.016(25) RSMo, the facility is required to analyze the connection of groundwater to the nearby surface waterways for pollutants from potential subsurface to surface discharges.

As these conditions are new, current permit requirements are believed to be sufficient to obtain the necessary information to make substantive, logical, and scientific decisions after the data and conclusions are received at the next permit renewal, although given the fluctuating nature of regulations, additional information may be required in subsequent permits.

The facility is only required to model, or otherwise quantify, pollutants listed in 40 CFR 257 Subpart D Appendices III and IV if those constituents occur in the groundwater at or above any applicable surface water standard. The uses assigned to the Missouri River are listed in 'The Receiving Waterbody Table', shown above, in Part II: Receiving Water Body Information

Example 1, if the groundwater is below 4 mg/L for Fluoride (the groundwater, drinking water, and irrigation/livestock watering are all 4 mg/L, then no further examination is required.
Example 2: the groundwater is below the groundwater standards of 1,300 µg/L for copper but above the acute aquatic life protection standard of 16.8 µg/L. Further demonstration is required for copper.
Example 3: the data for boron is above both the groundwater and surface water standards; further examination is required.

The original and supplemental additions of the Asbury ash impoundment area was not designed or constructed under the supervision of a professional engineer. The inspection, monitoring and safety of the ash impoundment area are performed by plant staff. In April 1987, The Empire District Electric Company (Empire) contracted with Black and Veatch Engineering - Architects of Kansas City, Missouri for an Ash Pond Improvement Study at the Asbury Power Station (B&V Project 13611). Black and Veatch Engineers assessed the impoundment area and developed a project plan from the results of its site investigation and laboratory testing. Under the supervision of Black and Veatch Engineers, contractors built an impermeable barrier in the primary holding cell keyed into the underlying bedrock. Additional remedial actions included repairing erosion damage to the crest, restoring the structural integrity of the dike, and enhancement of erosion resistance to the upstream slope.

The following excerpts were taken directly from “Specific Site Assessment for Coal Combustion Waste Impoundments at Empire District Electric Company Asbury Power Station” by Geotechnical Environmental Water Resources Ecological (GEI). March 2011.

The CCW impoundments are located east and southeast of the power plant. The CCW impoundments include the Upper Pond, the Lower Pond, and the South Pond store fly ash and boiler slag. The CCW byproducts generated at APS are sluiced through pipes to the Lower Pond where the solids drop out of the slurry and are collected either for commercial sale or diverted further into the Lower Pond impoundment. The sluice water is decanted to an open-water portion of the Lower Pond and then pumped to the Upper Pond where it is decanted once more into the South Pond and eventually reused as make-up water for the plant. There is an overflow spillway in the crest of the Lower Pond embankment that is adjacent to a 12-inch diameter outlet valve and pipe. Flows from the outlet pipe can be measured by a V-notch weir at the pipe outlet. The overflow spillway and outlet pipe are used for controlled releases regulated by the Missouri Department of Natural Resources (MDNR), Pollution Control Branch. The APS is 7 miles from Spring River, the nearest major perennial waterway. The operating water supply originates from onsite water wells that are used to fill a cooling water reservoir south of the plant. There were no design records or “as-built” drawings of the CCW impoundments to review during the preparation of this report. The exact commissioning dates of the impoundments are unknown. The Upper Pond was constructed in 1970, the Lower Pond was constructed in 1974 and the South Pond was added in 1978.

The embankment dams of the three CCW impoundments have not been previously assigned a hazard potential classification by a state or federal agency. Based on the configuration of the impoundments and the facilities downstream, recommended hazard potential classifications for the impoundments have been developed in Section 4.0 of this report. The basic dimensions and geometry of the CCW impoundments are summarized in Table 2-1. The Lower Pond is used to settle and store solids from the fly ash and boiler slag CCW and decant the sluice water for plant reuse. The pond surface area is approximately 63 acres. The original pond depth varied from 0 to about 10 feet; however, deposition of CCW from the power plant over time has reduced the pond depth to a maximum of about 5 feet. The impoundment is constructed on a side-hill site and has a perimeter embankment on three sides totaling approximately 5,400 linear feet. The perimeter embankment ranges in height from 1 foot to 15.5 feet with a varying crest width of 10 to 20 feet. The downstream embankment slopes are approximately 2 horizontal to 1 vertical (2H:1V) above a constructed bench at mid-slope and 1H:1V below the bench.

In 1987, the Empire District contracted with Black and Veatch Engineers – Architects of Kansas City for an Ash Pond Improvement Study at the Asbury Power Station. Based on the results of a site investigation that included test pits and laboratory testing, Black and Veatch designed an impermeable clay barrier for the Lower Pond that was excavated and “keyed” into the underlying clay downstream of the existing crest. The clay barrier was constructed along the north, east and south perimeter embankments of the Lower Pond.

Surface drainage collects generally along or near the downstream toe of the embankment, and flows to the southeast corner of the Lower Pond. A relatively well-defined channel (“north ditch”) runs along the downstream toe of the north embankment, and discharges into Blackberry Creek near the northeast corner of the pond. Blackberry Creek then runs generally parallel to the east embankment. A box culvert structure passes under the railroad tracks on the north side of the pond, carrying surface drainage from the area north of the railroad tracks. The culvert discharges into the north ditch near the northwest corner of the Lower Pond. Surface drainage from the area south of the Lower Pond enters Blackberry Creek near the southeast corner of the pond. The major waste sources to the pond are the sluiced fly ash and boiler slag originating from the plant.

The Upper Pond stores decanted water pumped from the Lower Pond. Upper Pond water is also decanted into the South Pond to be stored for reuse in the plant. The pond surface area is approximately 17.6 acres and has an estimated maximum depth of about 15 feet. The perimeter embankment is approximately 5,700 linear feet, including 1,400 linear feet common to South Pond and about 1,700 linear feet along the west side of the Lower Pond.
It ranges in height from 15 feet to 18.5 feet with an average crest width of 15 feet and downstream embankment slopes that vary from

2H:1V to 1H:1V. The major waste sources to the pond are the decant water from the Lower Pond and intermittent discharges from the coal pile runoff sump.

The South Pond stores decanted water from the Upper Pond. The water can be pumped back to the Upper Pond to maintain normal operating surface levels during high evaporation periods. The pond surface area is approximately 10.2 acres and has an estimated depth of 5 feet. The perimeter embankment is approximately 3,400 linear feet including 1,400 linear feet common to Upper Pond, and 700 linear feet adjacent to the cooling water ponds. It ranges in height from 9 feet to 11.5 feet with an average crest width of 12 feet and downstream embankment slopes of 2H:1V. The major waste source to the pond is the decant water from the Upper Pond. There are no records of the original geotechnical design or material properties for the perimeter embankments. The only spillway is located near the southeast corner of the Lower Pond on the south embankment. The spillway is a trapezoidal notch approximately 26 feet wide at the top, 20 feet wide at the base and approximately 1.5 feet deep. The spillway operates as an unregulated overflow discharge allowing decanted water to flow out of the impoundment. Spillway discharges flow generally parallel to the downstream toe of the embankment approximately 800 feet to Blackberry Creek.

The upper pond was classified as "low" hazard in accordance with the Federal Guidelines for Dam Safety. The South Pond embankment was classified as "low" hazard in accordance with the Federal Guidelines for Dam Safety. The Lower Pond perimeter embankments were classified as a "significant" hazard in accordance with the Federal Guidelines for Dam Safety. This hazard class will force the facility to close this impoundment under the new Coal Combustion Residual Rules.

BEST MANAGEMENT PRACTICES:
Minimum site-wide best management practices are established in this permit to ensure all facilities 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 644.011 and 644.016 (17) RSMo.

CLOSURE:
To properly decontaminate and close a wastewater basin, the facility must draft a complete closure plan, and include the Closure Request Form #2512 https://dnr.mo.gov/document-search/facility-closure-request-form-mo-780-2512 The publication, Wastewater Treatment Plant Closure - PUB2568 found at https://dnr.mo.gov/print/document-search/pub2568 may be helpful to develop the closure plan. The regional office will then approve the closure plan, and provide authorization to begin the work. The regional office contact information can be found here: https://dnr.mo.gov/about-us/division-environmental-quality/regional-office. This does not apply to closures where the contaminants remain in place.

COST ANALYSIS FOR COMPLIANCE (CAFCOM):
Pursuant to 644.145 RSMo, when incorporating a new requirement for discharges from publicly owned facilities, or when enforcing provisions of this chapter or the CWA, pertaining to any portion of a publicly owned facility, the Department shall make a finding of affordability on the costs to be incurred and the impact of any rate changes on ratepayers upon which to base such permits and decisions, to the extent allowable under this chapter and the CWA. This process is completed through a CAFCom. Permits not including new requirements may be deemed affordable.

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

CHANGES IN DISCHARGES OF TOXIC POLLUTANT:
This special condition reiterates the federal rules found in 40 CFR 122.44(f) for technology treatments and 122.42(a)(1) for all other toxic substances. 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 listed in 40 CFR 401.15 and any other toxic parameter the Department determines is applicable for reporting under these rules in the permit. The facility should also consider any other toxic pollutant in the discharge as reportable under this condition and must report all increases to the Department as soon as discovered in the effluent. The Department may open the permit to implement any required effluent limits pursuant to CWA §402(k) where sufficient data was not supplied within the application but was supplied at a later date by either the facility or other resource determined to be representative of the discharge, such as sampling by Department personnel.

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.

DISCHARGE MONITORING REPORTING – ELECTRONIC (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 requiring electronic data reporting. To comply with the federal rule, the Department is requiring all facilities to submit discharge monitoring data and reports online. To review historic data, the Department's database has a publically facing search engine, available at https://apps5.mo.gov/mocwis_public/dmrDisclaimer.do

Registration and other information regarding MoGEM can be found at https://dnr.mo.gov/mogem. Information about the eDMR system can be found at https://dnr.mo.gov/env/wpp/edmr.htm.The first user shall register as an Organization Official and the association to the facility must be approved by the Department. To access the eDMR system, use: https://apps5.mo.gov/mogems/welcome.action For assistance using the eDMR system, contact edmr@dnr.mo.gov or call 855-789-3889 or 573-526-2082. To assist the facility in entering data into the eDMR system, the permit describes limit sets designators in each table in Part A of the permit. Facility personnel will use these identifiers to ensure data entry is being completed appropriately. For example, M for monthly, Q for quarterly, A for annual, and others as identified.

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 facility must first submit an eDMR Waiver Request form available on the Department's web page. A request must be made for each operating permit. 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.
✓ This facility has not been granted a waiver, nor would this facility qualify for a waiver.

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, wash water, animal waste, process and ancillary wastewater.
✓ Applicable; this facility uses a lagoon system which the Department of Natural Resources must authorize in accordance with 19 CSR 20-3.060(6)(D) as Department of Health and Senior Services rules only provide for the use of a lagoon for single residences.

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.
✓ Applicable, sludge and biosolids are maintained in the lagoon or may be removed by contract hauler, see FACILITY DESCRIPTION in the permit.
✓ Standard conditions Part III is incorporated into this permit.

EFFLUENT LIMITATIONS:
Two general types of effluent limitations, technology-based effluent limits (TBELs) and water quality based effluent limits (WQBELs) are reviewed. Permits are required to establish the most stringent or most protective limit. If the TBEL or WQBEL does not provide adequate protection for the receiving water, then the other must be used per 10 CSR 20-7.015(9)(A) or 40 CFR 122.44(b)(1). See WASTELOAD ALLOCATION below which describes how WQBEL wasteload allowances are established under the permit. Effluent limitations derived and established for this permit are based on current operations of the facility. Any flow through the outfall is considered a discharge and must be sampled and reported as provided in the permit. Daily maximums and monthly averages are required per 40 CFR 122.45(d)(1) for continuous discharges (not from a POTW).

EMERGENCY DISCHARGE:
For non-discharging permits, some permits may allow a small amount of wastewater discharge under very specific circumstances.
✓ Not applicable; this permit does not contain conditions allowing emergency discharges.

FEDERAL EFFLUENT LIMITATION GUIDELINES:
Effluent Limitation Guidelines, or ELGs, are found at 40 CFR 400-499. https://www.ecfr.gov/current/title-40/chapter-I/subchapter-N 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. Effluent guidelines are not always established for every pollutant present in a point source discharge. In many instances, EPA promulgates effluent guidelines for an indicator pollutant. Industrial facilities complying with the effluent guidelines for the indicator pollutant will also control other pollutants (e.g. pollutants with a similar chemical structure).
For example, EPA may choose to regulate only one of several metals present in the effluent from an industrial category, and

compliance with the effluent guidelines will ensure similar metals present in the discharge are adequately controlled. All are technology based limitations which must be met by the applicable facility at all times. 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).

- ✓ The facility has an associated Effluent Limit Guideline (ELG) at 40 CFR 423 applicable to the wastewater/stormwater discharge at this site, and is applied under 40 CFR 125.3(a). See Part IV: EFFLUENT LIMITS DETERMINATION.

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 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, 644.076.1 RSMo, as well as Part I §D – Administrative Requirements of Standard Conditions included in 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 §§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 644.016(27) RSMo, 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 monitoring the groundwater at the site because the facility has used unlined ash ponds for the containment of coal ash and other electrical generating waste products. When there is no liner, the Department reasonably expects that wastewater leaches to the sub-surface. Groundwater conditions contained in the permit continue to allow the facility to discharge to the subsurface and provide for continued monitoring of the groundwater in the vicinity of the waste mass. This facility is also subject to self-implementing regulations found at 40 CFR 257 Subpart D. The Department does not implement any requirements from this rule, but have noted that the data and requirements from that rule provide data and requirements similar to requirements that the Department has implemented in the past to this permit. The data and requirements pursuant to 40 CFR 257 are sufficient to make permit determinations under this NPDES permit.
- ✓ Groundwater data was reviewed. The first baseline event, per 40 CFR 257 Subpart D, was collected in January of 2016 and this data is available on the facility's web page per that same rule.
  - It was noted that sulfate is consistently above WQS in most wells at many sampling events. (Except for the August 2016 event; these were all non-detections.)
  - Nickel was found in well MW-7 at 94 µg/L, the nickel standard is 100 µg/L.
- ✓ Per 10 CSR 20-7.015(6) Substances not listed [under groundwater] in Table A1 shall be limited so that drinking water, livestock watering, and irrigation uses are protected. Because sulfate is listed in the drinking water section, that limit is applied to this permit. See special conditions.
- ✓ See permit requirements in special conditions #3 and #4.
- ✓ See additional information in the fact sheet under ASH PONDS.

LAND APPLICATION (SURFICIAL):

Land application, or surficial dispersion of wastewater and/or sludge, is performed by facilities as an alternative to discharging. Authority to regulate these activities is pursuant to 644.026 RSMo. The Department implements requirements for these types of operations pursuant to 10 CSR 20-6.015(4)(A)1 which instructs the Department to develop permit conditions containing limitations, monitoring, reporting, and other requirements to protect soils, crops, surface waters, groundwater, public health, and the environment.

- ✓ 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/water/business-industry-other-entities/permits-certification-engineering-fees/stormwater/construction-land-disturbance 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. https://dnr.mo.gov/water/business-industry-other-entities/reporting/major-water-users All major water users are required by law to register water use annually (Missouri Revised Statutes Chapter 256.400 Geology, Water Resources and Geodetic Survey Section). https://dnr.mo.gov/document-search/frequently-asked-major-water-user-questions-pub2236/pub2236

✓ Applicable; this facility is or was a major water user and is registered with the state under registration number 51318779. It is unknown if this facility continues to fall under the definition of major water user.

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 is typically 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, unless site specific data was provided. 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. HHP, DWS, GRW, IRR, or LWW do not take hardness into account.

MODIFICATION REQUESTS:
Facilities have the option to request a permit modification from the Department at any time under RSMo 644.051.9. Requests must be submitted to the Water Protection Program with the appropriate forms and fees paid per 10 CSR 20-6.011. It is recommended facilities contact the permit writer early so the correct forms and fees are submitted, and the modification request can be completed in a timely fashion. Minor modifications, found in 40 CFR 122.63, are processed without the need for a public comment period. Major modifications, those requests not explicitly fitting under 40 CFR 122.63, do require a public notice period. Modifications to permits should be completed when: a new pollutant is found in the discharge; operational or functional changes occur which affect the technology, function, or outcome of treatment; the facility desires alternate numeric benchmarks; or other changes are needed to the permit.

Modifications are not required when utilizing or changing additives in accordance with the publication https://dnr.mo.gov/document-search/additive-usage-wastewater-treatment-facilities-pub2653/pub2653 nor are required when a temporary change or provisional discharge has been authorized by the regional office. While provisional discharges may be authorized by the regional office, they will not be granted for more than the time necessary for the facility to obtain an official modification from the Water Protection Program. Temporary provisional discharges due to weather events or other unforeseen circumstances may or may not necessitate a permit modification. The facility may ask for a Compliance Assistance Visit (CAV) from the regional office to assist in the decision-making process; CAVs are provided free to the permitted entity.

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

✓ The total design flow for this facility is > 0.1 MGD and the facility discharges nutrients, therefore nutrient monitoring is required on a monthly basis per 10 CSR 20-7.015(9)(D)8.B. for discharges equal to or greater than 1 MGD. This facility is required to monitor for ammonia, total Kjeldahl nitrogen, nitrate plus nitrite, and phosphorus.

Water quality standards per 10 CSR 20-7.031(5)(N) describe nutrient criteria requirements assigned to lakes (which include reservoirs) in Missouri, equal to or greater than 10 acres during normal pool conditions. The Department's Nutrient Criteria Implementation Plan (NCIP) may be reviewed at: https://dnr.mo.gov/document-search/nutrient-criteria-implementation-plan-july-27-2018 Discharges of wastewater in to lakes or lake watersheds designated as L1 (drinking water use) are prohibited per 10 CSR 20-7.015(3)(C).

✓ Not applicable; this facility does not discharge in a lake watershed

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 best management practices and USTs may be authorized in NPDES permits per 10 CSR 26-2.010(2) or otherwise may be regulated as a petroleum tank. Sludge generated by OWS is a waste pursuant to 10 CSR 25-11.279 requiring specific management standards pursuant to self-implementing regulations of 40 CFR Part 279.

✓ Not applicable; the facility has not disclosed the use of any oil water separators they wish to include under the NPDES permit at this facility, therefore oil water separator tanks are not authorized by this permit.

OPERATOR CERTIFICATION REQUIREMENTS:

Operators or supervisors of operations at regulated domestic wastewater treatment facilities shall be certified in accordance with 10 CSR 20-9 and any other applicable state law or regulation.

✓ Not applicable; this facility is not required to have a certified operator. This permit does not cover domestic wastewater or the domestic wastewater population equivalent (PE) is less than two hundred (200) individuals. Additionally, this facility is not owned or operated by a municipality, public sewer district, county, public water supply district, or private sewer company regulated by the Public Service Commission, or operated by a state or federal agency. Private entities are exempted from the population equivalent requirement unless the Department has reason to believe a certified operator is necessary.

PFAS VOLUNTARY SAMPLING:

The Department is implementing voluntary sampling of per-and polyfluoroalkyl substances, or more commonly known as PFAS. PFAS are a group of compounds common in industrial processes which degrade slowly in the environment and have suspected health effects such as cancer, decreased immune response, hepatotoxicity, and low infant birth weight. Deleterious effects can occur at levels as low as parts per trillion, or 1/1,000,000,000,000 of a gram. EPA plans to 1) require additional testing for facilities within industry groups having the highest likelihood of discharging PFAS; 2) promulgate Effluent Limitation Guidelines for these facilities; and 3) designate PFAS as RCRA hazardous wastes prior to 2024, per their PFAS Strategic Roadmap. Removal technologies for PFAS remain both traditionally expensive and resource-intensive. As such, understanding this facility's reasonable potential to violate future potential effluent limitations prior to their implementation will inform required process improvements in the future.

✓ This facility has no known PFAS sources, although PFAS was found in the now closed J.B. Sims Generating Station on Harbor Island, Grand Haven, Michigan, power plant. However, CDC has been collecting data regarding PFAS exposure in humans since 1999. Nearly every person surveyed had measurable amounts of PFOS, PFOA, PFHxS, and PFNA in their blood serum, indicating widespread exposure. Despite this facility having no known PFAS sources, voluntary testing may still be prudent to ascertain if legacy sources such as air force bases, wastewaters not previously known to have PFAS with unknown contributing sources from proprietary formulation additives, chemicals used in the industrial process, or unknown other contributors are contributing to PFAS runoff in stormwater, groundwater, or wastewater at this site. If the facility wishes to test for PFAS, the Department recommends sampling using a modified Test Method 537.1, found here: https://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryId=348508&Lab=CESER&simpleSearch=0&showCriteria=2&searchAll=537.1&TIMSType=&dateBeginPublishedPresented=03%2F24%2F2018. This tests for over 40 different PFAS analytes. Sample results may be submitted with this permit's renewal application.

PERMIT SHIELD:

The permit shield provision of the Clean Water Act (Section 402(k)) and Missouri Clean Water Law (644.051.16 RSMo) provides that when a permit holder is in compliance with its NPDES permit or MSOP, it is effectively in compliance with certain sections of the Clean Water Act, and equivalent sections of the Missouri Clean Water Law. In general, the permit shield is a legal defense against certain enforcement actions, but is only available when the facility is in compliance with its permit and satisfies other specific conditions, including having completely disclosed all discharges and all facility processes and activities to the Department at time of application. It is the facility's responsibility to ensure that all potential pollutants, waste streams, discharges, and activities, as well as wastewater land application, storage, and treatment areas, are all fully disclosed to the Department at the time of application or during the draft permit review process. Previous permit applications are not necessarily evaluated or considered during permit renewal actions. All relevant disclosures should be provided with each permit application, including renewal applications, even when the same information was previously disclosed in a past permit application. Subsequent requests for authorization to discharge additional pollutants, expanded or newly disclosed flows, or for authorization for previously unpermitted and undisclosed activities or discharges, will likely require an official permit modification, including another public participation process.

PRETREATMENT:

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

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

REASONABLE POTENTIAL (RP):

Regulations per 10 CSR 20-7.015(9)(A)2 and 40 CFR 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 allowance in zones of initial dilution, and chronic toxicity criteria may be exceeded by permit allowance 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 use reasonable potential determinations (RPD) as provided in Sections 3.1.2, 3.1.3, and 3.2 of the TSD. An RPD consists of evaluating visual observations, non-numeric information, or small amounts of numerical data (such as 1 data point supplied in the application). A stormwater RPD consists of reviewing application data and/or discharge monitoring data and comparing those data to narrative or numeric water quality criteria. RPD decisions are based on minimal numeric samples, the type of effluent proposed for discharge, or the unavailability of numerical RPA for a parameter, such as pH, or oil and grease. Absent effluent data, effluent limits are derived without consideration of effluent variability and is assumed to be present unless found to be absent to meet the requirements of antidegradation review found in 10 CSR 20-7.031(3) and reporting of toxic substances pursuant to 40 CFR 122.44(f).

Reasonable potential determinations are also performed for WET testing in wastewater. While no WET regulations specific to industrial wastewater exist, 40 CFR 122.21(j)(5) implies the following should be considered: 1) the variability of the pollutants; 2) the ratio of wastewater flow to receiving stream flow; and 3) current technology employed to remove toxic pollutants. Generally, sufficient data does not exist to mathematically determine RPA for WET, but permit writers compare the data for other toxic parameters in the wastewater with the necessity to implement WET testing with either monitoring or limits. When toxic parameters exhibit RP, WET testing is generally included in the permit. However, if all toxic parameters are controlled via limitations or have exhibited no toxicity in the past, then WET testing may be waived. Only in instances where the wastewater is well characterized can WET testing be waived. Permit writers do not implement WET testing for stormwater as 10 CSR 20-7.015(9)(L) does not apply to stormwater. Precipitation can itself be acidic, or may contain run-in from other un-controlled areas and can provide false positives. The Department works with the Missouri Department of Conservation and has understanding of streams already exhibiting toxicity; even without the influence of industrial wastewater or stormwater. Facilities discharging to streams with historic toxicity are required to use laboratory water for dilution, instead of the receiving stream.

Permit writers use the Department's permit writer's manual (https://dnr.mo.gov/water/business-industry-other-entities/technical-assistance-guidance/wastewater-permit-writers-manual), 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, inspection reports, stream water quality information, stream flows, uses assigned to each waterbody, and all applicable site specific information and data gathered by the facility 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 facility; 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.

Secondly, permit writers use mathematical reasonable potential analysis (RPA) using the *Technical Support Document for Water Quality Based Toxics Control (TSD)* methods (EPA/505/2-90-001) for continuous discharges. The TSD RPA method cannot be performed on stormwater as the flow is intermittent. See additional considerations under Part II WATERBODY MIXING CONSIDERATIONS and Part III WASTELOAD ALLOCATIONS. Wasteload allocations are determined utilizing the same equations and statistical methodology.

- ✓ No statistical RPAs were performed for this permit, as the conditions for stormwater were based on best professional judgment, standardized benchmarks, the effluent limits are not based on effluent variability, or where variability is not used for certain water quality limits such as pH, oil and grease, or when insufficient data exist such as in WET testing.

REGIONAL OFFICES (ROS):
Regional Offices will provide a compliance assistance visit at a facility's request; a regional map with links to phone numbers can be found here: https://dnr.mo.gov/about-us/division-environmental-quality/regional-office. Or use https://dnr.mo.gov/compliance-assistance-enforcement to request assistance from the Region online.

RENEWAL REQUIREMENTS:
The renewal special condition permit requirement is designed to guide the facility to prepare and include all relevant and applicable information in accordance with 10 CSR 20-6.010(7)(A)-(C), and if applicable, federal regulations. The special condition may not include all requirements and requests for additional information may be made at the time of permit renewal under 644.051.13(5) RSMo and 40 CFR 122.21(h). Prior to submittal, the facility must review the entire submittal to confirm all required information and data is provided; it is the facility's responsibility to discern if additional information is required.
Failure to fully disclose applicable information with the application or application addendums may result in a permit revocation per 10 CSR 20-6.010(8)(A) and may result in the forfeiture of permit shield protection authorized in 644.051.16 RSMo. Forms are located at: https://dnr.mo.gov/water/business-industry-other-entities/permits-certification-engineering-fees/wastewater

SAMPLING FREQUENCY JUSTIFICATION:
This facility has new outfalls where monthly sampling is required to determine if the facility will be in compliance with the operating permit in accordance with Appendix U of Missouri's Water Pollution Control Permit Manual. Sampling and reporting frequency was generally retained from previous permit at the other outfalls. 40 CFR 122.45(d)(1) indicates all continuous discharges, such as wastewater 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 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. For further information on sampling and testing methods see 10 CSR 20-7.015(9)(D)2.

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. An 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 in accordance with 40 CFR 125.3.
- For a newly constructed facility in most cases per 644.029 RSMo. Newly constructed facilities must meet all applicable effluent limitations (technology and water quality) when discharge begins. New facilities are required to install the appropriate control technologies 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 specifically 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; this permit contains a SOC; see Part B.

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 possible 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.
https://revisor.mo.gov/main/OneSection.aspx?section=260.500&bid=13989&hl=

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.

Certain industrial facilities are subject to the self-implementing regulations for Oil Pollution Prevention in 40 CFR 112, and are required to initiate and follow Spill Prevention, Control, and Countermeasure (SPCC) Plans. This permit, as issued, is not intended to be a replacement for any SPCC plan, nor can this permit's conditions be automatically relaxed based on the SPCC plan if the permit is more stringent than the plan.

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. Industrial sludge could also be derived from lagoon dredging or other similar maintenance activities. Certain oil sludge, like those from oil water separators, are subject to self-implementing federal regulations under 40 CFR 279 for used oils.

✓ Applicable; this facility stores historic coal combustion residuals in ash impoundments and are being closed under 40 CFR 257 Subpart D. See GROUNDWATER section for more information.

STANDARD CONDITIONS:
The standard conditions Part I attached to this permit incorporate all sections of 10 CSR 20-6.010(8) and 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 facility to ascertain compliance with this permit, state regulations, state statutes, federal regulations, and the Clean Water Act. Standard Conditions Part III, if attached to this permit, incorporate requirements dealing with domestic wastewater, domestic sludge, and land application of domestic wastes.

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-only discharges. The *Technical Support Document for Water Quality Based Toxics Control* (EPA/505/2-90-001; 1991) §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), a benchmark, or a monitoring requirement as dictated by site specific conditions, the BMPs in place, the BMPs proposed, 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 without real-time ad-hoc monitoring. 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 facility 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 facility 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.

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

STORMWATER POLLUTION PREVENTION PLAN (SWPPP):
A SWPPP must be prepared by the facility 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.

Pursuant to 40 CFR 122.44(k), Best Management Practices (BMPs) must be used to control or abate the discharge of pollutants when: 1) Authorized under §304(e) of the Clean Water Act (CWA) for the control of toxic pollutants and hazardous substances from ancillary industrial activities; 2) Authorized under §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. A BMP may take the form of a numeric benchmark. 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 and again in 2021 https://www.epa.gov/sites/default/files/2021-03/documents/swppp_guide_industrial_2021_030121.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).

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 facility 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.

The facility should review the precipitation frequency maps for development of appropriate BMPs. The online map https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=mo can be targeted to the facility location and is useful when designing detention structures and planning for any structural BMP component. The stormwater map can also be used to determine if the volume of stormwater caused a disrupted BMP; and if the BMP should be re-designed to incorporate additional stormwater flows.

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 (https://dnr.mo.gov/document-search/antidegradation-implementation-procedure).

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 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), §II.B.

If parameter-specific numeric benchmark exceedances continue to occur and the facility 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

facility 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/water/business-industry-other-entities/permits-certification-engineering-fees/wastewater

- ✓ Applicable; a SWPPP shall be developed and implemented for this facility; see specific requirements in the SPECIAL CONDITIONS section of the permit. While this facility no longer generates electricity, some discharges remain categorical, therefore 40 CFR 423 continues to apply, thereby continuing the required stormwater component pursuant to 10 CSR 20-6.200(2).

SUFFICIENTLY SENSITIVE ANALYTICAL METHODS:

Please review Standard Conditions Part 1, §A, No. 4. The analytical and sampling methods used shall conform to the reference methods listed in 10 CSR 20-7.015 and/or 40 CFR 136 unless alternates are approved by the Department and incorporated within this permit. The facility shall use sufficiently sensitive analytical methods for detecting, identifying, and measuring the concentrations of pollutants. The facility shall ensure the selected methods are able to quantify the presence of pollutants in any 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. The reporting limits established by the chosen laboratory must be below the lowest effluent limits established for the specified parameter (including any parameter's future limit after an SOC) in the permit unless the permit provides for an ML or if the facility provides a written rationale to the Department. It is the facility's responsibility to ensure the laboratory has adequate equipment and controls in place to quantify the pollutant. Inflated reporting limits will not be accepted by the Department if the reporting limit is above the parameter value stipulated in the permit. 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 facility is responsible for working with their contractors to ensure the analysis performed is sufficiently sensitive.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS (TBEL):

One of the major strategies of the Clean Water Act (CWA) in making "reasonable further progress toward the national goal of eliminating the discharge of all pollutants" is to require effluent limitations based on the capabilities of the technologies available to control those discharges. Technology-based effluent limitations (TBELs) aim to prevent pollution by requiring a minimum level of effluent quality attainable using demonstrated technologies for reducing discharges of pollutants or pollution into the waters of the United States. TBELs are developed independently of the potential impact of a discharge on the receiving water, which is addressed through water quality standards and water quality-based effluent limitations (WQBELs). The NPDES regulations at Title 40 of the Code of Federal Regulations (CFR) 125.3(a) require NPDES permit writers to develop technology-based treatment requirements, consistent with CWA § 301(b) and § 402(a)(1), represent the minimum level of control that must be imposed in a permit. The regulation also indicates that permit writers must include in permits additional or more stringent effluent limitations and conditions, including those necessary to protect water quality. Regardless of the technology chosen to be the basis for limitations, the facility is not required to install the technology, only to meet the established TBEL.

Case-by-case TBELs are developed pursuant to CWA section 402(a)(1), which authorizes the administrator to issue a permit meeting either, 1) all applicable requirements developed under the authority of other sections of the CWA (e.g., technology-based treatment standards, water quality standards) or, 2) before taking the necessary implementing actions related to those requirements, "such conditions as the administrator determines are necessary to carry out the provisions of this Act." The regulation at §125.3(c)(2) specifically cite this section of the CWA, stating technology-based treatment requirements may be imposed in a permit "on a case-by-case basis under section 402(a)(1) of the Act, to the extent that EPA-promulgated effluent limitations are inapplicable." Further, §125.3(c)(3) indicates "where promulgated effluent limitations guidelines only apply to certain aspects of the discharger's operation, or to certain pollutants, other aspects or activities are subject to regulation on a case-by-case basis to carry out the provisions of the act." When establishing case-by-case effluent limitations using best professional judgment, the permit writer should cite in the fact sheet or statement of basis both the approach used to develop the limitations, discussed below, and how the limitations carry out the intent and requirements of the CWA and the NPDES regulations.

- ✓ The facility is only proposing to discharge landfill leachate wastewater which has already been considered by the EPA for categorical effluent limits, therefore further TBEL analysis is not required under this permit.

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 §§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 577.155 RSMo; 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 577.155 RSMo; 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 any 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 facility 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: https://dnr.mo.gov/document-search/class-v-well-inventory-form-mo-780-1774 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)). The Department implements additional requirements for these types of operations pursuant to 10 CSR 20-6.015(4)(A)1 which instructs the Department to develop permit conditions containing limitations, monitoring, reporting, and other requirements to protect soils, crops, surface waters, groundwater, public health, and the environment.

✓ Applicable; this facility has disclosed sub-surface domestic wastewater system(s) are located at this site and they fall under the Department of Natural Resources jurisdiction. The facility will be subject to special conditions in this permit and standard conditions Part III to impose conditions on the fate of domestic wastewater, sludge, and biosolids from the system(s).

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. Thermal variances are regulated separately and are found under 644.

✓ 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 maximum amount of pollutant each discharger is allowed to discharge into the receiving stream without endangering water quality. Only streams with available load allocations can be granted discharge allowances. Outfalls afforded mixing allocations provide higher limits because the receiving stream is able to accept more pollutant loading without causing adverse impacts to the environment or aquatic life.

✓ Applicable; wasteload allocations for toxic parameters were calculated using water quality criteria or water quality model results and by applying the dilution equation below. These equations are statistical equations (See Part III – REASONABLE POTENTIAL ANALYSIS) used to calculate the hypothetical or actual variability of the wastewater and the spreadsheet output obtains an effluent limit. Most toxic parameter's WLAs are calculated using the *Technical Support Document For Water Quality-Based Toxics Control* or "TSD" EPA/505/2-90-001; 3/1991, §4.5.5.

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

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

✓ For ammonia: The Department previously followed the 2007 ammonia guidance method for derivation of ammonia limits. However, the EPA's Technical Support Document for Water Quality-Based Toxic Controls (TSD) establishes other alternatives to limit derivation. The Department has determined the approach established in TSD §5.4.2, which allows for direct application of both the acute and chronic wasteload allocations (WLA) as permit limits, is more appropriate limit derivation approach for ammonia. Using this method for a discharge to a waterbody where mixing is not allowed, the criterion continuous concentration (CCC) and the criterion maximum concentration (CMC) will equal the chronic and acute WLA respectively. WLAs are then applied as effluent limits, per §5.4.2 of the TSD, where the CMC is the daily maximum and the CCC is the monthly average. The direct application of both acute and chronic criteria as WLA is also applicable for facilities discharging into receiving waterbodies with mixing considerations. The CCC and CMC will need to be calculated into WLA with mixing considerations using the standard mass-balance equation. In the event mixing considerations derive an AML less stringent than the MDL, the AML and MDL will be equal and based on the MDL.

✓ For chloride, the Department uses TSD §5.4.1 for two-value steady state acute and chronic protection of aquatic life. It allows comparison of two independent WLAs (acute and chronic) to determine which is more limiting for a discharge. The WLA output provides two numbers for protection against two types of toxic effects, acute and chronic permit limitations resulting in a daily maximum and monthly average limit.

✓ Criteria maximum concentration (CMC) are the acute in-stream standards for a specific pollutant.

✓ Criteria continuous concentration (CCC) are the chronic in-stream standards for a specific pollutant.

- ✓ Acute wasteload allocations (WLAa) are designated as daily maximum limits (maximum daily limit: MDL)., were determined using applicable water quality criteria
- ✓ Chronic wasteload allocations (WLAc) are designated as monthly average limits (average monthly limit: AML) and are typically the most stringent limits applied. Facilities subject to average monthly limits are welcome to take additional samples in the month to meet any lower limit by averaging the results. When only one sample is taken in the month, the sample result is applied to both the daily maximum and monthly average.
- ✓ Mixing: when a stream's flow 7Q10 is above 0.1 cfs, (or lake width is sufficient) the discharge may be afforded mixing allowances. The mixing criteria for toxics are found at 10 CSR 20-7.031(5)(A)4 and a full explanation of mixing is found in Part II – WATERBODY MIXING CONSIDERATIONS.
- ✓ Number of Samples "n": effluent quality is determined by the underlying distribution of daily values, 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 uses an assumed number of samples "n = 4". See additional information under Part III – REASONABLE POTENTIAL ANALYSIS

WASTELOAD ALLOCATION (WLA) MODELING:

Facilities 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 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 contains a permit requirement for hardness-dependent metals for which water quality criteria has been modified by twenty-five percent or more since the issuance of the previous permit. The hardness calculation changed from the 25^{th} percentile to the 50^{th} percentile. The change of this requirement was necessary to ensure the criteria implemented in permits are reflective of the most current science available, while protecting the water quality of the receiving streams, and also without placing needless and overly burdensome requirements on regulated entities.

PART IV. EFFLUENT LIMIT DETERMINATIONS

OUTFALLS #002, #007, AND #008
HISTORIC COAL PILE AREA, ASH POND CONTACT STORMWATER, AND NON-CONTACT STORMWATER

EFFLUENT LIMITATIONS TABLE CS (CONTACT STORMWATER):

PARAMETERS	UNIT	DAILY MAX	MONTHLY AVG.	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL							
FLOW	MGD	*	*	SAME	ONCE/QUARTER	QUARTERLY	24 HR. TOT
CONVENTIONAL							
CHEMICAL OXYGEN DEMAND	mg/L	*	*	NEW	ONCE/QUARTER	QUARTERLY	GRAB
OIL & GREASE	mg/L	15	10	SAME	ONCE/QUARTER	QUARTERLY	GRAB
PH †	SU	6.5 TO 9.0	-	SAME	ONCE/QUARTER	QUARTERLY	GRAB
TOTAL SUSPENDED SOLIDS (TSS)	mg/L	100	30	SAME	ONCE/QUARTER	QUARTERLY	GRAB
METALS							
BORON, TR	µg/L	*	*	SAME	ONCE/QUARTER	QUARTERLY	GRAB
IRON, TR	µg/L	1000	*	1000, 851	ONCE/QUARTER	QUARTERLY	GRAB
MOLYBDENUM, TR	µg/L	*	*	SAME	ONCE/QUARTER	QUARTERLY	GRAB
OTHER							
CHLORIDE	mg/L	*	*	SAME	ONCE/QUARTER	QUARTERLY	GRAB
SULFATE	mg/L	*	*	SAME	ONCE/QUARTER	QUARTERLY	GRAB
CHLORIDE PLUS SULFATE	mg/L	*	*	*	ONCE/QUARTER	QUARTERLY	GRAB

EFFLUENT LIMITATIONS TABLE NS (NON-CONTACT STORMWATER AFTER CLOSURE):

PARAMETERS	UNIT	DAILY MAXIMUM LIMIT	BENCH-MARK	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL							
FLOW	MGD	*	-	NEW	ONCE/QUARTER	QUARTERLY	24 HR. ESTIMATE
CONVENTIONAL							
COD	mg/L	**	90	NEW	ONCE/QUARTER	QUARTERLY	GRAB
OIL & GREASE	mg/L	**	10	NEW	ONCE/QUARTER	QUARTERLY	GRAB
PH †	SU	6.5 TO 9.0	-	SAME	ONCE/QUARTER	QUARTERLY	GRAB
TSS	mg/L	**	100	NEW	ONCE/QUARTER	QUARTERLY	GRAB
METALS							
BORON, TR	µg/L	**	2000	NEW	ONCE/QUARTER	QUARTERLY	GRAB
IRON, TR	µg/L	*	-	NEW	ONCE/QUARTER	QUARTERLY	GRAB
MOLYBDENUM, TR	µg/L	**	100	NEW	ONCE/QUARTER	QUARTERLY	GRAB
OTHER							
CHLORIDE	mg/L	*	*	SAME	ONCE/QUARTER	QUARTERLY	GRAB
SULFATE	mg/L	*	*	SAME	ONCE/QUARTER	QUARTERLY	GRAB
CHLORIDE PLUS SULFATE	mg/L	**	1000	NEW	ONCE/QUARTER	QUARTERLY	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
TR total recoverable

DERIVATION AND DISCUSSION OF LIMITS:
These outfalls serve historic wastewater basins where wastewater was last added prior to and during early 2020. The facility is currently completing closure of these ash holding basins by leaving the ash in place and installing a non-permeable cover, ClosureTurf. Because of the interim nature of this permit renewal, each of these outfalls has dual compliance. Table CS, for contact stormwater will provide compliance for areas which have not established a cover. Stormwater which has contacted wastewater is considered wastewater. Table NS, for non-contact stormwater will be used when the cover is in place for that outfall's stormwatershed. The facility must complete all closure activities prior to January 1, 2024 for compliance with 40 CFR 423.

Each parameter below will have two explanations for implementation of limits or benchmarks. Wastewater discharges cannot have a benchmark; however, given the facility is closing the ponds with an impermeable cover, the contaminants will be trapped below the cover and post closure stormwater is eligible for a benchmark when no reasonable potential exists. There was no discharge at outfall #008 since the 2020 modification.

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 facility is unable to obtain effluent flow, then it is the responsibility of the facility 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), quarterly monitoring continued from previous permit. The facility reported from 0.5 to 1.5 MGD at outfall #002; from 0.39 to 0.55 MGD at outfall #007; and no discharge was recorded at outfall #008 in the last permit term.

CONVENTIONAL:

Chemical Oxygen Demand (COD)
Monitoring requirement initiated, with 90 mg/L daily maximum benchmark after closure. This requirement is included using the permit writer's best professional judgment. The benchmark value falls within the range of values implemented in other permits having similar industrial activities and is achievable through proper BMP controls. Ash pond closure is expected to decrease COD. 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 facility to identify increases in COD may indicate materials/chemicals coming into contact with stormwater causing an increase in oxygen demand. Increases in COD may indicate a need for maintenance or improvement of BMPs.

Oil & Grease
15 mg/L daily maximum; 10 mg/L monthly average during pre-closure; continued from previous permit per the permit writer's best professional judgment. For outfalls #002 and #007, the facility reported from non-detect to 15 mg/L in the last permit term. 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 xylene, but these constituents are often lost during testing due to their boiling points. The permit writer completed an RPD on this parameter and found RP given the data and current site activities. 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 facility to visually observe the discharge and receiving waters for sheen or bottom deposits. The limit this permit applies does not allow the facility to violate general criteria pursuant to 10 CSR 20-7.015(4) even if data provided are below the numeric limit.
AQL Chronic: 10 mg/L per 10 CSR 20-7.031 Table A1
Set chronic standard equal to chronic WLA per TSD §5.4.2 (EPA/505/2-90-001); multiply by 1.5 to obtain acute limit.
10 mg/L * 1.5 = 15 mg/L

Monitoring with a daily maximum benchmark of 10 mg/L after ash pond closure. 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 xylene, but these constituents are often lost during testing due to their boiling points. It is recommended to perform separate testing for these constituents if they are a known pollutant of concern at the site, i.e. aquatic life toxicity or human health is a concern. Results do not allow for separation of specific pollutants within the test, they are reported, totaled, as "oil and grease". Per 10 CSR 20-7.031 Table A1: *Criteria for Designated Uses*; 10 mg/L is the standard for protection of aquatic life. This standard will also be used to protect the general criteria found at 10 CSR 20-7.031(4). Ten mg/L is the level at which sheen is expected to form on receiving waters. 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 facility to visually observe the discharge and receiving waters for sheen or bottom deposits. The benchmark is achievable through proper operational and maintenance of BMPs and falls within the range of values implemented in other permits having similar industrial activities.

The benchmark this permit applies does not allow the facility to violate general criteria 10 CSR 20-7.015(4) even if data provided are below the benchmark.

pH
6.5 to 9.0 SU – instantaneous grab sample. Water quality limits [10 CSR 20-7.031(5)(E)] are applicable to these outfalls; continued from the previous permit and continued pre and post closure. 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 40 CFR 423.12(b)(4) for historic fly and bottom ash transport water. The facility reported from non-detect to 23.6 mg/L in the last permit term. This permit allows the discharge of what was historically termed "legacy" wastewater prior to the rule remand of that specific language, in 85 FR 64650, pages 64650-64723, 2020, citing the addition as arbitrary and capricious. However, the Department has latitude to continue to allow these legacy discharges under other regulations. The Department understands that proper closure of historic ash ponds requires complete dewatering so an appropriate cover can be established. Bottom and fly ash sluice wastewater is still identified in 40 CFR 423.13(k)(1)(i) and 40 CFR 423.13(h)(1)(ii), respectively. The rules continue to identify the last available date for sluice (as legacy) wastewater discharge at December 31, 2023.

After closure of the ponds, monitoring with a daily maximum benchmark of 100 mg/L. There is no numeric water quality standard for TSS; however, sediment discharges can negatively impact aquatic life habitat. ClosureTurf utilizes a sand weighting system and the facility is required to manage this sand to minimize discharge.. TSS is also a valuable indicator parameter. TSS monitoring allows the facility to identify increases in TSS indicating uncontrolled materials leaving the site. Increased suspended solids in runoff can lead to decreased available oxygen for aquatic life and an increase of surface water temperatures in a receiving stream. Suspended solids can also be carriers of toxins, which can adsorb to the suspended particles; therefore, total suspended solids are a valuable indicator parameter for other pollution. The facility reported from non-detect to 23.6 mg/L in the last permit term. The benchmark is achievable through proper operational and maintenance of BMPs and falls within the range of values implemented in other permits having similar industrial activities.

METALS:

Boron, Total Recoverable
Previous final permit limits were monitoring only. The facility reported from 100 to 5950 µg/L at outfalls #002 and #007; and no discharge was recorded at outfall #008 in the last permit term. This parameter has RP while the ash remains exposed to stormwater. However, numeric limits are not being established in favor of capping of the ash ponds so that ash is no longer exposed to stormwater. Discharge of ash-contaminated stormwater is prohibited after 12/31/2023.

Post closure, the facility will monitor quarterly and report the value. A benchmark of 2000 µg/L is established based on the expected improvement after installation of the closure material. Detections of boron should decrease drastically after closure; boron is the primary pollutant of concern in coal ash.

Iron, Total Recoverable
Previous final permit limits were 1000 µg/L daily maximum, 851 µg/L monthly average. The facility reported from 60.8 to 1680 µg/L at outfalls #002 and #007; and no discharge was recorded at outfall #008 in the last permit term. The long term average of this parameter is 224 µg/L and after closure, the iron content of the discharge is expected to decrease dramatically. Because the discharge of this co-mingled wastewater is completely dependent on stormwater, only the daily maximum limit is being retained because historic metal cleaning wastewater 40 CFR 423.12(b)(5) was added to the ash ponds. 1000 µg/L daily maximum limit continued. This parameter had RP per RPD but no longer has RP; see fact sheet Part III, REASONABLE POTENTIAL. The facility's limitations for this parameter have been recalculated to less stringent limitations; see fact sheet Part III, ANTIBACKSLIDING for more information. Post closure, the facility will monitor quarterly and report the value. No benchmark is being established for iron at this time.

Molybdenum, Total Recoverable
Previous final permit limits were monitoring only; molybdenum is the second most prominent chemical of concern in coal ash. The facility reported from non-detect to 141 µg/L at outfalls #002 and #007; and no discharge was recorded at outfall #008 in the last permit term. There are no water quality standards for this parameter therefore this parameter does not have RP. Discharge of ash-contaminated stormwater is prohibited after 12/31/2023. Quarterly monitoring is continued. Post closure, the facility will monitor quarterly and report the value. 40 CFR 257.95(h)(2) identifies the MCL for this parameter at 100 µg/L so this will be established as the benchmark.

OTHER:

Chloride, Sulfate, and Chloride Plus Sulfate

The facility reported from 235.4 to 1942 mg/L in the last permit term. Previous final limits were 1000 mg/L daily maximum and monthly average. This parameter has RP given the data. The daily maximum effluent limit will be retained at 1000 mg/L for the sum of chlorides and sulfate; monitoring only for the monthly average. This is not backsliding as the daily maximum and monthly average were the same in the previous permit. The facility asked for a continuation of the chloride plus sulfate schedule of compliance limit given the current status of the open ash ponds. The Department has granted continuation of the SOC for chloride plus sulfate knowing that the final date for discharge of ash handling wastewater is 12/31/2023.

The facility will also submit the chloride and sulfate values independently. To fulfill requirements of a previous variance, the permittee submitted documentation in April of 2009 outlining findings of a study conducted within the stream. The study found that groundwater in the area naturally contains chlorides and sulfates and the cooling towers concentrate these salts prior to discharge. Sampling of the groundwater in the six wells supplying the facility with cooling water showed total sulfate and chloride levels range from about 100 to 700 mg/L. The historic downstream instream monitoring point was located about 200 feet north of the previously classified Blackberry Creek (C-stream classification, WBID #3184). This facility has caused a stream impairment in Blackberry Creek (WBID# 3184) and is listed on the Missouri 303(d) list as the sole contributor of the sulfate and chloride impairment. Historic data from the downstream monitoring point shows 12 exceedances of sulfates over the in-stream standard. Additional sulfates are thought to be discharged from the rail loop area’s strip mining impoundments. After closure, the requirement will switch to a benchmark of 1000 mg/L.

OUTFALL #009 – UTILITY LANDFILL LEACHATE

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	6.5 TO 9.0	-	NEW	ONCE/MONTH	MONTHLY	GRAB
TOTAL SUSPENDED SOLIDS (TSS)	mg/L	100	30	NEW	ONCE/MONTH	MONTHLY	GRAB
METALS							
ARSENIC, TR	µg/L	11	8	NEW	ONCE/MONTH	MONTHLY	GRAB
BORON, TR	µg/L	3285	1638	NEW	ONCE/MONTH	MONTHLY	GRAB
MERCURY, TR	µg/L	0.788	0.356	NEW	ONCE/MONTH	MONTHLY	GRAB
MOLYBDENUM, TR	µg/L	*	*	NEW	ONCE/MONTH	MONTHLY	GRAB
SELENIUM, TR	µg/L	8.2	4.1	NEW	ONCE/MONTH	MONTHLY	GRAB
NUTRIENTS							
AMMONIA AS N	mg/L	*	*	NEW	ONCE/MONTH	MONTHLY	GRAB
KJELDAHL NITROGEN, TOTAL (TKN)	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							
CHLORIDE	mg/L	*	*	NEW	ONCE/MONTH	MONTHLY	GRAB
SULFATE	mg/L	*	*	NEW	ONCE/MONTH	MONTHLY	GRAB
CHLORIDE PLUS SULFATE	mg/L	1000	*	NEW	ONCE/MONTH	MONTHLY	GRAB
WET TEST - ACUTE	TUa	1.0	-	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
TR total recoverable

DERIVATION AND DISCUSSION OF LIMITS:
This outfall is categorical pursuant to 40 CFR 423.15(b) and is a new source. Data were reviewed from other facilities operating utility waste landfills (Iatan Generating Station MO-0082996) and EPRI resources as an antidegradation analysis was not required per the Engineering group. These parameters are the most prominent in coal ash leachate and proper operational and technology control of the below pollutants will control all pollutants in the landfill leachate. This outfall will be managed, typically as non-discharging. The landfill is not yet constructed.

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 facility is unable to obtain effluent flow, then it is the responsibility of the facility 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 established. The facility estimated a flow of 0 due to recycling, in the application.

CONVENTIONAL:

Oil & Grease
15 mg/L daily maximum; 10 mg/L monthly average; per the permit writer's best professional judgment. Technology limits (20 mg/L daily maximum; 15 mg/L monthly average) established for NSPS pursuant to 40 CFR 423.15(a)(3) are less protective therefore the water quality standards will be applied. 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 xylene, but these constituents are often lost during testing due to their boiling points. The permit writer completed an RPD on this parameter and found RP based on the activities occurring at this outfall. 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 facility to visually observe the discharge and receiving waters for sheen or bottom deposits. The limit this permit applies does not allow the facility to violate general criteria pursuant to 10 CSR 20-7.015(4) even if data provided are below the numeric limit.
AQL Chronic: 10 mg/L per 10 CSR 20-7.031 Table A1
Set chronic standard equal to chronic WLA per TSD §5.4.2 (EPA/505/2-90-001); multiply by 1.5 to obtain acute limit.
10 mg/L * 1.5 = 15 mg/L

pH
6.5 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. 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. Categorical limitations (6.0 to 9.0 SU) pursuant to 40 CFR 423.15(b)(1) are less stringent therefore are not applied.

Total Suspended Solids (TSS)
100 mg/L daily maximum and 30 mg/L monthly average per 40 CFR 423.15(a)(3) for NSPS. There is no numeric water quality standard for TSS; however, sediment discharges can negatively impact aquatic life habitat. TSS is also a valuable indicator parameter. TSS monitoring allows the facility to identify increases in TSS indicating uncontrolled materials leaving the site. Increased suspended solids in runoff can lead to decreased available oxygen for aquatic life and an increase of surface water temperatures in a receiving stream. Suspended solids can also be carriers of toxins, which can adsorb to the suspended particles; therefore, total suspended solids are a valuable indicator parameter for other pollution.

METALS:

Arsenic, Total Recoverable
Parameter based on typical pollutants in coal ash landfill leachate and requirements in 40 CFR 423.15(b)(16) for NSPS. The water quality standards are acute protection of aquatic life 340 µg/L, and chronic is 150 µg/L. The technology limits are 11 µg/L daily maximum and 8 µg/L monthly average. The technology limits will be applied because they are the most protective pursuant to 10 CSR 20-7.015(9)(A).

Boron, Total Recoverable
Parameter based on typical pollutants in coal ash landfill leachate. Water quality standards for irrigation are 2000 µg/L.
Chronic IRR: 2000 µg/L
Chronic WLA: Ce = ((1.547 cfsDF + 0 cfsMZ) * 2000 – (0 cfsMZ * 0 background)) / 1.547 cfsDF = 2000
LTAc: WLAc * LTAc multiplier = 2000 * 0.527 = 1054.867 [CV: 0.6, 99th %ile]
Daily Maximum: MDL = LTA * MDL multiplier = 1054.867 * 3.114 = 3285.3 µg/L [CV: 0.6, 99th %ile]
Monthly Average: AML = LTA * AML multiplier = 1054.867 * 1.552 = 1637.6 µg/L [CV: 0.6, 95th %ile, n=4]

Mercury, Total Recoverable
Parameter based on typical pollutants in coal ash landfill leachate and requirements in 40 CFR 423.15(b)(16) for NSPS. The water quality standards are acute protection of aquatic life 1.4 µg/L, chronic is 0.77 µg/L. The technology limits are 0.788 µg/L daily maximum and 0.356 µg/L monthly average. The technology limits will be applied because they are the most protective pursuant to 10 CSR 20-7.015(9)(A).

Molybdenum, Total Recoverable
Parameter based on typical pollutants in coal ash landfill leachate. Missouri does not have water quality standards for molybdenum, but is monitored as the second most prevalent in coal ash leachate overall. Facilities discharging landfill leachate typically monitor for this parameter.

Selenium, Total Recoverable
Parameter based on typical pollutants in coal ash landfill leachate.
Chronic AQL: 5 µg/L
Chronic WLA: Ce = ((1.547 cfsDF + 0 cfsMZ) * 5 – (0 cfsMZ * 0 background)) / 1.547 cfsDF = 5
LTAc: WLAc * LTAc multiplier = 5 * 0.527 = 2.637 [CV: 0.6, 99th %ile]
Daily Maximum: MDL = LTA * MDL multiplier = 2.637 * 3.114 = 8.2 µg/L [CV: 0.6, 99th %ile]
Monthly Average: AML = LTA * AML multiplier = 2.637 * 1.552 = 4.1 µg/L [CV: 0.6, 95th %ile, n=4]

NUTRIENTS:

Ammonia, Total as Nitrogen, Kjeldahl Nitrogen, Total (TKN), and Nitrate plus Nitrite
Nitrogen is expected to be present in this discharge therefore monthly monitoring is required per 10 CSR 20-7.015(9)(D)8.B.

Phosphorus, Total P (TP)
Phosphorus may be present in this discharge therefore monthly monitoring is required per 10 CSR 20-7.015(9)(D)8.B.

OTHER:

Chloride, Sulfate, and Chloride Plus Sulfate
1000 mg/L daily maximum for chloride plus sulfate, monitoring for monthly average. This is a typical parameter of concern in coal ash waste. The facility shall sample chloride and sulfate independently, report those values, and report the summed value. The local streams and groundwater already show higher than normal levels of sulfates but with the closure of the ash ponds, the sulfate and chloride concentrations from those sources will be decreased.

Whole Effluent Toxicity (WET) Test Acute
The permit writer has determined this facility has reasonable potential to cause toxicity in the receiving stream due to the type of discharge. Because the facility expects to operate the leachate system as a non-discharging system, an acute WET test was chosen as a discharge over 4 days is unexpected; if a chronic WET test is implemented in a permit, a series of samples is required over the course of 5 days, but the discharge will likely not last that long. A WET test is a quantifiable method to conclusively determine if 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 CWA §101(a)(3), requiring WET testing is reasonably appropriate for site-specific Missouri State Operating Permits to quantify toxicity. WET testing is also required by 40 CFR 122.44(d)(1). WET testing ensures the provisions in 10 CSR 20-6 and Missouri's 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 ensure compliance with the CWA and related regulations of the Missouri Clean Water Commission. Missouri Clean Water Law (MCWL) RSMo 644.051.3 requires the Department to set permit conditions complying with the MCWL and CWA. 644.051.4 RSMo specifically references toxicity as an item the Department must consider in permits (along with water quality-based effluent limits); and RSMo 644.051.5 is the basic authority to require testing conditions. 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 without mixing considerations is 100%.
- ✓ The standard dilution series for facilities discharging to waterbodies with no mixing considerations is 100%, 50%, 25%, 12.5%, & 6.25% as 10 CSR 20-7.015((9)(L)4.A. states the dilution series must be proportional.
- ✓ Where no mixing is allowed the criterion must be met at the end of the pipe. However, when using an LC_{50} as the test endpoint, the acute toxicity test has an upper sensitivity level of 100% effluent, or 1.0 TUa. If less than 50% of the test organisms die at 100% effluent, the true LC_{50} value for the effluent cannot be measured, effectively acting as a detection limit. Therefore, when the allowable effluent concentration is 100% a limit of 0.3 TUa will apply with a 1.0 TUa detection limit.

OUTFALLS #010 AND #011 – UWL NON-CONTACT STORMWATER

EFFLUENT LIMITATIONS TABLE:

PARAMETERS	UNIT	DAILY MAXIMUM LIMIT	BENCH-MARK	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL							
FLOW	MGD	*	-	NEW	ONCE/MONTH	MONTHLY	24 HR. ESTIMATE
CONVENTIONAL							
COD	mg/L	**	120	NEW	ONCE/MONTH	MONTHLY	GRAB
OIL & GREASE	mg/L	**	10	NEW	ONCE/MONTH	MONTHLY	GRAB
pH †	SU	*	-	NEW	ONCE/MONTH	MONTHLY	GRAB
TSS	mg/L	**	100	NEW	ONCE/MONTH	MONTHLY	GRAB
METALS							
BORON, TR	µg/L	*	-	NEW	ONCE/MONTH	MONTHLY	GRAB
MOLYBDENUM, TR	µg/L	*	-	NEW	ONCE/MONTH	MONTHLY	GRAB
SELENIUM, TR	µg/L	*	-	NEW	ONCE/MONTH	MONTHLY	GRAB
OTHER							
CHLORIDE	mg/L	*	-	NEW	ONCE/MONTH	MONTHLY	GRAB
SULFATE	mg/L	*	-	NEW	ONCE/MONTH	MONTHLY	GRAB
CHLORIDE PLUS SULFATE	mg/L	**	1000	NEW	ONCE/MONTH	MONTHLY	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
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 facility is unable to obtain effluent flow, then it is the responsibility of the facility 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 established for the first permit term. Future permits may decrease sampling frequency after data is obtained.

CONVENTIONAL:

Chemical Oxygen Demand (COD)
Monitoring with 120 mg/L daily maximum benchmark 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 facility to identify increases in COD may indicate materials/chemicals coming into contact with stormwater causing an increase in oxygen demand. Increases in COD may indicate a need for maintenance or improvement of BMPs. The benchmark value falls within the range of values implemented in other permits having similar industrial activities and is achievable through proper BMP controls. Monthly monitoring is established for the first permit term. Future permits may decrease sampling frequency after data is obtained.

Oil & Grease
Monitoring with a daily maximum benchmark of 10 mg/L; per permit writer's best professional judgment. 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 xylene, but these constituents are often lost during testing due to their boiling points. It is recommended to perform separate testing for these constituents if they are a known pollutant of concern at the site, i.e. aquatic life toxicity or human health is a concern. Results do not allow for separation of specific pollutants within the test,

they are reported, totaled, as "oil and grease". Per 10 CSR 20-7.031 Table A1: *Criteria for Designated Uses*; 10 mg/L is the standard for protection of aquatic life. This standard will also be used to protect the general criteria found at 10 CSR 20-7.031(4). Ten mg/L is the level at which sheen is expected to form on receiving waters. 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 facility to visually observe the discharge and receiving waters for sheen or bottom deposits. The benchmark is achievable through proper operational and maintenance of BMPs and falls within the range of values implemented in other permits having similar industrial activities. The benchmark this permit applies does not allow the facility to violate general criteria 10 CSR 20-7.015(4) even if data provided are below the benchmark. Monthly monitoring is established for the first permit term. Future permits may decrease sampling frequency after data is obtained

pH
Monthly monitoring requirement only. pH is generally stable for UWL non-contact stormwater discharges. No benchmark. 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)
Monitoring with a daily maximum benchmark of 100 mg/L. There is no numeric water quality standard for TSS; however, sediment discharges can negatively impact aquatic life habitat. TSS is also a valuable indicator parameter. TSS monitoring allows the facility to identify increases in TSS indicating uncontrolled materials leaving the site. Increased suspended solids in runoff can lead to decreased available oxygen for aquatic life and an increase of surface water temperatures in a receiving stream. Suspended solids can also be carriers of toxins, which can adsorb to the suspended particles; therefore, total suspended solids are a valuable indicator parameter for other pollution. The benchmark is achievable through proper operational and maintenance of BMPs and falls within the range of values implemented in other permits having similar industrial activities.

METALS:

Boron, Total Recoverable
Monitoring is required to ensure the non-contact stormwater discharges are free of utility waste landfill contaminants of concern.

Molybdenum, Total Recoverable
Monitoring is required to ensure the non-contact stormwater discharges are free of utility waste landfill contaminants of concern.

Selenium, Total Recoverable
Monitoring is required to ensure the non-contact stormwater discharges are free of utility waste landfill contaminants of concern.

OTHER:

Chloride, Sulfate, and Chloride Plus Sulfate
Monitoring is required to ensure the non-contact stormwater discharges are free of utility waste landfill contaminants of concern. The facility will independently sample chloride and sulfate, and report those values and the sum monthly. A benchmark is established at 1000 mg/L as chlorides and sulfates are of concern in the receiving streams.

PERMITTED FEATURE #006 – NO-DISCHARGE DOMESTIC WASTEWATER STRUCTURE

EFFLUENT LIMITATIONS TABLE:

PARAMETERS	UNIT	DAILY MINIMUM	MONTHLY AVERAGE	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	MINIMUM REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL							
FREEBOARD	FEET	2.0	*	SAME	ONCE MONTH	MONTHLY	MEASUREMENT

Freeboard

2 foot minimum freeboard level pursuant to 10 CSR 20-8.200(4)(A)3 for lagoons/basins. Monthly monitoring of the freeboard in the basin is required to ensure proper operational controls, continued from previous permit. This permitted feature was determined to be no-discharge. As such, an antidegradation review was not conducted and discharge authorization has not been granted. To ensure the basin remains no-discharge, comply with all BMPs listed, monitor freeboard/liquid levels, and report highest reading monthly. Permits only authorize discharges after the facility has documented compliance with state and federal Clean Water laws and regulations, including antidegradation and construction requirements. Freeboard is the distance between the top of the liquid level and the bottom of the discharge pipe or canal. Freeboard should be measured to the nearest inch, and is reported in tenths of feet. Emergency discharge allowances are not available for facilities discharging to the subsurface.

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.

PUBLIC NOTICE:
The Department shall give public notice 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 or with 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 facility must be notified of the denial in writing. https://dnr.mo.gov/water/what-were-doing/public-notices The Department must issue public notice of a pending operating 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 wishing to submit comments regarding this proposed operating permit, 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. All comments must be in written form.

- ✓ The Public Notice period for this operating permit started February 18, 2022 and ended March 21, 2022. No comments were received.

DATE OF FACT SHEET: MARCH 22, 2022

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

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

Part I – General Conditions
Section A – Sampling, Monitoring, and Recording

1. **Sampling Requirements.**
   a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
   b. All samples shall be taken at the outfall(s) or Missouri Department of Natural Resources (Department) approved sampling location(s), and unless specified, before the effluent joins or is diluted by any other body of water or substance.

2. **Monitoring Requirements**.
   a. Records of monitoring information shall include:
      i. The date, exact place, and time of sampling or measurements;
      ii. The individual(s) who performed the sampling or measurements;
      iii. The date(s) analyses were performed;
      iv. The individual(s) who performed the analyses;
      v. The analytical techniques or methods used; and
      vi. The results of such analyses.
   b. If the permittee monitors any pollutant more frequently than required by the permit at the location specified in the permit using test procedures approved under 40 CFR Part 136, or another method required for an industry-specific waste stream under 40 CFR subchapters N or O, the results of such monitoring shall be included in the calculation and reported to the Department with the discharge monitoring report data (DMR) submitted to the Department pursuant to Section B, paragraph 7.

3. **Sample and Monitoring Calculations.** Calculations for all sample and monitoring results which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in the permit.

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

5. **Record Retention.** Except for records of monitoring information required by the permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five (5) years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

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

Section B – Reporting Requirements

1. **Planned Changes.**
   a. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility when:
      i. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
      ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42;
      iii. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;
      iv. Any facility expansions, production increases, or process modifications which will result in a new or substantially different discharge or sludge characteristics must be reported to the Department 60 days before the facility or process modification begins. Notification may be accomplished by application for a new permit. If the discharge does not violate effluent limitations specified in the permit, the facility is to submit a notice to the Department of the changed discharge at least 30 days before such changes. The Department may require a construction permit and/or permit modification as a result of the proposed changes at the facility.

2. **Non-compliance Reporting.**
   a. The permittee shall report any noncompliance which may endanger health or the environment. Relevant information shall be provided orally or via the current electronic method approved by the Department, within 24 hours from the time the permittee becomes aware of the circumstances, and shall be reported to the appropriate Regional Office during normal business hours or the Environmental Emergency Response hotline at 573-634-2436 outside of normal business hours. A written submission shall also be provided within five (5) business days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

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.

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

PART III – BIOSOLIDS AND SLUDGE FROM DOMESTIC TREATMENT FACILITIES

SECTION A – GENERAL REQUIREMENTS

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

SECTION B – DEFINITIONS

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

SECTION C – MECHANICAL WASTEWATER TREATMENT FACILITIES

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

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

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

SECTION E – INCINERATION OF SLUDGE

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

SECTION F – SURFACE DISPOSAL SITES AND BIOSOLIDS AND SLUDGE LAGOONS

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

SECTION G – LAND APPLICATION OF BIOSOLIDS

1. The permittee shall not land apply biosolids unless land application is authorized in the facility description, the special conditions of the issued NPDES permit, or in accordance with Section A.3.c., above.
2. This permit only authorizes "Class A" or "Class B" biosolids derived from domestic wastewater to be land applied onto grass land, crop land, timber, or other similar agricultural or silviculture lands at rates suitable for beneficial use as organic fertilizer and soil conditioner.
3. Class A Biosolids Requirements: Biosolids shall meet Class A requirements for application to public contact sites, residential lawns, home gardens or sold and/or given away in a bag or other container.
4. Class B biosolids that are land applied to agricultural and public contact sites shall comply with the following restrictions:
    a. Food crops that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of biosolids.
    b. Food crops below the surface of the land shall not be harvested for 20 months after application of biosolids when the biosolids remain on the land surface for four months or longer prior to incorporation into the soil.
    c. Food crops below the surface of the land shall not be harvested for 38 months after application of biosolids when the biosolids remain on the land surface for less than four months prior to incorporation into the soil.
    d. Animal grazing shall not be allowed for 30 days after application of biosolids.
    e. Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of biosolids.
    f. Turf shall not be harvested for one year after application of biosolids if used for lawns or high public contact sites in close proximity to populated areas such as city parks or golf courses.
    g. After Class B biosolids have been land applied to public contact sites with high potential for public exposure, as defined in 40 CFR § 503.31, such as city parks or golf courses, access must be restricted for 12 months.
    h. After Class B biosolids have been land applied public contact sites with low potential for public exposure as defined in 40 CFR § 503.31, such as a rural land application or reclamation sites, access must be restricted for 30 days.

5. Pollutant limits
    a. Biosolids shall be monitored to determine the quality for regulated pollutants listed in Table 1, below. Limits for any pollutants not listed below may be established in the permit.
    b. The number of samples taken is directly related to the amount of biosolids or sludge produced by the facility (See Section J, below). Samples should be taken only during land application periods. When necessary, it is permissible to mix biosolids with lower concentrations of biosolids as well as other suitable Department approved material to achieve pollutant concentration below those identified in Table 1, below.
    c. Table 1 gives the ceiling concentration for biosolids. Biosolids which exceed the concentrations in Table 1 may not be land applied.

TABLE 1

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

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

TABLE 2

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

e. Annual pollutant loading rate.

Table 3

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

f. Cumulative pollutant loading rates.

Table 4

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

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

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

i. PAN can be determined as follows:

(Nitrate + nitrite nitrogen) + (organic nitrogen x 0.2) + (ammonia nitrogen x volatilization factor[1]).

[1] Volatilization factor is 0.7 for surface application and 1 for subsurface application. Alternative volitalization factors and mineralization rates can be utilized on a case-by-case basis.

ii. Crop nutrient production/removal to be based on crop specific nitrogen needs and realistic yield goals. **NOTE:** There are a number of reference documents on the Missouri Department of Natural Resources website that are informative to implement best management practices in the proper management of biosolids, including crop specific nitrogen needs, realistic yields on a county by county basis and other supporting references.

iii. Biosolids that are applied at agronomic rates shall not cause the annual pollutant loading rates identified in Table 3 to be exceeded.

d. Buffer zones are as follows:

i. 300 feet of a water supply well, sinkhole, water supply reservoir or water supply intake in a stream;

ii. 300 feet of a losing stream, no discharge stream, stream stretches designated for whole body contact recreation, wild and scenic rivers, Ozark National Scenic Riverways or outstandingstate resource waters as listed in the Water Quality Standards, 10 CSR 20-7.031;

iii. 150 feet of dwellings or public use areas;

iv. 100 feet (35 feet if biosolids application is down-gradient or the buffer zone is entirely vegetated) of lake, pond, wetlands or gaining streams (perennial or intermittent);

v. 50 feet of a property line. Buffer distances from property lines may be waived with written permission from neighboring property owner.

vi. For the application of dry, cake or liquid biosolids that are subsurface injected, buffer zones identified in 5.d.i. through 5.d.iii above, may be reduced to 100 feet. The buffer zone may be reduced to 35 feet if the buffer zone is permanently vegetated. Subsurface injection does not include methods or technology reflective of combination surface/shallow soil incorporation.

e. Slope limitation for application sites are as follows:

i. For slopes less than or equal to 6 percent, no rate limitation;

ii. Applied to a slope 7 to 12 percent, the applicator may apply biosolids when soil conservation practices are used to meet the minimum erosion levels;

iii. Slopes > 12 percent, apply biosolids only when grass is vegetated and maintained with at least 80 percent ground cover at a rate of two dry tons per acre per year or less.

iv. Dry, cake or liquid biosolids that are subsurface injected, may be applied on slopes not to exceed 20 percent. Subsurface injection does not include the use of methods or technology reflective of combination surface/shallow soil incorporation.

f. No biosolids may be land applied in an area that it is reasonably certain that pollutants will be transported into waters of the state.

g. Biosolids may be land applied to sites with soil that are snow covered, frozen, or saturated with liquid when site restrictions or other controls are provided to prevent pollutants from being discharged to waters of the state during snowmelt or stormwater runoff. During inclement weather or unfavorable soil conditions use the following management practices:

i. A maximum field slope of 6% and a minimum 300 feet grass buffer between the application site and waters of the state. A 35 feet grass buffer may be utilized for the application of dry, cake or liquid biosolids that are subsurface injected. Subsurface injection does not include the use of mthods or technology refletive of combination surface/shallow soil incorporation;

ii. A maximum field slope of 2% and 100 feet grass buffer between the application site and waters of the state. A 35 feet grass buffer may be used for the application of dry, cake or liquid biosolids that are subsurface injected. Subsurface injection does not included the use of methods or technology refletive of combination surface/shallow soil incorporation;

iii. Other best management practices approved by the Department.

SECTION H – SEPTAGE

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

SECTION I– CLOSURE REQUIREMENTS

1. This section applies to all wastewater facilities (mechanical and lagoons) and sludge or biosolids storage and treatment facilities. It does not apply to land application sites.
2. Permittees of a domestic wastewater facility who plan to cease operation must obtain Department approval of a closure plan which addresses proper removal and disposal of all sludges and/or biosolids. Permittee must maintain this permit until the facility is closed in accordance with the approved closure plan per 10 CSR 20 – 6. 010 and 10 CSR 20 – 6.015.
3. Biosolids or sludge that are left in place during closure of a lagoon or earthen structure or ash pond shall not exceed the agricultural loading rates as follows:
    a. Biosolids and sludge shall meet the monitoring and land application limits for agricultural rates as referenced in Section G, above.
    b. If a wastewater treatment lagoon has been in operation for 15 years or more without sludge removal, the sludge in the lagoon qualifies as a Class B biosolids with respect to pathogens due to anaerobic digestion, and testing for fecal coliform is not required. For other lagoons, testing for fecal coliform is required to show compliance with Class B biosolids limitations. In order to reach Class B biosolids requirements, fecal coliform must be less than 2,000,000 colony forming units or 2,000,000 most probable number. All fecal samples must be presented as geometric mean per gram.
    c. The allowable nitrogen loading that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. For a grass cover crop, the allowable PAN is 300 pounds/acre. Alternative, site-specific application rates may be included in the closure plan for department consideration.
        i. PAN can be determined as follows:
        (Nitrate + nitrite nitrogen) + (organic nitrogen x 0.2) + (ammonia nitrogen x volatilization factor[1]).
        [1] Volatilization factor is 0.7 for surface application and 1 for subsurface application. Alternative volitalization factors and mineralization rates can be utilized on a case-by-case basis
4. Domestic wastewater treatment lagoons with a design treatment capacity less than or equal to 150 persons, are "similar treatment works" under the definition of septage. Therefore the sludge within the lagoons may be treated as septage during closure activities. See Section B, above. Under the septage category, residuals may be left in place as follows:
    a. Testing for metals or fecal coliform is not required.
    b. If the wastewater treatment lagoon has been in use for less than 15 years, mix lime with the sludge at a rate of 50 pounds of hydrated lime per 1000 gallons (134 cubic feet) of sludge.
    c. The amount of sludge that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. 100 dry tons/acre of sludge may be left in the basin without testing for nitrogen. If 100 dry tons/acre or more will be left in the lagoon, test for nitrogen and determine the PAN using the calculation above. Allowable PAN loading is 300 pounds/acre.
5. Biosolids or sludge left within the domestic lagoon shall be mixed with soil on at least a 1 to 1 ratio, and unless otherwise approved, the lagoon berm shall be demolished, and the site shall be graded and contain ≥70% vegetative density over 100% of the site so as to avoid ponding of storm water and provide adequate surface water drainage without creating erosion. Alternative biosolids or sludge and soil mixing ratios may be included in the closure plan for department consideration.
6. Lagoon and earthen structure closure activities shall obtain a storm water permit for land disturbance activities that equal or exceed one acre in accordance with 10 CSR 20-6.200.
7. When closing a mechanical wastewater plant, all biosolids or sludge must be cleaned out and disposed of in accordance with the Department approved closure plan before the permit for the facility can be terminated.
    a. Land must be stabilized which includes any grading, alternate use or fate upon approval by the Department, remediation, or other work that exposes sediment to stormwater per 10 CSR 20-6.200. The site shall be graded and contain ≥70% vegetative density over 100% of the site, so as to avoid ponding of storm water and provide adequate

surface water drainage without creating erosion.

b. Hazardous Waste shall not be land applied or disposed during mechanical plant closures unless in accordance with Missouri Hazardous Waste Management Law and Regulations pursuant to 10 CSR 25.

c. After demolition of the mechanical plant, the site must only contain clean fill defined in Section 260.200.1(6) RSMo as uncontaminated soil, rock, sand, gravel, concrete, asphaltic concrete, cinderblocks, brick, minimal amounts of wood and metal, and inert solids as approved by rule or policy of the Department for fill, reclamation, or other beneficial use. Other solid wastes must be removed.

8. If biosolids or sludge from the domestic lagoon or mechanical treatment plant exceeds agricultural rates under Section G and/or I, a landfill permit or solid waste disposal permit must be obtained if the permittee chooses to seek authorization for on-site sludge disposal under the Missouri Solid Waste Management Law and regulations per 10 CSR 80, and the permittee must comply with the surface disposal requirements under 40 CFR Part 503, Subpart C.

SECTION J – MONITORING FREQUENCY

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

TABLE 5

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

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

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

Note 1: Total solids: A grab sample of sludge shall be tested one per day during land application periods for percent total solids. This data shall be used to calculate the dry tons of sludge applied per acre.
Note 2: Table 5 is not applicable for incineration and permit holders that landfill their sludge.

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

SECTION K – RECORD KEEPING AND REPORTING REQUIREMENTS

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

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

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

5. Annual report contents. The annual report shall include the following:
    a. Biosolids and sludge testing performed. If testing was conducted at a greater frequency than what is required by the permit, all test results must be included in the report.
    b. Biosolids or sludge quantity shall be reported as dry tons for the quantity produced and/or disposed.
    c. Gallons and % solids data used to calculate the dry ton amounts.
    d. Description of any unusual operating conditions.
    e. Final disposal method, dates, and location, and person responsible for hauling and disposal.
        i. This must include the name and address for the hauler and sludge facility. If hauled to a municipal wastewater treatment facility, sanitary landfill, or other approved treatment facility, give the name of that facility.
        ii. Include a description of the type of hauling equipment used and the capacity in tons, gallons, or cubic feet.
    f. Contract Hauler Activities:
    If using a contract hauler, provide a copy of a signed contract from the contractor. Permittee shall require the contractor to supply information required under this permit for which the contractor is responsible. The permittee shall submit a signed statement from the contractor that he has complied with the standards contained in this permit, unless the contract hauler has a separate biosolids or sludge use permit.
    g. Land Application Sites:
        i. Report the location of each application site, the annual and cumulative dry tons/acre for each site, and the landowners name and address. The location for each spreading site shall be given as a legal description for nearest ¼, ¼, Section, Township, Range, and county, or UTM coordinates. The facility shall report PAN when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kg TN; or 2) when biosolids are land applied at an application rate greater than two dry tons per acre per year.
        ii. If the "Low Metals" criteria are exceeded, report the annual and cumulative pollutant loading rates in pounds per acre for each applicable pollutant, and report the percent of cumulative pollutant loading which has been reached at each site.
        iii. Report the method used for compliance with pathogen and vector attraction requirements.
        iv. Report soil test results for pH and phosphorus. If no soil was tested during the year, report the last date when tested and the results.

Midwest Environmental CONSULTANTS
Sound Environmental Solutions

September 13, 2021

Ms. Pam Hackler
Water Protection Program
Missouri Department of Natural Resources
PO Box 176
Jefferson City, MO 65101

Re: NPDES Permit Renewal MO-0095362 Asbury Power Plant, Jasper County, Missouri

2009 E. McCarty St.
Suite 2
Jefferson City, MO 65101
voice: 573.636.9454
fax: 573.761.4200

1350 E. Kingsley St.
Suite E
Springfield, MO 65804
voice: 417.886.9200
fax: 417.886.9876

www.mecpc.com

Dear Ms. Hackler:

On behalf of Liberty Utilities (The Empire District Electric Company), Midwest Environmental Consultants (MEC) is submitting the following information for the NPDES Permit Renewal MO-0095362 for the Asbury Power Plant located in Jasper County, Missouri. The Asbury Power Plant was officially retired on March 1, 2020. The facility no longer operates as a steam electric power plant. An intermediated modification to the NPDES permit was issued on August 1, 2020 to reflect the plant retirement. Forms A, C and D are attached.

Below is a discussion of each existing and proposed outfall of the closed Asbury Power Plant and the possible future Asbury Landfill.

Existing Outfall #001: This discharge from the cooling tower blowdown discharge was removed during the 2020 permit modification. The discharge from the cooling water pond will be based upon rainfall.

Existing Outfall #002: This outfall discharges ash pond overflow. Since the plant is no longer active the flow is intermittent and dependent upon precipitation events. There is no longer a discharge from the power plant.

Permitted Feature #006: This permitted feature is for domestic wastewater that is subsurface land applied.

Existing Outfall #007: This outfall is a stormwater discharge from the plant area and the old coal pile storage area. The coal pile storage area has had the coal and coal residuals removed. As part of the coal pile removal and remediation a new stormwater retention pond was built. Discharge will be based upon rainfall.

Existing Outfall #008: This outfall serves the eastern portion of the CCR pond system during closure activities. Discharge will be based upon rainfall.

Proposed Outfall #009: This is a new outfall that will serve the proposed landfill leachate pond. Discharge will be based upon rainfall. The landfill and leachate pond have not yet been constructed.

Proposed Outfall #010: This is a new outfall that will serve the proposed landfill east sediment pond. Discharge will be based upon rainfall. The landfill and sediment pond have not yet been constructed.

Proposed Outfall #011: This is a new outfall that will serve the proposed landfill north sediment pond. Discharge will be based upon rainfall. The landfill and sediment pond have not yet been constructed.

If you have any questions feel free to contact me at 573.636.9454.

Sincerely,
Midwest Environmental Consultants

Lindsey R. Henry, PE
Project Principal

Attachments

c: Greg Jarman – Liberty Utilities

rec'd 09/13/22 AP 38544

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 – 0095362 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	
Asbury Power Plant		417-625-5100	
ADDRESS (PHYSICAL)	CITY	STATE	ZIP CODE
21133 Uphill Lane	Asbury	MO	64832

3. OWNER

NAME		TELEPHONE NUMBER WITH AREA CODE	
The Empire District Electric Company (Liberty Utilities - Missouri)		417-652-5100	
EMAIL ADDRESS			
Tim.Wilson@libertyutilities.com			
ADDRESS (MAILING)	CITY	STATE	ZIP CODE
602 South Joplin	Joplin	MO	64804

4. CONTINUING AUTHORITY

NAME		TELEPHONE NUMBER WITH AREA CODE	
Same as Above			
EMAIL ADDRESS			
ADDRESS (MAILING)	CITY	STATE	ZIP CODE

5. OPERATOR CERTIFICATION

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

6. FACILITY CONTACT

NAME	TITLE	TELEPHONE NUMBER WITH AREA CODE
David Eaton	Plant Manager	417-625-5100
E-MAIL ADDRESS		
david.eaton@libertyutiities.com		

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

NAME			
Karoly S & Curtis Hanks ETAL			
ADDRESS	CITY	STATE	ZIP CODE
372 W. 375 Avenue	Girard	KS	66743

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 _____¼ _____¼ Sec _____ T _____ R _____ _____ County
UTM Coordinates Easting (X): See Attached Northing (Y): _____

002 _____¼ _____¼ Sec _____ T _____ R _____ _____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____

003 _____¼ _____¼ Sec _____ T _____ R _____ _____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____

004 _____¼ _____¼ Sec _____ T _____ R _____ _____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____

Include all subsurface discharges and underground injection systems for permit consideration.

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:
Environmental Permits 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: groundwater wells

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 https://dnr.mo.gov/env/wpp/edmr.htmfor information on the Department's eDMR system and how to register.

☐ - I will register an account online to participate in the Department's eDMR system through the Missouri Gateway for Environmental Management (MoGEM) before any reporting is due, in compliance with the Electronic Reporting Rule.

☑ - I have already registered an account online to participate in the Department's eDMR system through MoGEM.

☐ - I have submitted a written request for a waiver from electronic reporting. See instructions for further information regarding waivers.

☐ - The permit I am applying for does not require the submission of discharge monitoring reports.

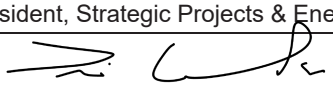
11. FEES

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:
For new permits: https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/591

For modifications: https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/596

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
Tim Wilson, Vice President, Strategic Projects & Energy Supply	417-652-5100
SIGNATURE 	DATE SIGNED 9/13/2021

MO 780-1479 (04-21)

8. Additional Facility Information

8.1 Legal Description of Outfalls

Existing Outfalls (Ash Pond Overflow)

001 Cooling Water (cooling tower blowdown discharge removed at 2020 permit mod)
NE ¼, NW ¼, Section 17, T 30N, R33W
UTM Coordinates: Easting (X) 359,462 Northing (Y) 4,136,055

002 Ash Pond Overflow
SE ¼, NW ¼, Section 17, T 30N, R33W
UTM Coordinates: Easting (X) 360,060 Northing (Y) 4,135,728

006 Permitted Feature – Domestic Wastewater Subsurface Land Application
NW ¼, NW ¼, Section 17, T 30N, R33W
UTM Coordinates: Easting (X) 359,168 Northing (Y) 4,136,099

007 Ash Pond Overflow
NE ¼, NW ¼, Section 17, T 30N, R33W
UTM Coordinates: Easting (X) 359,540 Northing (Y) 4,133,333

008 Ash Pond Overflow
SE ¼, NW ¼, Section 17, T 30N, R33W
UTM Coordinates: Easting (X) 359,625 Northing (Y) 4,135,575

Proposed New Outfalls

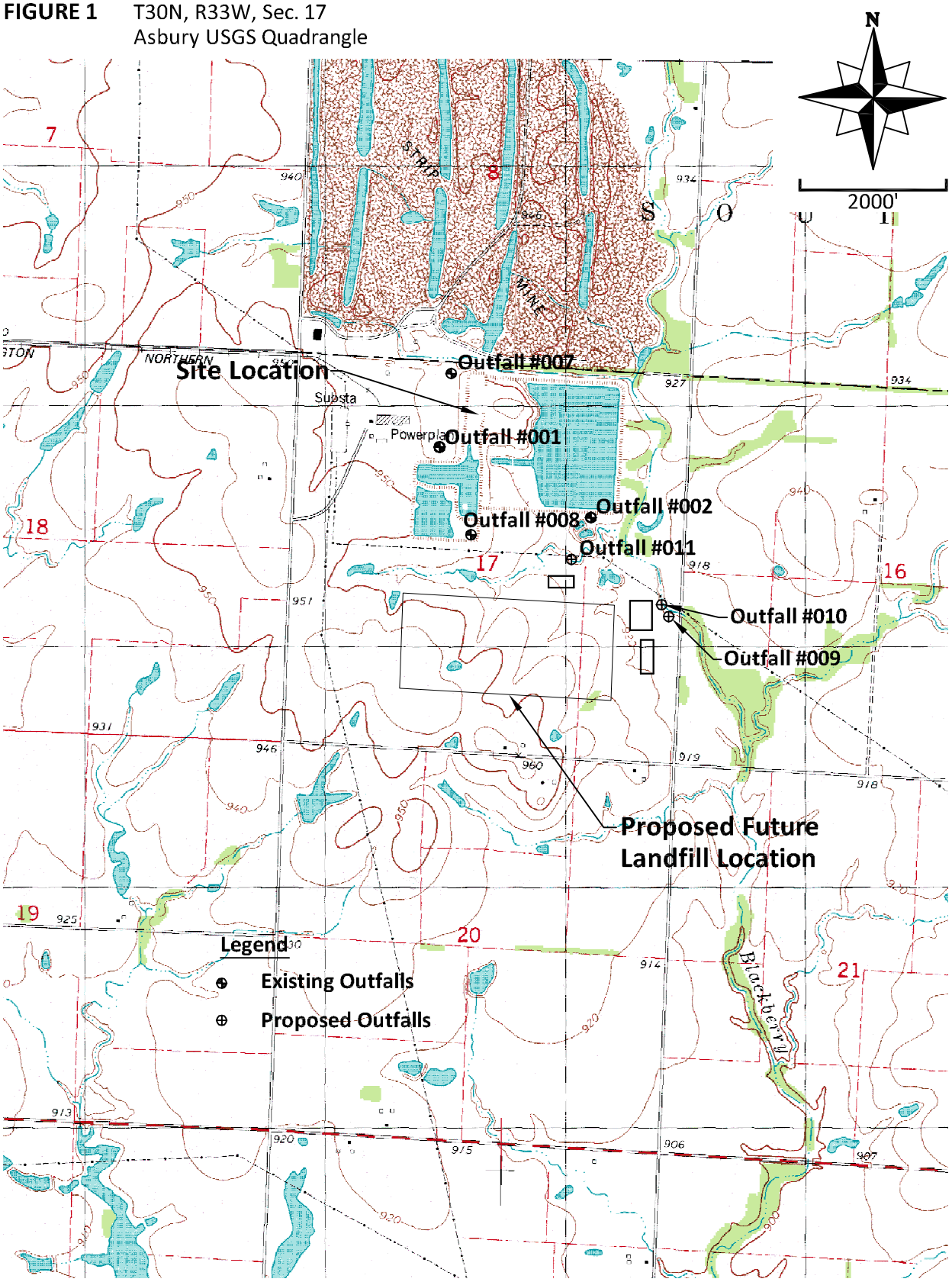
009 Proposed Landfill Leachate Pond
NE ¼, SE ¼, Section 17, T 30N, R33W
UTM Coordinates: Easting (X) 360,397 Northing (Y) 4,135,374

010 Proposed Landfill East Sediment Pond
NE ¼, SE ¼, Section 17, T 30N, R33W
UTM Coordinates: Easting (X) 360,388 Northing (Y) 4,135,395

011 Proposed Landfill North Sediment Pond
NW ¼, SE ¼, Section 17, T 30N, R33W
UTM Coordinates: Easting (X) 360,022 Northing (Y) 4,135,553

The Empire District Electric Company Power Plant
NPDES Renewal
Outfall Locations

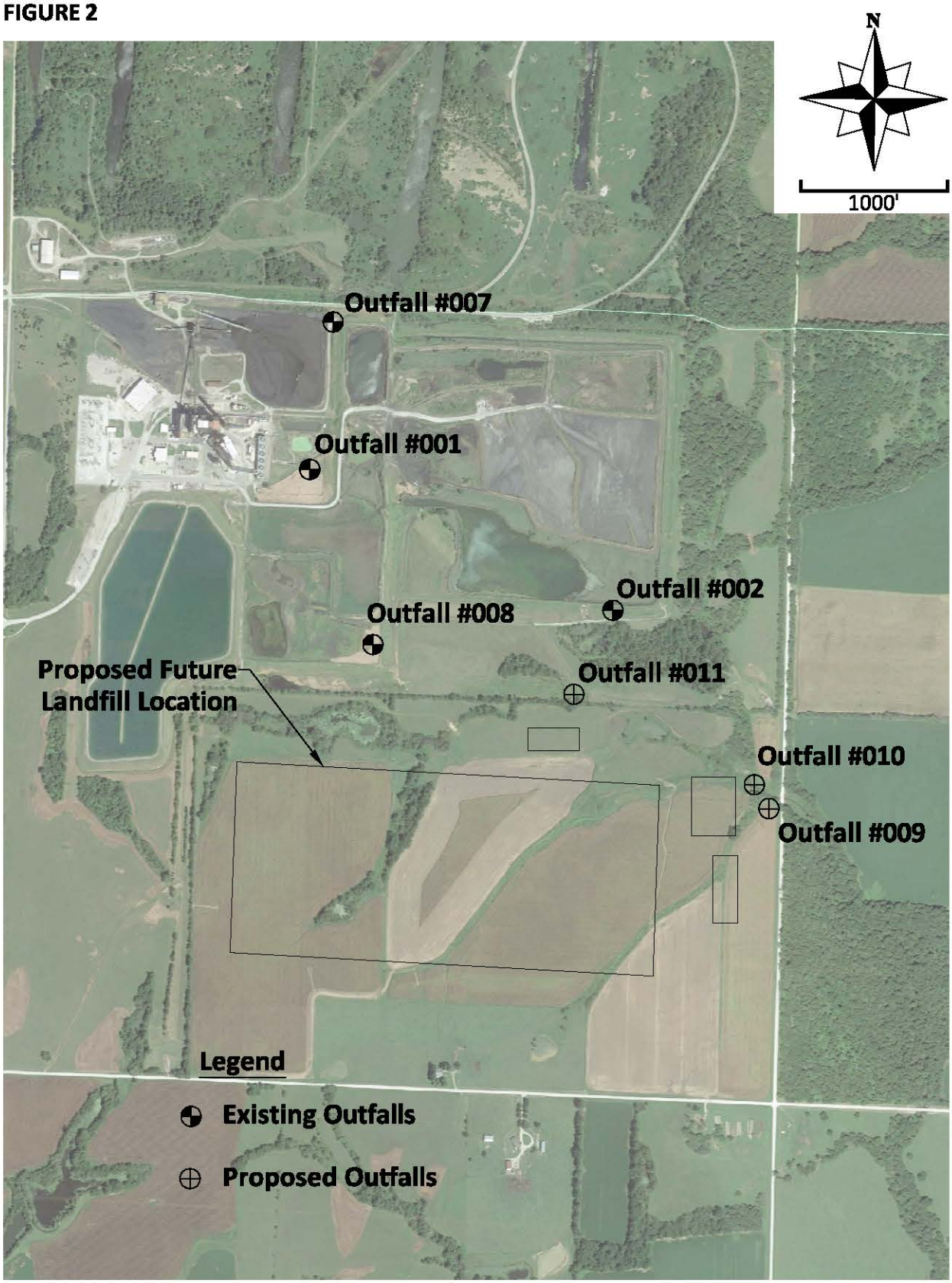
FIGURE 1 T30N, R33W, Sec. 17
Asbury USGS Quadrangle



September 2021

The Empire District Eletric Company Power Plant
Asbury Power Plant
Outfall Location Map

FIGURE 2



September 2021

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH

FORM C – APPLICATION FOR DISCHARGE PERMIT – MANUFACTURING, COMMERCIAL, MINING, SILVICULTURE OPERATIONS, AND STORMWATER

GENERAL INFORMATION (PLEASE SEE INSTRUCTIONS)

1.0 NAME OF FACILITY

Asbury Power Plant

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

MO-0095362

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

No

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

The Asbury Power Plant is a Steam Electric Power Plant that has closed. To facilitate this closure the facility must permit additional outfalls that are associated with the closure activities. The adjacent Asbury Landfill has been permitted but not constructed.

FLOWS, TYPE, AND FREQUENCY

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

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

1. OUTFALL NO.	2. OPERATION(S) CONTRIBUTING FLOW; INCLUDE ALL PROCESSES AND SUB PROCESSES AT EACH OUTFALL	3. AVERAGE FLOW AND (MAXIMUM FLOW), INCLUDE UNITS.	4. TREATMENT DESCRIPTION	5. TREATMENT CODES FROM TABLE A
001	Stormwater from Cooling Water Pond	Rainfall dependent	BMPS	1-U
002	Stormwater from Ash Pond Overflow	Rainfall dependent	BMPS	1-U
007	Stormwater from Ash Pond Overflow	Rainfall dependent	BMPs	1-U
008	Stormwater from Ash Pond Overflow	Rainfall dependent	BMPs	1-U
009	Proposed Landfill Leachate Pond	Rainfall dependent	Future BMPS	1-U
010	Proposed Landfill East Sediment Pond	Rainfall dependent	Future BMPS	1-U
011	Proposed Landfill North Sediment Pond	Rainfall dependent	Future BMPS	1-U

Attach additional pages if necessary.

2.2 INTERMITTENT DISCHARGES

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

☐ Yes *(complete the following table)* ☑ No *(go to section 2.3)*

1. OUTFALL NUMBER	2. OPERATION(S) CONTRIBUTING FLOW	3. FREQUENCY		4. FLOW				C. DURATION *(in days)*
				A. FLOW RATE *(in mgd)*		B. TOTAL VOLUME (specify with units)		
		A. DAYS PER WEEK *(specify average)*	B. MONTHS PER YEAR *(specify average)*	1. MAXIMUM DAILY	2. LONG TERM AVERAGE	4. LONG TERM DAILY	3. MAXIMUM AVERAGE	

2.3 PRODUCTION

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

☐ Yes 40 CFR_____ Subpart(s) _____ ☑ No *(go to section 2.5)*

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

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

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

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

2.4 IMPROVEMENTS

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

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

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

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

2.5 SLUDGE MANAGEMENT

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

Not Applicable

DATA COLLECTION AND REPORTING REQUIREMENTS FOR APPLICANTS

3.0 EFFLUENT (AND INTAKE) CHARACTERISTICS (SEE INSTRUCTIONS)

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

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

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

3.1 Whole Effluent Toxicity Testing

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

☐ Yes (go to 3.1 B) ☑ No (go to 3.2)

3.1 B

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

3.2 CONTRACT ANALYSIS INFORMATION

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

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

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

4.0 STORMWATER

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

OUTFALL NUMBER	TOTAL AREA DRAINED (PROVIDE UNITS)	TYPES OF SURFACES (VEGETATED, STONE , PAVED, ETC)	BEST MANAGEMENT PRACTICES EMPLOYED; INCLUDE STRUCTURAL BMPS AND TREATMENT DESIGN FLOW FOR BMPS DESCRIBE HOW FLOW IS MEASURED
001	27 ac.	vegetation	vegetation, bmps
002	26 ac.	vegetation	vegetation, bmps
007	46 ac.	vegetation	vegetation, bmps
008	28 ac.	vegetation	vegetation, bmps
009	3 ac.	vegetation	vegetation, future detention pond
010	26 ac.	vegetation	vegetation, future detention pond
011	63 ac.	vegetation	vegetation, future detention pond

4.2 STORMWATER FLOWS
Provide the date of sampling with the flows, and how the flows were estimated.

SIGNATORY REQUIREMENTS

5.0 CERTIFICATION

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

NAME AND OFFICIAL TITLE (TYPE OR PRINT)	TELEPHONE NUMBER WITH AREA CODE
Tim Wilson, Vice President, Strategic Projects & Energy Supply	417-652-5100
SIGNATURE (SEE INSTRUCTIONS) 	DATE SIGNED 9/13/2021

SEE INSTRUCTIONS; PLEASE PRINT OR TYPE.
You may report some or all of this information on separate sheet *(use similar format)* instead of completing these pages.

FORM C TABLE 1 FOR 3.0 - ITEMS A AND B

EFFLUENT (AND INTAKE) CHARACTERISTICS THIS OUTFALL IS: Stormwater — OUTFALL NO. 001

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

1. POLLUTANT	2. VALUES							3. UNITS *(specify if blank)*	
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUES		C. LONG TERM AVERAGE VALUES		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS			
A. Biochemical Oxygen Demand, 5-day (BOD_5)	NA								
B. Chemical Oxygen Demand (COD)	NA								
C. Total Organic Carbon (TOC)	NA								
D. Total Suspended Solids (TSS)	NT								
E. Ammonia as N	NA								
F. Flow	VALUE 0		VALUE		VALUE			MILLIONS OF GALLONS PER DAY (MGD)	
G. Temperature *(winter)*	VALUE NA		VALUE		VALUE			°F	
H. Temperature *(summer)*	VALUE NA		VALUE		VALUE			°F	
I. pH	MINIMUM NT		MAXIMUM		AVERAGE			STANDARD UNITS (SU)	

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

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. VALUES							4. UNITS	
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUES		C. LONG TERM AVERAGE VALUES		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS			
Subpart 1 – Conventional and Non-Conventional Pollutants											
A. Alkalinity ($CaCO_3$)		X	MINIMUM		MINIMUM		MINIMUM				
B. Bromide (24959-67-9)		X									
C. Chloride (16887-00-6)	X										
D. Chlorine, Total Residual		X									
E. Color		X									
F. Conductivity		X									
F. Cyanide, Amenable to Chlorination		X									

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

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

SEE INSTRUCTIONS; PLEASE PRINT OR TYPE.
You may report some or all of this information on separate sheet *(use similar format)* instead of completing these pages.

FORM C TABLE 1 FOR 3.0 - ITEMS A AND B

EFFLUENT (AND INTAKE) CHARACTERISTICS THIS OUTFALL IS: Stormwater — OUTFALL NO. 002

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

1. POLLUTANT	2. VALUES							3. UNITS *(specify if blank)*	
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUES		C. LONG TERM AVERAGE VALUES		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS			
A. Biochemical Oxygen Demand, 5-day (BOD_5)	NA								
B. Chemical Oxygen Demand (COD)	NA								
C. Total Organic Carbon (TOC)	NA								
D. Total Suspended Solids (TSS)	<5.0				<5.0		3	mg/L	
E. Ammonia as N	1.5				1.04		3	mg/L	
F. Flow	VALUE 0.69		VALUE		VALUE 0.443		3	MILLIONS OF GALLONS PER DAY (MGD)	
G. Temperature *(winter)*	VALUE NA		VALUE		VALUE			°F	
H. Temperature *(summer)*	VALUE NA		VALUE		VALUE			°F	
I. pH	MINIMUM 7.24		MAXIMUM 7.6		AVERAGE 7.41		3	STANDARD UNITS (SU)	

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

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. VALUES							4. UNITS	
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUES		C. LONG TERM AVERAGE VALUES		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS			
Subpart 1 – Conventional and Non-Conventional Pollutants											
A. Alkalinity ($CaCO_3$)		X	MINIMUM		MINIMUM		MINIMUM				
B. Bromide (24959-67-9)		X									
C. Chloride (16887-00-6)	X		187				147.7		3	mg/L	
D. Chlorine, Total Residual		X									
E. Color		X									
F. Conductivity		X									
F. Cyanide, Amenable to Chlorination		X									

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. VALUES							4. UNITS	
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVERAGE VALUE		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS			
Subpart 1 – Conventional and Non-Conventional Pollutants (Continued)											
G. *E. coli*		X									
H. Fluoride (16984-48-8)		X									
I. Nitrate plus Nitrate *(as N)*	X		0.67				0.38		3	mg/L	
J. Kjeldahl, Total (as N)		X									
K. Nitrogen, Total Organic *(as N)*	X		1.4				0.91		3	mg/L	
L. Oil and Grease		X	<4.9				<4.9		3	mg/L	
M. Phenols, Total		X									
N. Phosphorus *(as P)*, Total (7723-14-0)		X	<0.10				<0.10		3	mg/L	
O. Sulfate *(as SO^4)* (14808-79-8)	X		1310				1170		3	mg/L	
P. Sulfide *(as S)*		X									
Q. Sulfite (as SO^3) (14265-45-3)		X									
R. Surfactants		X									
S. Trihalomethanes, Total		X									
Subpart 2 – Metals											
1M. Aluminum, Total Recoverable (7429-90-5)		X									
2M. Antimony, Total Recoverable (7440-36-9)		X									
3M. Arsenic, Total Recoverable (7440-38-2)		X									
4M. Barium, Total Recoverable (7440-39-3)		X									
5M. Beryllium, Total Recoverable (7440-41-7)		X									
6M. Boron, Total Recoverable (7440-42-8)		X									
7M. Cadmium, Total Recoverable (7440-43-9)		X									
8M. Chromium III Total Recoverable (16065-83-1)		X									
9M. Chromium VI, Dissolved (18540-29-9)		X									
10M. Cobalt, Total Recoverable (7440-48-4)		X									

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. VALUES							4. UNITS	
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVERAGE VALUE		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS			
Subpart 2 – Metals (Continued)											
11M. Copper, Total Recoverable (7440-50-8)		X	<10.0				<10.0		3	ug/L	
12M. Iron, Total Recoverable (7439-89-6)	X		178				142.3		3	ug/L	
13M. Lead, Total Recoverable (7439-92-1)		X									
14M. Magnesium, Total Recoverable (7439-95-4)		X									
15M. Manganese, Total Recoverable (7439-96-5)		X									
16M. Mercury, Total Recoverable (7439-97-6)		X									
17M. Methylmercury (22967926)		X									
18M. Molybdenum, Total Recoverable (7439-98-7)	X		135				112.6		3	ug/L	
19M. Nickel, Total Recoverable (7440-02-0)		X									
20M. Selenium, Total Recoverable (7782-49-2)		X									
21M. Silver, Total Recoverable (7440-22-4)		X									
22M. Thallium, Total Recoverable (7440-28-0)		X									
23M. Tin, Total Recoverable (7440-31-5)		X									
24M. Titanium, Total Recoverable (7440-32-6)		X									
25M. Zinc, Total Recoverable (7440-66-6)		X									
Subpart 3 – Radioactivity											
1R. Alpha Total		X									
2R. Beta Total		X									
3R. Radium Total		X									
4R. Radium 226 plus 228 Total		X									

SEE INSTRUCTIONS; PLEASE PRINT OR TYPE.
You may report some or all of this information on separate sheet *(use similar format)* instead of completing these pages.

FORM C TABLE 1 FOR 3.0 - ITEMS A AND B

EFFLUENT (AND INTAKE) CHARACTERISTICS THIS OUTFALL IS: Stormwater — OUTFALL NO. 007

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

1. POLLUTANT	2. VALUES							3. UNITS *(specify if blank)*	
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUES		C. LONG TERM AVERAGE VALUES		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS			
A. Biochemical Oxygen Demand, 5-day (BOD_5)	NA								
B. Chemical Oxygen Demand (COD)	NA								
C. Total Organic Carbon (TOC)	NA								
D. Total Suspended Solids (TSS)	19.2				19.2		1	mg/L	
E. Ammonia as N	NA								
F. Flow	VALUE 0.547		VALUE		VALUE 0.547		1	MILLIONS OF GALLONS PER DAY (MGD)	
G. Temperature *(winter)*	VALUE NA		VALUE		VALUE			°F	
H. Temperature *(summer)*	VALUE NA		VALUE		VALUE			°F	
I. pH	MINIMUM 7.6		MAXIMUM 7.6		AVERAGE 7.6		1	STANDARD UNITS (SU)	

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

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. VALUES							4. UNITS	
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUES		C. LONG TERM AVERAGE VALUES		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS			
Subpart 1 – Conventional and Non-Conventional Pollutants											
A. Alkalinity ($CaCO_3$)		X	MINIMUM		MINIMUM		MINIMUM				
B. Bromide (24959-67-9)		X									
C. Chloride (16887-00-6)	X		6.9				6.9		1	mg/L	
D. Chlorine, Total Residual		X									
E. Color		X									
F. Conductivity		X									
F. Cyanide, Amenable to Chlorination		X									

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. VALUES							4. UNITS	
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVERAGE VALUE		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS			
Subpart 1 – Conventional and Non-Conventional Pollutants (Continued)											
G. *E. coli*		X									
H. Fluoride (16984-48-8)		X									
I. Nitrate plus Nitrate *(as N)*	X		0.23				0.23		1	mg/L	
J. Kjeldahl, Total (as N)		X									
K. Nitrogen, Total Organic *(as N)*	X		6.1				6.1		1	mg/L	
L. Oil and Grease		X	<4.9				<4.9		1	mg/L	
M. Phenols, Total		X									
N. Phosphorus *(as P)*, Total (7723-14-0)		X	<0.10				<0.10		1	mg/L	
O. Sulfate *(as SO^4)* (14808-79-8)	X		1110				1110		1	mg/L	
P. Sulfide *(as S)*		X									
Q. Sulfite (as SO^3) (14265-45-3)		X									
R. Surfactants		X									
S. Trihalomethanes, Total		X									
Subpart 2 – Metals											
1M. Aluminum, Total Recoverable (7429-90-5)		X									
2M. Antimony, Total Recoverable (7440-36-9)		X									
3M. Arsenic, Total Recoverable (7440-38-2)		X									
4M. Barium, Total Recoverable (7440-39-3)		X									
5M. Beryllium, Total Recoverable (7440-41-7)		X									
6M. Boron, Total Recoverable (7440-42-8)		X									
7M. Cadmium, Total Recoverable (7440-43-9)		X									
8M. Chromium III Total Recoverable (16065-83-1)		X									
9M. Chromium VI, Dissolved (18540-29-9)		X									
10M. Cobalt, Total Recoverable (7440-48-4)		X									

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. VALUES							4. UNITS	
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVERAGE VALUE		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS			
Subpart 2 – Metals (Continued)											
11M. Copper, Total Recoverable (7440-50-8)		X	<10.0				<10.0		1	ug/L	
12M. Iron, Total Recoverable (7439-89-6)	X		117				117		1	ug/L	
13M. Lead, Total Recoverable (7439-92-1)		X									
14M. Magnesium, Total Recoverable (7439-95-4)		X									
15M. Manganese, Total Recoverable (7439-96-5)		X									
16M. Mercury, Total Recoverable (7439-97-6)		X									
17M. Methylmercury (22967926)		X									
18M. Molybdenum, Total Recoverable (7439-98-7)	X		95.8				95.8		1	ug/L	
19M. Nickel, Total Recoverable (7440-02-0)		X									
20M. Selenium, Total Recoverable (7782-49-2)		X									
21M. Silver, Total Recoverable (7440-22-4)		X									
22M. Thallium, Total Recoverable (7440-28-0)		X									
23M. Tin, Total Recoverable (7440-31-5)		X									
24M. Titanium, Total Recoverable (7440-32-6)		X									
25M. Zinc, Total Recoverable (7440-66-6)		X									
Subpart 3 – Radioactivity											
1R. Alpha Total		X									
2R. Beta Total		X									
3R. Radium Total		X									
4R. Radium 226 plus 228 Total		X									

SEE INSTRUCTIONS; PLEASE PRINT OR TYPE.
You may report some or all of this information on separate sheet *(use similar format)* instead of completing these pages.

FORM C TABLE 1 FOR 3.0 - ITEMS A AND B

EFFLUENT (AND INTAKE) CHARACTERISTICS THIS OUTFALL IS: Stormwater — OUTFALL NO. 008

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

1. POLLUTANT	2. VALUES							3. UNITS *(specify if blank)*	
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUES		C. LONG TERM AVERAGE VALUES		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS			
A. Biochemical Oxygen Demand, 5-day (BOD_5)	NA								
B. Chemical Oxygen Demand (COD)	NA								
C. Total Organic Carbon (TOC)	NA								
D. Total Suspended Solids (TSS)	NT								
E. Ammonia as N	NA								
F. Flow	VALUE 0		VALUE		VALUE			MILLIONS OF GALLONS PER DAY (MGD)	
G. Temperature *(winter)*	VALUE NA		VALUE		VALUE			°F	
H. Temperature *(summer)*	VALUE NA		VALUE		VALUE			°F	
I. pH	MINIMUM NT		MAXIMUM		AVERAGE			STANDARD UNITS (SU)	

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

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. VALUES							4. UNITS	
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUES		C. LONG TERM AVERAGE VALUES		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS			
Subpart 1 – Conventional and Non-Conventional Pollutants											
A. Alkalinity ($CaCO_3$)		X	MINIMUM		MINIMUM		MINIMUM				
B. Bromide (24959-67-9)		X									
C. Chloride (16887-00-6)	X										
D. Chlorine, Total Residual		X									
E. Color		X									
F. Conductivity		X									
F. Cyanide, Amenable to Chlorination		X									

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

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

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH

FORM D – APPLICATION FOR DISCHARGE PERMIT – PRIMARY INDUSTRIES

FOR AGENCY USE ONLY	
CHECK NO.	
DATE RECEIVED	FEE SUBMITTED

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

1.00 NAME OF FACILITY
Asbury Power Plant

1.10 THIS FACILITY IS NOW IN OPERATION UNDER MISSOURI OPERATING PERMIT NUMBER
MO - 0095362

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

INDUSTRY CATEGORY

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

APPLICATION FOR DISCHARGE PERMIT
FORM D – PRIMARY INDUSTRIES

TABLE II

NPDES # (*IF ASSIGNED*)	OUTFALL NUMBER
MO - 0095362	001

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

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	A. TEST-ING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (*if available*)		C. LONG TERM AVRG. VALUE (*if available*)		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-9)			✓												
2M. Arsenic, Total (7440-38-2)			✓												
3M. Beryllium, Total (7440-41-7)			✓												
4M. Cadmium, Total (7440-43-9)			✓												
5M. Chromium III (16065-83-1)			✓												
6M. Chromium VI (18540-29-9)			✓												
7M. Copper, Total (7440-50-8)			✓												
8M. Lead, Total (7439-92-1)			✓												
9M. Magnesium Total (7439-95-4)			✓												
10M. Mercury, Total (7439-97-6)			✓												
11M. Molybdenum Total (7439-98-7)			✓												
12M. Nickel, Total (7440-02-0)			✓												
13M. Selenium, Total (7782-49-2)			✓												
14M. Silver, Total (7440-22-4)			✓												
15M. Thallium, Total (7440-28-0)			✓												
16M. Tin Total (7440-31-5)			✓												
17M. Titanium Total (7440-32-6)			✓												
18M. Zinc, Total (7440-66-6)			✓												

CONTINUED FROM PAGE 3

19M. Cyanide, Amenable to Chlorination	☐	☐	☑													
20M. Phenols, Total	☐	☐	☑													
DIOXIN																
2,3,7,8 – Tetra – chlorodibenzo-P-Dioxin (1764-01-6)	☐	☐	☑	**DESCRIBE RESULTS**												

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

CONTINUE ON PAGE 4

CONTINUED FROM THE FRONT

NPDES # (IF ASSIGNED)	OUTFALL NUMBER
MO - 0095362	001

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

CONTINUE ON PAGE 5

CONTINUED FROM THE FRONT

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

CONTINUE ON PAGE 6

CONTINUED FROM PAGE 5

NPDES # (*IF ASSIGNED*): MO - 0095362 | OUTFALL NUMBER: 001

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

CONTINUE ON PAGE 7

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (*If available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	A. TES-ING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (*If available*)		C. LONG TERM AVRG. VALUE (*If available*)		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
42B. N-Nitroso N-Propylamine (621-64-7)	☐	☐	☑												
43B. N-Nitro-sodiphenylamine (86-30-6)	☐	☐	☑												
44B. Phenanthrene (85-01-8)	☐	☐	☑												
45B. Pyrene (129-00-0)	☐	☐	☑												
46B. 1,2,4-Tri chlorobenzene (120-82-1)	☐	☐	☑												
GC/MS FRACTION - PESTICIDES															
1P. Aldrin (309-00-2)	☐	☐	☑												
2P. α-BHC (319-84-6)	☐	☐	☑												
3P. β-BHC (319-84-6)	☐	☐	☑												
4P. γ-BHC (58-89-9)	☐	☐	☑												
5P. δ-BHC (319-86-8)	☐	☐	☑												
6P. Chlordane (57-74-9)	☐	☐	☑												
7P. 4,4'-DDT (50-29-3)	☐	☐	☑												
8P. 4,4'-DDE (72-55-9)	☐	☐	☑												
9P. 4,4'-DDD (72-54-8)	☐	☐	☑												
10P. Dieldrin (60-57-1)	☐	☐	☑												
11P. α-Endosulfan (115-29-7)	☐	☐	☑												
12P. β-Endosultan (115-29-7)	☐	☐	☑												
13P. Endosulfan Sulfate (1031-07-8)	☐	☐	☑												
14P. Endrin (72-20-8)	☐	☐	☑												
15P. Endrin Aldehyde (7421-93-4)	☐	☐	☑												
16P. Heptachlor (76-44-8)	☐	☐	☑												

CONTINUED ON PAGE 8

CONTINUED FROM PAGE 7

NPDES # (*IF ASSIGNED*)	OUTFALL NUMBER
MO - 0095362	001

1. POLLUTANT AND CAS NUMBER (*If available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (*if available*)		C. LONG TERM AVRG. VALUE (*if available*)		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – PESTICISES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)	☐	☐	☑												
18P. PCB-1242 (53469-21-9)	☐	☐	☑												
19P. PBC-1254 (11097-69-1)	☐	☐	☑												
20P. PCB-1221 (11104-28-2)	☐	☐	☑												
21P. PCB-1232 (11141-16-5)	☐	☐	☑												
22P. PCB-1248 (12672-29-6)	☐	☐	☑												
23P. PCB-1260 (11096-82-5)	☐	☐	☑												
24P. PCB-1016 (12674-11-2)	☐	☐	☑												
25P. Toxaphene (8001-35-2)	☐	☐	☑												
J. RADIOACTIVITY															
(1) Alpha Total	☐	☐	☑												
(2) Beta Total	☐	☐	☑												
(3) Radium Total	☐	☐	☑												
(4) Radium 226 Total	☐	☐	☑												

APPLICATION FOR DISCHARGE PERMIT
FORM D – PRIMARY INDUSTRIES

TABLE II	
NPDES # (*IF ASSIGNED*)	OUTFALL NUMBER
MO - 0095362	002

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

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	A. TEST-ING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (*If available*)		C. LONG TERM AVRG. VALUE (*if available*)		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-9)			✓												
2M. Arsenic, Total (7440-38-2)			✓												
3M. Beryllium, Total (7440-41-7)			✓												
4M. Cadmium, Total (7440-43-9)			✓												
5M. Chromium III (16065-83-1)			✓												
6M. Chromium VI (18540-29-9)	—		✓												
7M. Copper, Total (7440-50-8)	✓		✓	<10				<10		3	ug/L				
8M. Lead, Total (7439-92-1)			✓												
9M. Magnesium Total (7439-95-4)			✓												
10M. Mercury, Total (7439-97-6)			✓												
11M. Molybdenum Total (7439-98-7)	✓	✓		135				112.6		3	ug/L				
12M. Nickel, Total (7440-02-0)	—		✓												
13M. Selenium, Total (7782-49-2)	—		✓												
14M. Silver, Total (7440-22-4)	—		✓												
15M. Thallium, Total (7440-28-0)			✓												
16M. Tin Total (7440-31-5)	—		✓												
17M. Titanium Total (7440-32-6)	—		✓												
18M. Zinc, Total (7440-66-6)	—		✓												

CONTINUED FROM PAGE 3

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

CONTINUE ON PAGE 4

CONTINUED FROM THE FRONT

NPDES # (*IF ASSIGNED*)	OUTFALL NUMBER
MO - 0095362	002

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

CONTINUED FROM THE FRONT

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

CONTINUE ON PAGE 6

CONTINUED FROM PAGE 5

NPDES # (*IF ASSIGNED*): MO - 0095362 | OUTFALL NUMBER: 002

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

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (*If available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	A. TES-ING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (*If available*)		C. LONG TERM AVRG. VALUE (*If available*)		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
42B. N-Nitroso N-Propylamine (621-64-7)	☐	☐	☑												
43B. N-Nitro-sodiphenylamine (86-30-6)	☐	☐	☑												
44B. Phenanthrene (85-01-8)	☐	☐	☑												
45B. Pyrene (129-00-0)	☐	☐	☑												
46B. 1,2,4-Tri chlorobenzene (120-82-1)	☐	☐	☑												
GC/MS FRACTION - PESTICIDES															
1P. Aldrin (309-00-2)	☐	☐	☑												
2P. α-BHC (319-84-6)	☐	☐	☑												
3P. β-BHC (319-84-6)	☐	☐	☑												
4P. γ-BHC (58-89-9)	☐	☐	☑												
5P. δ-BHC (319-86-8)	☐	☐	☑												
6P. Chlordane (57-74-9)	☐	☐	☑												
7P. 4,4'-DDT (50-29-3)	☐	☐	☑												
8P. 4,4'-DDE (72-55-9)	☐	☐	☑												
9P. 4,4'-DDD (72-54-8)	☐	☐	☑												
10P. Dieldrin (60-57-1)	☐	☐	☑												
11P. α-Endosulfan (115-29-7)	☐	☐	☑												
12P. β-Endosultan (115-29-7)	☐	☐	☑												
13P. Endosulfan Sulfate (1031-07-8)	☐	☐	☑												
14P. Endrin (72-20-8)	☐	☐	☑												
15P. Endrin Aldehyde (7421-93-4)	☐	☐	☑												
16P. Heptachlor (76-44-8)	☐	☐	☑												

CONTINUED FROM PAGE 7

NPDES # (*IF ASSIGNED*)	OUTFALL NUMBER
MO - 0095362	002

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (*if available*)		C. LONG TERM AVRG. VALUE (*if available*)		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – PESTICISES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)	☐	☐	☑												
18P. PCB-1242 (53469-21-9)	☐	☐	☑												
19P. PBC-1254 (11097-69-1)	☐	☐	☑												
20P. PCB-1221 (11104-28-2)	☐	☐	☑												
21P. PCB-1232 (11141-16-5)	☐	☐	☑												
22P. PCB-1248 (12672-29-6)	☐	☐	☑												
23P. PCB-1260 (11096-82-5)	☐	☐	☑												
24P. PCB-1016 (12674-11-2)	☐	☐	☑												
25P. Toxaphene (8001-35-2)	☐	☐	☑												
J. RADIOACTIVITY															
(1) Alpha Total	☐	☐	☑												
(2) Beta Total	☐	☐	☑												
(3) Radium Total	☐	☐	☑												
(4) Radium 226 Total	☐	☐	☑												

APPLICATION FOR DISCHARGE PERMIT
FORM D – PRIMARY INDUSTRIES

TABLE II

NPDES # (*IF ASSIGNED*)	OUTFALL NUMBER
MO - 0095362	007

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

1. POLLUTANT AND CAS NUMBER (*If available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	A. TEST-ING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (*if available*)		C. LONG TERM AVRG. VALUE (*if available*)		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-9)			✓												
2M. Arsenic, Total (7440-38-2)			✓												
3M. Beryllium, Total (7440-41-7)			✓												
4M. Cadmium, Total (7440-43-9)			✓												
5M. Chromium III (16065-83-1)			✓												
6M. Chromium VI (18540-29-9)			✓												
7M. Copper, Total (7440-50-8)	✓		✓	<10				<10		1	ug/L				
8M. Lead, Total (7439-92-1)			✓												
9M. Magnesium Total (7439-95-4)			✓												
10M. Mercury, Total (7439-97-6)			✓												
11M. Molybdenum Total (7439-98-7)	✓		✓	<20				<20		1	ug/L				
12M. Nickel, Total (7440-02-0)			✓												
13M. Selenium, Total (7782-49-2)			✓												
14M. Silver, Total (7440-22-4)			✓												
15M. Thallium, Total (7440-28-0)			✓												
16M. Tin Total (7440-31-5)			✓												
17M. Titanium Total (7440-32-6)			✓												
18M. Zinc, Total (7440-66-6)			✓												

CONTINUED FROM PAGE 3

19M. Cyanide, Amenable to Chlorination	☐	☐	☑												
20M. Phenols, Total	☐	☐	☑												
DIOXIN															
2,3,7,8 – Tetra – chlorodibenzo-P-Dioxin (1764-01-6)	☐	☐	☑	**DESCRIBE RESULTS**											

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

CONTINUE ON PAGE 4

CONTINUED FROM THE FRONT

NPDES # (*IF ASSIGNED*)	OUTFALL NUMBER
MO - 0095362	007

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

CONTINUED FROM THE FRONT

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

CONTINUED FROM PAGE 5

NPDES # (IF ASSIGNED)	OUTFALL NUMBER
MO - 0095362	007

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

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	A. TES-ING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (*if available*)		C. LONG TERM AVRG. VALUE (*if available*)		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
42B. N-Nitroso N-Propylamine (621-64-7)	☐	☐	☑												
43B. N-Nitro-sodiphenylamine (86-30-6)	☐	☐	☑												
44B. Phenanthrene (85-01-8)	☐	☐	☑												
45B. Pyrene (129-00-0)	☐	☐	☑												
46B. 1,2,4-Tri chlorobenzene (120-82-1)	☐	☐	☑												
GC/MS FRACTION - PESTICIDES															
1P. Aldrin (309-00-2)	☐	☐	☑												
2P. α-BHC (319-84-6)	☐	☐	☑												
3P. β-BHC (319-84-6)	☐	☐	☑												
4P. γ-BHC (58-89-9)	☐	☐	☑												
5P. δ-BHC (319-86-8)	☐	☐	☑												
6P. Chlordane (57-74-9)	☐	☐	☑												
7P. 4,4'-DDT (50-29-3)	☐	☐	☑												
8P. 4,4'-DDE (72-55-9)	☐	☐	☑												
9P. 4,4'-DDD (72-54-8)	☐	☐	☑												
10P. Dieldrin (60-57-1)	☐	☐	☑												
11P. α-Endosulfan (115-29-7)	☐	☐	☑												
12P. β-Endosultan (115-29-7)	☐	☐	☑												
13P. Endosulfan Sulfate (1031-07-8)	☐	☐	☑												
14P. Endrin (72-20-8)	☐	☐	☑												
15P. Endrin Aldehyde (7421-93-4)	☐	☐	☑												
16P. Heptachlor (76-44-8)	☐	☐	☑												

CONTINUED FROM PAGE 7

NPDES # (*IF ASSIGNED*)	OUTFALL NUMBER
MO - 0095362	007

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (*if available*)		C. LONG TERM AVRG. VALUE (*if available*)		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – PESTICISES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)	☐	☐	☑												
18P. PCB-1242 (53469-21-9)	☐	☐	☑												
19P. PBC-1254 (11097-69-1)	☐	☐	☑												
20P. PCB-1221 (11104-28-2)	☐	☐	☑												
21P. PCB-1232 (11141-16-5)	☐	☐	☑												
22P. PCB-1248 (12672-29-6)	☐	☐	☑												
23P. PCB-1260 (11096-82-5)	☐	☐	☑												
24P. PCB-1016 (12674-11-2)	☐	☐	☑												
25P. Toxaphene (8001-35-2)	☐	☐	☑												
J. RADIOACTIVITY															
(1) Alpha Total	☐	☐	☑												
(2) Beta Total	☐	☐	☑												
(3) Radium Total	☐	☐	☑												
(4) Radium 226 Total	☐	☐	☑												

APPLICATION FOR DISCHARGE PERMIT
FORM D – PRIMARY INDUSTRIES

TABLE II

NPDES # (*IF ASSIGNED*)	OUTFALL NUMBER
MO - 0095362	008

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

1. POLLUTANT AND CAS NUMBER (*If available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	A. TEST-ING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (*if available*)		C. LONG TERM AVRG. VALUE (*if available*)		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-9)			✓												
2M. Arsenic, Total (7440-38-2)			✓												
3M. Beryllium, Total (7440-41-7)			✓												
4M. Cadmium, Total (7440-43-9)			✓												
5M. Chromium III (16065-83-1)			✓												
6M. Chromium VI (18540-29-9)			✓												
7M. Copper, Total (7440-50-8)	✓	✓													
8M. Lead, Total (7439-92-1)			✓												
9M. Magnesium Total (7439-95-4)			✓												
10M. Mercury, Total (7439-97-6)			✓												
11M. Molybdenum Total (7439-98-7)	✓	✓													
12M. Nickel, Total (7440-02-0)			✓												
13M. Selenium, Total (7782-49-2)			✓												
14M. Silver, Total (7440-22-4)			✓												
15M. Thallium, Total (7440-28-0)			✓												
16M. Tin Total (7440-31-5)			✓												
17M. Titanium Total (7440-32-6)			✓												
18M. Zinc, Total (7440-66-6)			✓												

CONTINUED FROM PAGE 3

19M. Cyanide, Amenable to Chlorination	☐	☐	☑													
20M. Phenols, Total	☐	☐	☑													
DIOXIN																
2,3,7,8 – Tetra – chlorodibenzo-P-Dioxin (1764-01-6)	☐	☐	☑	**DESCRIBE RESULTS**												

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

CONTINUE ON PAGE 4

CONTINUED FROM THE FRONT

NPDES # (IF ASSIGNED)	OUTFALL NUMBER
MO - 0095362	008

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

CONTINUED FROM THE FRONT

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

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NPDES # (IF ASSIGNED)	OUTFALL NUMBER
MO - 0095362	008

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

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CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	A. TES-ING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (*if available*)		C. LONG TERM AVRG. VALUE (*if available*)		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
42B. N-Nitroso N-Propylamine (621-64-7)	☐	☐	☑												
43B. N-Nitro-sodiphenylamine (86-30-6)	☐	☐	☑												
44B. Phenanthrene (85-01-8)	☐	☐	☑												
45B. Pyrene (129-00-0)	☐	☐	☑												
46B. 1,2,4-Tri chlorobenzene (120-82-1)	☐	☐	☑												
GC/MS FRACTION - PESTICIDES															
1P. Aldrin (309-00-2)	☐	☐	☑												
2P. α-BHC (319-84-6)	☐	☐	☑												
3P. β-BHC (319-84-6)	☐	☐	☑												
4P. γ-BHC (58-89-9)	☐	☐	☑												
5P. δ-BHC (319-86-8)	☐	☐	☑												
6P. Chlordane (57-74-9)	☐	☐	☑												
7P. 4,4'-DDT (50-29-3)	☐	☐	☑												
8P. 4,4'-DDE (72-55-9)	☐	☐	☑												
9P. 4,4'-DDD (72-54-8)	☐	☐	☑												
10P. Dieldrin (60-57-1)	☐	☐	☑												
11P. α-Endosulfan (115-29-7)	☐	☐	☑												
12P. β-Endosultan (115-29-7)	☐	☐	☑												
13P. Endosulfan Sulfate (1031-07-8)	☐	☐	☑												
14P. Endrin (72-20-8)	☐	☐	☑												
15P. Endrin Aldehyde (7421-93-4)	☐	☐	☑												
16P. Heptachlor (76-44-8)	☐	☐	☑												

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NPDES # (*IF ASSIGNED*)	OUTFALL NUMBER
MO - 0095362	008

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	A. TESTING REQUIRED	B. BELIEVED PRESENT	C. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (*If available*)		C. LONG TERM AVRG. VALUE (*if available*)		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – PESTICISES *(continued)*															
17P. Heptachlor Epoxide (1024-57-3)	☐	☐	☑												
18P. PCB-1242 (53469-21-9)	☐	☐	☑												
19P. PBC-1254 (11097-69-1)	☐	☐	☑												
20P. PCB-1221 (11104-28-2)	☐	☐	☑												
21P. PCB-1232 (11141-16-5)	☐	☐	☑												
22P. PCB-1248 (12672-29-6)	☐	☐	☑												
23P. PCB-1260 (11096-82-5)	☐	☐	☑												
24P. PCB-1016 (12674-11-2)	☐	☐	☑												
25P. Toxaphene (8001-35-2)	☐	☐	☑												
J. RADIOACTIVITY															
(1) Alpha Total	☐	☐	☑												
(2) Beta Total	☐	☐	☑												
(3) Radium Total	☐	☐	☑												
(4) Radium 226 Total	☐	☐	☑												

2.00 POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

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

☐ **YES** *(LIST ALL SUCH POLLUTANTS BELOW)* ■ **NO** *(GO TO B)*

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

☐ **YES** *(COMPLETE C BELOW)* ■ **NO** *(GO TO SECTION 3.00)*

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

3.00 CONTRACT ANALYSIS INFORMATION

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

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

☐ **NO** *(GO TO SECTION 4.00)*

A. NAME	B. ADDRESS	C. TELEPHONE *(area code and number)*	D. POLLUTANTS ANALYZED *(list)*
Pace Analytical Services, LLC	9608 Loiret Blvd Lenexa, KS 66	(913) 599-5665	All

4.00 CERTIFICATION

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

NAME AND OFFICIAL TITLE (TYPE OR PRINT)	PHONE NUMBER (AREA CODE AND NUMBER)
Tim Wilson, Vice President, Strategic Projects & Energy Supply	(417) 652-5100
SIGNATURE 	DATE SIGNED 9/13/2021