June 28, 2022

Union Electric Company d/b/a Ameren Missouri
1901 Chouteau Avenue
P.O. Box 66149, MC 602
St. Louis, MO 63166

Dear Permittee:

Pursuant to the Federal Water Pollution Control Act, under the authority granted to the State of Missouri and in compliance with the Missouri Clean Water Law, we have issued and are enclosing your State Operating Permit to discharge from Ameren Missouri – Labadie Energy Center.

Please read your permit and enclosed Standard Conditions. They contain important information on monitoring requirements, effluent limitations, sampling frequencies and reporting requirements.

Monitoring reports required by the special conditions must be submitted on a periodic basis via the Department's electronic Discharge Monitoring Report (eDMR) system unless waived, or can be submitted on the enclosed forms if you are subject to an eDMR registration schedule as established in the permit. Upon registration, please access the eDMR system via the following link: Missouri Gateway for Environmental Management (MoGEM) | Missouri Department of Natural Resources. If you experience difficulties with using the eDMR system, you may contact edmr@dnr.mo.gov or call 855-789-3889 or 573-526-2082 for assistance.

This permit may include requirements with which you may not be familiar. If you would like the Missouri Department of Natural Resources to meet with you to discuss how to satisfy the permit requirements, an appointment can be set up by contacting the St. Louis Regional Office by phone at 314-416-2960, by email at DNR.SLRO@dnr.mo.gov, or by mail 7545 S. Lindbergh, Suite 210, St. Louis, MO 63125. These visits are called Compliance Assistance Visits and focus on explaining the requirements to the permit holder.

This permit is both your Federal National Pollutant Discharge Elimination System Permit and your new Missouri State Operating Permit and replaces all previous State Operating Permits issued for this facility under this permit number. In all future correspondence regarding this facility, please refer to your State Operating Permit number and facility name as shown on page one of the permit.

If you were adversely affected by this decision, you may be entitled to an appeal before the Administrative Hearing Commission (AHC) pursuant to Section 621.250, RSMo. To appeal, you must file a petition with the AHC within 30 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. Contact information for the AHC is: Administrative Hearing Commission, United States Post Office Building, Third Floor, 131 West High Street, P.O. Box 1557, Jefferson City, MO 65102, Phone: 573-751-2422, Fax: 573-751-5018, and website: www.oa.mo.gov/ahc.

Please be aware that this facility may also be subject to any applicable county or other local ordinances or restrictions.

If you have any questions concerning this permit, please do not hesitate to contact the Department's Water Protection Program at P.O. Box 176, Jefferson City, MO 65102, or by phone at 573-751-1300. Thank you.

Sincerely,

WATER PROTECTION PROGRAM

Chris Wieberg
Director

CW/vs

Enclosure

STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

UNDERGROUND INJECTION CONTROL
MISSOURI STATE OPERATING PERMIT

Permit No.	UI-0000045
Owner:	Union Electric Company d/b/a Ameren Missouri
Address:	1901 Chouteau Ave. P.O. Box 66149, MC 602, St. Louis MO 63166
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	Ameren Missouri - Labadie Energy Center
Facility Address:	226 Labadie Power Plant Road, Labadie MO 63055
Legal Description:	Secs. 18 & 19, T44N, R02E; Franklin Co.
UTM Coordinates:	X = 688039; Y = 4269441
Receiving Stream:	n/a underground injection
First Classified Waterbody:	groundwater and Missouri River (P) WBID# 1604; 303(d)
USGS Basin & Sub-watershed No.:	Labadie Creek – Missouri River 10300200-0603

is authorized to operate the facility described herein, in accordance with the requirements as set forth herein:

FACILITY DESCRIPTION

Pumping from a single or multiple wells from the Missouri River alluvium with ex-situ treatment (aeration, pH reduction, addition of FeCl3, pH increase, flocculation/settling, sand filtration, resin filtration) and injection into same geologic groundwater formation utilizing a single or multiple injection wells. SIC # 4911; NAICS # 221112, Ameren Missouri - Labadie Energy Center is a steam electric power generating facility primarily engaged in the generation of electricity for distribution and sale. Treatment system filter sludge and treatment wastes are containerized and disposed off-site.
This permit is co-located with MO-0004812.
Injection Design Flow: 0.432 MGD (300 gpm)

In compliance with the Safe Drinking Water Act and authorized by 40 CFR 147 Subpart AA, this permit authorizes only underground injection activities; it does not apply to other regulated areas.

July 1, 2022
Effective Date

June 30, 2027
Expiration Date

Chris Wieberg, Director, Water Protection Program

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

UIC REQUIREMENTS	TABLE A-1 FINAL INJECTION LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to inject treated water as specified. The final injection limitations shall become effective on **July 1, 2022** and remain in effect until expiration of the permit. Injection shall be controlled, limited, and monitored by the permittee as specified below:

EFFLUENT PARAMETERS	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE ⸸	MEASUREMENT FREQUENCY	SAMPLE TYPE
LIMIT SET: M						
PHYSICAL						
Flow	MGD	*		*	once/month	24 hr. total
CONVENTIONAL						
pH †	SU	6.0 to 9.0		-	once/month	grab
METALS						
Antimony, Total Recoverable	µg/L	*		6.0	once/month	grab
Arsenic, Total Recoverable	µg/L	*		10	once/month	grab
Barium, Total Recoverable	µg/L	*		2000	once/month	grab
Boron, Total Recoverable	µg/L	*		2000	once/month	grab
Lead, Total Recoverable	µg/L	*		15	once/month	grab
Molybdenum, Total Recoverable	µg/L	*		*	once/month	grab
Selenium, Total Recoverable	µg/L	*		50	once/month	grab
OTHER						
Sulfate	mg/L	*		250	once/month	grab

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE AUGUST 28, 2022.

* Monitoring and reporting requirement only

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

⸸ The facility may average multiple injection points within the same month or multiple samples within the same month at the same injection point to meet the average.

B. STANDARD CONDITIONS

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

C. UNDERGROUND INJECTION CONTROL

1. This permit authorizes and allows only the injection of water which has been treated, reconditioned, and cleaned to the limitations in this permit utilizing the XDD system as provided for in the application for this operating permit. No other operations are covered. This permit does not authorize injection of waste, wastewater, or solids classified as hazardous in accordance with 40 CFR 261, or otherwise not in compliance with the permit.

2. Well drillers must hold a non-restricted permit and must be registered in accordance with 10 CSR 23-1.090 in Missouri, be current, and in good standing.

3. All wells must be plugged in accordance with 10 CSR 23-4.080.

4. Injection wells must be placed between the coal combustion residual waste mass and the alluvial monitoring wells.

C. UNDERGROUND INJECTION CONTROL (CONTINUED)

5. 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, and when the status of a well changes (including closure).

6. 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.

7. Report "operational shutdown" when injection does not occur during the entire reporting period.

8. 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 material changes have occurred, and be made available to Department personnel upon request.
   (e) The O&M manual may be maintained electronically.

D. SPECIAL CONDITIONS

1. Spills, Overflows, and Other Unauthorized Discharges.
   Except as authorized by this permit, any spill, overflow, or other discharge(s) causing any contaminants to enter waters of the state is not authorized and must be reported to the regional office as soon as practicable but no more than 24 hours after the discovery of the discharge. If the spill or overflow needs to be reported after normal business hours or on the weekend, the facility must call the Department's 24 hour spill line at 573-634-2436.

2. Electronic Discharge Monitoring Report (eDMR) Submission System. Per 40 CFR Part 127 National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, 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.
   (a) For each month, the facility will report the highest value occurring in all systems
   (b) The facility shall upload as many reports as required to report all XDD system injections. If 5 XDD systems are used, 5 reports shall be submitted.

3. Site-wide minimum Best Management Practices (BMPs). At a minimum, the permittee shall adhere to the following:
   (a) Prevent the spillage or loss of fluids to prevent the contamination of stormwater from these substances.
   (b) Ensure adequate provisions are provided to protect embankments from erosion. Ensure drill rig ruts or marks on the ground surface do not contribute to solids in stormwater runoff which would cause a general criteria violation per 10 CSR 20-7.031(4).
   (c) Provide collection facilities and arrange for proper disposal of waste products.
   (d) Store all additives, waste products, and storage containers (such as drums, cans, or cartons) so these materials are not exposed to stormwater or provide other prescribed BMPs such as plastic lids and/or portable spill pans to prevent the commingling of stormwater with container contents. Commingled water may not be discharged under this permit. Provide spill prevention control, and/or management sufficient to prevent any spills of these pollutants from entering waters of the state. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater. Spill records should be retained on-site.
   (e) Provide good housekeeping practices on the site to keep trash from entry into waters of the state.
   (f) Provide sediment and erosion control sufficient to prevent or control sediment loss off of the property.

D. SPECIAL CONDITIONS (CONTINUED)

4. 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 verification of 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.

5. The Department may require sampling and reporting as a result of illegal discharges from the site, compliance issues related to water quality concerns or BMP effectiveness, or evidence of off-site impacts from activities or discharges at the facility. If such an action is needed, the Department will specify in writing the sampling requirements, including such information as location and extent.

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

7. This permit does not cover land disturbance activities.

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

9. 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.

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

11. Changes in Discharges of Toxic Pollutants. The permittee must notify the Department that any activity has occurred or will occur which would result in any discharge to the subsurface, any pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
    (a) Five hundred micrograms per liter (500 µg/l) of any pollutant not considered in the application;
    (b) One milligram per liter (1 mg/l) for antimony;
    (c) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7).
    (d) The level established by this permit in accordance with 40 CFR 122.44(f) in Table A-1 of the permit and:
        (1) Beryllium, total; the facility will notify the Department if upon testing the post-treatment effluent prior to injection for beryllium, the value is above 4 µg/L.
        (2) Lithium, total; the facility will notify the Department upon testing the post-treatment effluent prior to injection for lithium if the value is above 40 µg/L.
        (3) Mercury, total; the facility will notify the Department upon testing the post-treatment effluent prior to injection for mercury if the value is above 2 µg/L.

12. Reporting of Non-Detects.
    (a) Compliance analysis conducted by the permittee or any contracted laboratory shall be conducted in such a way the precision and accuracy of the analyzed result can be enumerated. See sufficiently sensitive test method requirements in Standard Conditions Part I, Section A, #4 regarding proper testing and detection limits used for sample analysis. For the purposes of this permit, the definitions in 40 CFR 136 apply; method detection limit (MDL) and laboratory established reporting limit (RL) are used interchangeably in this permit.
    (b) The permittee shall not report a sample result as "non-detect" without also reporting the MDL. Reporting "non-detect" without also including the MDL will be considered failure to report, which is a violation of this permit.
    (c) For the daily maximum, the permittee shall report the highest value; if the highest value was a non-detect, use the less than "<" symbol and the laboratory's highest method detection limit (MDL) or the highest reporting limit (RL); whichever is higher (e.g. <6).
    (d) When calculating monthly averages, zero shall be used in place of any value(s) not detected. Where all data used in the average are below the MDL or RL, the highest MDL or RL shall be reported as "<#" for the average as indicated in item (c).

D. SPECIAL CONDITIONS (CONTINUED)

13. 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.

14. 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.

15. Renewal Application Requirements.
    (a) This facility shall submit an appropriate and complete application to the Department no less than 180 days from the expiration date listed on page 1 of the permit.
    (b) The facility may use the electronic submission system to submit the application to the Program, if available.
    (c) This facility must submit all groundwater monitoring data collected for the term of this permit (issuance date through reapplication date) at the Labadie site as collected under the terms and conditions of MO-0004812.
    (d) The facility must submit analytical results post treatment for total beryllium, total lithium, and total mercury upon permit renewal in addition to other pollutants of concern.

E. NOTICE OF RIGHT TO APPEAL

If you were adversely affected by this decision, you may be entitled to pursue an appeal before the administrative hearing commission (AHC) pursuant to Sections 621.250 and 644.051.6 RSMo. To appeal, you must file a petition with the AHC within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC. Any appeal should be directed to:

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

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET FOR NEW UIC UNDER
UI-0000045
AMEREN MISSOURI - LABADIE UNDERGROUND INJECTION

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

This permit is issued under the authority of the Save Drinking Water Act, authorized by the EPA for State of Missouri administration at 40 CFR 147.1301 which incorporates portions of RSMo 644, 10 CSR 20-6, and 10 CSR 20-7 by reference. Additional regulations are incorporated and listed within.

PART I. FACILITY INFORMATION

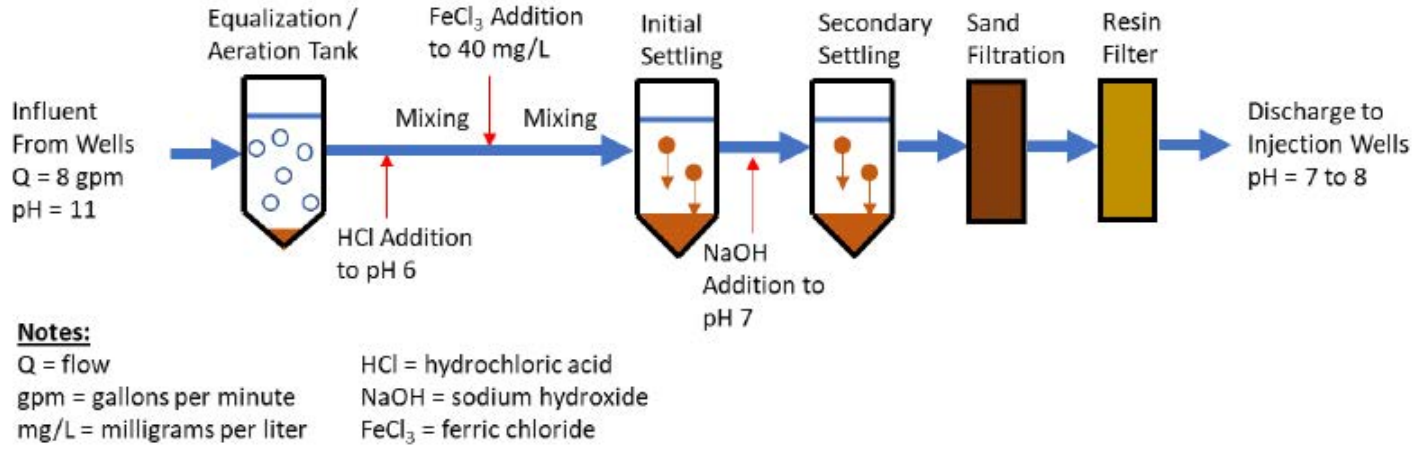
Facility Type:	Industrial: underground injection; <1 MGD
SIC Code(s):	4911
NAICS Code(s):	221112
Application Date:	08/03/2021
Expiration Date:	n/a new permit
Last Inspection:	n/a new permit

FACILITY DESCRIPTION:
The purpose of this permit is to extract from the alluvium, clean in an ex-situ treatment plant, and inject cleaned groundwater back in to the alluvium to protect for 1) groundwater quality, and 2) the quality of groundwater which is discharged subsurface through the alluvium into the Missouri River.

Extracted waters will be processed in an above-grade structure designed by XDD using the following treatment train:

1) Aeration
2) pH adjustment (reduction to ~6.0 using HCL)
3) Addition of FeCl3 at 40 mg/L
4) Flocculation and settling
5) pH adjustment (increase to ~7.0 using NaOH)
6) Flocculation and settling
7) Sand filtration
8) Resin filtration

The following is a graphical illustration of the process:



Precipitant sludges containing the metals will be removed as necessary in secondary containers and processed onsite for transport and disposal offsite. Backwash fluids generated from the sand filters will be redirected to the initial settling tank for additional processing and settlement. Regeneration waste from the resin filtration system will be neutralized as part of the regeneration process and contained in secondary containers for offsite disposal. All generated waste will be handled, transported and disposed in accordance with all applicable state and federal regulations. Based upon results from the treatability studies, hazardous waste is not expected to be generated during this process. After treatment, the water will be injected into the Missouri River alluvium subsurface through the injection wells. This permit does not limit the number of withdrawal or injection wells. The purpose of this permit is to ensure the facility can remediate the groundwater at the site.

BUSINESS REGISTRATION:
The charter number for the continuing authority for this facility is 00040441; this number was verified by the permit writer to be associated with the facility after confirming the appropriate continuing authority is Union Electric.

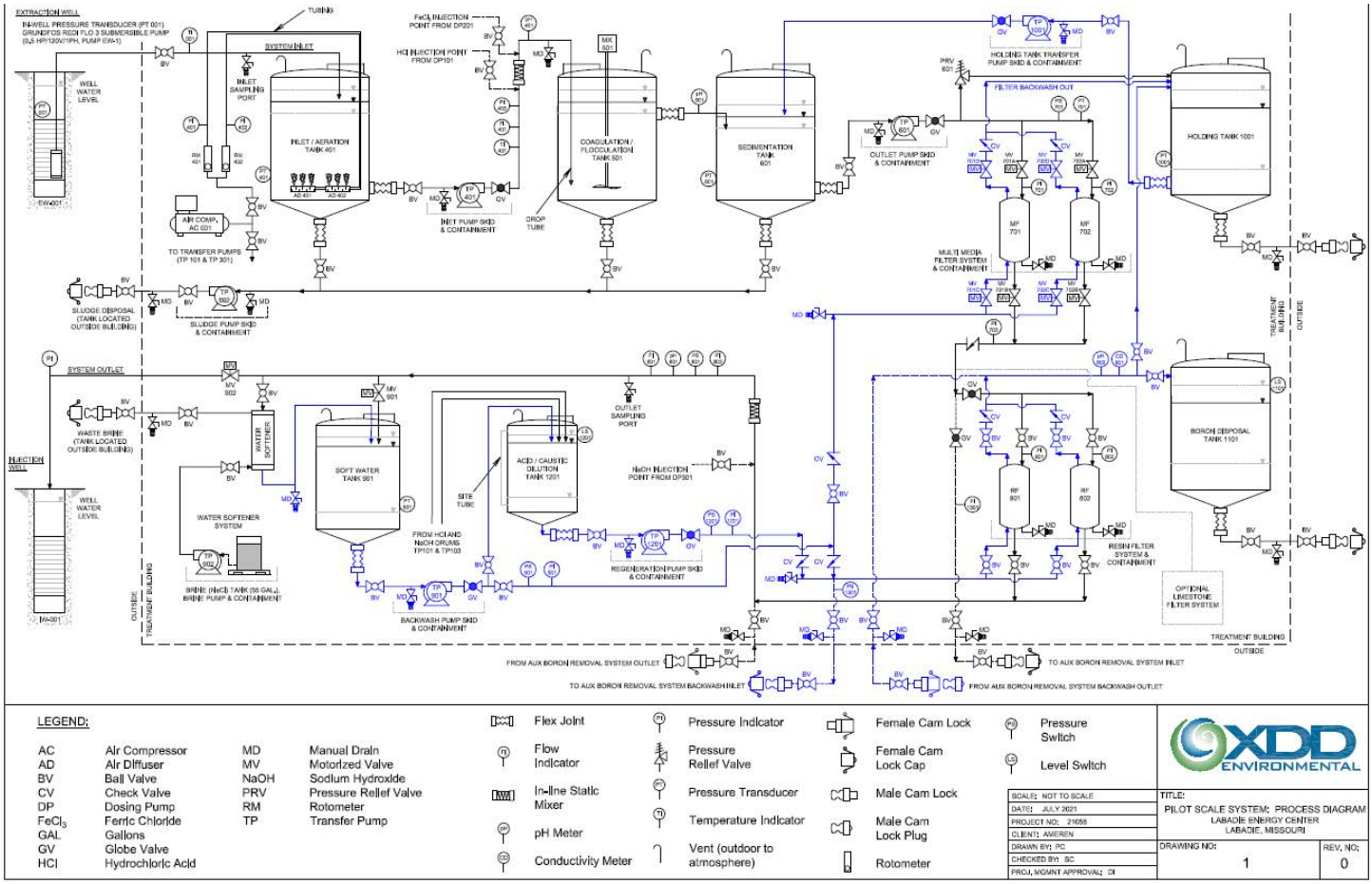
While the purposes of this permit is to inject treated wastewater into the subsurface; therefore management of this wastewater by another entity would eliminate the purpose of this permit, 10 CSR 20-6.010(2) does not eliminate the need for the higher continuing authority requirement. 10 CSR 20-6.010(2) establishes preferential levels for continuing authorities: Levels 1 through 5 (with Level 1 as the highest level), and requires a higher preference continuing authority be utilized if available. Industrial facilities may use a lower preference continuing authority if they provide one of the following documents, listed in 10 CSR 20-6.010(2)(C): 1) a waiver from the existing higher authority declining the offer to accept management of the additional industrial wastewater, domestic wastewater, process water, or stormwater; or 2) a written statement or a demonstration of non-response from the higher authority; or 3) a to-scale map showing all parts of the legal boundary of the facility's property are beyond 2000 feet from the collection system operated by the higher preference authority. One of these three options are typically applicable for industrial facilities, but other options are available in the event that a facility under a higher level authority's jurisdiction cannot consolidate wastewater flows. See the regulation for a complete list of waivers and demonstrations. While 10 CSR 20-6.010(2) does not appear to have been drafted for industrial wastewater or stormwater permits, a internal legal review concluded that the rule did not specifically exclude industrial facility wastewater or stormwater. Because of this, each facility must, as part of their application, disclose their method of compliance with this regulation.

- ✓ On 11/30/2021 this facility provided a waiver showing the local WWTP does not desire to manage this facility's industrial wastewater.

PERMITS HELD:
In accordance with 40 CFR 122.21(f)(6), the Department evaluated other permits currently held by this facility. This facility is co-located with MO-0004812; the terms and conditions of MO-0004812 may cover certain areas of the UIC area as well. The facility must adhere to the more stringent of the two permits if conflicting information is presented.

COMMENTS:
This is a new facility; some data was submitted with the application which was reviewed. Permit decisions were based solely on the application materials and institutional knowledge of coal combustion residual impoundment leachate characteristics. While the applicant is proposing only a limited scale project currently, this UIC permit allows for the compliant injection overall at the site. Per 10 CSR 20-7.031(7) Effluent Limitations for Subsurface Waters. (A) No person shall release any water into aquifers, store or dispose of water in a way which causes or permits it to enter aquifers either directly or indirectly unless it meets the requirements of … appropriate groundwater protection criteria set in 10 CSR 20-7.031, Table A. Additionally, per 10 CSR 20-7.031(6) Groundwater. (A) Water contaminants shall not cause or contribute to exceedance of Table A1, groundwater limits in aquifers and caves. Table A1 values listed as health advisory levels shall be used in establishing management strategies and groundwater cleanup criteria, until additional data becomes available to support alternative criteria or other standards are established. Substances not listed in Table A1 shall be limited so that drinking water, livestock watering, and irrigation uses are protected.

TREATMENT DIAGRAM:



PART II. RECEIVING WATERBODY INFORMATION

RECEIVING WATERBODY TABLE:

OUTFALL	WATERBODY NAME	CLASS	WBID	DESIGNATED USES	DISTANCE TO SEGMENT	12-DIGIT HUC
UIC	Groundwater	n/a	n/a	GEN, GRW, DWS, LWP, IRR,	0.0 mi	Labadie Creek – Missouri River 10300200-0603
UIC	Missouri River	P	1604	AQL, GEN, DWS, HHP, IRR, LWP, SCR, WBC-A	0.1 mi	

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

WBID = Waterbody Identification: Missouri Use Designation Dataset per 10 CSR 20-7.031(1)(Q) and (S) as 100K Extant-Remaining Streams or newer; data can be found as an ArcGIS shapefile on MSDIS at ftp://msdis.missouri.edu/pub/Inland_Water_Resources/MO_2014_WQS_Stream_Classifications_and_Use_shp.zip; New C streams described on the dataset per 10 CSR 20-7.031(2)(A)3. as 100K Extent Remaining Streams.

10 CSR 20-7.031(1)(C)1.: **ALP** = Aquatic Life Protection (formerly AQL); current uses are defined to ensure the protection and propagation of fish shellfish and wildlife, further subcategorized as: WWH = Warm Water Habitat; CLH = Cool Water Habitat; CDH = Cold Water Habitat; EAH = Ephemeral Aquatic Habitat; MAH = Modified Aquatic Habitat; LAH = Limited Aquatic Habitat. This permit uses ALP effluent limitations in 10 CSR 20-7.031 Table A1-B3 for all habitat designations unless otherwise specified.
10 CSR 20-7.031(1)(C)2.: Recreation in and on the water
WBC = Whole Body Contact recreation where the entire body is capable of being submerged;
WBC-A = whole body contact recreation supporting swimming uses and has public access;
WBC-B = whole body contact recreation not included in WBC-A;
SCR = Secondary Contact Recreation (like fishing, wading, and boating)
10 CSR 20-7.031(1)(C)3. to 7.:
HHP (formerly HHF) = Human Health Protection as it relates to the consumption of fish and drinking of water;
IRR = irrigation for use on crops utilized for human or livestock consumption, 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 currently does not have corresponding habitat use criteria for these defined uses): WSA = storm- and flood-water storage and attenuation; WHP = habitat for resident and migratory wildlife species; WRC = recreational, cultural, educational, scientific, and natural aesthetic values and uses; WHC = hydrologic cycle maintenance.
10 CSR 20-7.015(7) and 10 CSR 20-7.031(6): **GRW** = Groundwater
10 CSR 20-7.031(4): **GEN** = general criteria
n/a = not applicable

EXISTING WATER QUALITY:

Groundwater data is required to be posted by Ameren online per 40 CFR 257. The information can be found by using a web browser https://www.ameren.com/company/environment-and-sustainability/managing-coal-combustion

- ✓ 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.
- ✓ Applicable; the Missouri River is listed under a 2006 TMDL for chlordane and PCBs. This facility is not a contributor.

DESIGNATION OF WATERS OF THE STATE:
Per Missouri's technology-based effluent regulations [10 CSR 20-7.015], waters of the state are divided into seven categories per 10 CSR 20-7.015(1)(B) 1. through 7. and implemented in 10 CSR 20-7.015(2) through (8). Considerations are made for the facility type, and may not be applicable under the implementing regulations. Rather, effluent limitations may be based on a best professional judgment evaluation, which takes the designation and uses of the receiving water body into consideration. Effluent limitation derivations are discussed in PART IV: EFFLUENTS LIMITS DETERMINATIONS.

- ✓ Subsurface Water (including underground injection control permits)
- ✓ Subsurface to surface water is considered. However, as the injection is designed to meet drinking water and groundwater criteria, the data were comparted to surface water standards. The data support establishment of the drinking and groundwater standards. Surface water criteria are less stringent when considering mixing, and the Missouri river provides for mixing when subsurface water enters surface water. See permit MO-0004812 for further discussion regarding connection of subsurface to surface water.
- ✓ The UIC being performed at this site is designed to minimize off-site contaminant migration.

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.

- ✓ New permit, backsliding does not apply.

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

- ✓ Applicable; new, sub surface discharge. The issuance of this permit conforms to the implementing procedures of the antidegradation regulations. No schedule of compliance can be afforded as the treatment devices must be designed and controlled as to immediately meet all water quality standards.

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

COST ANALYSIS FOR COMPLIANCE (CAFCOM):
Pursuant to Section 644.145, RSMo, when incorporating a new requirement for discharges from publicly owned facilities, or when enforcing provisions of this chapter or the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq., pertaining to any portion of a publicly owned facility, the Department of Natural Resources shall make a "finding of affordability" on the costs to be incurred and the impact of any rate changes on ratepayers upon which to base such permits and decisions, to the extent allowable under this chapter and the Federal Water Pollution Control Act. This process is completed through a cost analysis for compliance. Permits not including new requirements may be deemed affordable.

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

CHANGES IN DISCHARGES OF TOXIC POLLUTANT:
This special condition reiterates the federal rules found in 40 CFR 122.44(f) 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 permittee 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 permittee/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.
✓ The EDMR system now currently may include permits beginning with "UI". The facility is required to be enrolled in the eDMR system to comply with the above regulations. See eDMR special condition.

DOMESTIC WASTEWATER, SLUDGE, AND BIOSOLIDS:
Domestic wastewater is defined as wastewater (i.e., human sewage) originating primarily from the sanitary conveyances of bathrooms and kitchens. Domestic wastewater excludes stormwater, animal waste, process waste, and other similar waste. 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.
✓ Not applicable; conditions for domestic wastewater are not included under this permit. The co-located permit, MO-0004812 has domestic wastewater requirements.

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

EFFLUENT LIMITATION GUIDELINE:
Effluent Limitation Guidelines, or ELGs, are found at 40 CFR 400-499. These are limitations established by the EPA based on the SIC code and the type of work a facility is conducting. Most ELGs are for process wastewater and some address stormwater. All are technology based limitations which must be met by the applicable facility at all times.
✓ The operating permit does not implement an ELG. However, this facility type has an effluent limitation guideline applied to surface discharges covered under MO-0004812. Additionally, 40 CFR 423.15(b)(16) was used as a guide for leachate characteristics.

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.

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

GROUNDWATER MONITORING:
Groundwater is a water of the state according to RSMo 644.016(27), is subject to regulations at 10 CSR 20-7.015(7) and 10 CSR 20-7.031(6), and must be protected accordingly.
- ✓ This facility is monitoring the groundwater at the site to determine efficacy of the removal system. Data for the groundwater is supplied online by Ameren under self-implementing 40 CFR 257, and conditions found within MO-0004812. This permit will defer reporting to the other requirements as listed under the other permit.

LAND APPLICATION:
Land application, or surficial dispersion of wastewater and/or sludge, is performed by facilities to maintain a basin as no-discharge. Requirements for these types of operations are found in 10 CSR 20-6.015; authority to regulate these activities is from RSMo 644.026.
- ✓ Not applicable; this permit does not authorize operation of a surficial land application system to disperse wastewater or sludge.

LAND DISTURBANCE:
Land disturbance, sometimes called construction activities, are actions which cause disturbance of the root layer or soil; these include clearing, grading, and excavating of the land. 40 CFR 122.26(b)(14) and 10 CSR 20-6.200(3) requires permit coverage for these activities. Coverage is not required for facilities when only providing maintenance of original line and grade, hydraulic capacity, or to continue the original purpose of the facility.
- ✓ Not applicable; this permit does not provide coverage for land disturbance activities. The facility may obtain a separate land disturbance permit (MORA) online at https://dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm; MORA permits do not cover disturbance of contaminated soils.

MAJOR WATER USER:
Any surface or groundwater user with a water source and the equipment necessary to withdraw or divert 100,000 gallons (or 70 gallons per minute) or more per day combined from all sources from any stream, river, lake, well, spring, or other water source is considered a major water user in Missouri. All major water users are required by law to register water use annually (Missouri Revised Statues Chapter 256.400 Geology, Water Resources and Geodetic Survey Section). https://dnr.mo.gov/pubs/pub2236.htm
- ✓ Not applicable; the withdrawal pumps for this project do not withdraw water from the state in excess of 70 gpm/0.1 MGD; however, this facility is considered a major water user as a whole.

OIL/WATER SEPARATORS:
Oil water separator (OWS) tank systems are frequently found at industrial sites where process water and stormwater may contain oils and greases, oily wastewaters, or other immiscible liquids requiring separation. Food industry discharges typically require pretreatment prior to discharge to municipally owned treatment works. Per 10 CSR 26-2.010(2)(B), all oil water separator tanks must be operated according to manufacturer's specifications and authorized in NPDES permits per 10 CSR 26-2.010(2) or may be regulated as a petroleum tank.
- ✓ Not applicable; this is a UIC permit not subject to said regulations.

OPERATOR CERTIFICATION REQUIREMENTS:
Operators or supervisors of operations at regulated domestic wastewater treatment facilities shall be certified in accordance with 10 CSR 20-9.020(2) and any other applicable state law or regulation.
- ✓ Not applicable; this is a UIC permit not subject to said regulations.

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.

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.

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

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

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

- ✓ Applicable; the permit writer conducted an RPD on applicable parameters within the permit. See Part IV: Effluent Limits Determinations below.
- ✓ A mathematical RPA was not conducted for this facility given the limited information provided because this is a new permit. However, the permit writer completed an RPD, a reasonable potential determination, using best professional judgment for all of the appropriate parameters in this permit. An RPD consists of reviewing application data and comparing those data to narrative or numeric water quality criteria.
- ✓ Permit writers use the Department's permit writer's manual (http://dnr.mo.gov/env/wpp/permits/manual/permit-manual.htm), the EPA's permit writer's manual (https://www.epa.gov/npdes/npdes-permit-writers-manual), program policies, and best professional judgment. For each parameter in each permit, the permit writer carefully considers all applicable information regarding: technology based effluent limitations, effluent limitation guidelines, water quality standards, stream flows and uses, and all applicable site specific information and data gathered by the permittee through discharge monitoring reports and renewal (or new) application sampling. Best professional judgment is based on the experience of the permit writer, cohorts in the Department and resources at the EPA, research, and maintaining continuity of permits if necessary.

For stormwater permits, the permit writer is required per 10 CSR 6.200(6)(B)2 to consider: A. application and other information supplied by the permittee; B. effluent guidelines; C. best professional judgment of the permit writer; D. water quality; and E. BMPs. Part IV provides specific decisions related to this permit.

SAMPLING FREQUENCY JUSTIFICATION:
This operation is new therefore monthly sampling is required to determine compliance with the operating permit in accordance with Appendix U of Missouri's Water Pollution Control Permit Manual.

SAMPLING TYPE JUSTIFICATION:
The sampling types are representative of the operations and are protective of water quality. Altering effluent should have composite sampling; uniform effluent can have grab samples. Grab samples are appropriate for ex-situ treatment and groundwater monitoring.

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

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

✓ Not applicable; this permit does not contain a SOC. Effluent limitations derived per 10 CSR 20-7.015 sections (2) through (8) are technology-based effluent limitations per 10 CSR 20-7.015(9)(A)1. therefore cannot be afforded schedules of compliance per 10 CSR 20-7.031(11)

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

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

SLUDGE – INDUSTRIAL:
Industrial sludge is solid, semi-solid, or liquid residue generated during the treatment of industrial process or non-process wastewater in a treatment works; including but not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment process; scum and solids filtered from water supplies and backwashed; and any material derived from industrial sludge. Industrial sludge could also be derived from lagoon dredging or other similar maintenance activities.

✓ Applicable; sludge from the ex-situ treatment system is removed and managed accordingly. The permitted management strategy must be followed, see permit under FACILITY DESCRIPTION. If the permitted management strategy cannot be followed, the permittee must obtain a permit modification.

STANDARD CONDITIONS:
The standard conditions Part I attached to this permit incorporate all sections of 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 permittee to ascertain compliance with this permit, state regulations, state statues, federal regulations, and the Clean Water Act. Standard Conditions Part III, if attached to this permit, incorporate requirements dealing with domestic wastewater, 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) Section 3.1 indicates most procedures within the document apply only to water quality based approaches, not end-of-pipe technology-based controls. Hence, stormwater-only outfalls will generally only contain a maximum daily limit (MDL), 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.

✓ Not applicable; UIC permits do not require stormwater monitoring per 40 CFR 122.26(b)(14) or 10 CSR 20-6.200. However, stormwater requirements may be applicable to the UIC areas as found under co-located permit MO-0004812.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP):
A SWPPP must be prepared by the permittee if the SIC code is found in 40 CFR 122.26(b)(14) and/or 10 CSR 20-6.200(2). A SWPPP may be required of other facilities where stormwater has been identified as necessitating better management. The purpose of a SWPPP is to comply with all applicable stormwater regulations by creating an adaptive management plan to control and mitigate stream pollution from stormwater runoff.

✓ Not applicable; this permit does not require stormwater monitoring per 40 CFR 122.26(b)(14); however, co-located permit MO-0004812 requires a SWPPP. The location of this operation may be required to have SWPPP inspections. The facility as a whole will need to decide if operations in this area require stormwater monitoring.

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

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

✓ Applicable; this is a UIC permit. See additional conditions under Special Conditions and permit derivation of limits under Part IV of the fact sheet.

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

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

PART IV. EFFLUENT LIMITS DETERMINATIONS

UIC REQUIREMENTS

EFFLUENT LIMITATIONS TABLE:

PARAMETERS	UNIT	DAILY MAX	MONTHLY AVG. ⏚	MINIMUM SAMPLING FREQUENCY	REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL						
FLOW	MGD	*	*	ONCE/MONTH	MONTHLY	24 HR. TOT
CONVENTIONAL						
pH †	SU	6.0 TO 9.0	-	ONCE/MONTH	MONTHLY	GRAB
METALS						
ANTIMONY, TR	µg/L	*	6.0	ONCE/MONTH	MONTHLY	GRAB
ARSENIC, TR	µg/L	*	10	ONCE/MONTH	MONTHLY	GRAB
BARIUM, TR	µg/L	*	2000	ONCE/MONTH	MONTHLY	GRAB
BORON, TR	µg/L	*	2000	ONCE/MONTH	MONTHLY	GRAB
LEAD, TR	µg/L	*	15	ONCE/MONTH	MONTHLY	GRAB
MOLYBDENUM, TR	µg/L	*	*	ONCE/MONTH	MONTHLY	GRAB
SELENIUM, TR	µg/L	*	50	ONCE/MONTH	MONTHLY	GRAB
OTHER						
SULFATE	mg/L	*	250	ONCE/MONTH	MONTHLY	GRAB

* monitoring and reporting requirement only
† report the minimum and maximum pH values; pH is not to be averaged
TR total recoverable
⏚ The facility may average multiple injection points within the same month or multiple samples within the same month at the same injection point to meet the average.

PHYSICAL:

Flow
The volume of effluent injected is needed to ensure well integrity, monitoring compliance, and future conditions.

CONVENTIONAL:

pH
6.0 to 9.0 SU. pH adjustment occurs during the treatment of the groundwater. Monitoring is required to determine treatment efficacy. No groundwater standards exist for pH; however technological industrial wastewater standards apply per 10 CSR 20-7.015(9)(I) as a non-domestic wastewater treatment facility.

METALS:
Groundwater quality standards are chronic standards therefore the standard is applied as the monthly average; 10 CSR 20-7.015(6) references table A1 in 10 CSR 20-7.031. There is no maximum applied as a daily limit as long as the averages are below the standard for the parameter for the month. Multiple samples may need to be averaged to meet the monthly limit. The facility may average multiple injection points or multiple samples at the same injection point to meet the average.

Antimony, Total Recoverable
Antimony is a pollutant of concern at the site. The pH adjustment and flocculation process is designed to remove antimony prior to injection. Groundwater quality standards are 6 µg/L which must be met at the end of treatment prior to injection. The facility reported 0.11 µg/L in the groundwater at the site.

Arsenic, Total Recoverable
Arsenic is a pollutant of concern at the site. The pH adjustment and flocculation process is designed to remove arsenic prior to injection. The facility reported 35.8 µg/L in the groundwater at the site. The federal maximum contaminant level (MCL) for arsenic is 10 µg/L.

Barium, Total Recoverable
Barium is a pollutant of concern at the site. The pH adjustment and flocculation process is designed to remove barium prior to injection. Groundwater quality standards are 2000 µg/L which must be met at the end of treatment prior to injection. The facility reported 578 µg/L in the groundwater at the site.

Boron, Total Recoverable
Boron is a pollutant of concern at the site. The resin filtration process is designed to remove boron prior to injection. Groundwater quality standards are 2000 µg/L which must be met at the end of treatment prior to injection. The facility reported 27,460 µg/L in the groundwater at the site.

Lead, Total Recoverable
Lead is a pollutant of concern at the site. The pH adjustment and flocculation process is designed to remove lead prior to injection. Groundwater quality standards are 15 µg/L which must be met at the end of treatment prior to injection. The facility reported 5.1 µg/L in the groundwater at the site.

Molybdenum, Total Recoverable
Molybdenum is a pollutant of concern at the site. The pH adjustment and flocculation process is designed to remove molybdenum prior to injection. There are no Missouri groundwater quality standards for this pollutant, however, 40 CFR 257 limits this pollutant at impoundments to 100 µg/L. The facility reported 674 µg/L in the groundwater at the site.

Selenium, Total Recoverable
Selenium may be a pollutant of concern at coal ash sites. The pH adjustment and flocculation process is designed to remove selenium prior to injection. Groundwater quality standards are 50 µg/L which must be met at the end of treatment prior to injection. The facility reported 0.33 µg/L in the groundwater at the site.

OTHER:

Sulfate
The facility reported 992 mg/L in the application. Sulfate is a known parameter of concern in coal ash, therefore monitoring is required. Groundwater is assumed to have the drinking water use per 10 CSR 20-7.031(6)(A) therefore will be limited at 250 mg/L for injection.

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

The Department must issue public notice of a pending operating permit or of a new or reissued statewide general permit. The public comment period is the length of time not less than 30 days following the date of the public notice which interested persons may submit written comments about the proposed permit. For persons wanting to submit comments regarding this proposed operating permit, then please refer to the Public Notice page located at the front of this draft operating permit. The Public Notice page gives direction on how and where to submit appropriate comments.

- ✓ The Public Notice period for this operating permit started March 25, 2022 and ended April 25, 2022. One comment letter was received. No changes were made to the permit based on the comments.

DATE OF FACT SHEET: MAY 25, 2022

COMPLETED BY:
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