

STATE OF MISSOURI  
**DEPARTMENT OF NATURAL RESOURCES**

MISSOURI CLEAN WATER COMMISSION



**MISSOURI STATE OPERATING PERMIT**

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92<sup>nd</sup> Congress) as amended,

Permit No. MO-0131857

Owner: KCP & L Greater Missouri Operations Company  
Address: P.O. Box 418679, Kansas City, MO 64141-9679

Continuing Authority: KCP & L Greater Missouri Operations Company  
Address: P.O. Box 418679, Kansas City, MO 64141-9679

Facility Name: South Harper Generating Station  
Facility Address: 24400 S. Harper Road, Peculiar, MO 64078

Legal Description: NE ¼, NE ¼, Sec32, T45N, R32W, Cass County  
UTM Coordinates: X= 371196, Y= 4282461

Receiving Stream: Tributary to Annette Lake (U)  
First Classified Stream and ID: Annette Lake (L3)(7220)  
USGS Basin & Sub-watershed No.: 10290108-0105

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

**FACILITY DESCRIPTION**

Outfall #001- Supplemental Gas Turbine Power Station – SIC #4911 and NAICS #221112  
Non-contact cooling water only. No discharge, enclosed above ground storage tank/industrial irrigation system for seasonal flows into a gaining stream. Application rate is based on irrigation of potable water.

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

September 1, 2012  
Effective Date

Sara Parker Pauley, Director, Department of Natural Resources

September 30, 2015  
Expiration Date

John Madras, Director, Water Protection Program

**FACILITY DESCRIPTION continued**

**Facility Type:**

No discharge storage and irrigation system.

**Design Basis:**

Design Dry Weather Flow:

Design with 1-in-10 year storm water flow:

Design Flow: 100,000 gpd

Actual Flow: 64,800 gpd

**Annual Average**

64,800 gpd

9,000,000 gallons per year

**Storage Tank:**

Number of Storage Tank(s): 1

Maximum Water Level: 21 feet

Minimum Water Level: 5 feet

Storage Capacity: 100,000 gallons

**Outfall #001-Land Application Operational Monitoring**

Legal Description: NE ¼, NE ¼, Sec32, T45N, R32W, Cass County

UTM Coordinates: X= 371196, Y= 4282461

Receiving Stream: Tributary to Annette Lake (U)

First Classified Stream and ID: Annette Lake (L3)(7220)

USGS Basin & Sub-watershed No.: 10290108-0105

Irrigation areas: 16.5 acres

Irrigation rates per acre: 0.02 inch/hour    0.2 inch/day    1.4 inches/week    26.8 inches/year

Actual months used for Irrigation: May to November

Field slopes: 5 to 9%

Vegetation: row crops or fescue grass

Equipment type: sprinkler system

Application rate is based on: hydraulic loading

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS				PAGE NUMBER 3 of 7		
				PERMIT NUMBER MO-0131857		
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #001 – Emergency Discharge from Storage (Note 1)						
Flow	MGD	*		*	once/week**	24 hr. total
Total Suspended Solids (TSS)	mg/L	100		70	once/week**	grab
Oil and Grease	mg/L	15		10	once/week**	grab
Total Residual Chlorine (Note 2)	µg/L	17		8	once/week**	grab
pH	SU	***		***	once/week**	grab
MONITORING REPORTS SHALL BE SUBMITTED <b>QUARTERLY</b> ; THE FIRST REPORT IS DUE <u>January 28, 2013</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- \* Monitoring requirement only.
- \*\* Monitor only when discharge occurs. Report as no-discharge when a discharge does not occur during the report period.
- \*\*\* pH is measured in pH units and is not to be averaged. The pH is to be maintained at 6.5 to 9.0 pH units.

Note 1 – No-discharge facility requirements. Non-contact cooling water shall be stored and land applied during suitable conditions so that there is no-discharge from the storage facility or irrigation site. An emergency discharge may occur when excess non-contact cooling water has accumulated above feasible irrigation rates due to precipitation exceeding the 1-in-10-year 365-day rainfall or the 25-year 24-hour storm event.

Note 2 – This permit contains a Total Residual Chlorine (TRC) limit.

1. This effluent limit is below the minimum quantification level (ML) of the most common and practical EPA approved CLTRC methods. The department has determined the current acceptable ML for total residual chlorine to be 0.13 mg/L when using the DPD Colorimetric Method #4500 – CL G. from Standard Methods for the Examination of Waters and Non-contact cooling water. The permittee will conduct analyses in accordance with this method, or equivalent, and report actual analytical values. Measured values greater than or equal to the minimum quantification level of 0.13 mg/L will be considered violations of the permit and values less than the minimum quantification level of 0.13 mg/L will be considered to be in compliance with the permit limitation. The minimum quantification level does not authorize the discharge of chlorine in excess of the effluent limits stated in the permit.
2. Do not chemically dechlorinate **if it is not needed to meet the limits in your permit.**

<b>A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS</b>				PAGE NUMBER 4 of 7		
				PERMIT NUMBER MO-0131857		
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #001 – Land Application Operational Monitoring (Notes 3 & 4)						
Irrigation Period	Hours	*			daily	total measured
Volume Irrigated	Gallons	*			daily	total measured
Application Area	Acres	*			daily	total measured
Application Rate	Inches/acre	*			daily	total measured
Rainfall	Inches	*			daily	total measured
MONITORING REPORTS SHALL BE SUBMITTED <b>ANNUALLY</b> ; THE FIRST REPORT IS DUE <u>January 28, 2013</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
<b>B. STANDARD CONDITIONS</b>						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Part I &amp; III</u> STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS** (continued)

\* Monitoring requirement only.

Note 3 – Records shall be maintained and summarized into an annual operating report, which shall be submitted by January 28th of each year for the previous calendar year period. The report shall include the following:

1. Record of maintenance and repairs performed during the year, average number of times per month the facility is checked to see if it is operating properly, and description of any unusual operating conditions encountered during the year;
2. The number of days the storage facility has discharged during the year, the discharge flow, the reasons discharge occurred and effluent analysis performed; and
3. A summary of the irrigation operations including freeboard at the start and end of the irrigation season, the number of days of irrigation for each month, the total gallons irrigated, the total acres used, crops grown, crop yields per acre, the application rate in inches/acre per day and for the year, the monthly and annual precipitation received at the facility and summary of testing results.

Note 4 – Storage facility freeboard shall be reported as storage facility water level in feet below the overflow level. See Special Conditions for Non-contact Cooling Water Irrigation System requirements.

C. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
  - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
    - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
    - (2) controls any pollutant not limited in the permit.
  - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
  - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

2. All outfalls must be clearly marked in the field.
3. Permittee will cease discharge by connection to a facility with an area-wide management plan per 10 CSR 20-6.010(3)(B) within 90 days of notice of its availability.

4. Water Quality Standards

- (a) Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
- (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
  - (1) 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;
  - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
  - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
  - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
  - (5) There shall be no significant human health hazard from incidental contact with the water;
  - (6) There shall be no acute toxicity to livestock or wildlife watering;
  - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological Community;

Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

5. Changes in Discharges of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

- (a) That any activity has occurred or will occur which would result in the discharge 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; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
    - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
    - (4) The level established in Part A of the permit by the Director.
  - (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.
6. Report as no-discharge when a discharge does not occur during the report period.

C. SPECIAL CONDITIONS cont.

7. It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (644.055 RSMo).
8. The permittee shall comply with any applicable requirements listed in 10 CSR 20-9, unless the facility has received written notification that the Department has approved a modification to the requirements. The monitoring frequencies contained in this permit shall not be construed by the permittee as a modification of the monitoring frequencies listed in 10 CSR 20-9. If a modification of the monitoring frequencies listed in 10 CSR 20-9 is needed, the permittee shall submit a written request to the Department for review and, if deemed necessary, approval.
9. Storage facilities and earthen basins shall have a liner that is designed, constructed and maintained in accordance with 10 CSR 20-8.020(13)(A)4. If operating records indicate, excessive percolation, the Department may require a water balance test in accordance with 10 CSR 20-8.020(16) or other investigations to evaluate adequacy of the seal. The Department may require corrective action as necessary to eliminate excess leakage.

10. Annual Report. (Outfall #001)

An annual report is required in addition to the quarterly reporting under Section A of this permit. The annual report shall be submitted by January 28 of each year for the previous growing season from October 1 through September 30 or an alternate 12 month period approved by the Department and listed in the Operation and Maintenance Manual. This report shall be submitted using report forms approved by the Department and shall include a summary of the monitoring and record keeping required by the Special Conditions and Standard Conditions of this permit.

11. Non-contact Cooling Water Irrigation System.

- (a) Discharge Reporting from June 1 to August 30. Any unauthorized discharge from the storage facility or irrigation system shall be reported to the department as soon as possible but always within 24 hours. Discharge is allowed only as described in the Facility Description and Effluent Limitations sections of this permit.
  - (1) Irrigation Design. Design and operation shall be in accordance with 10 CSR 20- 8.020(15). Permittee shall operate the land application system in accordance with the design parameters listed in the Facility Description section of this permit:
- (b) No-Discharge System. When the Facility Description is a no-discharge, non-contact cooling water must be stored and irrigated at appropriate times. There shall be no-discharge from the irrigation site or storage facility except due to precipitation exceeding either the 1-in-10 year rainfall event for the design storage period or the 25-year-24-hour rainfall event.
- (c) Storage facility Operating Levels - No-Discharge Systems. The minimum and maximum operating water levels for the storage facility shall be clearly marked. Each storage facility shall be operated so that the maximum water elevation does not exceed one foot below the overflow point except due to exceedances of the 1-in-10 year or 25-year-24 hour storm events. Non-contact cooling water shall be land applied whenever feasible based on soil and weather conditions and permit requirements. Storage facility(s) shall be lowered to the minimum operating level prior to each winter by November 30.
- (d) General Irrigation Requirements. The non-contact cooling water irrigation system shall be operated so as to provide uniform distribution of irrigated non-contact cooling water over the entire irrigation site. A complete ground cover of vegetation shall be maintained on the irrigation site unless the system is approved for row crop irrigation. Non-contact cooling water shall be land applied only during daylight hours. The non-contact cooling water irrigation system shall be capable of irrigating the annual design flow during an application period of less than 100 days or 800 hours per year.
- (e) Saturated/Frozen Conditions. There shall be no irrigation during frozen, snow covered, or saturated soil conditions. There shall be no irrigation on days when more than 0.2 inch of precipitation is received or when there is observation by operator of an imminent or impending rainfall event.
- (f) Buffer Zones. There shall be no irrigation within 300 feet of any down gradient pond, lake, sinkhole, losing stream or water supply withdrawal; 100 feet of gaining streams or tributaries; 150 feet of dwelling; or 50 feet of the property line.
- (g) Public Access Restrictions. Public access shall not be allowed to the irrigation site(s). Fencing and public access restrictions to land application sites shall be in accordance with requirements in 10 CSR 20-8.020(15)(b)(5).
- (h) Equipment Checks during Irrigation. The irrigation system and application site shall be visually inspected at least once per day during non-contact cooling water irrigation to check for equipment malfunctions and runoff from the irrigation site.

C. SPECIAL CONDITIONS cont.

- (i) Operation and Maintenance Manual. The permittee shall develop, maintain and implement an Operation and Maintenance (O&M) Manual that includes all necessary items to ensure the operation and integrity of the waste handling and land application systems. Copies of the O&M Manual and subsequent revisions shall be submitted to the departments' Water Pollution Control Program and Regional Office for review and approval. The O&M Manual shall be reviewed and updated at least every five years.

12. Sludge and Biosolids

- (a) Permittee shall comply with the pollutant limitations, monitoring, reporting, and other requirements in accordance with the attached permit Standard Conditions.
- (b) If sludge is not removed by a contract hauler, permittee is authorized to land apply biosolids. Permit Standard Conditions, Part III shall apply to the land application of biosolids. Permittee shall notify the department at least 180 days prior to the planned removal of biosolids. The department may require submittal of a biosolids management plan for department review and approval as determined appropriate on a case-by-case basis.

**Missouri Department of Natural Resources**  
**FACT SHEET**  
**FOR THE PURPOSE OF RENEWAL**  
**OF**  
**MO-0131857**  
**SOUTH HARPER GENERATING FACILITY**

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

As per [40 CFR Part 124.8(a)] and [10 CSR 20-6.020(1)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 (operating permit) listed below.

A Factsheet is not an enforceable part of an operating permit.

This Factsheet is for an Industrial Facility.

**Part I – Facility Information**

Facility Type: IND  
Facility SIC Code(s): 4911

Facility Description:

South Harper Generating Station utilizes potable municipal water from Public Water Supply District #7. The domestic water supply is protected by a series of backflow prevention devices that are inspected annually. The facility is a nominal 341 megawatt simple-cycle electric peaking power generation facility. South Harper Generating Station was developed to meet the increasing power consumption requirements in the region. It consists of three Siemens-Westinghouse 501D5A simple-cycle combustion turbine generators. Each turbine is equipped with evaporative coolers. Wastewater is generated by evaporative cooler blow down, oily wastes, turbine wash water, and domestic wastes. The blow down is disposed of by a non-discharge land irrigation system while the oily wastes and turbine wash water are transported off-site for disposal by a contracted waste service. Domestic wastes are sent to a sanitary system for pretreatment, then to a non-discharge lagoon permitted by the Cass County Health Department; Construction Permit No. 05-018, which is backed up by an emergency tank under the event of an overflow. The lagoon is lined with a heavy industrial liner, has very high dykes to prevent infiltration, and is protected by a tall chain link fence with preventive strands at the top.

The recycled water storage tank consists of one (1) 100,000-gallon nominal tank and has a sonar level transmitter that transmits the tank level, in percent, to the operating system. Before peak season, H & R Landscape primes the irrigation system with potable water and verifies that the system is operating correctly. After peak season, the irrigation system is used to draw the tank volume down. The remaining water is manually pumped from the tank. A visual inspection of the storage tank is performed on a monthly basis. Prior to any emergency discharge from the tank, the Environmental Compliance Administration (ECA) must be notified. During discharge event, the ECA will collect a sample of discharge wastewater at the proper outfall location. During sampling, ECA will estimate flow, measure pH and Total Residual Chlorine. ECA will submit collected wastewater samples to KPC & L Central lab for TSS and Oil & Grease analysis. Complete explanation of the emergency release from tank is then recorded in the operator's log.

Have any changes occurred at this facility or in the receiving water body that effects effluent limit derivation?

- No.

Application Date: 08/22/11  
Expiration Date: 03/22/12  
Last Inspection: 09/15/08

In Compliance ; Non-Compliance

**OUTFALL(S) TABLE:**

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
001	0.155	BMP	Non-contact cooling water	0

Outfall #001- Steam and Air Conditional Supply – SIC #4961 and NAICS #221330  
 Non-contact cooling water.

Legal Description: NE ¼, NE ¼, Sec32, T45N, R32W, Cass County

UTM Coordinates: X=371196, Y=4282461

Design Flow is 0.1 MGD

Actual Flow: 0.0648 MGD

Receiving Stream: Tributary to Annette Lake (U)

First Classified Stream and ID: Annette Lake (L3)(7220)

USGS Basin & Sub-watershed No.: 10290108-0105

Receiving Water Body’s Water Quality & Facility Performance History:

Tributary to Annette Lake (U) does not seem to be impaired.

Comments:

Upon inspection of the facility’s five-year DMR, majority of the time the facility reported “No Discharge”.

Mr. Beck, environmental consultant of KPC & L, noted in his August 21, 2011 letter to the Kansas City Regional Office that pollutants in Form C, Part B were marked “Believed Present” or “Believed Absent” based on their presence in the local public water supply.

**Part II – Operator Certification Requirements**

Not Applicable;

This facility is not required to have a certified operator.

**Part III – Receiving Stream Information**

**APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:**

As per Missouri’s Effluent Regulations [10 CSR 20-7.015], the waters of the state are divided into the below listed seven (7) categories. Each category lists effluent limitations for specific parameters, which are presented in each outfall’s Effluent Limitation Table and further discussed in the Derivation & Discussion of Limits section.

- Missouri or Mississippi River [10 CSR 20-7.015(2)]:
- Lake or Reservoir [10 CSR 20-7.015(3)]:
- Losing [10 CSR 20-7.015(4)]:
- Metropolitan No-Discharge [10 CSR 20-7.015(5)]:
- Special Stream [10 CSR 20-7.015(6)]:
- Subsurface Water [10 CSR 20-7.015(7)]:
- All Other Waters [10 CSR 20-7.015(8)]:

10 CSR 20-7.031 Missouri Water Quality Standards, the Department defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and/or 1<sup>st</sup> classified receiving stream’s beneficial water uses to be maintained are located in the Receiving Stream Table located below in accordance with [10 CSR 20-7.031(3)].

## **Part IV – Rationale and Derivation of Effluent Limitations & Permit Conditions**

### **ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:**

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

Not Applicable;

The facility does not discharge to a Losing Stream as defined by [10 CSR 20-2.010(36)] & [10 CSR 20-7.031(1)(N)], or is an existing facility.

### **ANTI-BACKSLIDING:**

A provision in the Federal Regulations [CWA §303(d)(4); CWA §402(c); 40 CFR Part 122.44(I)] that requires a reissued permit to be as stringent as the previous permit with some exceptions.

- All limits in this operating permit are at least as protective as those previously established; therefore, backsliding does not apply.

### **ANTIDegradation:**

In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(2)], the Department is to document by means of Antidegradation Review that the use of a water body's available assimilative capacity is justified. Degradation is justified by documenting the socio-economic importance of a discharging activity after determining the necessity of the discharge.

- Renewal no degradation proposed and no further review necessary.

### **AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:**

As per [10 CSR 20-6.010(3)(B)], ...An applicant may utilize a lower preference continuing authority by submitting, as part of the application, a statement waiving preferential status from each existing higher preference authority, providing the waiver does not conflict with any area-wide management plan approved under section 208 of the Federal Clean Water Act or any other regional sewage service and treatment plan approved for higher preference authority by the Department.

### **BIOSOLIDS & SEWAGE SLUDGE:**

Biosolids are solid materials resulting from domestic wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). Sewage sludge is solids, semi-solids, 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 a 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. Additional information regarding biosolids and sludge is located at the following web address: <http://dnr.mo.gov/env/wpp/pub/index.html>, items WQ422 through WQ449.

- Sludge/Biosolids are removed by contract hauler or are stored in the lagoon.

### **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.

**PRETREATMENT PROGRAM:**

The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a Publicly Owned Treatment Works [40 CFR Part 403.3(q)].

Pretreatment programs are required at any POTW (or combination of POTW operated by the same authority) and/or municipality with a total design flow greater than 5.0 MGD and receiving industrial wastes that interfere with or pass through the treatment works or are otherwise subject to the pretreatment standards. Pretreatment programs can also be required at POTWs/municipals with a design flow less than 5.0 MGD if needed to prevent interference with operations or pass through.

Several special conditions pertaining to the permittee's pretreatment program may be included in the permit, and are as follows:

- Implementation and enforcement of the program,
- Annual pretreatment report submittal,
- Submittal of list of industrial users,
- Technical evaluation of need to establish local limitations, and
- Submittal of the results of the evaluation

Not Applicable;

The permittee, at this time, is not required to have a Pretreatment Program or does not have an approved pretreatment program.

**REASONABLE POTENTIAL ANALYSIS (RPA):**

Federal regulation [40 CFR Part 122.44(d)(1)(i)] requires effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above narrative or numeric water quality standard.

In accordance with [40 CFR Part 122.44(d)(iii)] if the permit writer determines that any give pollutant has the reasonable potential to cause, or contribute to an in-stream excursion above the WQS, the permit must contain effluent limits for that pollutant.

Not Applicable;

A RPA was not conducted for this facility.

**REMOVAL EFFICIENCY:**

Removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to Biochemical Oxygen Demand 5-day (BOD<sub>5</sub>) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals.

Not Applicable;

Influent monitoring is not being required to determine percent removal.

**SANITARY SEWER OVERFLOWS (SSO) AND INFLOW AND INFILTRATION (I&I):**

Sanitary Sewer Overflows (SSOs) are defined as an untreated or partially treated sewage release are considered bypassing under state regulation [10 CSR 20-2.010(11)] and should not be confused with the federal definition of bypass. SSO's have a variety of causes including blockages, line breaks, and sewer defects that allow excess storm water and ground water to (1) enter and overload the collection system, and (2) overload the treatment facility. Additionally, SSO's can be also be caused by lapses in sewer system operation and maintenance, inadequate sewer design and construction, power failures, and vandalism. SSOs also include overflows out of manholes and onto city streets, sidewalks, and other terrestrial locations.

Additionally, Missouri RSMo §644.026.1 mandates that the Department require proper maintenance and operation of treatment facilities and sewer systems and proper disposal of residual waste from all such facilities.

- Not applicable. This facility is not required to develop or implement a program for maintenance and repair of the collection system; however, it is a violation of Missouri State Environmental Laws and Regulations to allow untreated wastewater to discharge to waters of the state.

**SCHEDULE OF COMPLIANCE (SOC):**

A schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (actions, 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.

Not Applicable;

This permit does not contain a SOC.

**STORM WATER POLLUTION PREVENTION PLAN (SWPPP):**

In accordance with 40 CFR 122.44(k) *Best Management Practices (BMPs)* to control or abate the discharge of pollutants when: (1) Authorized under section 304(e) of the Clean Water Act (CWA) for the control of toxic pollutants and hazardous substances from ancillary industrial activities; (2) Authorized under section 402(p) of the CWA for the control of storm water discharges; (3) Numeric effluent limitations are infeasible; or (4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.

In accordance with the EPA's *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (Document number EPA 833-B-09-002) [published by the United States Environmental Protection Agency (USEPA) in February 2009], BMPs are measures or practices used to reduce the amount of pollution entering (regarding this operating permit) waters of the state. BMPs may take the form of a process, activity, or physical structure.

Additionally in accordance with the Storm Water 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.

Not Applicable;

At this time, the permittee is not required to develop and implement a SWPPP.

**VARIANCE:**

As 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 shall be 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 operating permit is not drafted under premises of a petition for variance.

**WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:**

As per [10 CSR 20-2.010(78)], the amount of pollutant each discharger is allowed by the Department to release into a given stream after the Department has determined total amount of pollutant that may be discharged into that stream without endangering its water quality.

Not Applicable;

Wasteload allocations were not calculated.

**WLA MODELING:**

There are two general types of effluent limitations, technology-based effluent limits (TBELs) and water quality based effluent limits (WQBELs). If TBELs do not provide adequate protection for the receiving waters, then WQBEL must be used.

Not Applicable;

A WLA study was either not submitted or determined not applicable by Department staff.

**WATER QUALITY STANDARDS:**

Per [10 CSR 20-7.031(3)], General Criteria shall be applicable to all waters of the state at all times including mixing zones. Additionally, [40 CFR 122.44(d)(1)] directs the Department to establish in each NPDES permit to include conditions to achieve water quality established under Section 303 of the Clean Water Act, including State narrative criteria for water quality.

**WHOLE EFFLUENT TOXICITY (WET) TEST:**

A WET test is a quantifiable method of determining if a discharge from a facility may be causing toxicity to aquatic life by itself, in combination with or through synergistic responses when mixed with receiving stream water.

Not Applicable;

At this time, the permittee is not required to conduct WET test for this facility.

**40 CFR 122.41(M) - BYPASSES:**

The federal Clean Water Act (CWA), Section 402 prohibits wastewater dischargers from “bypassing” untreated or partially treated sewage (wastewater) beyond the headworks. A bypass, which includes blending, is defined as an intentional diversion of waste streams from any portion of a treatment facility, [40 CFR 122.41(m)(1)(i)]. Additionally, Missouri regulation 10 CSR 20-2.010(11) defines a bypass as the diversion of wastewater from any portion of wastewater treatment facility or sewer system to waters of the state. Only under exceptional and specified limitations do the federal regulations allow for a facility to bypass some or all of the flow from its treatment process. Bypasses are prohibited by the CWA unless a permittee can meet all of the criteria listed in 40 CFR 122.41(m)(4)(i)(A), (B), & (C). Any bypasses from this facility are subject to the reporting required in 40 CFR 122.41(1)(6) and per Missouri’s Standard Conditions I, Section B, part 2.b. Additionally, Anticipated Bypasses include bypasses from peak flow basins or similar devices designed for peak wet weather flows.

- Not applicable; this facility does not bypass.

**303(d) LIST & TOTAL MAXIMUM DAILY LOAD (TMDL):**

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

A TMDL is a calculation of the maximum amount of a given pollutant that a body of water can absorb before its water quality is affected. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed that shall include the TMDL calculation

Not Applicable;  
 This facility does not discharge to a 303(d) listed stream.

**Part V – Effluent Limits Determination**

Effluent limitations derived and established in the below Effluent Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit

**EFFLUENT LIMITATIONS TABLE:**

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	MGD	9	*		*	NO	*
TOTAL SUSPENDED SOLIDS (TSS)**	MG/L	9	100		70	YES	110/70
OIL AND GREASE**	MG/L	1	15		10	NO	15/10
TOTAL RESIDUAL CHLORINE**	µg/L	1,3, 9	17		8	YES	0.019/0.019 MG/L
PH***	SU	1	6.5-9.0		6.5-9.0	NO	6.0-9.0
IRRIGATION PERIOD	HOURS	9	*			NO	*
VOLUME IRRIGATED	GALLONS	9	*			NO	*
APPLICATION AREA	ACRES	9	*			NO	*
RAINFALL	INCHES	9	*			NO	*

\* Monitoring requirement only.

\*\* Monitor only when discharge occurs. Report as no-discharge when a discharge does not occur during the report period.

\*\*\* pH is measured in pH units and is not to be averaged. The pH is to be maintained at average 6.5 to 9.0 pH units.

**Basis for Limitations Codes:**

- |  |                                    |
|--|------------------------------------|
| 1. State or Federal Regulation/Law       | 7. Antidegradation Policy          |
| 2. Water Quality Standard (includes RPA) | 8. Water Quality Model             |
| 3. Water Quality Based Effluent Limits   | 9. Best Professional Judgment      |
| 4. Lagoon Policy                         | 10. TMDL or Permit in lieu of TMDL |
| 5. Ammonia Policy                        | 11. WET Test Policy                |
| 6. Antidegradation Review                |                                    |

**OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:**

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the Department, which may require the submittal of an operating permit modification.
- **Total Suspended Solids.** Limitations obtained using Best Professional Judgment to ensure compliance with the General Water Quality Criteria as stated in 10 CSR 20-7.031(3).
- **Oil and Grease.** In accordance with [10 CSR 20-7.031 (Table A)], conventional pollutant, effluent limitation for protection of aquatic life (AQL); 10 mg/L monthly average, 15 mg/L daily maximum.
- **Total Residual Chlorine (TRC).** Total Residual Chlorine effluent limits of 0.017 mg/L daily maximum, 0.008 mg/L monthly average are recommended if chlorine is used as a disinfectant. Standard compliance language for TRC, including the minimum level (ML), should be included in the permit.

Warm-water Protection of Aquatic Life CCC = 10 µg/L, CMC = 19 µg/L [10 CSR 20-7.031, Table A]. Background TRC = 0.0 µg/L.

Chronic WLA:  $C_e = ((0.155 + 0.0)10 - (0.0 * 0.0))/0.155$   
 $C_e = 10 \mu\text{g/L}$

Acute WLA:  $C_e = ((0.155 + 0.0)19 - (0.0 * 0.0))/0.155$   
 $C_e = 19 \mu\text{g/L}$

$LTA_c = 10 (0.527) = 5.3 \mu\text{g/L}$   
 $LTA_a = 19 (0.321) = 6.1 \mu\text{g/L}$

[CV = 0.6, 99<sup>th</sup> Percentile]  
[CV = 0.6, 99<sup>th</sup> Percentile]

Use most protective number of  $LTA_c$  or  $LTA_a$ .

MDL = 5.3 (3.11) = 16.5 µg/L  
AML = 5.3 (1.55) = 8.2 µg/L

[CV = 0.6, 99<sup>th</sup> Percentile]  
[CV = 0.6, 95<sup>th</sup> Percentile, n = 4]

- **pH.** In accordance with [10 CSR 20-7.031(4)(E)], pH shall be maintained in the range from six and one-half to nine (6.5-9.0) standard units.
- **Irrigation Period, Volume Irrigated, Application Area, Rainfall.** These parameters are monitoring requirements only.

**Part VI: Finding of Affordability**

Pursuant to Section 644.145, RSMo., the Department is required to determine whether a permit or decision is affordable and makes a finding of affordability for certain permitting and enforcement decisions. This requirement applies to discharges from combined or separate sanitary sewer systems or publically-owned treatment works.

Not Applicable;

The Department is not required to determine findings of affordability because the facility is not a **combined or separate sanitary sewer system for a publically-owned treatment works.**

## **Part VII – 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 that a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in and water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and permittee must be notified of the denial in writing.

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

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

- The Public Notice period for this operating permit is tentatively schedule to begin in June 2012.

### **COMMENTS RECEIVED:**

- 1- Page 4 of the Permit, Section A: Changed monitoring report submission from Monthly to Annually for Land Application Monitoring.
- 2- Part I of the Fact Sheet under Comment: “Non-receipt of DMR” was removed. A timely submission of the DMR by the facility for the months listed was made to KCRO.
- 3- Part V of the Fact Sheet: A typo in the footnote \*\* beneath the table.

**DATE OF FACT SHEET: 14 MAY 2012**

### **COMPLETED BY:**

**JOY JOHNSON, ENVIRONMENTAL SPECIALIST III**  
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