STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law (Chapter 644 RSMo, hereinafter, the Law),

Permit No.	MO-0131857
Owner:	Evergy, Inc.
Address:	P.O. Box 418679, Kansas City, MO 64141
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	South Harper Generating Station
Facility Address:	24400 South Harper Road, Peculiar, MO 64078
Legal Description:	See following page
UTM Coordinates:	See following page
Receiving Stream:	See following page
First Classified Stream and ID:	See following page
USGS Basin & Sub-watershed No.:	See following page

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

FACILITY DESCRIPTION

Supplemental (Peaking) Gas Turbine Power Station – SIC #4911 and NAICS #221112; discharges from this facility are not authorized. This facility does not require a certified wastewater operator per 10 CSR 20-9.030 as this facility is privately owned. Domestic wastewater and sludge are managed in a no discharge lagoon. The domestic waste sludge is stored and removed by a hauler. Oily wastes and turbine wash water are transported off-site for disposal by a contracted waste service. Non-contact cooling water is land applied.

See page 2 for further site information.

This permit authorizes only land application activities in accordance with this permit; it does not apply to other regulated areas.

January 1, 2021
Effective Date

Edward B. Galbraith, Director, Division of Environmental Quality

September 30, 2025
Expiration Date

Chris Wieberg, Director, Water Protection Program

FACILITY DESCRIPTION (CONTINUED)

PERMITTED FEATURE #001 - Land Application Area - No discharge of process water
Non-contact cooling water. Land applied wastewater must meet an agronomic use as identified below; any application not meeting the below conditions would remove the exemption for agricultural return flows. Stormwater discharges will then be permitted accordingly.

Legal Description:	Sec. 32, T45N, R32W, Cass County
UTM Coordinates:	X=371159, Y= 4282321
Receiving Stream:	Tributary to Lake Annette
First Classified Stream and ID:	100K Extent Remaining Streams (C); WBID #3960
USGS Basin & Sub-watershed No.:	South Grand; 10290108-0105
Application Rate Basis:	Hydraulic Loading
Number of Storage Tanks:	1
Storage Capacity:	100,000 gallons
Storage Type:	above ground, enclosed tank
Minimum Water Level:	5 feet
Maximum Water Level:	21 feet
Design Dry Weather Flow:	0
Annual Average:	64,800 gpd
Actual Flow:	64,800 gpd
Design Flow:	100,000 gpd
Irrigation areas:	16.5 acres
Equipment type:	sprinkler system
Field slopes:	5 to 9%
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
Vegetation:	fescue grass

PERMITTED FEATURE #002 –Domestic Wastewater Holding Basin; discharge is prohibited.
There is a no-discharge domestic wastewater lagoon which receives less than 3,000 gallons per day of domestic wastewater. If necessary, sludge is removed by a contract hauler. Approximately 0.0005-0.0006 dry tons of sludge are generated and removed per year. The facility is not staffed most days, and does not receive a consistent flow. A 2.0 foot minimum freeboard shall be maintained in the basin.

Legal Description:	Sec. 32, T45N, R32W, Cass County
UTM Coordinates:	X= 371146, Y= 4282172
Receiving Stream:	Tributary to Lake Annette
First Classified Stream and ID:	100K Extent Remaining Streams (C); WBID #3960
USGS Basin & Sub-watershed No.:	South Grand; 10290108-0105

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

PERMITTED FEATURE #001 *Land Application*	**TABLE A-1** **FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**				
The facility is authorized to land apply as specified in the facility description above. The final requirements shall become effective on **January 1, 2021** and remain in effect until expiration of the permit. This feature shall be monitored and operationally controlled by the facility as specified below:					
EFFLUENT PARAMETERS	UNITS	FINAL EFFLUENT LIMITATIONS		MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
LAND APPLICATION OPERATIONAL MONITORING LIMIT SET: LA					
Application Area	acres	*	*	once/day**	measured
Application Rate	inches/acre	*	*	once/day**	measured
Irrigation Period	hours	*	*	once/day**	measured
Precipitation	inches	*	*	once/day**	measured
Volume Irrigated	gallons	*	*	once/day**	measured
MONITORING REPORTS SHALL BE SUBMITTED BY THE 28TH DAY OF THE MONTH FOLLOWING LAND APPLICATION.					

* Monitoring and reporting requirement only

** Monitoring required daily when land applying.

B. STANDARD CONDITIONS

In addition to the 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. SPECIAL CONDITIONS

1. Spills, Overflows, and Other Unauthorized Discharges.
   (a) Any spill, overflow, or other discharge(s) not specifically authorized above are unauthorized discharges.
   (b) Should an unauthorized discharge cause or permit any contaminants to discharge or enter waters of the state, the unauthorized discharge must be reported to the regional office as soon as practicable but no more than 24 hours after the discovery of the discharge. If the spill or overflow needs to be reported after normal business hours or on the weekend, the facility must call the Department's 24 hour spill line at 573-634-2436.
   (c) If the unauthorized discharge was from an overflow from a no-discharge wastewater basin, the report must include all records confirming operation and maintenance records documenting proper maintenance in accordance with condition (d) below.
   (d) The facility shall adhere to the following minimum Best Management Practices (BMPs) for no-discharge wastewater holding structures:
      (1) To prevent unauthorized discharges, the no-discharge wastewater basin must be properly operated and maintained to contain all wastewater plus run-in and direct precipitation. During normal weather conditions, the liquid level in the storage structure shall be maintained below the upper operating level, so adequate storage capacity is available for use during adverse weather periods. The liquid level in the storage structure should be lowered on a routine schedule based on the design storage period. Typically this should be accomplished prior to expected seasonal wet and winter climate periods. Maintain liquid level in the no-discharge wastewater structure at least 2.0 feet from the bottom of the discharge pipe, top of the basin, or the bottom of the overflow canal, whichever is lower.
      (2) Weekly inspection of no-discharge wastewater basins shall occur. Inspection notes will be kept at the facility and made available to the Department upon request.
      (3) The inspections will note any issues with the no-discharge structure and will record the level of liquid as indicated by the depth marker.

C. SPECIAL CONDITIONS (CONTINUED)

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 about the NPDES program.
   (a) eDMR Registration Requirements. The facility must register with the Department's eDMR system through the Missouri Gateway for Environmental Management (MoGEM) before the first report is due. 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. Regarding Standard Conditions Part I, §B, #7, the eDMR system is currently the only Department approved reporting method for this permit unless a waiver is granted by the Department.
   (b) Electronic Submissions. To access the eDMR system, use the following link in your web browser: https://apps5.mo.gov/mogems/welcome.action 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.
   (c) Waivers from Electronic Reporting. The facility must electronically submit compliance monitoring data and reports unless a waiver is granted by the Department in compliance with 40 CFR Part 127. Only facilities with an approved waiver request may submit monitoring data and reports on paper to the Department for the period the approved electronic reporting waiver is effective. Facilities may obtain an electronic reporting waiver by first submitting an eDMR Waiver Request Form: http://dnr.mo.gov/forms/780-2692-f.pdf. The department will either approve or deny this electronic reporting waiver request within 120 calendar days.

3. Site-wide minimum Best Management Practices (BMPs). At a minimum, the facility shall adhere to the following:
   (a) Prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicle maintenance, equipment cleaning, warehouse activities, and other areas, and thereby prevent the contamination of stormwater from these substances.
   (b) Ensure adequate provisions are provided to prevent surface water intrusion into the wastewater storage basin, to divert stormwater runoff around the wastewater storage basin, and to protect embankments from erosion.
   (c) Provide collection facilities and arrange for proper disposal of waste products including but not limited to petroleum waste products, and solvents.
   (d) Store all paint, solvents, petroleum products and petroleum waste products (except fuels), and storage containers (such as drums, cans, or cartons) so these materials are not exposed to stormwater or provide other prescribed BMPs such as plastic lids and/or portable spill pans to prevent the commingling of stormwater with container contents. Commingled water may not be discharged under this permit. Provide spill prevention control, and/or management sufficient to prevent any spills of these pollutants from entering waters of the state. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater. Spill records should be retained on-site.
   (e) Provide good housekeeping practices on the site to keep trash from entry into waters of the state.
   (f) Provide sediment and erosion control sufficient to prevent or control sediment loss off of the property.

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

5. The full implementation of this operating permit, which includes implementation of any applicable schedules of compliance, shall constitute compliance with all applicable federal and state statutes and regulations in accordance with RSMo 644.051.16 for permit shield, and the CWA §402(k) for toxic substances. This permit may be reopened and modified, or alternatively revoked and reissued to comply with any applicable effluent standard or limitation issued or approved under CWA §§301(b)(2)(C) and (D), §304(b)(2), and §307(a)(2), if the effluent standard or limitation so issued or approved contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or controls any pollutant not already limited in the permit. This permit may be modified, revoked and reissued, or terminated for cause, including determination new pollutants found in the discharge not identified in the application for the new or revised permit. The filing of a request by the facility for a permit modification, termination, notice of planned changes, or anticipated non-compliance does not stay any permit condition.

C. SPECIAL CONDITIONS (CONTINUED)

6. All permitted features must be clearly marked in the field.

7. Report no discharge when a discharge does not occur during the report period. It is a violation of this permit to report no-discharge when a discharge has occurred.

8. 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.

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

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

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

12. This permit does not cover land disturbance activities.

13. This permit does not authorize the placement of fill materials in flood plains, placement of solid materials into any waterway, the obstruction of stream flow, or changing the channel of a defined drainage course. The facility must contact the U.S. Army Corps of Engineers (Corps) to determine if a CWA §404 Department of Army permit or §401 water quality certification is required for the project.

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

D. DOMESTIC WASTEWATER AND SLUDGE CONDITIONS

1. Bypasses are not authorized at this facility unless they meet the criteria in 40 CFR 122.41(m). If a bypass occurs, the permittee shall report in accordance to 40 CFR 122.41(m)(3), and with Standard Condition Part I, Section B, subsection 2. Bypasses are to be reported to the Kansas City Regional Office during normal business hours or by using the online Sanitary Sewer Overflow/Facility Bypass Application located at: https://dnr.mo.gov/mogem/ or the Environmental Emergency Response spill-line at 573-634-2436 outside of normal business hours. Once an electronic reporting system compliant with 40 CFR Part 127, the National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, is available all bypasses must be reported electronically via the new system.

2. The domestic facility must be sufficiently secured to restrict entry by children, livestock, and unauthorized persons as well as to protect the facility from vandalism. If the industrial site is fenced to prevent entry, the domestic facility does not require a second fence.

3. The permittee shall not use biosolids or sludge disposal methods not listed in the facility description without prior approval of the Department.

4. The facility may not accept domestic wastewater, biosolids, or sludge from other facilities.

5. The facility shall operate storage and treatment facilities, as defined by Section 644.016(23) RSMo. so there is no biosolids or sludge discharged to waters of the state. Agricultural stormwater discharges are exempt under the provisions of Section 644.059 RSMo.

6. If the facility utilizes a contract hauler to dispose of biosolids or sludge, the facility is responsible for compliance with all the terms of this permit. Contract haulers assume the responsibility of the final disposal of biosolids or sludge, including biosolids land application, and must obtain a Missouri State Operating Permit unless the hauler transports the biosolids to another permitted treatment facility.

7. The permittee shall not land apply biosolids or domestic wastewater.

8. Should the facility wish to discontinue use of the domestic wastewater holding structure, they shall obtain Department approval of a closure plan which addresses proper removal and disposal of all sludge and biosolids.

9. Biosolids or sludge that are left in place during closure of a lagoon or earthen structure shall not exceed the agricultural loading rates as follows:
   (a) Biosolids and sludge shall meet the monitoring and land application limits for agricultural rates as referenced in Section G, above.
   (b) If a wastewater treatment lagoon has been in operation for 15 years or more without sludge removal, the sludge in the lagoon qualifies as a Class B biosolids with respect to pathogens due to anaerobic digestion, and testing for fecal coliform is not required. For other lagoons, testing for fecal coliform is required to show compliance with Class B biosolids limitations. In order to reach Class B biosolids requirements, fecal coliform must be less than 2,000,000 colony forming units or 2,000,000 most probable number. All fecal samples must be presented as geometric mean per gram.
   (c) The allowable nitrogen loading that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. For a grass cover crop, the allowable PAN is 300 pounds/acre. Alternative, site-specific application rates may be included in the closure plan for department consideration. PAN can be determined as follows:

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

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

D. DOMESTIC WASTEWATER AND SLUDGE CONDITIONS (CONTINUED)

10. Domestic wastewater treatment lagoons with a design treatment capacity less than or equal to 150 persons, are "similar treatment works" under the definition of septage. Therefore the sludge within the lagoons may be treated as septage during closure activities. See Section B, above. Under the septage category, residuals may be left in place as follows:
    (a) Testing for metals or fecal coliform is not required.
    (b) If the wastewater treatment lagoon has been in use for less than 15 years, mix lime with the sludge at a rate of 50 pounds of hydrated lime per 1000 gallons (134 cubic feet) of sludge.
    (c) The amount of sludge that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. 100 dry tons/acre of sludge may be left in the basin without testing for nitrogen. If 100 dry tons/acre or more will be left in the lagoon, test for nitrogen and determine the PAN using the calculation above. Allowable PAN loading is 300 pounds/acre.

11. Biosolids or sludge left within the domestic lagoon shall be mixed with soil on at least a 1 to 1 ratio, and unless otherwise approved, the lagoon berm shall be demolished, and the site shall be graded and contain ≥70% vegetative density over 100% of the site so as to avoid ponding of storm water and provide adequate surface water drainage without creating erosion. Alternative biosolids or sludge and soil mixing ratios may be included in the closure plan for department consideration.

12. Lagoon and earthen structure closure activities shall obtain a storm water permit for land disturbance activities that equal or exceed one acre in accordance with 10 CSR 20-6.200.

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

E. INDUSTRIAL WASTEWATER LAND APPLICATION CONDITIONS

1. Land application of non-contact cooling water (wastewater) listed in the Facility Description of this permit is authorized and shall be conducted according to the following conditions. These land application conditions do not apply to fertilizer products receiving a current exemption under the Missouri Clean Water Law and regulations in 10 CSR 20-6.015(3)(B)8, and are land applied in accordance with the exemption.

2. Land Application Equipment Minimum Requirements.
    (a) Spray application equipment shall minimize the formation of aerosols.
    (b) Application equipment shall be visually inspected daily during land application to check for equipment malfunctions and leaks. The application system shall be operated so as to provide uniform distribution of wastewater over the entire land application site.
    (c) Equipment shall be calibrated at least once per calendar year to ensure even distribution of wastewater.

3. Land Application Field(s) Minimum Requirements.
    (a) No land application shall occur when the soil or ground is frosted, frozen, snow covered, or saturated. Daily observation of fields is required. Application activities shall cease if these conditions occur.
    (b) There shall be no application during a precipitation event or if a precipitation event likely to create runoff is forecasted to occur within 24 hours of a planned application.
    (c) Public Access Restrictions; this permit does not authorize application of wastewater to public use areas.
    (d) If land application sites listed in this permit are also included as land application sites in another permit, the wastewater and sludge applications from all sources shall be included in the application rates in the facility description. Records all sources must be kept for all permits.
    (e) Land application shall occur only during daylight hours unless night time irrigation is necessary and the Water Protection Program has approved a nighttime irrigation plan.
    (f) Land application fields shall be checked daily during land application for runoff. Runoff from the land application fields is not authorized by this permit.
    (g) Sites utilizing spray irrigation shall monitor for the drifting of spray across property lines. Spray drift is not permissible.

E. INDUSTRIAL WASTEWATER LAND APPLICATION CONDITIONS, CONTINUED

(h) Setback distances from sensitive features per 10 CSR 20-8.200(6)(B). There shall be no land application within:
(1) The 10 year floodplain;
(2) 50 feet inside of the property line;
(3) 100 feet of any classified or unclassified gaining perennial or intermittent stream, any wetland, or any public or privately owned pond or lake;
(4) 150 feet of any dwelling, residence, public building, or public use area (excluding roadways);
(5) 300 feet of any potable water supply well not located on the property, adequate protections shall be implemented and maintained for any potable water supply well located within the application area;
(6) 300 feet from any sinkhole, losing stream, or any other physiographic structure with a conduit to groundwater;

4. Application Rate(s) and Loading.
(a) This permit does not authorize application of materials in concentrations known to cause, or having the potential to cause, phytotoxicity in plants per 10 CSR 20-6.015(4)1. If plant stress is observed, the facility may need to reduce application of wastewaters and/or sludges. If phytotoxicity is observed, the facility shall cease land application activities and evaluate the applied substances to determine the cause of phytotoxicity.
(b) The application rate shall not exceed any design hydraulic loading rate listed in the facility description.
(c) Wastewater application on slopes exceeding 10%:
(1) Initial application rate on dry soils may briefly exceed one-half (1/2) the design sustained permeability rate;
(2) The hourly application rate shall not exceed one-half (1/2) the design sustained permeability;
(3) In no case shall exceed one-half (1/2) inch per hour.
(d) Applications shall not exceed agronomic rates ensure plant use of nutrients and prevent contamination of surface and groundwater. The agronomic rate is the amount of wastewater applied to a field to meet the fertilization needs of the plants.
(e) Runoff and ponding of applied wastewater is prohibited.
(f) This permit does not authorize land disposal or the application of hazardous waste.

5. Record Keeping. The following record keeping shall occur, be maintained for at least five years, be made available to the Department upon request, and shall be submitted with the application for renewal. Records may be maintained electronically per RSMo 432.255.
(a) Daily land application log showing, at a minimum: date(s) of application, field identified, acres used, volume applied, weather condition (sunny, overcast, air temperature, etc), soil moisture condition, days since last precipitation event, and application method;
(b) Monthly visual storage structure inspections (if applicable);
(c) Equipment inspections and calibrations;
(d) Land application field inspections, including runoff, saturation, and ponding;
(e) Record of maintenance and repairs;
(f) Description of any unusual operating conditions encountered, narrative summary of any problems or deficiencies identified, corrective action taken, or improvements planned;
(g) The number of days the storage structure discharged during the year, the discharge flow, reason the discharge occurred, and effluent analysis performed including analytical result laboratory pages and any clean-up actions taken.
(h) Annual samples for each wastewater source shall be obtained and submitted to the department with the application for renewal materials. The samples required shall contain all parameters listed on Form C, Part 3.0 Part A and any other parameters believed to be present from Form C 3.0 Part B. The submission must include the date of sampling and have the wastewater identified. Submission of laboratory results sheets will likely meet this requirement.
(i) To ensure the soil does not exceed the cumulative loading rate, all records shall be maintained from the initial application date and for at least five years after application activities have ceased.
(j) Annual summary for each field used for land application showing: number of days application occurred and total amount of wastewater and/or sludge applied (gallons and/or tons per acre).

F. NOTICE OF RIGHT TO APPEAL

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

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

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0131857
SOUTH HARPER GENERATING STATION

Missouri State Operating Permits (MSOPs) are issued by the Director of the Missouri Department of Natural Resources (Department) under an approved program, operating in accordance with federal and state laws (Federal Clean Water Act and Missouri Clean Water Law 644 RSMo as amended). MSOPs may also cover underground injection, non-discharging facilities, and land application facilities. Permits are issued for a period of five (5) years unless otherwise specified for less.

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

PART I. FACILITY INFORMATION

Facility Type: Industrial Wastewater Land Application and Domestic No-Discharge
SIC Code(s): 4911
NAICS Code(s): 221112
Application Date: 04/02/2020
Modification Date: 12/01/2019 (Owner Transfer)
Expiration Date: 09/30/2020
Last Inspection: 05/06/2015

FACILITY DESCRIPTION:
Supplemental (Peaking) Gas Turbine Power Station – SIC #4911 and NAICS #221112; discharges from this facility are not authorized. This facility does not require a certified wastewater operator per 10 CSR 20-9.030 as this facility is privately owned. Domestic wastewater and sludge are managed in a no discharge lagoon. The domestic waste sludge is stored and removed by a hauler. Non-contact cooling water is land applied.

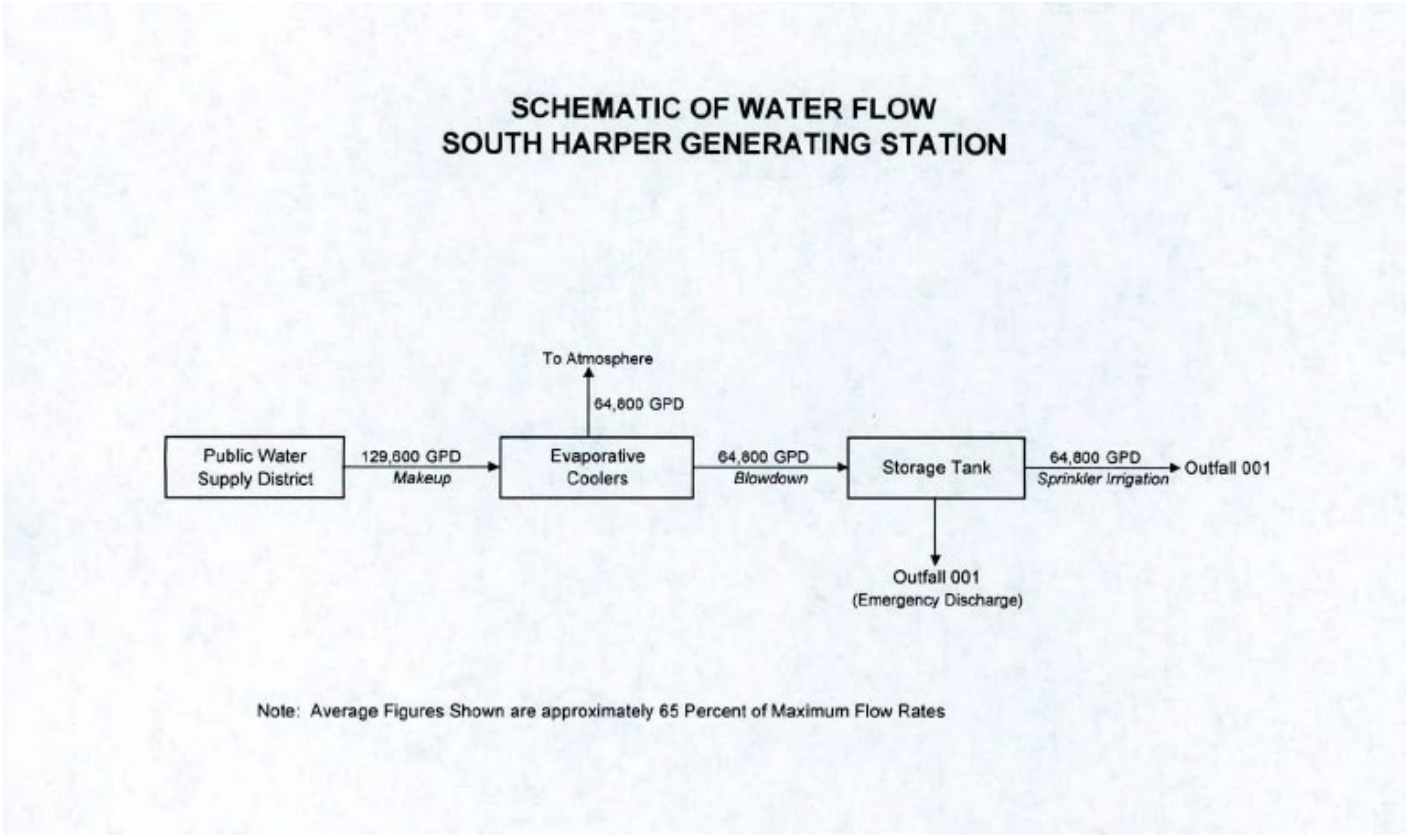
The facility uses natural gas to generate electricity for the purpose of sale during peak demand. The water supply used in the cooling system is Cass county water from Public Water District #7. The facility has 3 simple-cycle combustion turbine generators. Each turbine is equipped with evaporative coolers. Wastewater is generated by evaporative cooler blow down, oily wastes and turbine wash water, and domestic wastes. The associated domestic wastewater is routed to a non-discharging lagoon system. The evaporative cooler blow down is land applied by a non-discharging land irrigation system while the oily wastes and turbine wash water are transported off-site for disposal by a contracted waste service. The recycled water storage tank that stores the blow down prior to irrigation is a 100,000 gallon tank with a transmitter that communicates the tank level to the operating system. Prior to peak season, the facility primes the irrigation system and verifies that the system is operating correctly. After peak season, the irrigation system is used to draw the tank volume down.

PERMITTED FEATURES TABLE:

PERMITTED FEATURE	AVERAGE FLOW	DESIGN FLOW	TREATMENT LEVEL	EFFLUENT TYPE
#001	n/a	n/a	Land application	Non-contact cooling water
#002	n/a	n/a	No-discharge	Domestic Wastewater

FACILITY MAP:

WATER BALANCE DIAGRAM:



FACILITY PERFORMANCE HISTORY & COMMENTS:
The facility did not discharge in the last permit cycle. The last inspection was in 2015; the facility was found to be in compliance.

CONTINUING AUTHORITY:
The Missouri Secretary of State continuing authority charter number for this facility is 001371758; this number was verified by the permit writer to be associated with the facility and precisely matches the continuing authority reported by the facility. The continuing authority was confirmed by the facility on 09/16/2020 via email.

OTHER ENVIRONMENTAL PERMITS:
In accordance with 40 CFR 122.21(f)(6), the facility reported other permits currently held by this facility. This facility has the following permits: Missouri Part 70 Permit to Operate under Title V (air), permit #OP2016-009; Missouri Permit to Construct (air), Permit # 122004-017, Source ID 0910174.

PART II. RECEIVING WATERBODY INFORMATION

RECEIVING WATERBODY TABLE:

PERMITTED FEATURE	WATERBODY NAME	CLASS	WBID	DESIGNATED USES	DISTANCE TO SEGMENT	12-DIGIT HUC
#001, #002	Tributary to Lake Annette	n/a	n/a	GEN	0.0 mi	10290108-0105 Adams Branch-South Grand River
	100K Extent-Remaining Stream	C	3960	GEN, HHP, IRR, LWW, SCR, WBC-B, WWH (ALP)	0.27 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.

HUC: Hydrologic Unit Code; TMDLs and lake nutrient criteria are the two most common watershed based limits. https://dnr.mo.gov/env/wpp/watersheds.htm will have additional information about the watersheds in Missouri

Designated Uses:
10 CSR 20-7.031(1)(C)1.: **ALP** = Aquatic Life Protection (formerly AQL); current uses are defined to ensure the protection and propagation of fish shellfish and wildlife, further subcategorized as: WWH = Warm Water Habitat; CLH = Cool Water Habitat; CDH = Cold Water Habitat; EAH = Ephemeral Aquatic Habitat; MAH = Modified Aquatic Habitat; LAH = Limited Aquatic Habitat. This permit uses ALP effluent limitations in 10 CSR 20-7.031 Table A1-B3 for all habitat designations unless otherwise specified.
10 CSR 20-7.031(1)(C)2.: Recreation in and on the water
WBC = 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; acute toxicity criteria applicable to all waters even those lacking designated uses
n/a = not applicable

WATERS OF THE STATE DESIGNATIONS:
Waters of the state are divided into seven categories per 10 CSR 20-7.015(1)(B)1 through 7. The applicable water of the state category is listed below. Missouri's technology-based effluent regulations are found in [10 CSR 20-7.015] and are implemented in 10 CSR 20-7.015(2) through (8). When implementing technology regulations, considerations are made for the facility type, discharge type, and category of waters of the state. Effluent limitations may not be applicable to certain waters of the state, facility type, or discharge type. In these cases, effluent limitations may be based on a best professional judgment evaluation. The best professional judgment

evaluation will take site specific conditions into consideration; including facility type, the receiving water body classification, and type of discharge. Stormwater discharges and land application sites are not directly subject to limitations found in 10 CSR 20-7.015, but may be subject to limitations determined by the best professional judgment evaluation. Effluent limitation derivations are discussed in PART IV: EFFLUENTS LIMITS DETERMINATIONS.

✓ All other waters; identified at 10 CSR 20-7.015(B)7 and 10 CSR 20-7.015(8)

EXISTING WATER QUALITY:

The receiving waterbody has no relevant water quality data available. The South Grand River (over 2 miles away) had a use attainability assessment in May 2019; the WBC-B use designation was found to be not supported. The AQL and SCR use designations were found to be supported.

303(D) LIST:

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

✓ Applicable; South Grand River is listed on the 2006 Missouri CWA §303(d) list for E. coli.

- This facility is not considered a source of the above listed pollutant(s) or considered to contribute to the impairment. There is no discharge from this site.

TOTAL MAXIMUM DAILY LOAD (TMDL):

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

✓ Not applicable; this facility does not discharge to a waterbody/watershed with a TMDL.

UPSTREAM OR DOWNSTREAM IMPAIRMENTS:

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

✓ The permit writer has noted no upstream impairments near this facility.

✓ The permit writer has noted downstream of the facility the stream is on the §303(d) list; see above for specific permitting information.

RECEIVING WATERBODY MONITORING REQUIREMENTS:

No receiving water monitoring requirements are recommended at this time.

WATERBODY MIXING CONSIDERATIONS:

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

PART III. RATIONALE AND DERIVATION OF PERMIT CONDITIONS

ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:

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

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

ANTIBACKSLIDING:

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

✓ All limits in this operating permit are at least as protective as those previously established; therefore, 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

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

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

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

BEST MANAGEMENT PRACTICES:

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

COST ANALYSIS FOR COMPLIANCE (CAFCOM):

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

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

CHANGES IN DISCHARGES OF TOXIC POLLUTANT:

This special condition reiterates the federal rules found in 40 CFR 122.44(f) for technology treatments and 122.42(a)(1) for all other toxic substances. In these rules, the facility is required to report changes in amounts of toxic substances discharged. Toxic substances are defined in 40 CFR 122.2 as "…any pollutant listed as toxic under section 307(a)(1)" or, in the case of "sludge use or disposal practices," any pollutant identified in regulations implementing section 405(d) of the CWA." Section 307 of the clean water act then refers to those parameters listed in 40 CFR 401.15 and any other toxic parameter the Department determines is applicable for reporting under these rules in the permit. The facility should also consider any other toxic pollutant in the discharge as reportable under this condition and must report all increases to the Department as soon as discovered in the effluent. The Department may open the permit to implement any required effluent limits pursuant to CWA §402(k) where sufficient data was not supplied within the application but was supplied at a later date by either the 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 facility is not currently under Water Protection Program enforcement action.

DOMESTIC WASTEWATER, SLUDGE, AND BIOSOLIDS:

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

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

Sewage sludge is solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works. Biosolids are solid materials resulting from domestic wastewater treatment meeting federal and state criteria for productive use (i.e. fertilizer) and after having pathogens removed.
Additional information: http://extension.missouri.edu/main/DisplayCategory.aspx?C=74 (WQ422 through WQ449).

- ✓ Applicable, sludge/biosolids/septage are removed by contract hauler. The permitted management strategy must be followed, see FACILITY DESCRIPTION in the permit. Sludge and wastewater management conditions are incorporated into this permit.

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) as applicable. 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).

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

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

The Department must review and notify the facility within 120 calendar days of receipt if the waiver request has been approved or rejected [40 CFR 124.27(a)]. During the Department review period as well as after a waiver is granted, the facility must continue submitting a hard-copy of any reports required by their permit. The Department will enter data submitted in hard-copy from those facilities allowed to do so and electronically submit the data to the EPA on behalf of the facility.

To assist the facility in entering data into the eDMR system, the permit describes limit sets designators in each table in Part A of the permit. The data entry personnel should use these identifiers to ensure data entry is being completed appropriately. For example, M for monthly, Q for quarterly, and others.

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

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

- ✓ The facility does not have an associated ELG.

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, 644.076.1 RSMo, as well as Part I §D – Administrative Requirements of Standard Conditions included in this permit state it shall be unlawful for any person to cause or allow any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of §§644.006 to 644.141 of the Missouri Clean Water Law or any standard, rule, or regulation promulgated by the commission. See Part IV for specific determinations.

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

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

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

✓ Applicable, the facility shall comply with all applicable land application requirements listed in this permit. These requirements incorporated into this permit pursuant to 10 CSR 20-6.015(4) ensure appropriate minimum operational controls of the no-discharge land application systems. When operated correctly these permit conditions will prevent unauthorized and illicit discharges to waters of the state; and will protect soils, vegetation, surface water, groundwater, and public health. These requirements also ensure application activities fall within a productive use demonstration (agricultural use), prevent plant phytotoxicity, and prevent and protect soils loading of specified pollutants. The minimum requirements established in the permit are to meet not only DNRs requirements, but to also ensure the exemptions for agricultural stormwater runoff in 10 CSR 20-6.200(1)(B)5 or 10 CSR 20-6.300(2)(D)2 continue to be met. When the facility follows all permit requirements, discharge monitoring requirements found at 10 CSR 20-6.200(2)(B)3.B. will be excused.
  - The facility disclosed they apply water using an irrigation system.

✓ The facility must follow the applicable application loading rates indicated in the permit's facility description and/or special conditions. Following are an explanation of the conditions in this permit.
  - **Hydraulic Loading Rates** – wastewater needs to be land applied at rates to allow for proper soil absorption and plant uptake. In accordance with 10 CSR 20-8.200(6)(B), the hydraulic loading rate shall not exceed the soil permeability rate, resulting in a discharge of wastewater from the land application field.

✓ Definitions used in the land application section of the permit can be found at RSMo 644.016, 10 CSR 20-2, and 40 CFR 503.11.
✓ This permit does not authorize land disposal or the application of hazardous waste.

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

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

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

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

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

✓ This is no-discharge permit therefore not subject to provisions found in 10 CSR 20-7.015 per 10 CSR 20-7.015(1)(C).

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

✓ This is a no-discharge permit therefore not subject to provisions found in 10 CSR 20-7.015 per 10 CSR 20-7.015(1)(C).

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

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

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

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

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 discharges oily wastewater to a POTW but reported the discharge is not subject to pretreatment effluent limitations.

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

✓ Not applicable; a mathematical RPA was not conducted on any data for this facility. It is a no discharge facility.

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

SAMPLING FREQUENCY JUSTIFICATION:
Monitoring and reporting for the effluent of no-discharge systems is not required. Land application operational monitoring is required daily when land application is occurring.

SAMPLING TYPE JUSTIFICATION:
Sampling type was continued from the previous permit. This permit is for operational monitoring only, and included measurements of application rate and volume irrigated in gallons.

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. Not applicable; this permit does not contain a SOC.

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

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

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

STANDARD CONDITIONS:
The standard conditions Part I attached to this permit incorporate all sections of 10 CSR 20-6.010(8) and 40 CFR 122.41(a) through (n) by reference as required by law. These conditions, in addition to the conditions enumerated within the standard conditions should be reviewed by the facility to ascertain compliance with this permit, state regulations, state 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) §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.

When a permitted feature or outfall consists of only stormwater, a benchmark may be implemented at the discretion of the permit writer, if there is no RP for water quality excursions.
✓ Not applicable; this facility's SIC code does not require stormwater monitoring per 40 CFR 122.26(b)(14) or 10 CSR 20-6.200. However, land application is specifically enumerated in 10 CSR 20-6.200(2)(B)3.B therefore, compliance with this permit for minimum land application operational conditions, comports this facility to compliance with the required stormwater components of that rule.

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

A SWPPP must be prepared by the facility if the SIC code is found in 40 CFR 122.26(b)(14) and/or 10 CSR 20-6.200(2). A SWPPP may be required of other facilities where stormwater has been identified as necessitating better management. The purpose of a SWPPP is to comply with all applicable stormwater regulations by creating an adaptive management plan to control and mitigate stream pollution from stormwater runoff.
✓ Not applicable; this facility's SIC code does not require stormwater monitoring per 40 CFR 122.26(b)(14).

SUFFICIENTLY SENSITIVE ANALYTICAL METHODS:
Please review Standard Conditions Part 1, §A, No. 4. The analytical and sampling methods used shall conform to the reference methods listed in 10 CSR 20-7.015 and/or 40 CFR 136 unless alternates are approved by the Department and incorporated within this permit. The facility shall use sufficiently sensitive analytical methods for detecting, identifying, and measuring the concentrations of pollutants. The facility shall ensure the selected methods are able to quantify the presence of pollutants in 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 facility 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 §§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 facility shall submit a Class V Well Inventory Form for each active or new underground injection well drilled, or when the status of a well changes, to the Missouri Department of Natural Resources, Geological Survey Program, P.O. Box 250, Rolla, Missouri 65402. The Class V Well Inventory Form can be requested from the Geological Survey Program or can be found at the following web address: http://dnr.mo.gov/forms/780-1774-f.pdf Single family residential septic systems and non-residential septic systems used solely for sanitary waste and having the capacity to serve fewer than 20 persons a day are excluded from the UIC requirements (40 CFR 144.81(9)).

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

VARIANCE:
Per the Missouri Clean Water Law §644.061.4, variances shall be granted for such period of time and under such terms and conditions as specified by the commission in its order. The variance may be extended by affirmative action of the commission. In no event shall the variance be granted for a period of time greater than is reasonably necessary for complying with the Missouri Clean Water Law §§644.006 to 644.141 or any standard, rule or regulation promulgated pursuant to Missouri Clean Water Law §§644.006 to 644.141. Thermal variances are regulated separately and are found under 644.

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

WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:
As per [10 CSR 20-2.010; definitions], the WLA is the maximum amount of pollutant each discharger is allowed to discharge into the receiving stream without endangering water quality. Two general types of effluent limitations, technology-based effluent limits (TBELs) and water quality based effluent limits (WQBELs) are reviewed. If one limit does not provide adequate protection for the receiving water, then the other must be used per 10 CSR 20-7.015(9)(A).

✓ Not applicable; wasteload allocations were not calculated. This is a no discharge site.

WASTELOAD ALLOCATION (WLA) MODELING:
Facilities may submit site specific studies to better determine the site specific wasteload allocations applied in permits.

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

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

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

PART IV. EFFLUENT LIMIT DETERMINATIONS

PERMITTED FEATURE #001 – LAND APPLICATION OPERATIONAL MONITORING

EFFLUENT LIMITATIONS TABLE:

PARAMETERS	UNIT	DAILY MAXIMUM	MONTHLY AVERAGE	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	MINIMUM REPORTING FREQUENCY	SAMPLE TYPE
APPLICATION AREA	ACRES	*	*	SAME	ONCE/DAY**	**	MEASURED
APPLICATION RATE	INCHES/ACRES	*	*	SAME	ONCE/DAY**	**	MEASURED
IRRIGATION PERIOD	HOURS	*	*	SAME	ONCE/DAY**	**	MEASURED
PRECIPITATION	INCHES/DAY	*	*	SAME	ONCE/DAY**	**	MEASURED
VOLUME IRRIGATED	GALLONS	*	*	SAME	ONCE/DAY**	**	MEASURED

DERIVATION AND DISCUSSION OF LIMITS:
Soil monitoring is not required by this permit, as data provided by the facility does not indicate pollutants of concern in levels that the permit writer feels would cause soil contamination or plant toxicity; however, the facility should regularly determine the constituents of the wastewater continue to be similar to that reported to the Department. In particular, the amount of chloride should remain low, and below 125 mg/L to prevent sudden phytotoxicity. Should the values of chloride or any other pollutant rise significantly in the wastewater, the facility should report the change to the Department so the change in conditions can be considered.

Application Area, Application Rate, Irrigation Period, Precipitation, Volume Irrigated
These parameters are required to ensure proper operation and maintenance of the land application system.

PART V. ADMINISTRATIVE REQUIREMENTS

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

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

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

PUBLIC NOTICE:
The Department shall give public notice a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in or with concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and facility must be notified of the denial in writing. http://dnr.mo.gov/env/wpp/permits/pn/index.html The Department must issue public notice of a pending operating permit. The public comment period is the length of time not less than 30 days following the date of the public notice which interested persons may submit written comments about the proposed permit.

For persons wishing to submit comments regarding this proposed operating permit, please refer to the Public Notice page located at the front of this draft operating permit. The Public Notice page gives direction on how and where to submit appropriate comments. All comments must be in written form.

- ✓ The Public Notice period for this operating permit started October 30, 2020 and ended on November 30, 2020. No comments were received.

DATE OF FACT SHEET: 09/17/2020
COMPLETED BY:
AMBERLY SCHULZ, ENVIRONMENTAL ANALYST
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION – STORMWATER AND CERTIFICATION UNIT
Amberly.schulz@dnr.mo.gov

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

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

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

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

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

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

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

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

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

Section B – Reporting Requirements

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

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

b. The following shall be included as information which must be reported within 24 hours under this paragraph.
   i. Any unanticipated bypass which exceeds any effluent limitation in the permit.
   ii. Any upset which exceeds any effluent limitation in the permit.
   iii. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit required to be reported within 24 hours.

c. The Department may waive the written report on a case-by-case basis for reports under paragraph 2. b. of this section if the oral report has been received within 24 hours.

3. **Anticipated Noncompliance**. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The notice shall be submitted to the Department 60 days prior to such changes or activity.

4. **Compliance Schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date. The report shall provide an explanation for the instance of noncompliance and a proposed schedule or anticipated date, for achieving compliance with the compliance schedule requirement.

5. **Other Noncompliance.** The permittee shall report all instances of noncompliance not reported under paragraphs 2, 3, and 6 of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph 2. a. of this section.

6. **Other Information**. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

7. **Discharge Monitoring Reports.**
   a. Monitoring results shall be reported at the intervals specified in the permit.
   b. Monitoring results must be reported to the Department via the current method approved by the Department, unless the permittee has been granted a waiver from using the method. If the permittee has been granted a waiver, the permittee must use forms provided by the Department.
   c. Monitoring results shall be reported to the Department no later than the 28th day of the month following the end of the reporting period.

Section C – Bypass/Upset Requirements

1. **Definitions.**
   a. *Bypass*: the intentional diversion of waste streams from any portion of a treatment facility, except in the case of blending.
   b. *Severe Property Damage*: substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
   c. *Upset*: an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

2. **Bypass Requirements.**
   a. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2. b. and 2. c. of this section.
   b. Notice.
      i. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.
      ii. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Section B – Reporting Requirements, paragraph 5 (24-hour notice).
   c. Prohibition of bypass.
      i. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless:
         1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
         2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
         3. The permittee submitted notices as required under paragraph 2. b. of this section.
      ii. The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three (3) conditions listed above in paragraph 2. c. i. of this section.

3. **Upset Requirements.**
   a. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph 3. b. of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
   b. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
      i. An upset occurred and that the permittee can identify the cause(s) of the upset;
      ii. The permitted facility was at the time being properly operated; and
      iii. The permittee submitted notice of the upset as required in Section B – Reporting Requirements, paragraph 2. b. ii. (24-hour notice).
      iv. The permittee complied with any remedial measures required under Section D – Administrative Requirements, paragraph 4.
   c. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

Section D – Administrative Requirements

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

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

c. Any person may be assessed an administrative penalty by the EPA Director for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.

d. It is unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law, or any standard, rule or regulation promulgated by the commission. In the event the commission or the director determines that any provision of sections 644.006 to 644.141 of the Missouri Clean Water Law or standard, rules, limitations or regulations promulgated pursuant thereto, or permits issued by, or any final abatement order, other order, or determination made by the commission or the director, or any filing requirement pursuant to sections 644.006 to 644.141 of the Missouri Clean Water Law or any other provision which this state is required to enforce pursuant to any federal water pollution control act, is being, was, or is in imminent danger of being violated, the commission or director may cause to have instituted a civil action in any court of competent jurisdiction for the injunctive relief to prevent any such violation or further violation or for the assessment of a penalty not to exceed $10,000 per day for each day, or part thereof, the violation occurred and continues to occur, or both, as the court deems proper. Any person who willfully or negligently commits any violation in this paragraph shall, upon conviction, be punished by a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than one year, or both. Second and successive convictions for violation of the same provision of this paragraph by any person shall be punished by a fine of not more than $50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.

2. **Duty to Reapply.**
   a. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.
   b. A permittee with a currently effective site-specific permit shall submit an application for renewal at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Department. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)
   c. A permittees with currently effective general permit shall submit an application for renewal at least 30 days before the existing permit expires, unless the permittee has been notified by the Department that an earlier application must be made. The Department may grant permission for a later submission date. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

3. **Need to Halt or Reduce Activity Not a Defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

4. **Duty to Mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

5. **Proper Operation and Maintenance**. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

6. **Permit Actions.**
   a. Subject to compliance with statutory requirements of the Law and Regulations and applicable Court Order, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:
      i. Violations of any terms or conditions of this permit or the law;
      ii. Having obtained this permit by misrepresentation or failure to disclose fully any relevant facts;
      iii. A change in any circumstances or conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
      iv. Any reason set forth in the Law or Regulations.
   b. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

7. **Permit Transfer.**
   a. Subject to 10 CSR 20-6.010, an operating permit may be transferred upon submission to the Department of an application to transfer signed by the existing owner and the new owner, unless prohibited by the terms of the permit. Until such time the permit is officially transferred, the original permittee remains responsible for complying with the terms and conditions of the existing permit.
   b. The Department may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Missouri Clean Water Law or the Federal Clean Water Act.
   c. The Department, within 30 days of receipt of the application, shall notify the new permittee of its intent to revoke or reissue or transfer the permit.

8. **Toxic Pollutants.** The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the Federal Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

9. **Property Rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.

10. **Duty to Provide Information.** The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

11. **Inspection and Entry.** The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the Department), upon presentation of credentials and other documents as may be required by law, to:
    a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
    b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
    c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
    d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Federal Clean Water Act or Missouri Clean Water Law, any substances or parameters at any location.

12. **Closure of Treatment Facilities.**
    a. Persons who cease operation or plan to cease operation of waste, wastewater, and sludge handling and treatment facilities shall close the facilities in accordance with a closure plan approved by the Department.
    b. Operating Permits under 10 CSR 20-6.010 or under 10 CSR 20-6.015 are required until all waste, wastewater, and sludges have been disposed of in accordance with the closure plan approved by the Department and any disturbed areas have been properly stabilized. Disturbed areas will be considered stabilized when perennial vegetation, pavement, or structures using permanent materials cover all areas that have been disturbed. Vegetative cover, if used, shall be at least 70% plant density over 100% of the disturbed area.

13. **Signatory Requirement.**
    a. All permit applications, reports required by the permit, or information requested by the Department shall be signed and certified. (See 40 CFR 122.22 and 10 CSR 20-6.010)
    b. The Federal Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six (6) months per violation, or by both.
    c. The Missouri Clean Water Law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan, or other document filed or required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than ten thousand dollars, or by imprisonment for not more than six months, or by both.

14. **Severability.** The provisions of the permit are severable, and if any provision of the permit, or the application of any provision of the permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of the permit, shall not be affected thereby.

April 1, 2020

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

RE: NPDES Permit Renewal Application
South Harper Peaking Station
Cass County
MO-0131857

Dear Ms. Hackler,

Enclosed is the NPDES Permit Renewal Application for the Evergy South Harper Station (Permit MO-0131857). Included in the application are the following documents:

- Form A - Application for Construction or Operating Permit Under Missouri Clean Water Law
- Form C - Application for Discharge Permit - Manufacturing, Commercial, Mining and Silviculture Operations
- Form I - Permit Application for Construction and Operation of Wastewater Irrigation Systems

Wastewater (evaporative cooler blowdown) is irrigated at the facility. Monitoring for flow, Total Suspended Solids, Oil and Grease, pH and Total Residual Chlorine is required if there is an emergency discharge from the wastewater storage tank, which has not occurred to date. Since there has not been an emergency discharge through Outfall 001, the analytical data reported on Form C was from the storage tank. Our irrigation system has been winterized since November, so we weren't able to sample the pollutants on Form C, but I have it filled out with the most recent data which is from the 2015 renewal. The system won't be online till May at the earliest and samples could be collected then, if needed. Please let us know if you have any questions.

Sincerely,

Laura Hines

Laura Hines
Environmental Consultant, Water Program

AP 34906

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

FOR AGENCY USE ONLY	
CHECK NUMBER	
DATE RECEIVED	FEE SUBMITTED
JET PAY CONFIRMATION NUMBER	

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

IF YOUR FACILITY IS ELIGIBLE FOR A NO EXPOSURE EXEMPTION:
Fill out the No Exposure Certification Form (Mo 780-2828): https://dnr.mo.gov/forms/780-2828-f.pdf

1. REASON FOR APPLICATION:

☑ a. This facility is now in operation under Missouri State Operating Permit (permit) MO – 0131857, is submitting an application for renewal, and there is no proposed increase in design wastewater flow. Annual fees will be paid when invoiced and there is no additional permit fee required for renewal.

☐ b. This facility is now in operation under permit MO – _____, is submitting an application for renewal, and there is a proposed increase in design wastewater flow. Antidegradation Review may be required. Annual fees will be paid when invoiced and there is no additional permit fee required for renewal.

☐ c. This is a facility submitting an application for a new permit (for a new facility). Antidegradation Review may be required. New permit fee is required.

☐ d. This facility is now in operation under Missouri State Operating Permit (permit) MO – _____ and is requesting a modification to the permit. Antidegradation Review may be required. Modification fee is required.

2. FACILITY

NAME		TELEPHONE NUMBER WITH AREA CODE	
South Harper Generating Station		785-575-8273	
ADDRESS (PHYSICAL)	**CITY**	**STATE**	**ZIP CODE**
24400 S. Haper Rd	Peculiar	MO	64078

3. OWNER

NAME		TELEPHONE NUMBER WITH AREA CODE	
Evergy, Inc.		785-575-8273	
EMAIL ADDRESS			
jared.morrison@evergy.com			
ADDRESS (MAILING)	**CITY**	**STATE**	**ZIP CODE**
818 S. Kansas Ave	Topeka	KS	66612

4. CONTINUING AUTHORITY

NAME		TELEPHONE NUMBER WITH AREA CODE	
Evergy, Inc.		785-575-8273	
EMAIL ADDRESS			
jared.morrison@evergy.com			
ADDRESS (MAILING)	**CITY**	**STATE**	**ZIP CODE**
818 S Kansas Ave	Topeka	KS	66612

5. OPERATOR CERTIFICATION

NAME	CERTIFICATE NUMBER	TELEPHONE NUMBER WITH AREA CODE	
Evergy, Inc.	NA	785-575-8273	
ADDRESS (MAILING)	**CITY**	**STATE**	**ZIP CODE**
818 S Kansas Ave.	Topeka	KS	66612

6. FACILITY CONTACT

NAME	TITLE	TELEPHONE NUMBER WITH AREA CODE
Jeff Creason	Environmental Compliance	816-537-5743
E-MAIL ADDRESS		
jeff.creason@evergy.com		

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

NAME			
Donnie and Rhonda Pruett			
ADDRESS	**CITY**	**STATE**	**ZIP CODE**
24600 S Harper Rd	Peculiar	MO	64078

8. ADDITIONAL FACILITY INFORMATION

8.1 Legal Description of Outfalls. (Attach additional sheets if necessary.)
For Universal Transverse Mercator (UTM), use Zone 15 North referenced to North American Datum 1983 (NAD83)

001 NE ¼ NE ¼ Sec 32 T 45N R 32W Cass _____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____

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

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

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

8.2 Primary Standard Industrial Classification (SIC) and Facility North American Industrial Classification System (NAICS) Codes.
Primary SIC 4911 and NAICS 221112 SIC _____ and NAICS _____
SIC _____ and NAICS _____ SIC _____ and NAICS _____

9. ADDITIONAL FORMS AND MAPS NECESSARY TO COMPLETE THIS APPLICATION

A. Is this permit for a manufacturing, commercial, mining, solid/hazardous waste, or silviculture facility? YES ☑ NO ☐
If yes, complete Form C.

B. Is the facility considered a "Primary Industry" under EPA guidelines (40 CFR Part 122, Appendix A) : YES ☐ NO ☑
If yes, complete Forms C and D.

C. Is wastewater land applied? YES ☑ NO ☐
If yes, complete Form I.

D. Are sludge, biosolids, ash, or residuals generated, treated, stored, or land applied? YES ☐ NO ☑
If yes, complete Form R.

E. Have you received or applied for any permit or construction approval under the CWA or any other environmental regulatory authority? YES ☑ NO ☐
If yes, please include a list of all permits or approvals for this facility.

F. Do you use cooling water in your operations at this facility? YES ☑ NO ☐
If yes, please indicate the source of the water: Cass County Public Water District #7

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

10. ELECTRONIC DISCHARGE MONITORING REPORT (eDMR) SUBMISSION SYSTEM

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

☐ - You have completed and submitted with this permit application the required documentation to participate in the eDMR system.

☑ - You have previously submitted the required documentation to participate in the eDMR system and/or you are currently using the eDMR system.

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

11. FEES

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

12. CERTIFICATION

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

NAME AND OFFICIAL TITLE (TYPE OR PRINT)	TELEPHONE NUMBER WITH AREA CODE
Jared Morrison; Director Water and Waste Programs	785-575-8273
SIGNATURE	DATE SIGNED
	4/16/2020

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

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

GENERAL INFORMATION (PLEASE SEE INSTRUCTIONS)

1.0 NAME OF FACILITY

South Harper Generating Station

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

MO-0131857

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

NA

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

The facility uses natural gas to generate electricity for the purpose of sale during peak demand. South Harper Generating Station's water supply is Cass County water from Public Water District #7. The facility has 3 simple-cycle combustion turbine generators. Each turbine is equipped with evaporative coolers. Wastewater is generated by evaporative cooler blow down, oily wastes and turbine wash water, and domestic wastes. The domestic waste sludge is stored and removed by a hauler. The associated domestic wastewater is routed to a non-discharging lagoon system. The evaporative cooler blow down is land applied by a non-discharging land irrigation system while the oily wastes and turbine wash water are transported off-site for disposal by a contracted waste service. The recycled water storage tank, that stores the blow down prior to irrigation, is a 100,000 gallon tank with a transmitter that communicates the tank level to the operating system. Prior to peak season, the facility primes the irrigation system and verifies that the system is operating correctly. After peak season, the irrigation system is used to draw the tank volume down. The storage tank is visually inspected on a monthly basis.

FLOWS, TYPE, AND FREQUENCY

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

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

1. OUTFALL NO.	2. OPERATION(S) CONTRIBUTING FLOW; INCLUDE ALL PROCESSES AND SUB PROCESSES AT EACH OUTFALL	3. AVERAGE FLOW AND (MAXIMUM FLOW), INCLUDE UNITS.	4. TREATMENT DESCRIPTION	5. TREATMENT CODES FROM TABLE A
001	Evaporative cooler blowdown/land application	16,040(46,100)gpd	None	NA
001	Evaporative cooler blowdown/emergency discharge	0 (0) gpd	None	NA

Attach additional pages if necessary.

2.2 INTERMITTENT DISCHARGES

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

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

1. OUTFALL NUMBER	2. OPERATION(S) CONTRIBUTING FLOW	3. FREQUENCY		4. FLOW				C. DURATION *(in days)*
				A. FLOW RATE *(in mgd)*		B. TOTAL VOLUME (specify with units)		
		A. DAYS PER WEEK *(specify average)*	B. MONTHS PER YEAR *(specify average)*	1. MAXIMUM DAILY	2. LONG TERM AVERAGE	4. LONG TERM DAILY	3. MAXIMUM AVERAGE	
001	Evaporative cooler blowdown - land application	2	4	0.016	0.0461	16,040	46,100	40

2.3 PRODUCTION

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

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

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

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

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

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

2.4 IMPROVEMENTS

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

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

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

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

2.5 SLUDGE MANAGEMENT

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

Sludge is stored and removed by hauler. The associated water is routed to a non-discharging lagoon system. The sludge is sanitary waste from the sanitary tank. Approximately 0.0005-0.0006 dry tons of sludge generated and disposed of once a year. Hauled by ESI Contracting Corp. (Contact:Alan Wolfe 816-523-5081) to Unified Government Wyandotte County, Kaw Point Treatment Plant (Contact: Scott Craig 913-573-1313) where it is incinerated.

DATA COLLECTION AND REPORTING REQUIREMENTS FOR APPLICANTS

3.0 EFFLUENT (AND INTAKE) CHARACTERISTICS (SEE INSTRUCTIONS)

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

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

1. POLLUTANT	2. SOURCE	3. OUTFALL(S)	4. ANALYTICAL RESULTS (INCLUDE UNITS)
None			

3.1 Whole Effluent Toxicity Testing

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

☐ Yes (go to 3.1 B) ☑ No (go to 3.2)

3.1 B

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

3.2 CONTRACT ANALYSIS INFORMATION

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

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

A. LAB NAME	**B. ADDRESS**	**C. TELEPHONE** *(area code and number)*	**D. POLLUTANTS ANALYZED** *(list or group)*
Pace Analytical	9608 Loiret Blvd. Lenexa, KS 66219	913-599-5665	All analyses, except: TOC, pH, TRC, Temperature
Pace Analytical	1000 Riverbend Blvd. St. Rose, LA 70087	504-469-0333	Total Organic Carbon

4.0 STORMWATER

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

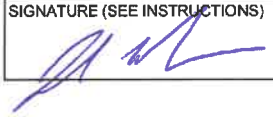
OUTFALL NUMBER	TOTAL AREA DRAINED (PROVIDE UNITS)	TYPES OF SURFACES (VEGETATED, STONE , PAVED, ETC)	BEST MANAGEMENT PRACTICES EMPLOYED; INCLUDE STRUCTURAL BMPS AND TREATMENT DESIGN FLOW FOR BMPS DESCRIBE HOW FLOW IS MEASURED

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

SIGNATORY REQUIREMENTS

5.0 CERTIFICATION

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

NAME AND OFFICIAL TITLE (TYPE OR PRINT)	TELEPHONE NUMBER WITH AREA CODE
Jared Morrison; Director Water and Waste Programs	785-575-8273
SIGNATURE (SEE INSTRUCTIONS)	DATE SIGNED
	4/1/2020

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

FORM C TABLE 1 FOR 3.0 - ITEMS A AND B

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

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

1. POLLUTANT	2. VALUES							3. UNITS *(specify if blank)*	
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUES		C. LONG TERM AVERAGE VALUES		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS			
A. Biochemical Oxygen Demand, 5-day (BOD_5)	<2.0						1	mg/l	
B. Chemical Oxygen Demand (COD)	16.5						1	mg/l	
C. Total Organic Carbon (TOC)	7.02						1	mg/l	
D. Total Suspended Solids (TSS)	<5.0						1	mg/l	
E. Ammonia as N	0.39						1	mg/l	
F. Flow	VALUE NA		VALUE		VALUE			MILLIONS OF GALLONS PER DAY (MGD)	
G. Temperature *(winter)*	VALUE NA		VALUE		VALUE			°F	
H. Temperature *(summer)*	VALUE 82.4		VALUE		VALUE			°F	
I. pH	MINIMUM 7.94		MAXIMUM 7.94		AVERAGE 7.94			STANDARD UNITS (SU)	

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

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. VALUES							4. UNITS	
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUES		C. LONG TERM AVERAGE VALUES		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS			
Subpart 1 – Conventional and Non-Conventional Pollutants											
A. Alkalinity ($CaCO_3$)	X		MINIMUM 123		MINIMUM		MINIMUM		1	mg/L	
B. Bromide (24959-67-9)		X							1	mg/l	
C. Chloride (16887-00-6)	X		32.6						1	mg/L	
D. Chlorine, Total Residual	X		0.09						1	mg/l	
E. Color		X									
F. Conductivity											
F. Cyanide, Amenable to Chlorination											

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. VALUES							4. UNITS	
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVERAGE VALUE		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS			
Subpart 1 – Conventional and Non-Conventional Pollutants (Continued)											
G. *E. coli*											
H. Fluoride (16984-48-8)	X		0.31						1	mg/l	
I. Nitrate plus Nitrate *(as N)*	X		0.24						1	mg/l	
J. Kjeldahl, Total (as N)											
K. Nitrogen, Total Organic *(as N)*	X		0.27						1	mg/l	
L. Oil and Grease		X									
M. Phenols, Total											
N. Phosphorus *(as P),* Total (7723-14-0)		X									
O. Sulfate *(as SO^4)* (14808-79-8)	X		370						1	mg/l	
P. Sulfide *(as S)*		X									
Q. Sulfite (as SO^3) (14265-45-3)		X									
R. Surfactants		X									
S. Trihalomethanes, Total											
Subpart 2 – Metals											
1M. Aluminum, Total Recoverable (7429-90-5)	X		0.163						1	mg/l	
2M. Antimony, Total Recoverable (7440-36-9)		X									
3M. Arsenic, Total Recoverable (7440-38-2)		X									
4M. Barium, Total Recoverable (7440-39-3)	X		0.0749						1	mg/l	
5M. Beryllium, Total Recoverable (7440-41-7)		X									
6M. Boron, Total Recoverable (7440-42-8)		X									
7M. Cadmium, Total Recoverable (7440-43-9)		X									
8M. Chromium III Total Recoverable (16065-83-1)		X									
9M. Chromium VI, Dissolved (18540-29-9)		X									
10M. Cobalt, Total Recoverable (7440-48-4)		X									

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. VALUES							4. UNITS	
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVERAGE VALUE		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS			
Subpart 2 – Metals (Continued)											
11M. Copper, Total Recoverable (7440-50-8)	X		0.0421						1	mg/l	
12M. Iron, Total Recoverable (7439-89-6)	X		0.129						1	mg/l	
13M. Lead, Total Recoverable (7439-92-1)		X									
14M. Magnesium, Total Recoverable (7439-95-4)	X		18.90						1	mg/l	
15M. Manganese, Total Recoverable (7439-96-5)	X		0.0087						1	mg/l	
16M. Mercury, Total Recoverable (7439-97-6)		X									
17M. Methylmercury (22967926)											
18M. Molybdenum, Total Recoverable (7439-98-7)		X									
19M. Nickel, Total Recoverable (7440-02-0)	X		0.006						1	mg/l	
20M. Selenium, Total Recoverable (7782-49-2)		X									
21M. Silver, Total Recoverable (7440-22-4)		X									
22M. Thallium, Total Recoverable (7440-28-0)		X									
23M. Tin, Total Recoverable (7440-31-5)		X									
24M. Titanium, Total Recoverable (7440-32-6)		X									
25M. Zinc, Total Recoverable (7440-66-6)		X									
Subpart 3 – Radioactivity											
1R. Alpha Total	X		0.606 +/- 1.05						1	pCi/L	
2R. Beta Total	X		3.61 +/- 0.972						1	pCi/L	
3R. Radium Total	X		0.0231 +/- 0.13						1	pCi/L	
4R. Radium 226 plus 228 Total	X		0.209 +/- 0.363						1	pCi/L	

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

FORM I – PERMIT APPLICATION FOR OPERATION OF WASTEWATER IRRIGATION SYSTEMS

FOR AGENCY USE ONLY
PERMIT NUMBER MO -
DATE RECEIVED

INSTRUCTIONS: The following forms must be submitted with Form I: FORM B or B2 for domestic wastewater.
FORM A for industrial wastewater.

1. FACILITY INFORMATION

1.1 Facility Name: South Harper Generating Station

1.2 Permit Number: MO- 0131857

1.3 Type of wastewater to be irrigated: ☐ Domestic ☐ Municipal ☐ State/National Park ☐ Seasonal business
☐ Municipal with Pretreatment Program or Significant Industrial Users ☑ Other (explain) Evaporative Cooler Blowdown

SIC Codes (list all that apply, in order of importance) 4911

1.4 Months when the business or enterprise will operate or generate wastewater:
☐ 12 months per year ☑ Part of year (list Months): May-November

1.5 This system is designed for:
☐ No-discharge ☐ Partial irrigation when feasible and discharge rest of time.
☐ Irrigation during recreation season (April – October) and discharge during November – March.
☐ Other (explain) ___

1.6 List the Facility outfalls which will be applicable to the irrigation system.
Outfall Numbers: NA

2. STORAGE BASINS

2.1 Number of storage basins: 1

Type of basin: ■ Steel ☐ Concrete ☐ Fiberglass ☐ Earthen
☐ Earthen with membrane liner

3. LAND APPLICATION SYSTEM

3.1 Number of irrigation sites 1 Total Acres 16.5

Location: ___ ¼, NE ¼, NE ¼, Sec 32 T 45N R 32 Cass County 16.5 Acres

Location: ___ ¼, ___ ¼, ___ ¼, Sec ___ T ___ R ___ _____ County _____ Acres

Attach pages as needed.

3.2 Attach a site map showing topography, storage basins, irrigation sites, property boundary, streams, wells, roads, dwellings, and other pertinent features.

3.3 Type of vegetation: ☐ Grass hay ☐ Pasture ☐ Timber ☐ Row crops ☑ Other (describe) Fescue Grass

3.4 Wastewater flow (dry weather) gallons/day:

Average annual: 64,800 Seasonal 64,800 Off-season 0

Months of seasonal flow: 7

3. LAND APPLICATION SYSTEM (continued)

3.5 Land Application rate per acre (design flow including 1 in 10 year stormwater flows):

Design: 26.8 inches/year 0.22-0.34 inches/hour 0.34-1.02 inches/day 2.04-2.38 inches/week

Actual: 26.8 inches/year 0.03 inches/hour 0.2 inches/day 1.4 inches/week

Total Irrigation per year (gallons): 9,000,000 Design _____ Actual

Actual months used for Irrigation (check all that apply):

☐ Jan ☐ Feb ☐ Mar ☐ Apr ☑ May ☑ Jun ☑ Jul ☑ Aug ☑ Sep ☑ Oct ☑ Nov ☐ Dec

3.6 Land Application Rate is based on:

☐ Nutrient Management Plan (N&P)

☑ Hydraulic Loading

☐ Other (describe) _____

3.7 Equipment type: ☑ Sprinklers ☐ Gated pipe ☐ Center pivot ☐ Traveling gun ☐ Other (describe) _____

Equipment Flow Capacity: 7,200 Gallons per hour 1,250 Total hours of operation per year

3.8 **Public Use Areas**. Public access shall not be allowed to public use area irrigation sites when application is occurring. Method of Public Access Restriction:

☑ Site is Fenced ☐ Wastewater disinfection prior to irrigation ☑ Site is not for public use

☐ Other (describe): _____

3.9 Separation distance (in feet) from the outside edge of the wetted irrigation area to nearby down gradient features:

____ Permanent flowing stream ____ Losing Stream ____ Intermittent (wet weather) stream 65 Lake or pond

____ Property boundary ____ Dwellings ____ Water supply well ____ Other (describe) _____

3.10 The facility must develop and retain an Operation and Maintenance (O&M) Plan for the irrigation system.

Date of O&M Plan: 03/06/202(

4. CERTIFICATION

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

OWNER OR AUTHORIZED REPRESENTATIVE	OFFICIAL TITLE
Jared Morrison	Director Water and Waste Programs
EMAIL ADDRESS	**TELEPHONE NUMBER WITH AREA CODE**
jared.morrison@evergy.com	(785) 575-8273
SIGNATURE	**DATE SIGNED**
	4/1/2020

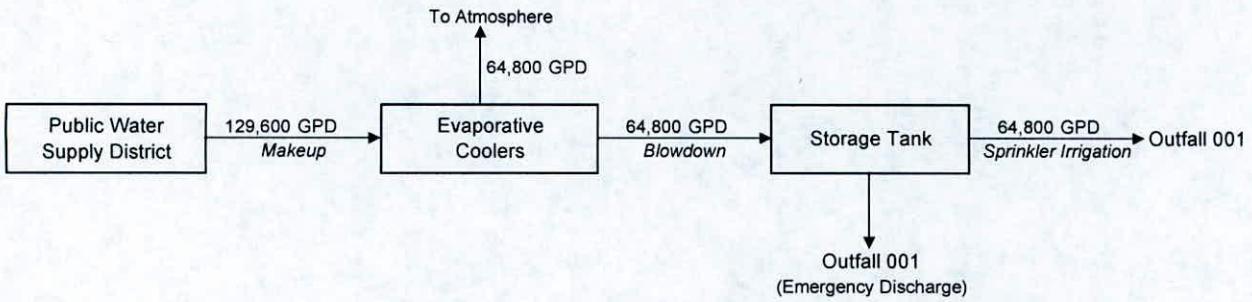
Form A – Part 9.E Attachment
Permit List

Media	Permit/Registration/Plan/Classification	Number, Issue and Expiration Date (as applicable)
Air	Missouri Part 70 Permit to Operate (Title V)	Operating Permit Number: OP2016-009 Effective Date: March 29, 2016 Expiration Date: March 29, 2021
	Missouri Permit to Construct	Permit Number: 122004-017 Source ID: 0910174 Effective Date: December 29, 2004 Expiration Date: N/A
Water	Missouri State Operating Permit	MO-0131857 (NPDES Discharge Operating Permit) Effective Date: February 1, 2018 Expiration: September 30, 2020
Oil Pollution Prevention	Spill Prevention, Control and Countermeasure Plan	Issued: December 2016 Renewal Date: December 2021
Waste	Hazardous Waste Generator (Conditionally Exempt Small Quantity)	Not Applicable

Form C – Part 2.00 Attachment

Schematic of Water Flow

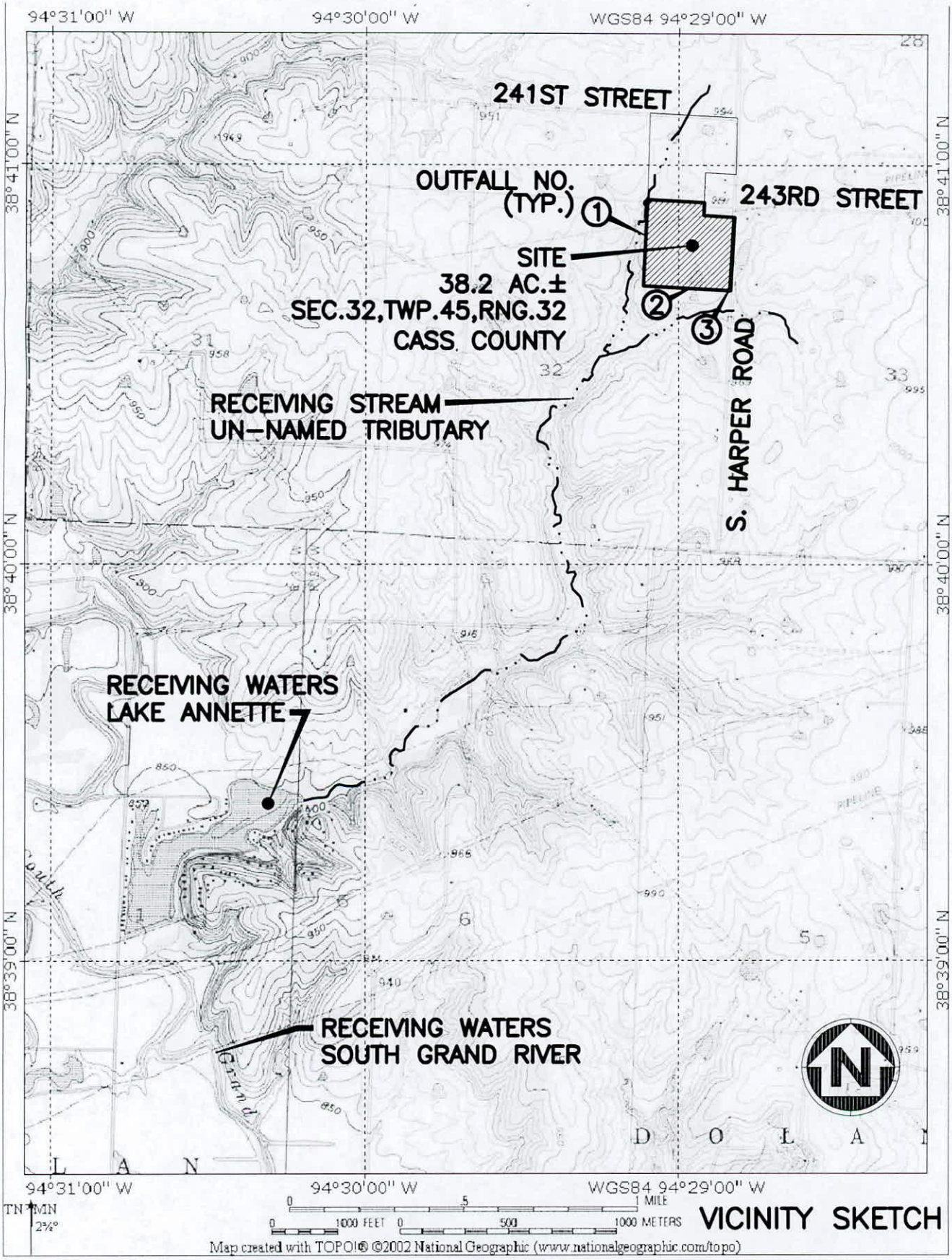
SCHEMATIC OF WATER FLOW
SOUTH HARPER GENERATING STATION

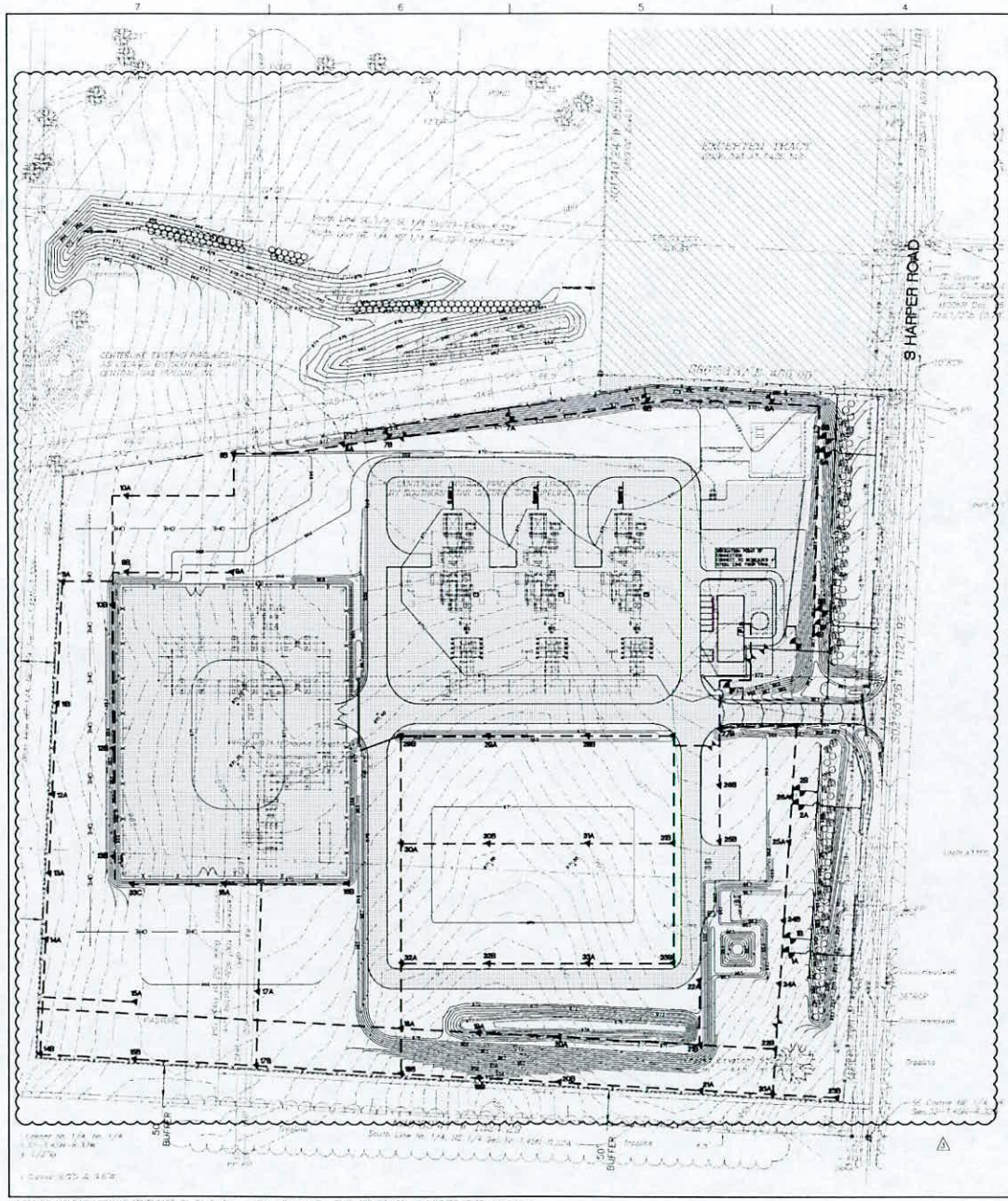


Note: Average Figures Shown are approximately 65 Percent of Maximum Flow Rates

Form I – Part 3.2 Attachment

Site Map


94°31'00" W
94°30'00" W
WGS84 94°29'00" W
38°41'00" N
38°40'00" N
38°39'00" N
241ST STREET
243RD STREET
OUTFALL NO. (TYP.)
1
2
3
SITE
38.2 AC.±
SEC.32,TWP.45,RNG.32
CASS COUNTY
S. HARPER ROAD
RECEIVING STREAM
UN-NAMED TRIBUTARY
RECEIVING WATERS
LAKE ANNETTE
RECEIVING WATERS
SOUTH GRAND RIVER
N
L A N
D O L A
TN
MN
2¾°
0 .5 1 MILE
0 1000 FEET 0 500 1000 METERS
VICINITY SKETCH
Map created with TOPO!® ©2002 National Geographic (www.nationalgeographic.com/topo)



IRRIGATION ZONE CHART

ZONE	RUN TIME	HEAD TYPE	DESCRIPTION	GPM	TOTAL GALLONS
1	30 MIN	7005	6 @ 20.9	125.4	3762
2	30 MIN	7005	8 @ 20.9	167.2	5016
3	30 MIN	7005	2 @ 15.6, 2 @ 16.4, 2 @ 20.7	140.4	5462
4	30 MIN	7005	2 @ 15.6, 5 @ 20.9	185.8	5574
5	30 MIN	7005	3 @ 20.9, 1 @ 15.4, 1 @ 18.5	153.5	4605
6	30 MIN	7005	8 @ 20.9	167.2	5016
7	30 MIN	7005	7 @ 20.9	146.3	4387
8	30 MIN	115E	4E, 3E-5	83.8	2514
9	30 MIN	115E	4E, 4E-5	92.4	2772
10	30 MIN	115E	4E, 5E-5	97.3	2919
11	30 MIN	115E	4E, 4E-5, 4E-5	92.4	2772
12	30 MIN	115E	4E, 4E-5, 4E-5	92.4	2772
13	30 MIN	115E	4E, 4E-5, 5E-5	97.3	2919
14	30 MIN	115E	4E, 3E-5, 3E-5	83.8	2514
15	30 MIN	115E	4E, 4E-5, 5E-5	103.3	3099
16	30 MIN	115E	4E, 4E-5, 3E-5	83.8	2514
17	30 MIN	115E	4E, 5E-5, 5E-5	103.3	3099
18	30 MIN	115E	4E, 5E-5, 5E-5	103.3	3099
19	30 MIN	115E	4E, 5E-5, 5E-5	103.3	3099
20	30 MIN	115E	4E, 5E-5, 5E-5	103.3	3099
21	30 MIN	115E	4E, 5E-5, 5E-5	103.3	3099
22	30 MIN	115E	4E, 5E-5, 5E-5	103.3	3099
23	30 MIN	115E	4E, 3E-5, 3E-5	88.7	2661
24	30 MIN	115E	4E, 5E-5, 5E-5	103.2	3066
25	30 MIN	115E	4E, 3E-5, 3E-5	94.7	2841
26	30 MIN	115E	4E, 5E-5, 5E-5	103.3	3099
27	30 MIN	115E	4E, 3E-5, 3E-5	83.8	2514
28	30 MIN	115E	4E, 3E-5, 3E-5	83.8	2514
29	30 MIN	115E	4E, 3E-5, 3E-5	83.8	2514
30	30 MIN	115E	4E, 5E-5, 5E-5	103.3	3099
31	30 MIN	115E	4E, 5E-5, 5E-5	103.3	3099
32	30 MIN	115E	4E, 3E-5, 3E-5	83.8	2514
33	30 MIN	115E	4E, 3E-5, 3E-5	83.8	2514
33	30 MIN	115E	5E-1	57.1	1713

CONVENTIONAL SYSTEM ZONES #1-7 APPROX 172,800 ft²				
15 MIN. EA. ZONE = .23 INCH APPLIED	@ 1.75 HRS. RUNTIME	@ 17,112 GALS. DISCHARGE		
30 MIN. EA.* = .465 INCH	@ 3.5 HRS.	@ 34,224 GALS.		
45 MIN. EA. = .695 INCH	@ 5.25 HRS.	@ 51,336 GALS.		
20 MIN. EA. = .93 INCH	@ 7.0 HRS.	@ 68,448 GALS.		

LARGE HEAD SYSTEM ZONES #8-34 APPROX 8.4 ACRE			
15 MIN. EA. ZONE = .24 INCH APPLIED	@ 2.5 HRS. RUNTIME	@ 37,769 GALS. DISCHARGE	
30 MIN. EA.* = .49 INCH	@ 7.0 HRS.	@ 75,537 GALS.	
45 MIN. EA. = .73 INCH	@ 10.0 HRS.	@ 113,305 GALS.	
20 MIN. EA. = .97 INCH	@ 14.0 HRS.	@ 151,074 GALS.	

LAND APPLICATION NOTES:

GPD: GALLONS PER DAY

30 GPM x 3 UNITS x 60 MIN/HR = 5,400 GPH x 12 HRS/DAY = 64,800 GPD

GPY: GALLONS PER YEAR (LIMITED BY MO DNR EMISSIONS PERMIT)

30 GPH x 60 MIN/HR x 5,000 HRS/YEAR = 9,000,000 GPY

APPLICATION RATES OF CONVENTIONAL SYSTEM (ZONES 1 THRU 7)

41.5 TO 69 GPM (VARIES BY ZONE) 2 ZONES RUN AT ONCE

TOTAL CONVENTIONAL SYSTEM COVERAGE AREA = APPROX. 172,800 SF

TO DELIVER .17 IN WOULD REQUIRE 3.25 HR RUN WITH A TOTAL OF 25,443 GALLONS USED

TO DELIVER .34 INCH WOULD REQUIRE 6.5 HR RUN WITH A TOTAL OF 50,886 GALLONS USED

APPLICATION RATES OF LARGE HEAD SYSTEM (ZONES 8 THRU 33)

60.8 GPM PER HEAD, 2 HEADS RUN AT ONCE

TOTAL LARGE HEAD SYSTEM COVERAGE AREA = 8.4 ACRE

64,800 GPD / 121.2 GPM (2 HEADS AT ONCE) = 8.91 HR RUN TIME

50,886 GAL (LEFTOVER) / 121.2 GPM (2 HEADS AT ONCE) = 7.0 HR RUN TIME

25,443 GAL (LEFTOVER) / 121.2 GPM (2 HEADS AT ONCE) = 3.5 HR RUN TIME

WATER WINDOW

64,800 GPD / 8 HR WINDOW = 135 GPM OUTPUT TO SPRINKLERS

64,800 GPD / 9 HR WINDOW = 120 GPM OUTPUT TO SPRINKLERS

64,800 GPD / 10 HR WINDOW = 108 GPM OUTPUT TO SPRINKLERS

APPLICATION

TOTAL APPLICATION AREA = 12.4 ACRS

APPLICATION RATE = 0.2 INCH PER 12 HOURS OF TOTAL PLANT OPERATION

IRRIGATION LAYOUT PLAN

SCALE IN FEET

IRRIGATION OPERATION AND MAINTENANCE:

Establish time setting and intervals of irrigation water application for each value of all irrigation zones. Make changes when necessary to correspond to variables watering requirements for lawn or planting areas.
Observe operation of all irrigating heads at least once each operating month. Check for coverage and plugged heads; balance system and clean heads as required to maintain system in proper working order. Perform necessary site visits and observations to maintain the proper amounts of moisture in soils to promote healthy and vigorous plant growth. Correct conditions of over or under watering as may be determined by weekly observations during the irrigation season.
Shut-off and completely drain system(s) no later than November 1st. Turn off all main supply valves, open all manual drain valves; gravity drain, and bleed valves on backflow prevention devices. Perform winterization prior to specified dates in the event of earlier freezing weather.
Activate irrigation system(s) during first week of April. Operate and observe all portions of the system and perform necessary adjustments, cleaning, or other work required to re-establish proper irrigation functions.
Repair and/or replacement for any work damaged or otherwise affected by causes beyond Contractor's control is the responsibility of the owner.

IRRIGATION NOTES:

Irrigation system layout is diagrammatical - necessary adjustments by the contractor shall be permissible, provided they are documented in progress drawings.

Final location of the backflow, booster pump, and automatic controller shall be approved by the owner's authorized representative. backflow, booster pump and controller shall be located in a secure area to avoid vandalism.

120 VAC electrical power source at the controller location shall be provided by others, unless noted otherwise. the irrigation contractor shall make the final connection from the electrical source to the controller.

All sprinkler heads shall be set perpendicular to the finished grade unless otherwise noted.

Irrigation system controller shall be Rain Bird commercial duty, programmable hybrid controller, model ESP-MC-SS series or Engineer-approved equal.

Irrigation system shall be equipped with Rain Bird commercial duty, RBY in-line filters or Engineer-approved equal. Filter media shall be stainless steel mesh and located upstream of the irrigation pump systems' suction inlets. Each filter shall be equipped with Rain Bird AF series automatic filter kits or Engineer-approved equal to minimize maintenance down time requirements.

Irrigation system sprinkler heads shall be Rain Bird 7005, G90, and /or G95 series or Engineer-approved components, as appropriate for each respective zone application. Sprinkler heads shall be adjusted to prevent overspray of existing berm ponds.

Irrigation pumps shall be Rain Bird commercial duty, CRE series pump systems or Engineer-approved equal. Pumps shall be vertical type, equipped with VFD technology drives for maximum economy and flexibility, and arranged to minimize water hammer to the irrigation system. Each pump shall be provided as a complete package, including stainless steel piping and base, diaphragm tank, shutoff and check valves, transducers, gauges, and power supply connection enclosure. Two separate pump system packages shall be installed in parallel, each one capable of no less than 120 gpm continuous capacity at discharge pressures sufficient to appropriately operate two sprinkler zones in each respective system simultaneously while operating at full VFD speed.

Pipe shall be Polyvinyl Chloride (PVC). All Mainline and lateral irrigation piping shall conform to ASTM D2241, SDR21 and Class 200

Fittings shall be Polyvinyl Chloride (PVC). Fittings shall conform to ASTM D2241, Schedule 40 and molded.

Sleeves shall be Polyvinyl Chloride (PVC). Sleeves carrying pipes beneath paving shall conform to ASTM D2241, Schedule 40. Minimum diameter of 2" or twice the size of pipe scheduled to pass through sleeving.

IRRIGATION LEGEND:

- CLASS 200 PVC LATERAL LINE - 1" SIZE UNLESS OTHERWISE NOTED ON THE PLAN
- CLASS 200 4" MAINLINE
- SCHEDULE 40 PVC SLEEVING - SIZE TWICE THE DIAMETER OF THE SLEEVED PIPE
- RB-200 PEB VALVE
- 4" BRONZE ISOLATION VALVE
- RB ESP32MC CONTROLLER
- IRRIGATION PUMP
- E-115 ROTOR
- 7005 ROTOR

GENERAL NOTES:

THE LOCATION OF SPRINKLER HEADS, VALVES, AND UNDERGROUND PIPE ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION.

REV.	DATE	DESCRIPTION	DWN	CHK
0	02-02-05	OWNER INITIAL REVIEW	BCK	BCK
1	04-01-05	REVISED FOR BERMS	BCK	HRM
2	7-7-05	REDESIGN PER DNR COMMENTS	BCK	HRM
3	1-4-07	CONFORM TO CONSTRUCTION RECORDS	BGG	HRM

H&R LAWN & LANDSCAPE
OVERLAND PARK, KANSAS
(913) 897-9705
(913) 897-9713 FAX

Sealed Only When Signed in Blue Ink

STATE OF MISSOURI
CHRISTOPHER ROBERT ROGERS
NUMBER E-21367
REGISTERED PROFESSIONAL ENGINEER

Sega ®
Engineers – Architects – Technicians
Design – Construction – Field Service
16041 Foster
P.O. Box 1000
Stilwell, Kansas 66085-1000

Aquila

AQUILA INC.
SOUTH HARPER PEAKING FACILITY
IRRIGATION SYSTEM
IRRIGATION LAYOUT

DESIGN BY: B.C.KINNEY	CHECKED BY: B.D.KINNEY
DRAWN BY: B.C.KINNEY	DATE: 07-14-05
CLIENT I.D.: 0	SEGA PROJECT NO.: 04-0112

CADD FILE NAME: HR_IRR_021705

DRAWING NO.: IRR100 REV.: 3