

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

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

Permit No. MO-0089940

Owner: City Utilities of Springfield
Address: PO Box 551, Springfield, MO 65801

Continuing Authority: Same as above
Address: Same as above

Facility Name: Springfield – John Twitty Energy Center
Facility Address: 5100 West Farm Road 164, Springfield, MO 65801

Legal Description: See Page 2
Latitude/Longitude: See Page 2

Receiving Stream: See Page 2
First Classified Stream and ID: See Page 2
USGS Basin & Sub-watershed No.: See Page 2

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

FACILITY DESCRIPTION

See next page

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

August 13, 2010 January 29, 2015
Effective Date Modification Date

Sara Parker Pauley, Director, Department of Natural Resources

August 12, 2015
Expiration Date

John Madros, Director, Water Protection Program

FACILITY DESCRIPTION (continued)

Outfall #001 - Power Plant - SIC #4931

Settling basin/stormwater/coal and limestone storage areas/partial reuse for on-site irrigation and dust control.
Design flow is 24.3 MGD.

Legal Description: SE ¼, SW ¼, NE ¼, Sec. 12, T28N, R23W, Greene County

UTM Coordinates: X = 465036, Y = 4111345

Receiving Stream: Unnamed Tributary to Wilsons Creek (U)

First Classified Stream and ID: Wilson Creek (P) (Losing) (02375)

USGS Basin & Sub-watershed No.: (11010002 – 0303)

Outfall #002 - Power Plant - SIC #4931

Ash transport/cooling water/boiler blowdown/stormwater/periodic maintenance cleaning & rinse water from Units 1 & 2 cooling towers.
Design flow is 9.6 MGD. Actual flow is 0.5 MGD.

Legal Description: NE ¼, SE ¼, SW ¼, Sec. 7, T28N, R22W, Greene County

UTM Coordinates: X = 466358, Y = 4110680

Receiving Stream: Unnamed Tributary to Wilsons Creek (U)

First Classified Stream and ID: Wilson Creek (P) (Losing) (02375)

USGS Basin & Sub-watershed No.: (11010002 – 0303)

Outfall #003 - Eliminated

Outfall #004 - Power Plant - SIC #4931

Settling basin/stormwater/landfill/partial reuse for on-site irrigation and dust control.
Design flow is 11.7 MGD.

Legal Description: NW ¼, NE ¼, SW ¼, Sec. 7, T28N, R22W, Greene County

UTM Coordinates: X = 466140, Y = 4111029

Receiving Stream: Unnamed Tributary to Wilsons Creek (U)

First Classified Stream and ID: Wilson Creek (P) (Losing) (02375)

USGS Basin & Sub-watershed No.: (11010002 – 0303)

Outfall #005 - Power Plant - SIC #4931

Stormwater runoff from plant area including fly ash compaction area.
Actual flow is dependent upon precipitation.

Design flow is 2.4 MGD.

Legal Description: NE ¼, SW ¼, Sec. 7, T28N, R22W, Greene County

UTM Coordinates: X = 466312, Y = 4110763

Receiving Stream: Unnamed Tributary to Wilsons Creek (U)

First Classified Stream and ID: Wilson Creek (P) (Losing) (02375)

USGS Basin & Sub-watershed No.: (11010002 – 0303)

Outfall #006 - Power Plant - SIC #4931

Stormwater runoff/partial reuse for on-site irrigation and dust control.
Actual flow is dependent upon precipitation.

Design flow is 3.1 MGD.

Legal Description: NW ¼, NW ¼, NW ¼, Sec. 7, T28N, R22W, Greene County

UTM Coordinates: X = 465633, Y = 4111999

Receiving Stream: Unnamed Tributary to Wilsons Creek (U)

First Classified Stream and ID: Wilson Creek (P) (Losing) (02375)

USGS Basin & Sub-watershed No.: (11010002 – 0301)

SM1 – Upstream Sampling

Legal Description: SE ¼, SW ¼, NE ¼, Sec. 7, T28N, R22W, Greene County

UTM Coordinates: X=466656, Y=4111267

Receiving Stream and First Classified Stream and ID: Wilson Creek (P) (Losing) (02375)

USGS Basin & Sub-watershed No.: (11010002 – 0303)

SM2 – Downstream Sampling

Legal Description: SW ¼, SW ¼, SE ¼, Sec. 7, T28N, R22W, Greene County

UTM Coordinates: X = 466549, Y = 4110371

Receiving Stream and First Classified Stream and ID: Wilson Creek (P) (Losing) (02375)

USGS Basin & Sub-watershed No.: (11010002 – 0303)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

PERMIT NUMBER MO-0089940

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #001</u>						
Flow	MGD	*		*	once/month	24 hr. total
Precipitation	Inches	*		*	daily	24 hr. estimate
pH – Units	SU	***		***	once/month	grab
Total Suspended Solids	mg/L	45		30	once/month	grab
Settleable Solids	ml/L/hr	1.0		1.0	once/month	grab
Oil and Grease	mg/L	15		10	once/month	grab
Total Phosphorus as P	mg/L	*		0.5	once/month	grab

MONITORING REPORTS SHALL BE SUBMITTED **MONTHLY**; THE FIRST REPORT IS DUE March 28, 2012. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

<u>Outfall #001</u>						
Chemical Oxygen Demand	mg/L	*		*	once/quarter**	grab
Total Nitrogen as N	mg/L	*		*	once/quarter**	grab
Aluminum, Total Recoverable	µg/L	****		****	once/quarter**	grab
Iron, Total Recoverable	µg/L	****		****	once/quarter**	grab
Manganese, Total Recoverable	µg/L	****		****	once/quarter**	grab

MONITORING REPORTS SHALL BE SUBMITTED **QUARTERLY**; THE FIRST REPORT IS DUE April 28, 2012.

<u>Outfall #001</u>						
Selenium, Total Recoverable	µg/L	*		*	once/year	grab
Polychlorinated Biphenyls	µg/L	*****		*****	once/year	grab
Sulfate	mg/L	*		*	once/year	grab

MONITORING REPORTS SHALL BE SUBMITTED **ANNUALLY**; THE FIRST REPORT IS DUE February 28, 2013.

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Part I STANDARD CONDITIONS DATED October 1, 1980, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					PAGE NUMBER 4 of 16	
					PERMIT NUMBER MO-0089940	
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance of this modification and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #002</u>						
Flow	MGD	*		*	once/week	24 hr. estimate
Temperature	°F	90		*	once/week	grab
pH- Units	SU	***		***	once/month	grab
Total Suspended Solids	mg/L	20		15	once/month	*****
Oil & Grease	mg/L	15		10	once/month	grab
Total Phosphorus as P	mg/L	*		0.5	once/month	*****
Total Residual Chlorine & Bromine (Note 1)	mg/L	0.2		0.2	once/month	grab
Chromium III, Total Recoverable	µg/L	*		*	once/month	*****
Chromium VI, Total Dissolved	µg/L	*		*	once/month	grab
Zinc, Total Recoverable	µg/L	179		89	once/month	*****
Chloride plus Sulfate	mg/L	1000			once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY ; THE FIRST REPORT IS DUE <u>March 28, 2015</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
<u>Outfall #002</u>						
Chemical Oxygen Demand	mg/L	*		*	once/quarter**	grab
Total Nitrogen as N	mg/L	*		*	once/quarter**	grab
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY ; THE FIRST REPORT IS DUE <u>April 28, 2015</u> .						
<u>Outfall #002</u>						
Manganese, Total Recoverable	µg/L	*		*	once/year	*****
Selenium, Total Recoverable	µg/L	*		*	once/year	*****
Polychlorinated Biphenyls	µg/L	*****		*****	once/year	grab
Whole Effluent Toxicity (WET) Test	% Survival	*****			once/year	*****
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY ; THE FIRST REPORT IS DUE <u>February 28, 2016</u> .						
B. STANDARD CONDITIONS						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Part I</u> STANDARD CONDITIONS DATED <u>October 1, 1980</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					PAGE NUMBER 5 of 16	
					PERMIT NUMBER MO-0089940	
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The interim effluent limitations shall become effective on August 13, 2010 and remain in effect through December 31, 2016 . Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
EFFLUENT PARAMETER(S)	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #002						
Aluminum, Total Recoverable	µg/L	*		*	once/month	*****
Copper, Total Recoverable	µg/L	*		*	once/month	*****
Iron, Total Recoverable	µg/L	*		*	once/month	*****
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE <u>MARCH 28, 2015</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					PAGE NUMBER 5 of 16	
					PERMIT NUMBER MO-0089940	
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The interim effluent limitations shall become effective on January 1, 2017 . Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #002						
Aluminum, Total Recoverable	µg/L	749		373	once/month	*****
Copper, Total Recoverable	µg/L	19.2		9.6	once/month	*****
Iron, Total Recoverable	µg/L	603		300	once/month	*****
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE <u>FEBRUARY 28, 2017</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

PERMIT NUMBER MO-0089940

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #004</u>						
Flow	MGD	*		*	once/month	24 hr. estimate
pH – Units	SU	***		***	once/month	grab
Total Suspended Solids	mg/L	45		30	once/month	grab
Settleable Solids	ml/L/hr	1.0		1.0	once/month	grab
Oil and Grease	mg/L	15		10	once/month	grab
Total Phosphorus as P	mg/L	*		0.5	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY ; THE FIRST REPORT IS DUE <u>March 28, 2012</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
<u>Outfall #004</u>						
Chemical Oxygen Demand	mg/L	*		*	once/quarter**	grab
Total Nitrogen as N	mg/L	*		*	once/quarter**	grab
Aluminum, Total Recoverable	µg/L	****		****	once/quarter**	grab
Selenium, Total Recoverable	µg/L	****		****	once/quarter**	grab
Chloride plus Sulfate	mg/L	****			once/quarter**	grab
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY ; THE FIRST REPORT IS DUE <u>April 28, 2012</u> .						
<u>Outfall #004</u>						
Iron, Total Recoverable	µg/L	*		*	once/year	grab
Polychlorinated Biphenyls	µg/L	*****		*****	once/year	grab
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY ; THE FIRST REPORT IS DUE <u>February 28, 2013</u> .						
B. STANDARD CONDITIONS						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Part I</u> STANDARD CONDITIONS DATED <u>October 1, 1980</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

PERMIT NUMBER MO-0089940

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #005</u>						
Flow	MGD	*		*	once/month	24 hr. estimate
pH – Units	SU	***		***	once/month	grab
Total Suspended Solids	mg/L	45		30	once/month	grab
Settleable Solids	ml/L/hr	1.0		1.0	once/month	grab
Oil and Grease	mg/L	15		10	once/month	grab
Total Phosphorus as P	mg/L	*		*	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY ; THE FIRST REPORT IS DUE <u>March 28, 2012</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
<u>Outfall #005</u>						
Chemical Oxygen Demand	mg/L	*		*	once/quarter**	grab
Total Nitrogen as N	mg/L	*		*	once/quarter**	grab
Selenium, Total Recoverable	µg/L	****		****	once/quarter**	grab
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY ; THE FIRST REPORT IS DUE <u>April 28, 2012</u> .						
<u>Outfall #005</u>						
Aluminum, Total Recoverable	µg/L	*		*	once/year	grab
Iron, Total Recoverable	µg/L	*		*	once/year	grab
Manganese, Total Recoverable	µg/L	*		*	once/year	grab
Polychlorinated Biphenyls	µg/L	*****		*****	once/year	grab
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY ; THE FIRST REPORT IS DUE <u>February 28, 2013</u> .						
B. STANDARD CONDITIONS						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Part I</u> STANDARD CONDITIONS DATED <u>October 1, 1980</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

PERMIT NUMBER MO-0089940

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #006</u>						
Flow	MGD	*		*	once/month	24 hr. estimate
pH – Units	SU	***		***	once/month	grab
Total Suspended Solids	mg/L	45		30	once/month	grab
Settleable Solids	ml/L/hr	1.0		1.0	once/month	grab
Oil and Grease	mg/L	15		10	once/month	grab
Total Phosphorus	mg/L	*		0.5	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY ; THE FIRST REPORT IS DUE <u>March 28, 2012</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
<u>Outfall #006</u>						
Chemical Oxygen Demand	mg/L	*		*	once/quarter**	grab
Total Nitrogen as N	mg/L	*		*	once/quarter**	grab
Iron, Total Recoverable	µg/L	****		****	once/quarter**	grab
Manganese, Total Recoverable	µg/L	****		****	once/quarter**	grab
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY ; THE FIRST REPORT IS DUE <u>April 28, 2012</u> .						
<u>Outfall #006</u>						
Aluminum, Total Recoverable	µg/L	*		*	once/year	grab
Selenium, Total Recoverable	µg/L	*		*	once/year	grab
Polychlorinated Biphenyls	µg/L	*****		*****	once/year	grab
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY ; THE FIRST REPORT IS DUE <u>February 28, 2013</u> .						
B. STANDARD CONDITIONS						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Part I</u> STANDARD CONDITIONS DATED <u>October 1, 1980</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS				PAGE NUMBER 9 of 16		
				PERMIT NUMBER MO-0089940		
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Upstream Monitoring Point SM1</u>						
Temperature	°F	*		*	once/month	grab
<u>Downstream Compliance Point SM2</u>						
Temperature (Note 2)	°F	*		*	once/month	grab
Temperature increase between SM1 and SM2 (Note 2)	°F	*		*	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY ; THE FIRST REPORT IS DUE <u>March 28, 2012</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
B. STANDARD CONDITIONS						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Part I</u> STANDARD CONDITIONS DATED <u>October 1, 1980</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

* – Monitoring requirement only.

** – **All samples shall be collected from a discharge resulting from a precipitation event greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable precipitation event. Sampling shall occur once per quarter in the periods of January through March, April through June, July through September, and October through December, please note that monitoring reports shall be submitted no later than the 28th day of the month following the monitoring period (April 28th, July 28th, October 28th, and January 28th, respectively).**

If a discharge event does not occur within the reporting period, report as no discharge. For tracking purposes samples taken anytime in the first quarter (January through March) will be recorded by the department as though they were taken in March, samples taken anytime in the second quarter (April through June) will be recorded by the department as though they were taken in June, samples taken anytime in the third quarter (July through September) will be recorded by the department as though they were taken in September, and samples taken in the fourth quarter (October through December) will be recorded by the department as though they were taken in December. See Special Conditions

*** – pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.5 – 9.0 pH units.

**** – See Special Condition #11.

***** – There shall be no discharge of polychlorinated biphenyl compounds [40 CFR 423.15(b)]. Sufficiently sensitive test method must be used (For reference: Standard Methods and 40 CFR 136).

***** – A composite sample made up from a minimum of four grab samples collected within a 24-hour period with a minimum of two hours between each grab sample. A person may physically collect the four grab samples or a composite sampler may be set up to collect the four grab samples.

***** – See Special Condition #12.

Note 1 – Total Residual Chlorine and Bromine sample must be taken during actual discharge event that occurs during or after use of these chemicals. The discharge monitoring report should contain a complete report on Biocide use.

Note 2 – This release shall not raise or lower the temperature of the receiving stream more than five degrees (5°F). In addition, this release shall not cause or contribute to stream temperature in excess of ninety degrees (90°F).

C. SCHEDULE OF COMPLIANCE

The facility shall attain compliance with final effluent limitations for Aluminum, Copper and Iron at Outfall #002 as soon as reasonably achievable or no later than **January 1, 2017**.

1. Within six months of the modification date of this permit, the permittee shall report progress made in attaining compliance with the final effluent limits.
2. The permittee shall submit interim progress reports detailing progress made in attaining compliance with the final effluent limits every 12 months from issuance date.

Please submit progress reports to the Missouri Department of Natural Resources, Southwest Regional Office, 2040 W. Woodland, Springfield, Missouri, 65807.

D. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
 - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
 - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - (2) controls any pollutant not limited in the permit.
 - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
 - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list. The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.
2. All outfalls must be clearly marked in the field.
3. Report as no-discharge when a discharge does not occur during the report period.
4. Changes in Discharges of Toxic Substances

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

- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
 - (1) One hundred micrograms per liter (100 µg/L);
 - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
 - (4) The level established in Part A of the permit by the Director.
- (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.
- (c) That the effluent limit established in part A of the permit will be exceeded.

D. SPECIAL CONDITIONS (continued)

5. Water Quality Standards

- (a) Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
- (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
 - (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
 - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
 - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
 - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
 - (5) There shall be no significant human health hazard from incidental contact with the water;
 - (6) There shall be no acute toxicity to livestock or wildlife watering;
 - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
 - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

6. The permittee shall develop and implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must be kept on-site and should not be sent to DNR unless specifically requested. The permittee shall select, install, use, operate, and maintain the Best Management Practices prescribed in the SWPPP in accordance with the concepts and methods described in the following document: Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators, (Document number EPA 833-B-09-002) published by the United States Environmental Protection Agency (USEPA) in February 2009.

The SWPPP must include the following:

- (a) An assessment of all storm water discharges associated with this facility. This must include a list of potential contaminants and an annual estimate of amounts that will be used in the described activities.
- (b) A listing of specific Best Management Practices (BMPs) and a narrative explaining how BMPs will be implemented to control and minimize the amount of potential contaminants that may enter storm water.
- (c) The SWPPP must include a schedule for monthly site inspections and a brief written report. The inspections must include observation and evaluation of BMP effectiveness, deficiencies, and corrective measures that will be taken. The Department must be notified within fifteen (15) days by letter of any corrections of deficiencies. Deficiencies that consist of minor repairs or maintenance must be corrected within seven (7) days. Deficiencies that require additional time or installation of a treatment device to correct should be detailed in the written notification. Installation of a treatment device, such as an oil water separator, may require a construction permit. Inspection reports must be kept on site with the SWPPP. These must be made available to DNR personnel upon request.
- (d) A provision for designating an individual to be responsible for environmental matters.
- (e) A provision for providing training to all personnel involved in material handling and storage, and housekeeping of maintenance and cleaning areas. Proof of training shall be submitted on request of DNR.

7. The purpose of the SWPPP and the BMPs listed therein is to prevent pollutants from entering waters of the state. A deficiency of a BMP means it was not effective in preventing pollution [10 CSR20-2.010(56)] of waters of the state, or failed to achieve compliance with benchmarks. Corrective action means the facility took steps to eliminate the deficiency.
8. All fueling facilities present on the site shall adhere to applicable federal and state regulations concerning underground storage, above ground storage, and dispensers, including spill prevention, control and counter measures.
9. Substances, regulated by federal law under the Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation, and Liability Act (CERLA), that are transported, stored, or used for maintenance, cleaning or repair, shall be managed according to RCRA and CERLA.

D. SPECIAL CONDITIONS (continued)

10. APPENDIX A TO 40 CFR PART 423—126 PRIORITY POLLUTANTS

There shall be no detectable amount of the 126 Priority Pollutants contained in chemicals added for cooling tower maintenance as listed in Appendix A to Part 423 [40 CFR 423.15(j)(1)], except as allowed in the regulation for Total Chromium (0.2 mg/L) and Zinc (1.0 mg/L). The facility must designate an internal sample point for the cooling tower blowdown. The facility must sample this location once per permit cycle in the fourth year of the permit and report these results to the department. Sufficiently sensitive test method must be used (For reference: Standard Methods and 40 CFR 136). As an alternative, the facility may maintain and submit records including Material Safety Data Sheets (MSDS) of the cooling tower chemicals to document that none of the listed chemicals, apart from chromium or zinc, are added for cooling water treatment. The facility must submit MSDS copies with the first quarterly Discharge Monitoring Report following issuance of the permit and at any time thereafter when there is a change in cooling water treatment chemicals. If no biocides or chemicals are used in the cooling tower water, then report “No biocides or chemicals used”.

001 Acenaphthene	044 Methylene chloride (dichloromethane)	089 Aldrin
002 Acrolein	045 Methyl chloride (dichloromethane)	090 Dieldrin
003 Acrylonitrile	046 Methyl bromide (bromomethane)	091 Chlordane (technical mixture and metabolites)
004 Benzene	047 Bromoform (tribromomethane)	092 4,4-DDT
005 Benzidine	048 Dichlorobromomethane	093 4,4-DDE (p,p-DDX)
006 Carbon tetrachloride (tetrachloromethane)	051 Chlorodibromomethane	094 4,4-DDD (p,p-TDE)
007 Chlorobenzene	052 Hexachlorobutadiene	095 Alpha-endosulfan
008 1,2,4-trichlorobenzene	053 Hexachloromyclopentadiene	096 Beta-endosulfan
009 Hexachlorobenzene	054 Isophorone	097 Endosulfan sulfate
010 1,2-dichloroethane	055 Naphthalene	098 Endrin
011 1,1,1-trichloroethane	056 Nitrobenzene	099 Endrin aldehyde
012 Hexachloroethane	057 2-nitrophenol	100 Heptachlor
013 1,1-dichloroethane	058 4-nitrophenol	101 Heptachlor epoxide (BHC-hexachlorocyclohexane)
014 1,1,2-trichloroethane	059 2,4-dinitrophenol	
015 1,1,2,2-tetrachloroethane	060 4,6-dinitro-o-cresol	102 Alpha-BHC
016 Chloroethane	061 N-nitrosodimethylamine	103 Beta-BHC
018 Bis(2-chloroethyl) ether	062 N-nitrosodiphenylamine	104 Gamma-BHC (lindane)
019 2-chloroethyl vinyl ether (mixed)	063 N-nitrosodi-n-propylamin	105 Delta-BHC (PCB-polychlorinated biphenyls)
020 2-chloronaphthalene	064 Pentachlorophenol	106 PCB-1242 (Arochlor 1242)
021 2,4, 6-trichlorophenol	065 Phenol	107 PCB-1254 (Arochlor 1254)
022 Parachlorometa cresol	066 Bis(2-ethylhexyl) phthalate	108 PCB-1221 (Arochlor 1221)
023 Chloroform (trichloromethane)	067 Butyl benzyl phthalate	109 PCB-1232 (Arochlor 1232)
024 2-chlorophenol	068 Di-N-Butyl Phthalate	110 PCB-1248 (Arochlor 1248)
025 1,2-dichlorobenzene	069 Di-n-octyl phthalate	111 PCB-1260 (Arochlor 1260)
026 1,3-dichlorobenzene	070 Diethyl Phthalate	112 PCB-1016 (Arochlor 1016)
027 1,4-dichlorobenzene	071 Dimethyl phthalate	113 Toxaphene
028 3,3-dichlorobenzidine	072 1,2-benzanthracene (benzo(a) anthracene)	114 Antimony
029 1,1-dichloroethylene	073 Benzo(a)pyrene (3,4-benzo-pyrene)	115 Arsenic
030 1,2-trans-dichloroethylene	074 3,4-Benzofluoranthene (benzo(b) fluoranthene)	116 Asbestos
031 2,4-dichlorophenol	075 1,1,12-benzofluoranthene (benzo(b) fluoranthene)	117 Beryllium
032 1,2-dichloropropane	076 Chrysene	118 Cadmium
033 1,2-dichloropropylene (1,3-dichloropropene)	077 Acenaphthylene	119 Chromium
	078 Anthracene	120 Copper
034 2,4-dimethylphenol	079 1,12-benzoperylene (benzo(ghi) perylene)	121 Cyanide, Total
035 2,4-dinitrotoluene	080 Fluorene	122 Lead
036 2,6-dinitrotoluene	081 Phenanthrene	123 Mercury
037 1,2-diphenylhydrazine	082 1,2,5,6-dibenzanthracene (dibenzo(h) anthracene)	124 Nickel
038 Ethylbenzene	083 Indeno (,1,2,3-cd) pyrene (2,3-opheynylene pyrene)	125 Selenium
039 Fluoranthene	084 Pyrene	126 Silver
040 4-chlorophenyl phenyl ether	085 Tetrachloroethylene	127 Thallium
041 4-bromophenyl phenyl ether	086 Toluene	126 Silver
042 Bis(2-chloroisopropyl) ether	087 Trichloroethylene	128 Zinc
043 Bis(2-chloroethoxy) methane	088 Vinyl chloride (chloroethylene)	129 2,3,7,8-tetrachloro-dibenzo-p-dioxin (TCDD)

D. SPECIAL CONDITIONS (continued)

11. This permit stipulates pollutant benchmark concentrations for the stormwater outfalls. The following Benchmark Limitations are considered necessary to protect existing water quality. If the discharge concentration exceeds any of the appropriate benchmark concentrations for a pollutant of concern in the Table below, you must review your SWPPP and BMPs to determine whether any improvement or additional controls are practicable to reduce that pollutant in your stormwater discharge(s). Failure to undertake and document the review, take the necessary corrective actions, or follow the DNR notification procedures stipulated in this permit are violations of this permit.

Parameter	Benchmark Concentrations
Aluminum, Total Recoverable	373 µg/L
Iron, Total Recoverable	300 µg/L
Manganese, Total Recoverable	50 µg/L
Selenium, Total Recoverable	4.1 µg/L
Chloride plus Sulfate	1000 mg/L

You must submit to Southwest Regional Office a progress report detailing action taken to remedy any benchmark exceedances no later than 30 days from the date of the exceedance. As an alternative to BMPs, one may propose in-stream sampling by submitting a Quality Assurance Project Plan (QAPP) to show that the discharge does not cause or contribute to an exceedance of water quality standards. If at any time you or DNR determine(s) that a stormwater discharge is causing or contributing to an exceedance of applicable water quality standards, you must take corrective actions, must comply with any requirements or schedules including submitting additional information concerning the potential cause for the exceedance, and must conduct follow-up monitoring.

DNR may modify the permit to include a limit if necessary. DNR may look at monitoring data and the number of exceedances as well as background concentrations in the stream, and other relevant information to determine whether the discharge has the reasonable potential to cause or contribute to a violation of the established water quality standard.

12. Whole Effluent Toxicity (WET) Test shall be conducted as follows:

SUMMARY OF ACUTE WET TESTING FOR THIS PERMIT				
OUTFALL	AEC	FREQUENCY	SAMPLE TYPE	MONTH
002	100%	Once/Year	24 hr composite	Any

Dilution Series						
100%	50%	25%	12.5%	6.25%	(Control) 100% upstream, if available	(Control) 100% Lab Water, also called synthetic water

- (a) Test Schedule and Follow-Up Requirements
 - (1) Perform a MULTIPLE-dilution acute WET test in the months and at the frequency specified above. For tests which are successfully passed, submit test results using the Department’s WET test report form #MO-780-1899 along with complete copies of the test reports as received from the laboratory, including copies of chain-of-custody forms within 30 calendar days of availability to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102. If the effluent passes the test, do not repeat the test until the next test period.
 - (a) For discharges of stormwater, samples shall be collected within three hours from when discharge first occurs.
 - (b) Samples submitted for analysis of stormwater discharges shall be collected as a grab.
 - (c) For discharges of non-stormwater, samples shall be collected only when precipitation has not occurred for a period of forty-eight hours prior to sample collection. In no event shall sample collection occur simultaneously with the occurrence of precipitation excepting for stormwater samples.
 - (d) A twenty-four hour composite sample shall be submitted for analysis of non-stormwater discharges.
 - (e) Upstream receiving water samples, where required, shall be collected upstream from any influence of the effluent where downstream flow is clearly evident.
 - (f) Samples submitted for analysis of upstream receiving water may be collected as either a grab or twenty-four-hour composite as appropriate to the nature of the discharge.

D. SPECIAL CONDITIONS (continued)

12. Whole Effluent Toxicity (WET) Test

- (g) Chemical and physical analysis of the upstream control and effluent sample shall occur immediately upon being received by the laboratory, prior to any manipulation of the effluent sample beyond preservation methods consistent with federal guidelines for WET testing that are required to stabilize the sample during shipping.
 - (h) Any and all chemical or physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% Effluent concentration in addition to analyses performed upon any other effluent concentration.
 - (i) All chemical analyses included in the Missouri Department of Natural Resources WET test report form #MO-780-1899 shall be performed and results shall be recorded in the appropriate field of the report form.
 - (j) Where flow-weighted composite sample is required for analysis, the samples shall be composited at the laboratory where the test is to be performed.
 - (k) Where in stream testing is required downstream from the discharge, sample collection shall occur immediately below the established Zone of Initial Dilution in conjunction with or immediately following a release or discharge.
 - (l) Samples submitted for analysis of downstream receiving water may be collected as either a grab or twenty-four-hour composite as appropriate to the nature of the discharge.
 - (m) All instream samples, including downstream samples, shall be tested for toxicity at the 100% concentration in addition to any other assigned AEC for in-stream samples.
- (2) All failing test results along with complete copies of the test reports as received from the laboratory, INCLUDING THOSE TESTS CONDUCTED UNDER CONDITION (3) BELOW, shall be reported to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the availability of the results.
 - (3) If the effluent fails the test, a multiple dilution test shall be performed for BOTH test species within 30 calendar days and biweekly thereafter (for storm water, tests shall be performed on the next and subsequent storm water discharges as they occur, but not less than 7 days apart) until one of the following conditions are met:
 - (i) THREE CONSECUTIVE MULTIPLE-DILUTION TESTS PASS. No further tests need to be performed until next regularly scheduled test period.
 - (ii) A TOTAL OF THREE MULTIPLE-DILUTION TESTS FAIL.
 - (4) The permittee shall submit a summary of all test results for the test series along with complete copies of the test reports as received from the laboratory to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the third failed test.
 - (5) Additionally, the following shall apply upon failure of the third MULTIPLE DILUTION test: A toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. The permittee shall contact THE WATER PROTECTION PROGRAM within 14 calendar days from availability of the test results to ascertain as to whether a TIE or TRE is appropriate. The permittee shall submit a plan for conducting a TIE or TRE to the WATER PROTECTION PROGRAM within 60 calendar days of the date of DNR's direction to perform either a TIE or TRE. This plan must be approved by DNR before the TIE or TRE is begun. A schedule for completing the TIE or TRE shall be established in the plan approval.
 - (6) Upon DNR's approval, the TIE/TRE schedule may be modified if toxicity is intermittent during the TIE/TRE investigations. A revised WET test schedule may be established by DNR for this period.
 - (7) If a previously completed TIE has clearly identified the cause of toxicity, additional TIEs will not be required as long as effluent characteristics remain essentially unchanged and the permittee is proceeding according to a DNR approved schedule to complete a TRE and reduce toxicity. Regularly scheduled WET testing as required in the permit, without the follow-up requirements, will be required during this period.

D. SPECIAL CONDITIONS (continued)

12. Whole Effluent Toxicity (WET) Test

(b) PASS/FAIL procedure and effluent limitations:

(1) To pass a multiple-dilution test:

- (i) For facilities with a computed percent effluent at the edge of the zone of initial dilution, Allowable Effluent Concentration (AEC) OF 30% OR LESS, the AEC must be less than three-tenths (0.3) of the LC₅₀ concentration for the most sensitive of the test organisms; **OR**,
- (ii) For facilities with an AEC greater than 30%, the LC₅₀ concentration must be greater than 100%; **AND**,
- (iii) All effluent concentrations equal to or less than the AEC must be nontoxic. Mortality observed in all effluent concentrations equal to or less than the AEC shall not be significantly different (at the 95% confidence level; p = 0.05) than that observed in the upstream receiving-water control sample. Where upstream receiving water is not available mortality observed in the AEC test concentration shall not be significantly different (at the 95% confidence level; p = 0.05) than that observed in the laboratory control. The appropriate statistical tests of significance shall be consistent with the most current edition of METHODS FOR MEASURING THE ACUTE TOXICITY OF EFFLUENTS AND RECEIVING WATERS TO FRESHWATER AND MARINE ORGANISMS or other federal guidelines as appropriate or required.

(c) Test Conditions

- (1) Test Type: Acute Static non-renewal
- (2) All tests, including repeat tests for previous failures, shall include both test species listed below.
- (3) Test species: Ceriodaphnia dubia and Pimephales promelas (fathead minnow). Organisms used in WET testing shall come from cultures reared for the purpose of conducting toxicity tests and cultured in a manner consistent with the most current USEPA guidelines. All test animals shall be cultured as described in the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms.
- (4) Test period: 48 hours at the "Allowable Effluent Concentration" (AEC) specified above.
- (5) Upstream receiving stream water shall be used as dilution water. If upstream water is unavailable or if mortality in the upstream water exceeds 10%, "reconstituted" water will be used as dilution water. Procedures for generating reconstituted water will be supplied by the MDNR upon request.
- (6) Unless otherwise specified above, multiple-dilution tests will be run with:
 - (a) 100%, 50%, 25%, 12.5%, and 6.25% effluent, unless the AEC is less than 25% effluent, in which case dilutions will be 4 times the AEC, two times the AEC, AEC, 1/2 AEC and 1/4 AEC;
 - (b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
 - (c) Reconstituted water.
- (7) If reconstituted-water control mortality for a test species exceeds 10%, the entire test will be rerun.
- (8) If upstream control mortality exceeds 10%, the entire test will be rerun using reconstituted water as the dilutant.

SUMMARY OF TEST METHODOLOGY FOR ACUTE WHOLE-EFFLUENT TOXICITY TESTS

Whole-effluent-toxicity test required in NPDES permits shall use the following test conditions when performing single or multiple dilution methods. Any future changes in methodology will be supplied to the permittee by the Missouri Department of Natural Resources (MDNR). Unless more stringent methods are specified by the DNR, the procedures shall be consistent with the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms,

Test conditions for Ceriodaphnia dubia:

Test duration:	48 h
Temperature:	25 ± 1°C Temperatures shall not deviate by more than 3°C during the test.
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light, 8 h dark
Size of test vessel:	30 mL (minimum)
Volume of test solution:	15 mL (minimum)
Age of test organisms:	<24 h old
No. of animals/test vessel:	5
No. of replicates/concentration:	4
No. of organisms/concentration:	20 (minimum)
Feeding regime:	None (feed prior to test)
Aeration:	None
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.
Endpoint:	Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream water was not available at $p \leq 0.05$)
Test acceptability criterion:	90% or greater survival in controls

Test conditions for Pimephales promelas:

Test duration:	48 h
Temperature:	25 ± 1°C Temperatures shall not deviate by more than 3°C during the test.
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light/ 8 h dark
Size of test vessel:	250 mL (minimum)
Volume of test solution:	200 mL (minimum)
Age of test organisms:	1-14 days (all same age)
No. of animals/test vessel:	10
No. of replicates/concentration:	4 (minimum) single dilution method 2 (minimum) multiple dilution method
No. of organisms/concentration:	40 (minimum) single dilution method 20 (minimum) multiple dilution method
Feeding regime:	None (feed prior to test)
Aeration:	None, unless DO concentration falls below 4.0 mg/L; rate should not exceed 100 bubbles/min.
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.
Endpoint:	Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream water was not available at $p \leq 0.05$)
Test Acceptability criterion:	90% or greater survival in controls

Missouri Department of Natural Resources
Statement of Basis
For the Purpose of Modification
of
MO-0089940
John Twitty Energy Center

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

As per [40 CFR Part 124.8(a)] and [10 CSR 20-6.020(1)2.] a Factsheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the Missouri State Operating Permit (operating permit) listed below.

A Factsheet is not an enforceable part of an operating permit.
This Factsheet is for an Industrial Facility.

2014 Modification

On November 12, 2014 the City Utilities (CU) submitted a request to modify the schedule of compliance found in MO-0089940. Since this permit was last issued, changes to Missouri's regulations have made it possible to grant schedules of compliance exceeding the three years originally granted. 40 CFR 122.62(a)(4) allows modifications to a schedule of compliance for events over which the permittee has little or no control and for which there is no reasonably achievable remedy. CU submitted a modification application and letter detailing the conditions that have caused them to be unable to meet the original schedule of compliance.

Since the SOC was originally granted, CU has made considerable progress toward meeting the final water quality based effluent limitations (WQBELs). Reasonable remedies implemented by CU include rerouting water from truck wash down, vegetative restoration, reducing feed rate of phosphorus in the cooling tower, corrosion control measures, cleaning the cooling tower basin, adding two earthen stormwater detention basins, valve work on ponds, installation of a concrete detention structure with floating suction and clean-out of Outfall 002 east pond cell. These measures have allowed the facility to achieve final limits for total phosphorus, total suspended solids and total recoverable zinc. However, the discharge still occasionally exceeds final limits for aluminum, iron and copper.

At this time, generating Unit 1 is under an extended outage due to upgrades necessary to meet air quality regulations. This outage is preventing the facility from working with their consultant to collect the data necessary to design an engineering solution to meet the final limits for the three remaining constituents identified above. Once the unit is returned to operation, CU will continue to work to identify a solution. Once a solution is identified for the facility, CU must take steps to implement the solution which could include design, bidding, allocation of funds, construction and startup. This will not be possible within the currently allotted schedule of compliance. Thus the schedule of compliance is being extended to allow the facility additional time to meet final limits for aluminum, iron and copper.

In the interim, the EPA is also working to finalize rules relating to the handling of coal ash and effluent limitation guidelines for discharges from steam electric generation facilities. The extended schedule of compliance may allow the facility time to consider the impacts of these new regulations when determining a final solution for compliance with the Clean Water Act and Missouri Clean Water Law. The extended schedule of compliance reaches beyond the five-year span of this permit, however, the final deadline for compliance with effluent limitations should be carried forward into the renewed permit and will become effective if this permit is administratively continued beyond the expiration date of this permit.

- The Public Notice period for this operating permit was from 12/19/2015 to 01/19/2015. Responses to the Public Notice of this operating permit do not warrant the modification of effluent limits and/or the terms and conditions of this permit. The comment letter indicated that the schedule of compliance should not be extended. Justification for extending the schedule of compliance can be found above.

Date of Statement of Basis: January 22, 2014

COMPLETED BY:

AMANDA SAPPINGTON
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION
(573) 751-8728
Amanda.sappington@dnr.mo.gov

Missouri Department of Natural Resources
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0089940
SPRINGFIELD – JOHN TWITTY ENERGY CENTER

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

As per [40 CFR Part 124.8(a)] and [10 CSR 20-6.020(1)2.] a Factsheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the Missouri State Operating Permit (operating permit) listed below.

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

This Factsheet is for a Major , Minor , Industrial Facility ; Variance ;
 Master General Permit ; General Permit Covered Facility ; and/or permit with widespread public interest .

Part I – Facility Information

Facility Type: IND
 Facility SIC Code(s): 4931

Facility Description:

Approximately 503 MW coal fired steam electric power plant with a 203-megawatt unit and a 300-megawatt unit. Domestic wastewater and Unit #2 cooling tower will be discharged to the Springfield Southwest Wastewater Treatment Plant (MO-0049522). Routine maintenance clean-up water/rinses from cooling tower basins are released to Outfall #002.

Have any changes occurred at this facility or in the receiving water body that effects effluent limit derivation?
 - No.

Application Date: 12/27/10
 Expiration Date: 8/12/15
 Last Inspection: 5/26/09 In Compliance ; Non-Compliance

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
001	37.7	Industrial/Stormwater	Coal Pile Runoff	1.65
002	14.9	Industrial	Cooling Water/Boiler Blowdown/ Periodic Basin Cleaning	0.15
003	Eliminated	---	---	---
004	18.1	Industrial/Stormwater	Settling Basin	0.45
005	3.7	Stormwater/BMP	Stormwater from Plant Area	0.25
006	4.8	Stormwater/BMP	Stormwater from Plant Area	0.7

Note Special Condition #10 of the permit requires an internal monitoring point for 126 Priority Pollutants in the cooling tower blowdown water (or alternative compliance through documentation).

Outfall #001

Legal Description: SE ¼, SW ¼, NE ¼, Sec. 12, T28N, R23W, Greene County
UTM Coordinates: X = 465036, Y = 4111345
Receiving Stream Name: Unnamed Tributary to Wilsons Creek (U)
First Classified Stream and ID: Wilson Creek (P) (Losing) (02375)
USGS Basin & Sub-watershed No.: (11010002 – 0303)

Outfall #002

Legal Description: NE ¼, SE ¼, SW ¼, Sec. 7, T28N, R22W, Greene County
UTM Coordinates: X = 466358, Y = 4110680
Receiving Stream Name: Unnamed Tributary to Wilsons Creek (U)
First Classified Stream and ID: Wilson Creek (P) (Losing) (02375)
USGS Basin & Sub-watershed No.: (11010002 – 0303)

Outfall #003 - Eliminated

Outfall #004

Legal Description: NW ¼, NE ¼, SW ¼, Sec. 7, T28N, R22W, Greene County
UTM Coordinates: X = 466140, Y = 4111029
Receiving Stream Name: Unnamed Tributary to Wilsons Creek (U)
First Classified Stream and ID: Wilson Creek (P) (Losing) (02375)
USGS Basin & Sub-watershed No.: (11010002 – 0303)

Outfall #005

Legal Description: NE ¼, SW ¼, Sec. 7, T28N, R22W, Greene County
UTM Coordinates: X = 466312, Y = 4110763
Receiving Stream Name: Unnamed Tributary to Wilsons Creek (U)
First Classified Stream and ID: Wilson Creek (P) (Losing) (02375)
USGS Basin & Sub-watershed No.: (11010002 – 0303)

Outfall #006

Legal Description: NW ¼, NW ¼, NW ¼, Sec. 7, T28N, R22W, Greene County
UTM Coordinates: X = 465633, Y = 4111999
Receiving Stream Name: Unnamed Tributary to Wilsons Creek (U)
First Classified Stream and ID: Wilson Creek (P) (Losing) (02375)
USGS Basin & Sub-watershed No.: (11010002 – 0301)

SM1 – Upstream Sampling

Legal Description: SE ¼, SW ¼, NE ¼, Sec. 7, T28N, R22W, Greene County
UTM Coordinates: X=466656, Y=4111267
Receiving Stream Name and First Classified Stream and ID: Wilson Creek (P) (Losing) (02375)
USGS Basin & Sub-watershed No.: (11010002 – 0303)

SM2 – Downstream Sampling

Legal Description: SW ¼, SW ¼, SE ¼, Sec. 7, T28N, R22W, Greene County
UTM Coordinates: X = 466549, Y = 4110371
Receiving Stream Name and First Classified Stream and ID: Wilson Creek (P) (Losing) (02375)
USGS Basin & Sub-watershed No.: (11010002 – 0303)

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

No recent stream survey. Only violation of effluent concentration was December 2008 for Total Suspended Solids. May 26, 2009 inspection noted that the berms of the settling basins were growing woody vegetation. Due to all outfalls being located within two miles of a losing stream, the losing stream designation will apply in accordance with 10 CSR 20-7.015(1)(A)3.

Wilsons Creek was listed on the 2008 Missouri 303(d) List for Unknown Pollutants. On January 28, 2011, EPA established a TMDL to address the impairment by toxicity from multiple pollutants. As such, this water body/pollutant pair is appropriate for removal from the Missouri 303(d) List, consistent with 40 CFR § 130.7(b). Additionally, Wilsons Creek is listed on the in 2010 303(d) List for bacteria.

Comments:

On August 13, 2010, current operating permit was re-issued before the start-up of Unit 2. The facility has requested a modification of the permit to provide a schedule of compliance to meet Outfall #002 effluent limits and other minor modifications to improve clarity of conditions.

Pollutants Typically Associated with Steam Electric Industry Discharges:

Additionally, staff has reviewed the renewal applications Form C and D for each of the outfalls for this operating permit. Effluent testing results contained in Form C and D for each outfall were compared directly with pollutants associated with the various waste streams for each of the outfalls as established in the United States EPA document, *Interim Detailed Study Report for the Steam Electric Power Generating Point Source Category* (Interim Study Report). Pollutants contained in the Interim Study Report are based on data previously collected by the EPA during the 1974 and 1982 rulemaking efforts and the 1996 Preliminary Data Summary, data provided by the Utility Water Act Group (UWAG) and Electric Power Research Institute (EPRI). Below is the list of pollutants based on process waste streams:

- Cooling Water: Once-through or Cooling Tower Blowdown.

Chlorine, Iron, Copper, Nickel, Aluminum, Boron, Chlorinated Organic Compounds, Suspended Solids, Brominated Compounds, and Non-oxidizing Biocides.

- Ash Handling: Bottom or Fly Ash.

TSS, Sulfate, Chloride, Magnesium, Nitrate, Aluminum, Antimony, Arsenic, Boron, Cadmium, Chromium, Copper, Cyanide, Iron, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc

- Coal Pile Runoff:

Acidity, COD, Chloride, Sulfate, TSS, Aluminum, Antimony, Arsenic, Boron, Beryllium, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Mercury, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc.

- Other Low-Volume Waste Streams:

Suspended solids, Dissolved Solids, Oil & Grease, Phosphates, Surfactants, Acidity, Methylene Chloride, Phthalates, BOD₅, COD, Fecal Coliform, and Nitrates.

For the above pollutants, staff drafting this operating permit only compared the applicable pollutants based on Missouri's Water Quality Standards criteria and designated uses. For any of the outfalls that do not contain one of the process wastewater types above, these pollutants were not reviewed.

Part II – Operator Certification Requirements

This facility is not required to have a certified operator.

Part III – Receiving Stream Information

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:

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

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

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

RECEIVING STREAM(S) TABLE:

WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	8-DIGIT HUC	EDU**
Unnamed Tributary to Wilsons Creek	U	-	General Criteria	11010002	Ozark/White
Wilsons Creek (Losing)	P	2375	LWW, AQL, WBC(B)***		

* - Irrigation (IRR), Livestock & Wildlife Watering (LWW), Protection of Warm Water Aquatic Life and Human Health-Fish Consumption (AQL), Cool Water Fishery(CLF), Cold Water Fishery (CDF), Whole Body Contact Recreation (WBC), Secondary Contact Recreation (SCR), Drinking Water Supply (DWS), Industrial (IND), Groundwater (GRW).

** - Ecological Drainage Unit

*** - UAA has not been conducted.

RECEIVING STREAM(S) LOW-FLOW VALUES TABLE:

Mixing Zone: Not Allowed [10 CSR 20-7.031(4)(A)4.B.(I)(a)].

Zone of Initial Dilution: Not Allowed [10 CSR 20-7.031(4)(A)4.B.(I)(b)].

RECEIVING STREAM MONITORING REQUIREMENTS:

Site SM1. (Upstream)

PARAMETER(S)	SAMPLING FREQUENCY	SAMPLE TYPE	LOCATION
Temperature (°F)	once/month	grab	Upstream monitoring location at Farm Road 168 (X=466656, Y=4111267)

Site SM2. (Downstream)

PARAMETER(S)	SAMPLING FREQUENCY	SAMPLE TYPE	LOCATION
Temperature (°F)	once/month	grab	Downstream monitoring location at Highway M (X=466549, Y=4110371)

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

ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:

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

Not Applicable ;

The facility does discharge to a Losing Stream as defined by [10 CSR 20-2.010(36)] & [10 CSR 20-7.031(1)(N)], however it is an existing facility.

ANTI-BACKSLIDING:

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

- Backsliding proposed in this statement for the reissuance of this permit conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 CFR Part 122.44.

Section 402(o)(2) outlines specific exceptions to the general prohibition against establishment of less stringent effluent limitations. Codified in the NPDES regulations at 40 CFR 122.44(l), Section 402(o)(2) provided that the establishment of less stringent limits may be allowed where:

- (1) There have been material and substantial alterations or additions to the permitted facility which justify this relaxation.
- (2) Technical mistakes or mistaken interpretations of the law were made in issuing the permit under Section 402(a)(1)(b).
- (3) The permittee has installed and properly operated and maintained required treatment facilities but still has been unable to meet the permit limitations (relaxation may only be allowed to the treatment levels actually achieved).

ANTIDegradation:

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

- Renewal no degradation proposed and no further review necessary.

AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:

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

BIO-SOLIDS, SLUDGE, & SEWAGE SLUDGE:

Bio-solids are solid materials resulting from wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). Sludge is any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar characteristics and effect. Sewage sludge is solids, semi-solids, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works.

Not Applicable ;

This condition is not applicable to the permittee for this specific facility.

COAL COMBUSTION RESIDUALS (CCR):

Coal Combustion Residuals (CCR), often referred to as coal ash, is currently considered exempt wastes under an amendment to RCRA, the Resource Conservation and Recovery Act. Coal ash is residues from the combustion of coal in power plants and captured by pollution control technologies, like scrubbers. Potential environmental concerns from coal ash pertain to pollution from impoundment and landfills leaching into ground water and structural failures of impoundments.

The US EPA is currently proposing the first-ever national rules to ensure the safe disposal and management of coal ash from coal-fired power plants under the nation’s primary law for regulating solid waste, the RCRA. The EPA is putting forward two (2) proposals that reflect different approaches to managing the disposal of coal ash and both are to ensure the safe management of coal ash that is disposed in surface impoundments and/or landfills.

Both options will provide for the first time on a national basis that liners and ground water monitoring are in place at new landfills handling coal ash and impoundments in order to prevent leaching of contaminants to groundwater and resulting risks to human health. Under the **Subtitle C** proposal, EPA is adopting measures intended to phase out the wet handling of CCRs and existing surface impoundments; under the **Subtitle D** proposal, existing impoundments would require liners, which will create strong incentives to close these impoundments and transition to safer landfills which store coal ash in dry form. Both proposals will ensure stronger oversight of the structural integrity of impoundments. Additionally, both options will require liners and groundwater monitoring, and corrective action if there is any contamination detected. For the Subtitle D Option, the corrective action requirements are not as extensive.

Use and disposal of ash is not authorized by this permit. This permit does not pertain to permits for disposal of ash or exemptions for beneficial uses of ash under the Missouri Solid Waste Management Law and regulations. This permit does not authorize off-site storage, use or disposal of ash in regard to water pollution control permits required under 10 CSR 20-6.015 and 10 CSR 20-6.200.

COMPLIANCE AND ENFORCEMENT:

Enforcement is the action taken by the Water Protection Program (WPP) to bring an entity into compliance with the Missouri Clean Water Law, its implementing regulations, and/or any terms and conditions of an operating permit. The primary purpose of the enforcement activity in the WPP is to resolve violations and return the entity to compliance.

Not Applicable ;

The permittee/facility is not currently under Water Protection Program enforcement action.

PRETREATMENT PROGRAM:

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

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

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

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

Not Applicable ;

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

REASONABLE POTENTIAL ANALYSIS (RPA):

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

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

Not Applicable ;

Due to the limited sample data, the department was unable to perform statistical Reasonable Potential Analysis. However, staff used their best professional judgment in determining if a facility has a potential to violate Missouri's Water Quality Standards.

REMOVAL EFFICIENCY:

Removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to Biochemical Oxygen Demand 5-day (BOD₅) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals. Please see the United States Environmental Protection Agency's (EPA) website for interpretation of percent removal requirements for National Pollutant Discharge Elimination System Permit Application Requirements for Publicly Owned Treatment Works and Other Treatment Works Treating Domestic Sewage @ www.epa.gov/fedrgstr/EPA-WATER/1999/August/Day-04/w18866.htm.

Not Applicable ;

Influent monitoring is not being required to determine percent removal.

SANITARY SEWER OVERFLOWS (SSOs), BYPASSES, INFLOW & INFILTRATION (I&I) – PREVENTION/REDUCTION:

Sanitary Sewer Systems (SSSs) are municipal wastewater collection systems that convey domestic, commercial, and industrial wastewater, and limited amounts of infiltrated groundwater and storm water (i.e. I&I), to a POTW. SSSs are not designed to collect large amounts of storm water runoff from precipitation events.

Untreated or partially treated discharges from SSSs are commonly referred to as SSOs. SSOs have a variety of causes including blockages, line breaks, sewer defects that allow excess storm water and ground water to overload the system, lapses in sewer system operation and maintenance, inadequate sewer design and construction, power failures, and vandalism. A SSOs is defined as an untreated or partially treated sewage release from a SSS. SSOs can occur at any point in an SSS, during dry weather or wet weather. SSOs include overflows that reach waters of the state. SSOs also include overflows out of manholes and onto city streets, sidewalks, and other terrestrial locations. SSSs can back up into buildings, including private residences. When sewage backups are caused by problems in the publicly-owned portion of an SSS, they are considered SSOs.

Not Applicable ;

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

SCHEDULE OF COMPLIANCE (SOC):

A schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (actions, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit.

Not Applicable ;

This permit does not contain a SOC.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP):

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

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

Additionally in accordance with the Storm Water Management, a SWPPP is a series of steps and activities to (1) identify sources of pollution or contamination, and (2) select and carry out actions which prevent or control the pollution of storm water discharges.

Applicable ;

A SWPPP shall be developed and implemented for each site and shall incorporate required practices identified by the Department with jurisdiction, incorporate erosion control practices specific to site conditions, and provide for maintenance and adherence to the plan.

VARIANCE:

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

Not Applicable ;

This operating permit is not drafted under premises of a petition for variance.

WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:

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

Applicable ;

Wasteload allocations were calculated where applicable using water quality criteria or water quality model results and the dilution equation below:

$$C = \frac{(C_s \times Q_s) + (C_e \times Q_e)}{(Q_e + Q_s)} \quad (\text{EPA/505/2-90-001, Section 4.5.5})$$

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

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

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

WLA MODELING:

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

Not Applicable ;

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

WATER QUALITY STANDARDS:

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

WHOLE EFFLUENT TOXICITY (WET) TEST:

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

Applicable ;

Under the federal Clean Water Act (CWA) §101(a)(3), requiring WET testing is reasonably appropriate for site-specific Missouri State Operating Permits for discharges to waters of the state issued under the National Pollutant Discharge Elimination System (NPDES). WET testing is also required by 40 CFR 122.44(d)(1). WET testing ensures that the provisions in the 10 CSR 20-6.010(8)(A)7. and the Water Quality Standards 10 CSR 20-7.031(3)(D),(F),(G),(I)2.A & B are being met. Under [10 CSR 20-6.010(8)(A)4], the Department may require other terms and conditions that it deems necessary to assure compliance with the Clean Water Act and related regulations of the Missouri Clean Water Commission. In addition the following MCWL apply: §§644.051.3 requires the Department to set permit conditions that comply with the MCWL and CWA; 644.051.4 specifically references toxicity as an item we must consider in writing permits (along with water quality-based effluent limits, pretreatment, etc...); and 644.051.5 is the basic authority to require testing conditions. WET test will be required by all facilities meeting the following criteria:

- Facility is a designated Major.
- Facility continuously or routinely exceeds its design flow.
- Facility (industrial) that alters its production process throughout the year.
- Facility handles large quantities of toxic substances, or substances that are toxic in large amounts.
- Facility has Water Quality-based Effluent Limitations for toxic substances (other than NH₃)
- Facility is a municipality or domestic discharger with a Design Flow \geq 22,500 gpd.
- Other – please justify.

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

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

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

Applicable ;

Wilsons Creek is listed on the 2008 Missouri 303(d) List for Bacteria and Unknown Pollutants.

– This facility is not considered to be a source of the above listed pollutant(s) or considered to contribute to the impairment of Wilsons Creek as the loading of each pollutant is below Water Quality Standards.

Part V – Effluent Limits Determination

Outfall #001 – EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	GPD	1	*		*	NO	S
PRECIPITATION	INCHES	1	*		*	NO	S
pH	SU	1	6.5-9.0		6.5-9.0	NO	S
TSS	MG/L	1	45		30	YES	20/15
SETTLABLE SOLIDS	ML/L/HR	1, 9	1.0		1.0	YES	**
OIL & GREASE (MG/L)	MG/L	3, 9	15		10	NO	S
TOTAL PHOSPHORUS AS P	MG/L	1	*		0.5	NO	S
CHEMICAL OXYGEN DEMAND	MG/L	9	*		*	NO	S
TOTAL NITROGEN AS N	MG/L	1, 9	*		*	NO	S
ALUMINUM, TOTAL RECOVERABLE	µG/L	3	***		***	YES	749/373
IRON, TOTAL RECOVERABLE	µG/L	3	***		***	YES	603/300
MANGANESE, TOTAL RECOVERABLE	µG/L	3	***		***	YES	101/50
SELENIUM, TOTAL RECOVERABLE	µG/L	9	*		*	NO	S
POLYCHLORINATED BIPHENYLS	µG/L	1	****		****	YES	0.0
SULFATE	MG/L	9	*		*	NO	S
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

- * - Monitoring requirement only.
- ** - Parameter not previously established in previous state operating permit.
- *** - Monitoring requirements and benchmark Concentration
- **** - There shall be no discharge of polychlorinated biphenyl compounds [40 CFR 423.15(b)].

Basis for Limitations Codes:

- | | |
|--|------------------------------------|
| 1. State or Federal Regulation/Law | 7. Antidegradation Policy |
| 2. Water Quality Standard (includes RPA) | 8. Water Quality Model |
| 3. Water Quality Based Effluent Limits | 9. Best Professional Judgment |
| 4. Lagoon Policy | 10. TMDL or Permit in lieu of TMDL |
| 5. Ammonia Policy | 11. WET Test Policy |
| 6. Dissolved Oxygen Policy | 12. Antidegradation Review |

OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the Department, which may require the submittal of an operating permit modification.
- **Precipitation.** Monitoring only requirement. Report as inches of liquid precipitation.
- **pH.** pH is limited to the range of 6.5 – 9.0 pH units, as per [10 CSR 20-7.031(4)(E)]. pH is measured in pH units and is not to be averaged.
- **Total Suspended Solids (TSS).** Best professional judgment effluent limits of 30 mg/L monthly average, 45 mg/L weekly average apply [10 CSR 20-7.015(4)(B)2.]. The 2004 permit had a 50 mg/L daily maximum limit [40 CFR 423.15(k)]. A review of the discharge monitoring reports shows that the proposed limits are achievable.
- **Settleable Solids.** This limit is a best professional judgment value established to verify the effectiveness of storm water BMPs. During the drafting of the master general permit an analysis of settleable solids data submitted to the department during the years of 1990-2006 was conducted. It was determined that 1.0 mL/L/h represents the 87th percentile of that data. Therefore is has been determined that 1.0 mL/L/h is an achievable limit representing available BMP technologies.

- **Oil & Grease.** Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.
- **Total Phosphorus as P.** Shall not exceed 0.5 mg/L of phosphorus as a monthly average as per 10 CSR 20-7.015(3)(F).
- **Chemical Oxygen Demand.** Monitoring only requirement due to the receiving stream being on the 303(d) list for unknown pollutants and also that the stream is classified as losing.
- **Total Nitrogen as N.** Monitoring only requirement due to the receiving stream being on the 303(d) list for unknown pollutants and also that the stream is classified as losing. Also, this facility is in the Table Rock Lake watershed.
- **Polychlorinated Biphenyls.** There shall be no discharge of polychlorinated biphenyl compounds [40 CFR 423.15(b)].
- **Sulfate.** Monitoring only requirement.

Metals

- **Pollutant Benchmark Concentrations.** If the discharge concentration exceeds any of the appropriate benchmarks for a pollutant of concern in the Table below, you must review your Stormwater Pollution Prevention Plan (SWPPP) and your BMPs to determine whether any improvement or additional controls are needed to reduce that pollutant in your stormwater discharge(s).

Parameter	Benchmark Concentrations
Aluminum, Total Recoverable	373 µg/L
Iron, Total Recoverable	300 µg/L
Manganese, Total Recoverable	50 µg/L

- **Selenium, Total Recoverable.** Monitoring only requirement.
- **Cadmium, Lead, and Thallium.** Monitoring only requirement removed based on current information and policy.

WET Test. Removed due to current policy regarding stormwater discharges.

Minimum Sampling and Reporting Frequency Requirements.

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
FLOW	ONCE/MONTH	ONCE/MONTH
PRECIPITATION	DAILY	ONCE/MONTH
PH	ONCE/MONTH	ONCE/MONTH
TSS	ONCE/MONTH	ONCE/MONTH
SETTLEABLE SOLIDS	ONCE/MONTH	ONCE/MONTH
OIL AND GREASE	ONCE/MONTH	ONCE/MONTH
TOTAL PHOSPHORUS AS P	ONCE/MONTH	ONCE/MONTH
CHEMICAL OXYGEN DEMAND	ONCE/QUARTER	ONCE/QUARTER
TOTAL NITROGEN AS N	ONCE/QUARTER	ONCE/QUARTER
ALUMINUM, TOTAL RECOVERABLE	ONCE/QUARTER	ONCE/QUARTER
IRON, TOTAL RECOVERABLE	ONCE/QUARTER	ONCE/QUARTER
MANGANESE, TOTAL RECOVERABLE	ONCE/QUARTER	ONCE/QUARTER
SELENIUM, TOTAL RECOVERABLE	ONCE/YEAR	ONCE/YEAR
POLYCHLORINATED BIPHENYLS	ONCE/YEAR	ONCE/YEAR
SULFATE	ONCE/YEAR	ONCE/YEAR

Sampling/Monitoring Frequency modification due to the addition of new parameters.

Outfall #002 – EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	GPD	1	*		*	No	S
TEMPERATURE	°F		90		*	YES	**
pH	SU	1	6.5-9.0		6.5-9.0	No	S
TSS	MG/L	1	20		15	No	S
OIL & GREASE	MG/L	3, 9	15		10	No	S
TOTAL PHOSPHORUS AS P	MG/L	1	*		0.5	No	S
TOTAL RESIDUAL CHLORINE AND BROMINE	MG/L		0.2		0.2	No	S
ALUMINUM, TOTAL RECOVERABLE****	µG/L	3	749		373	No	S
CHROMIUM III, TOTAL RECOVERABLE	µG/L	1	*		*	No	S
CHROMIUM VI, TOTAL DISSOLVED	µG/L	1	*		*	No	S
COPPER, TOTAL RECOVERABLE****	µG/L	3	19.2		9.6	No	S
IRON, TOTAL RECOVERABLE****	µG/L	3	603		300	No	S
ZINC, TOTAL RECOVERABLE****	µG/L	3	179		89	No	S
CHLORIDE PLUS SULFATE	MG/L	3	1000			No	S
CHEMICAL OXYGEN DEMAND	MG/L	9	*		*	No	S
TOTAL NITROGEN AS N	MG/L	1, 9	*		*	No	S
WHOLE EFFLUENT TOXICITY (WET) TEST	% Survival	11	Please see WET Test in the Derivation and Discussion Section below.				
MANGANESE, TOTAL RECOVERABLE	µG/L	9	*		*	No	S
SELENIUM, TOTAL RECOVERABLE	µG/L	9	*		*	No	S
POLYCHLORINATED BIPHENYLS	µG/L	1	***		***	YES	0.0
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

* - Monitoring requirement only.

** - Parameter not previously established in previous state operating permit.

*** - There shall be no discharge of polychlorinated biphenyl compounds [40 CFR 423.15(b)].

**** - Monitoring only for first three (3) years in accordance with Schedule of Compliance.

Basis for Limitations Codes:

- | | |
|--|------------------------------------|
| 1. State or Federal Regulation/Law | 7. Antidegradation Policy |
| 2. Water Quality Standard (includes RPA) | 8. Water Quality Model |
| 3. Water Quality Based Effluent Limits | 9. Best Professional Judgment |
| 4. Lagoon Policy | 10. TMDL or Permit in lieu of TMDL |
| 5. Ammonia Policy | 11. WET Test Policy |
| 6. Dissolved Oxygen Policy | 12. Antidegradation Review |

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the Department, which may require the submittal of an operating permit modification.
- **Temperature.** Shall not exceed 90 °F as a daily maximum as per 10 CSR 20-7.031(4)(D).
- **pH.** pH is limited to the range of 6.5 – 9.0 pH units, as per [10 CSR 20-7.031(4)(E)]. pH is measured in pH units and is not to be averaged.
- **Total Suspended Solids (TSS).** For outfall to losing stream, best professional judgment effluent limits of 15 mg/L monthly average, 20 mg/L weekly average apply [10 CSR 20-7.015(4)(B)2.].

- **Oil & Grease.** Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.
- **Total Phosphorus as P.** Shall not exceed 0.5 mg/L of phosphorus as a monthly average as per 10 CSR 20-7.015(3)(F).
- **Total Residual Chlorine and Bromine.** Effluent limit of 0.2 mg/L maximum daily and monthly average are retained from previous permit.
- **Chloride plus Sulfate.** Effluent limitation of 1000 mg/L as a Daily Maximum is applicable as per [10 CSR 20-7.031(4)(L)].
- **Chemical Oxygen Demand.** Monitoring only requirement due to the receiving stream being on the 303(d) list for unknown pollutants and also that the stream is classified as losing.
- **Total Nitrogen as N.** Monitoring only requirement due to the receiving stream being on the 303(d) list for unknown pollutants and also that the stream is classified as losing. Also, this facility is in the Table Rock Lake watershed.
- **Polychlorinated Biphenyls.** There shall be no discharge of polychlorinated biphenyl compounds [40 CFR 423.15(b)].

Metals

Effluent limitations for total recoverable metals were developed using methods and procedures outlined in EPA/505/2-90-001 and “The Metals Translator: Guidance For Calculating A Total Recoverable Permit Limit From A Dissolved Criterion” (EPA 823-B-96-007). General warm-water fishery criteria apply and water hardness = 162 mg/L.

Due to the absence of contemporaneous effluent and instream data for total recoverable metals, dissolved metals, hardness, and total suspended solids with which to calculate metals translators, partitioning between the dissolved and absorbed phases was assumed to be minimal (Section 5.7.3, EPA/505/2-90-001). Freshwater criteria conversion factors for dissolved metals were used as the metals translator as recommended in guidance (Section 1.3, 1.5.3, and Table 1, EPA 823-B-96-007). If concurrent site-specific data for total recoverable metals, dissolved metals, hardness, and total suspended solids are provided to the Department, partitioning evaluations may be considered and site-specific translators developed.

METAL	CONVERSION FACTORS	
	ACUTE	CHRONIC
Chromium III	0.316	0.860
Chromium VI	0.982	0.962
Copper	0.960	0.960
Zinc	0.980	0.980

- **Aluminum, Total Recoverable.** Protection of Aquatic Life – Acute Criteria = 750 µg/L.

Acute WLA: $C_e = 750 \mu\text{g/L}$

$LTA_a = 750 (0.321) = 241 \mu\text{g/L}$ [CV = 0.6, 99th Percentile]

MDL = 241 (3.11) = 749 µg/L [CV = 0.6, 99th Percentile]

AML = 241 (1.55) = 373 µg/L [CV = 0.6, 95th Percentile, n = 4]

- **Chromium III, Total Recoverable.** Monitoring requirement only [40 CFR 423.15(d) and (j)(1)]. Although the Code of Federal Regulation notes Chromium as a pollutant of concern, the department’s Water Quality Standards specifies Chromium III and VI.
- **Chromium VI, Total Dissolved.** Monitoring requirement only [40 CFR 423.15(d) and (j)(1)]. Although the Code of Federal Regulation notes Chromium as a pollutant of concern, the department’s Water Quality Standards specifies Chromium III and VI.

- **Copper, Total Recoverable.** Protection of Aquatic Life – Acute Criteria = 21.2 µg/L, Chronic Criteria = 11.2 µg/L.

Chronic = $11.2/0.960 = 11.7 \mu\text{g/L}$
Acute = $21.2/0.960 = 22.1 \mu\text{g/L}$

$LTA_c = 11.7 (0.527) = 6.2 \mu\text{g/L}$ [CV = 0.6, 99th Percentile]
 $LTA_a = 22.1 (0.321) = 7.1 \mu\text{g/L}$ [CV = 0.6, 99th Percentile]

MDL = $6.2 (3.11) = 19.2 \mu\text{g/L}$ [CV = 0.6, 99th Percentile]
AML = $6.2 (1.55) = 9.6 \mu\text{g/L}$ [CV = 0.6, 95th Percentile, n = 4]

- **Iron, Total Recoverable.** Protection of Groundwater – Chronic Criteria = 300 µg/L.

WLA = 300 µg/L
Set the Average Monthly Limit equal to the WLA [per EPA/505/2-90-001 Section 5.4.4]

AML = 300 µg/L
MDL = AML * 2.01 [CV = 0.6, 95th Percentile]
MDL = $300 * 2.01 = 603 \text{ mg/L}$

MDL = 603 µg/L
AML = 300 µg/L

- **Zinc, Total Recoverable.** Protection of Aquatic Life – Acute Criteria = 176 µg/L, Chronic Criteria = 161 µg/L.

Chronic = $161/0.980 = 164 \mu\text{g/L}$
Acute = $176/0.980 = 180 \mu\text{g/L}$

$LTA_c = 164 (0.527) = 86.6 \mu\text{g/L}$ [CV = 0.6, 99th Percentile]
 $LTA_a = 180 (0.321) = 57.6 \mu\text{g/L}$ [CV = 0.6, 99th Percentile]

MDL = $57.6 (3.11) = 179 \mu\text{g/L}$ [CV = 0.6, 99th Percentile]
AML = $57.6 (1.55) = 89 \mu\text{g/L}$ [CV = 0.6, 95th Percentile, n = 4]

- **Manganese and Selenium.** Both total recoverable and monitoring only requirement.
- **Cadmium, Lead, and Thallium.** Monitoring only requirement removed based on current information and policy.
- **WET Test.** WET Testing schedules and intervals are established in accordance with the Department's Permit Manual; Section 5.2 *Effluent Limits / WET Testing for Compliance Bio-monitoring*. It is recommended that WET testing be conducted during the period of lowest stream flow.

Chronic
 Acute

No less than ONCE/YEAR:

Facility has Water Quality-based effluent limitations for toxic substances (other than NH₃). WET testing requirements are required to determine the facility's contribution to Wilsons Creek, which is on the 303(d) list for unknown pollutants.

Acute and/or Chronic Allowable Effluent Concentrations (AECs) for facilities that discharge to unclassified, Class C, Class P (with default Mixing Considerations), or Lakes [10 CSR 20-7.031(4)(A)4.B.(IV)(b)] are 100%, 50%, 25%, 12.5%, & 6.25%.

Minimum Sampling and Reporting Frequency Requirements.

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
FLOW	ONCE/WEEK	ONCE/MONTH
TEMPERATURE	ONCE/WEEK	ONCE/MONTH
PH	ONCE/MONTH	ONCE/MONTH
TSS	ONCE/MONTH	ONCE/MONTH
OIL AND GREASE	ONCE/MONTH	ONCE/MONTH
TOTAL PHOSPHORUS AS P	ONCE/MONTH	ONCE/MONTH
TOTAL RESIDUAL CHLORINE AND BROMINE	ONCE/MONTH	ONCE/MONTH
ALUMINUM, TOTAL RECOVERABLE	ONCE/MONTH	ONCE/MONTH
CHROMIUM III, TOTAL RECOVERABLE	ONCE/MONTH	ONCE/MONTH
CHROMIUM VI, TOTAL RECOVERABLE	ONCE/MONTH	ONCE/MONTH
COPPER, TOTAL RECOVERABLE	ONCE/MONTH	ONCE/MONTH
IRON, TOTAL RECOVERABLE	ONCE/MONTH	ONCE/MONTH
ZINC, TOTAL RECOVERABLE	ONCE/MONTH	ONCE/MONTH
SULFATE PLUS CHLORIDE	ONCE/MONTH	ONCE/MONTH
CHEMICAL OXYGEN DEMAND	ONCE/QUARTER	ONCE/QUARTER
TOTAL NITROGEN AS N	ONCE/QUARTER	ONCE/QUARTER
MANGANESE, TOTAL RECOVERABLE	ONCE/YEAR	ONCE/YEAR
SELENIUM, TOTAL RECOVERABLE	ONCE/YEAR	ONCE/YEAR
POLYCHLORINATED BIPHENYLS	ONCE/YEAR	ONCE/YEAR
WHOLE EFFLUENT TOXICITY (WET) TEST	ONCE/YEAR	ONCE/YEAR

Sampling/Monitoring Frequency modification due to the addition of new parameters.

Outfall #004 – EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	GPD	1	*		*	No	S
PH	SU	1	6.5-9.0		6.5-9.0	No	S
TSS	MG/L	1	45		30	YES	20/15
SETTLABLE SOLIDS	ML/L/HR	1, 9	1.0		1.0	No	S
OIL & GREASE	MG/L	3, 9	15		10	No	S
TOTAL PHOSPHORUS AS P	MG/L	1	*		0.5	No	S
CHEMICAL OXYGEN DEMAND	MG/L	9	*		*	No	S
TOTAL NITROGEN AS N	MG/L	1, 9	*		*	YES	**
ALUMINUM, TOTAL RECOVERABLE	µG/L	3	***		***	YES	749/373
SELENIUM, TOTAL RECOVERABLE	µG/L	3	***		***	YES	8.2/4.1
CHLORIDE PLUS SULFATE	MG/L	3	***				1000
IRON, TOTAL RECOVERABLE	µG/L	9	*		*	No	S
POLYCHLORINATED BIPHENYLS	µG/L	1	****		****	YES	0.0
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

- * - Monitoring requirement only.
- ** - Parameter not previously established in previous state operating permit.
- *** - Monitoring requirements and benchmark Concentration
- **** - There shall be no discharge of polychlorinated biphenyl compounds [40 CFR 423.15(b)].

Basis for Limitations Codes:

- | | |
|--|------------------------------------|
| 1. State or Federal Regulation/Law | 7. Antidegradation Policy |
| 2. Water Quality Standard (includes RPA) | 8. Water Quality Model |
| 3. Water Quality Based Effluent Limits | 9. Best Professional Judgment |
| 4. Lagoon Policy | 10. TMDL or Permit in lieu of TMDL |
| 5. Ammonia Policy | 11. WET Test Policy |
| 6. Dissolved Oxygen Policy | 12. Antidegradation Review |

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the Department, which may require the submittal of an operating permit modification.
- **pH.** pH is limited to the range of 6.5 – 9.0 pH units, as per [10 CSR 20-7.031(4)(E)]. pH is measured in pH units and is not to be averaged.
- **Total Suspended Solids (TSS).** Best professional judgment effluent limits of 30 mg/L monthly average, 45 mg/L weekly average apply [10 CSR 20-7.015(4)(B)2.]. The 2004 permit had a 30/100 mg/L monthly average/daily maximum limit [40 CFR 423.15(c), (f)]. A review of the discharge monitoring reports shows that the proposed limits are achievable.
- **Settleable Solids.** This limit is a best professional judgment value established to verify the effectiveness of storm water BMPs. During the drafting of the master general permit an analysis of settleable solids data submitted to the department during the years of 1990-2006 was conducted. It was determined that 1.0 mL/L/h represents the 87th percentile of that data. Therefore it has been determined that 1.0 mL/L/h is an achievable limit representing available BMP technologies.
- **Oil & Grease.** Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.
- **Total Phosphorus as P.** Shall not exceed 0.5 mg/L of phosphorus as a monthly average as per 10 CSR 20-7.015(3)(F).
- **Chemical Oxygen Demand.** Monitoring only requirement due to the receiving stream being on the 303(d) list for unknown pollutants and also that the stream is classified as losing.
- **Total Nitrogen as N.** Monitoring only requirement due to the receiving stream being on the 303(d) list for unknown pollutants and also that the stream is classified as losing. Also, this facility is in the Table Rock Lake watershed.
- **Chloride plus Sulfate.** See **Pollutant Benchmark Concentrations**, under **Metals**.
- **Polychlorinated Biphenyls.** There shall be no discharge of polychlorinated biphenyl compounds [40 CFR 423.15(b)].

Metals

- **Pollutant Benchmark Concentrations.** If the discharge concentration exceeds any of the appropriate benchmarks for a pollutant of concern in the Table below, you must review your Stormwater Pollution Prevention Plan (SWPPP) and your BMPs to determine whether any improvement or additional controls are needed to reduce that pollutant in your stormwater discharge(s).

Parameter	Benchmark Concentrations
Aluminum, Total Recoverable	373 µg/L
Selenium, Total Recoverable	4.1 µg/L
Chloride plus Sulfate	1000 mg/L

- **Iron, Total Recoverable.** Monitoring only requirement.
- **Cadmium, Lead, and Thallium.** Monitoring only requirement removed based on current information and policy.
- **WET Test.** Removed due to current policy regarding stormwater discharges.

Minimum Sampling and Reporting Frequency Requirements.

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
FLOW	ONCE/MONTH	ONCE/MONTH
pH	ONCE/MONTH	ONCE/MONTH
TSS	ONCE/MONTH	ONCE/MONTH
SETTLABLE SOLIDS	ONCE/MONTH	ONCE/MONTH
OIL AND GREASE	ONCE/MONTH	ONCE/MONTH
TOTAL PHOSPHORUS AS P	ONCE/MONTH	ONCE/MONTH
CHEMICAL OXYGEN DEMAND	ONCE/QUARTER	ONCE/QUARTER
TOTAL NITROGEN AS N	ONCE/QUARTER	ONCE/QUARTER
ALUMINUM, TOTAL RECOVERABLE	ONCE/QUARTER	ONCE/QUARTER
SELENIUM, TOTAL RECOVERABLE	ONCE/QUARTER	ONCE/QUARTER
CHLORIDE PLUS SULFATE	ONCE/QUARTER	ONCE/QUARTER
IRON, TOTAL RECOVERABLE	ONCE/YEAR	ONCE/YEAR
POLYCHLORINATED BIPHENYLS	ONCE/YEAR	ONCE/YEAR

Sampling/Monitoring Frequency modification due to the addition of new parameters.

Outfall #005 – EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	GPD	1	*		*	No	S
pH	SU	1	6.5-9.0		6.5-9.0	No	S
TSS	MG/L	1	45		30	YES	20/15
SETTLABLE SOLIDS	ML/L/HR	1, 9	1.0		1.0	YES	**
OIL & GREASE	MG/L	3, 9	15		10	No	S
TOTAL PHOSPHORUS AS P	MG/L	1	*		*	YES	0.5
CHEMICAL OXYGEN DEMAND	MG/L	9	*		*	No	S
TOTAL NITROGEN AS N	MG/L	1, 9	*		*	No	S
SELENIUM, TOTAL RECOVERABLE	µG/L	3	***		***	YES	8.2/4.1
ALUMINUM, TOTAL RECOVERABLE	µG/L	3	*		*	No	S
IRON, TOTAL RECOVERABLE	µG/L	9	*		*	No	S
MANGANESE, TOTAL RECOVERABLE	µG/L	9	*		*	No	S
POLYCHLORINATED BIPHENYLS	µG/L	1	****		****	YES	0.0
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

* - Monitoring requirement only.

** - Parameter not previously established in previous state operating permit.

*** - Monitoring requirements and benchmark Concentration

**** - There shall be no discharge of polychlorinated biphenyl compounds [40 CFR 423.15(b)].

Basis for Limitations Codes:

- | | |
|--|------------------------------------|
| 1. State or Federal Regulation/Law | 7. Antidegradation Policy |
| 2. Water Quality Standard (includes RPA) | 8. Water Quality Model |
| 3. Water Quality Based Effluent Limits | 9. Best Professional Judgment |
| 4. Lagoon Policy | 10. TMDL or Permit in lieu of TMDL |
| 5. Ammonia Policy | 11. WET Test Policy |
| 6. Dissolved Oxygen Policy | 12. Antidegradation Review |

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the Department, which may require the submittal of an operating permit modification.
- **pH.** pH is limited to the range of 6.5 – 9.0 pH units, as per [10 CSR 20-7.031(4)(E)]. pH is measured in pH units and is not to be averaged.

- **Total Suspended Solids (TSS).** Best professional judgment effluent limits of 30 mg/L monthly average, 45 mg/L weekly average apply [10 CSR 20-7.015(4)(B)2.]. The 2004 permit had a 30/100 mg/L monthly average/daily maximum limit [40 CFR 423.15(c), (f)]. A review of the discharge monitoring reports shows that the proposed limits are achievable.
- **Settleable Solids.** This limit is a best professional judgment value established to verify the effectiveness of storm water BMPs. During the drafting of the master general permit an analysis of settleable solids data submitted to the department during the years of 1990-2006 was conducted. It was determined that 1.0 mL/L/h represents the 87th percentile of that data. Therefore is has been determined that 1.0 mL/L/h is an achievable limit representing available BMP technologies.
- **Oil & Grease.** Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.
- **Total Phosphorus as P.** Monitoring only requirement due to the agriculture field’s contribution to this outfall. Note that the receiving stream is on the 303(d) list for unknown pollutants and also that the stream is classified as losing. Facility is also tributary to Table Rock Lake and the phosphorus requirements .per 10 CSR 20-7.015(3)(F).
- **Chemical Oxygen Demand.** Monitoring only requirement due to the receiving stream being on the 303(d) list for unknown pollutants and also that the stream is classified as losing.
- **Total Nitrogen as N.** Monitoring only requirement due to the receiving stream being on the 303(d) list for unknown pollutants and also that the stream is classified as losing. Also, this facility is in the Table Rock Lake watershed.
- **Polychlorinated Biphenyls.** There shall be no discharge of polychlorinated biphenyl compounds [40 CFR 423.15(b)].

Metals

- **Pollutant Benchmark Concentration.** If the discharge concentration exceeds any of the appropriate benchmarks for a pollutant of concern in the Table below, you must review your Stormwater Pollution Prevention Plan (SWPPP) and your BMPs to determine whether any improvement or additional controls are needed to reduce that pollutant in your stormwater discharge(s).

Parameter	Benchmark Concentrations
Selenium, Total Recoverable	4.1 µg/L

- **Aluminum, Iron, and Manganese.** Both total recoverable and monitoring only requirement.
- **Cadmium, Lead, and Thallium.** Monitoring only requirement removed based on current information and policy.

Minimum Sampling and Reporting Frequency Requirements

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
FLOW	ONCE/MONTH	ONCE/MONTH
pH	ONCE/MONTH	ONCE/MONTH
TSS	ONCE/MONTH	ONCE/MONTH
SETTLEABLE SOLIDS	ONCE/MONTH	ONCE/MONTH
OIL AND GREASE	ONCE/MONTH	ONCE/MONTH
TOTAL PHOSPHORUS AS P	ONCE/MONTH	ONCE/MONTH
CHEMICAL OXYGEN DEMAND	ONCE/QUARTER	ONCE/QUARTER
TOTAL NITROGEN AS N	ONCE/QUARTER	ONCE/QUARTER
SELENIUM, TOTAL RECOVERABLE	ONCE/QUARTER	ONCE/QUARTER
ALUMINUM, TOTAL RECOVERABLE	ONCE/YEAR	ONCE/YEAR
IRON, TOTAL RECOVERABLE	ONCE/YEAR	ONCE/YEAR
MANGANESE, TOTAL RECOVERABLE	ONCE/YEAR	ONCE/YEAR
POLYCHLORINATED BIPHENYLS	ONCE/YEAR	ONCE/YEAR

Sampling/Monitoring Frequency modification due to the addition of new parameters.

Outfall #006 – EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	GPD	1	*		*	NO	S
pH	SU	1	6.5-9.0		6.5-9.0	NO	S
TSS	MG/L	1	45		30	YES	20/15
SETTLABLE SOLIDS	ML/L/HR	1, 9	1.0		1.0	YES	**
OIL & GREASE	MG/L	3, 9	15		10	NO	S
TOTAL PHOSPHORUS AS P	MG/L	1	*		0.5	NO	S
CHEMICAL OXYGEN DEMAND	MG/L	8	*		*	NO	S
TOTAL NITROGEN AS N	MG/L	1, 9	*		*	NO	S
IRON, TOTAL RECOVERABLE	µG/L	3	***		***	YES	603/300
MANGANESE, TOTAL RECOVERABLE	µG/L	3	***		***	YES	101/50
ALUMINUM, TOTAL RECOVERABLE	µG/L	3	*		*	NO	S
SELENIUM, TOTAL RECOVERABLE	µG/L	9	*		*	NO	S
POLYCHLORINATED BIPHENYLS	µG/L	1	****		****	YES	0.0
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

* - Monitoring requirement only.

** - Parameter not previously established in previous state operating permit.

*** - Monitoring requirements and benchmark Concentration

**** - There shall be no discharge of polychlorinated biphenyl compounds [40 CFR 423.15(b)].

Basis for Limitations Codes:

- | | |
|--|------------------------------------|
| 1. State or Federal Regulation/Law | 7. Antidegradation Policy |
| 2. Water Quality Standard (includes RPA) | 8. Water Quality Model |
| 3. Water Quality Based Effluent Limits | 9. Best Professional Judgment |
| 4. Lagoon Policy | 10. TMDL or Permit in lieu of TMDL |
| 5. Ammonia Policy | 11. WET Test Policy |
| 6. Dissolved Oxygen Policy | 12. Antidegradation Review |

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the Department, which may require the submittal of an operating permit modification.
- **pH.** pH is limited to the range of 6.5 – 9.0 pH units, as per [10 CSR 20-7.031(4)(E)]. pH is measured in pH units and is not to be averaged.
- **Total Suspended Solids (TSS).** Best professional judgment effluent limits of 30 mg/L monthly average, 45 mg/L weekly average apply [10 CSR 20-7.015(4)(B)2.]. The 2004 permit had a 30/100 mg/L monthly average/daily maximum limit [40 CFR 423.15(c), (f)]. A review of the discharge monitoring reports shows that the proposed limits are achievable.
- **Settleable Solids.** This limit is a best professional judgment value established to verify the effectiveness of storm water BMPs. During the drafting of the master general permit an analysis of settleable solids data submitted to the department during the years of 1990-2006 was conducted. It was determined that 1.0 mL/L/h represents the 87th percentile of that data. Therefore it has been determined that 1.0 mL/L/h is an achievable limit representing available BMP technologies.
- **Oil & Grease.** Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.
- **Total Phosphorus as P.** Shall not exceed 0.5 mg/L of phosphorus as a monthly average as per 10 CSR 20-7.015(3)(F).
- **Chemical Oxygen Demand.** Monitoring only requirement due to the receiving stream being on the 303(d) list for unknown pollutants and also that the stream is classified as losing.

- **Total Nitrogen as N.** Monitoring only requirement due to the receiving stream being on the 303(d) list for unknown pollutants and also that the stream is classified as losing. Also, this facility is in the Table Rock Lake watershed.
- **Polychlorinated Biphenyls.** There shall be no discharge of polychlorinated biphenyl compounds [40 CFR 423.15(b)].

Metals

- **Pollutant Benchmark Concentrations.** If the discharge concentration exceeds any of the appropriate benchmarks for a pollutant of concern in the Table below, you must review your Stormwater Pollution Prevention Plan (SWPPP) and your BMPs to determine whether any improvement or additional controls are needed to reduce that pollutant in your stormwater discharge(s).

Parameter	Benchmark Concentrations
Iron, Total Recoverable	300 µg/L
Manganese, Total Recoverable	50 µg/L

- **Aluminum and Selenium.** Total recoverable and monitoring only requirement.
- **Cadmium, Lead, and Thallium.** Monitoring only requirement removed based on current information and policy.

Minimum Sampling and Reporting Frequency Requirements

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
FLOW	ONCE/MONTH	ONCE/MONTH
PH	ONCE/MONTH	ONCE/MONTH
TSS	ONCE/MONTH	ONCE/MONTH
SETTLABLE SOLIDS	ONCE/MONTH	ONCE/MONTH
OIL AND GREASE	ONCE/MONTH	ONCE/MONTH
TOTAL PHOSPHORUS AS P	ONCE/MONTH	ONCE/MONTH
CHEMICAL OXYGEN DEMAND	ONCE/QUARTER	ONCE/QUARTER
TOTAL NITROGEN AS N	ONCE/QUARTER	ONCE/QUARTER
IRON, TOTAL RECOVERABLE	ONCE/QUARTER	ONCE/QUARTER
MANGANESE, TOTAL RECOVERABLE	ONCE/QUARTER	ONCE/QUARTER
ALUMINUM, TOTAL RECOVERABLE	ONCE/YEAR	ONCE/YEAR
SELENIUM, TOTAL RECOVERABLE	ONCE/YEAR	ONCE/YEAR
POLYCHLORINATED BIPHENYLS	ONCE/YEAR	ONCE/YEAR

Sampling/Monitoring Frequency modification due to the addition of new parameters.

Part VI – Administrative Requirements

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

PUBLIC NOTICE:

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

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

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

- The Public Notice period for this operating permit is schedule to begin on November 4, 2011.

DATE OF FACT SHEET: OCTOBER 28, 2011

COMPLETED BY:

**KEITH FORCK, ENVIRONMENTAL ENGINEER
WASTEWATER ENGINEERING UNIT
PERMITS AND ENGINEERING SECTION
WATER PROTECTION PROGRAM
(573) 526-4232
KEITH.FORCK@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(a)(1);
 - 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.



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- 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.
- 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 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.

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



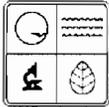
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- imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second 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 permittee 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.



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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.



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	300 1084
DATE RECEIVED	11/14/14
DATE SUBMITTED	11/25/14

Note PLEASE READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM.

1. This application is for:
- An operating permit for a new or unpermitted facility:
Please indicate the original Construction Permit # _____
 - An operating permit renewal:
Please indicate the permit # MO- _____ Expiration Date 8-12-2015
 - An operating permit modification:
Please indicate the permit # MO- 0089940 Modification Reason: _____

1.1 Is the appropriate fee included with the application? (See instructions for appropriate fee) YES NO

2. FACILITY

NAME John Twitty Energy Center		TELEPHONE NUMBER WITH AREA CODE (417) 874-8007	
ADDRESS (PHYSICAL) 5100 W. Farm Road 164		CITY Springfield	STATE MO
		ZIP CODE 65801	FAX (417) 831-8861

3. OWNER

NAME City Utilities of Springfield		TELEPHONE NUMBER WITH AREA CODE (417) 831-8778	
ADDRESS (MAILING) P.O. Box 551		CITY Springfield	STATE MO
		ZIP CODE 65801	FAX (417) 831-8771
EMAIL ADDRESS dave.fraley@cityutilities.net			

3.1 Request review of draft permit prior to public notice? YES NO

4. CONTINUING AUTHORITY

NAME City Utilities of Springfield		TELEPHONE NUMBER WITH AREA CODE (417) 831-8778	
ADDRESS (MAILING) P.O. Box 551		CITY Springfield	STATE MO
		ZIP CODE 65801	FAX (417) 831-8771
EMAIL ADDRESS dave.fraley@cityutilities.net			

5. OPERATOR

NAME Keith Smith		TELEPHONE NUMBER WITH AREA CODE (417) 874-8007	
ADDRESS (MAILING) P.O. Box 551		CITY Springfield	STATE MO
		ZIP CODE 65801	FAX (417) 831-8861
CERTIFICATE NUMBER N/A			

6. FACILITY CONTACT

NAME Keith Smith		TELEPHONE NUMBER WITH AREA CODE (417) 874-8007	
TITLE Director-Power Generation			
E-MAIL ADDRESS keith.smith@cityutilities.net		FAX (417) 831-8861	

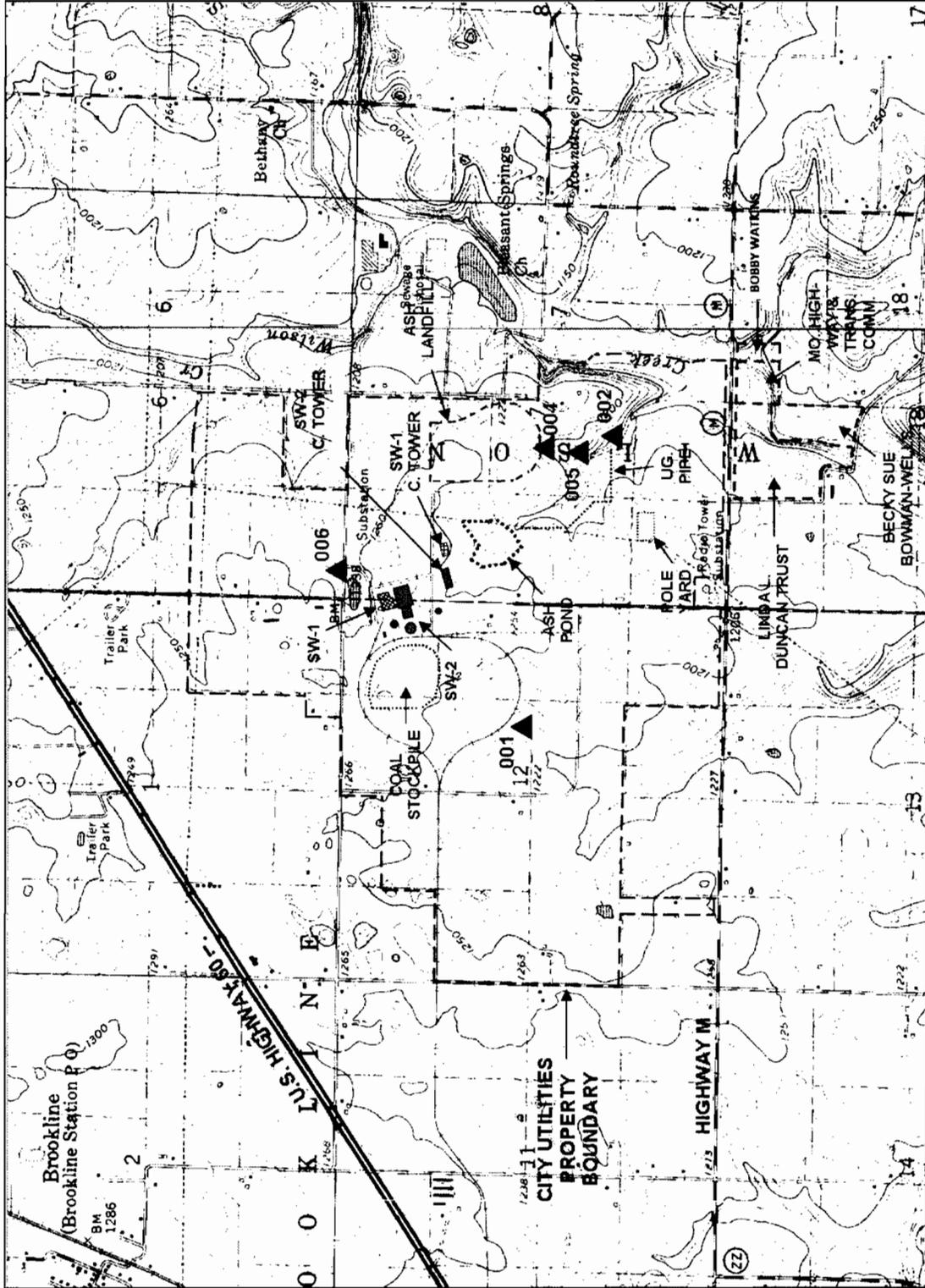
7. ADDITIONAL FACILITY INFORMATION

- 7.1 Legal Description of Outfalls. (Attach additional sheets if necessary.)
- 001 SW 1/4 NE 1/4 Sec 12 T 28N R 23W Greene County
 UTM Coordinates Easting (X): 465036 Northing (Y): 4111345
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)
- 002 NE 1/4 SW 1/4 Sec 7 T 28N R 22W Greene County
 UTM Coordinates Easting (X): 466358 Northing (Y): 4110680
- 003 1/4 1/4 Sec T R County
- UTM Coordinates Easting (X): Northing (Y):
- 004 NE 1/4 SW 1/4 Sec 7 T 28N R 22W Greene County
 UTM Coordinates Easting (X): 466140 Northing (Y): 4111029

- 7.2 Primary Standard Industrial Classification (SIC) and Facility North American Industrial Classification System (NAICS) Codes.
- 001 - SIC 49119907 and NAICS 221112 002 - SIC 49119907 and NAICS 221112
 003 - SIC _____ and NAICS _____ 004 - SIC 49119907 and NAICS 221112

*See
 10/14/14*

USGS 7.5' TOPOGRAPHIC SERIES MAPS, BROOKLINE AND SPRINGFIELD QUADRANGLES, MISSOURI



JOHN TWITTY ENERGY CENTER TOPOGRAPHIC MAP

SCALE: 1" = 2000'

FORM A SUPPLEMENTAL INFORMATION

7.10 Legal Description of Outfalls

Outfall						UTM Coordinates	
005	NE ¼	SW ¼	Sec. 7	T28N	R22W	X: 466312	Y: 4110763
006	NW ¼	NW ¼	Sec. 7	T28N	R22W	X: 465633	Y: 4111999

9.00 Downstream Landowners

Missouri Highway & Transportation Commission
3025 E. Kearney Street
Springfield, MO 65803-5045

Bobby Watkins
4552 W. State Hwy. M
Brookline, MO 65619

Becky Sue Bowman-Wells
4921 S. Ashford Ave.
Springfield, MO 65810-2458

Linda L. Duncan Trust
2410 E. Rosebrier Street
Springfield, MO 65804

CITY UTILITIES
Bringing Power Home.™

RECEIVED

November 10, 2014

WATER PROTECTION PROGRAM

Amanda Sappington
Environmental Specialist
Water Pollution Control Program
Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102

Ms. Sappington:

**Re: Permit MO-0089940
John Twitty Energy Center**

Thank you for meeting with City Utilities (CU) representatives on October 29 regarding the provisional compliance requirements applicable to Outfall 002 of the subject permit. As we discussed at that time, CU is requesting a permit modification to extend the compliance schedule for certain parameters addressed in the permit. We propose a schedule extension of two years, which would make the final compliance date January 2017. This extension is requested under Clean Water Act rules at 40 CFR 122(a)4 and 10 CSR 20-6.010(7)(D). Enclosed please find the application form and a check for the \$1,250.00 application fee.

City Utilities is a municipally owned utility with a responsibility to serve approximately 111,000 electricity, 83,000 natural gas, and 81,000 water customers. As a drinking water utility, we are keenly sensitive to water quality issues in our local environs and throughout the state. For example, CU is an active partner, along with the City of Springfield and Greene County, in the current Integrated Planning process for environmental improvements. This citizen-focused planning initiative is unique in that it is the first in the nation to address clean air and solid waste alongside water quality issues.

Through application of reasonably available remedies, CU has been successful in making definite improvements to effluent quality in Outfall 002. However, for reasons that are largely outside the City's control, we are still not in a technical position to consistently meet these limits without implementing additional treatment measures or modifying the outfall location. Both of these options may be subverted when EPA eventually publishes a revised Effluent Limitation Guidelines (ELG) for this source category. Accordingly, we believe prudence would call for delaying any permanent improvements on the outfall pending issuance of the new ELG.

In support of this request, CU offers the following observations:

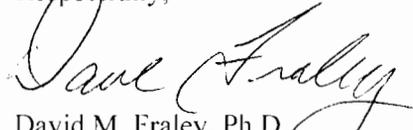
1. The permit was originally issued in 2010 and reissued in January 2012 with Water Quality-Based Effluent Limitations (WQBEL) for certain trace metals applied to the ash contact effluent of Outfall 002. This outfall discharges to an onsite watercourse (not a water of the state) and was afforded no mixing zone in which to meet the stringent metals levels for aquatic life protection.

2. Under Permit Section C, Schedule of Compliance, the Missouri Department of Natural Resources (MDNR) granted CU a three-year provisional period to allow time to devise and implement a technology-based solution to meet the new limits. This period is characterized by monitor-only requirements and requires annual progress reports. The three-year provisional period will expire at the end of January 2015. Since the issuance of this permit, Missouri's regulations have been modified to provide more flexibility in establishing schedules of compliance.
3. On June 7, 2013, USEPA proposed a new technology-based ELG for the Steam Electric category but has not yet finalized the rule. During the permitting process, both CU and MDNR were of the understanding that the new ELG would be finalized during the three-year provisional period and would help inform the selection and design of any required technical remedies for JTEC discharges. Unfortunately, the proposed rule included four *different* optional approaches for the new ELG and cannot be relied upon for technical guidance prior to final promulgation.
4. During the interim, CU has made considerable progress meeting the WQBEL. A list of improvement measures is attached as Appendix 1 to this letter. As reported in 2013 and 2014 progress reports, these process modifications have been successful in reducing Outfall 002 total phosphorus, suspended solids, and recoverable zinc to achieve final effluent limitations. We believe those reductions are long-term improvements; therefore the total phosphorus, total solids, and zinc limits are not included in this compliance extension request.
5. In addition to improvements on Outfall 002, we have also taken measures to control solids levels and metals concentrations in the storm water discharge from Outfall 005. These included a cascading series of detention basins upstream of the final sampling and discharge point.
6. Despite these efforts, we continue to experience sporadic excursions beyond the final effluent limits for total recoverable aluminum in Outfall 002. However, the soluble levels which are the primary concern from a toxicity standpoint are below those limits. JTEC effluent consistently passes its annual Whole Effluent Toxicity tests. We also have experienced infrequent excursions in copper and iron concentrations and cannot be certain that copper/iron issues will not reappear as the result of recent process changes designed to reduce aluminum.
7. In 2014 we contracted with HDR, Inc. to assist us in remedying these final recalcitrant parameters. In the late summer and early fall of this year, HDR worked with plant personnel to acquire water quality and flow data to establish an overall water quality model for the facility. This model is intended to identify sources of aluminum loading in the process water streams, the likely chemical form of the aluminum (dissolved vs. particulate), where the current treatment appears to be effective in removal, and additional measures to remove aluminum, either at the source or at the point of discharge. Final measures to reduce aluminum levels would also be designed to eliminate sporadic copper and iron excursions.
8. HDR and CU were able to complete one round of six samples before October 1, when the generating unit came off line for an extended outage. This outage is necessary to complete the installation of a major air quality control device in order to meet looming deadlines under new EPA air quality regulations for our industry. The unit is not expected to return to service prior to January 2015. While we are hopeful that the September sampling will give us enough information to further HDR's design efforts, there will not be another chance to perform confirmation sampling on process flows prior to January.
9. Our fiscal year cycle runs from October 1 through September 30. If HDR's work to date proves sufficient to design a solution, and should that solution entail a process treatment package, the capital budget allocation, final design, and installation of any treatment works would take us well into the 2016 calendar year. This schedule presumes that EPA's pending ELG requirements will be finalized by mid-2015.

10. The permit expiration date is August 12, 2015. During the upcoming permit renewal process, we may wish to revisit the permit limits by means of a reasonable potential analysis, based on the results of the HDR study.
11. All parties understand that a straightforward solution would entail modifying the Outfall structure to discharge directly to Wilson's Creek and reapplying for limits that incorporate an appropriate mixing zone. Such a modification could be accomplished in a time frame somewhat consistent with the January 2015 deadline, contingent on issuance of a construction permit from your office. While this may be the expedient solution, it is not necessarily the most environmentally desirable outcome. Before resorting to this measure – which itself may or may not comport with the final ELG – we would at least like one more opportunity to develop an acceptable engineered remedy.
12. CU and the City of Springfield are very concerned about maintaining affordable rates for our ratepayers and the citizenry of Springfield. However, we are not relying on Missouri's affordability criteria to support this extension request due to time constraints and financial uncertainty with the ultimate remedy. Therefore, CU waives the affordability analysis for this proceeding but reserves the right to address affordability issues in future permitting discussions for our facilities.

City Utilities appreciates your consideration of this matter and the constructive discussions to date. If you wish to discuss this application, please do not hesitate to contact me by telephone at 417.831.8778. In addition, you may find it useful to contact Daniel Hedrick of my staff at 417.831.8916. I will be retiring from City Utilities in the near future and Mr. Hedrick will be replacing me in this position.

Respectfully,



David M. Fraley, Ph.D.
Director – Environmental Affairs

Attachments

- c. Daniel Hedrick
Trent Stober, P.E. – HDR, Inc.

