



Jeremiah W. (Jay) Nixon, Governor

Sara Parker Pauley, Director

DEPARTMENT OF NATURAL RESOURCES

dnr.mo.gov

Speedline Technologies
1629 Old South 5
Camdenton, MO 65020

Dear Permittee:

Pursuant to the Federal Water Pollution Control Act, under the authority granted to the State of Missouri and in compliance with the Missouri Clean Water Law, we have issued and are enclosing your State Operating Permit to discharge from Speedline Technologies, Camden County, Missouri.

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

Monitoring reports required by the special conditions must be submitted on a periodic basis. The required forms are enclosed. Please make copies for your use. Completed forms should be mailed to this office.

Please note that the new effluent limits for Outfall #002 for Total Suspended Solids and Total Recoverable Lead will take effect on **January 1, 2014**. These new effluent limitations may require changes to your current processes. Please refer to **Part D** of the enclosed permit, which outlines the specific schedule you must follow.

The project to upgrade your facility may require careful planning, time and expenditure of capital. State regulations require that you involve a Missouri licensed professional engineer to design your project. The completed design is required to be submitted to this office for review and approval. Once approved, a construction permit is issued and you may begin your construction project to improve your facility.

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

Please be aware that nothing in this permit relieves the permittee of any other legal obligations or restrictions, such as other federal or state laws, court orders, or county or other local ordinances or restrictions.



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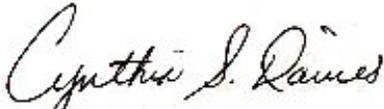
Speedline Technologies
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If you were adversely affected by this decision, you may be entitled to an appeal before the administrative hearing commission pursuant to 10 CSR 20-1.020 and Section 621.250, RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the administrative hearing commission. Any appeal shall be directed to: Administrative Hearing Commission, Truman Building, Room 640, 301 W. High Street, P.O. Box 1557, Jefferson City, MO 65102, Phone: 573-751-2422, Fax: 573-751-5018, website: www.ao.mo.gov/ahc.

If you have questions concerning this permit please contact Ms. Gwenda J. Bassett of my staff by calling 417-891-4300 or via mail at Southwest Regional Office, 2040 W. Woodland, Springfield, MO 65807-5912.

Sincerely,

SOUTHWEST REGIONAL OFFICE



Cynthia S. Davies
Regional Director

CSD/gbk

Enclosures

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-0114855
Owner:	Speedline Technologies
Address:	1629 Old South 5, Camdenton, MO 65020
Continuing Authority:	Same as Above
Address:	Same as Above
Facility Name:	Speedline Technologies
Facility Address:	1629 Old South 5, Camdenton, MO 65020
Legal Description:	See Page 2
UTM (X/Y):	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

The use or operation of this facility does not require a CERTIFIED OPERATOR.

See Page 2

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.

March 28, 2011

Effective Date

Handwritten signature of Sara Parker Pauley in black ink.

Sara Parker Pauley, Director, Department of Natural Resources

March 27, 2016

Expiration Date

Handwritten signature of Cynthia S. Davies in black ink.

Cynthia S. Davies, Regional Director, Southwest Regional Office

Outfall #001 – Metal Working Machinery and Equipment / Sewerage Works - SIC # 3548 / 4952

Extended aeration / chlorination / dechlorination / sludge disposal by contract hauler

Design organic population equivalent is 282.
Design average daily flow is 0.018 MGD.
Design sludge production is 5.1 dry tons/year.

Legal Description: NW¼, NE¼, SW¼, Sec. 04, T37N, R16W, Camden County
UTM (X/Y): 526634 / 4202823

Receiving Stream: Unnamed Tributary to Racetrack Hollow (U) (losing)
First Classified Stream and ID: Lake of the Ozarks (L2) (07205)
USGS Basin & Sub-watershed No.: (10290110-030009)

Outfall #002 – Metal Working Machinery and Equipment - SIC # 3548

Machine testing water.
Design flow is 0.00667 MGD.

Legal Description: SE¼, NE¼, SW¼, Sec. 04, T37N, R16W, Camden County
UTM (X/Y): 526768 / 4202701

Receiving Stream: Unnamed Tributary to Racetrack Hollow (U) (losing)
First Classified Stream and ID: Lake of the Ozarks (L2) (07205)
USGS Basin & Sub-watershed No.: (10290110-030009)

Outfall #003 – Metal Working Machinery and Equipment - SIC # 3548

Stormwater discharge only.
Flow is dependent on rainfall.

Legal Description: SE¼, NE¼, SW¼, Sec. 04, T37N, R16W, Camden County
UTM (X/Y): 526786 / 4202580

Receiving Stream: Unnamed Tributary to Racetrack Hollow (U) (losing)
First Classified Stream and ID: Lake of the Ozarks (L2) (07205)
USGS Basin & Sub-watershed No.: (10290110-030009)

Outfall #004 – Metal Working Machinery and Equipment - SIC # 3548

This outfall is discontinued and now flows to Outfall #002. The outfall will remain in the permit for record retention.

Outfall #005 – Metal Working Machinery and Equipment - SIC # 3548

Stormwater discharge only.
Flow is dependent on rainfall.

Legal Description: NE¼, SE¼, SW¼, Sec. 04, T37N, R16W, Camden County
UTM (X/Y): 526738 / 4202518

Receiving Stream: Unnamed Tributary to Racetrack Hollow (U) (losing)
First Classified Stream and ID: Lake of the Ozarks (L2) (07205)
USGS Basin & Sub-watershed No.: (10290110-030009)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

PAGE NUMBER 3 of 10

PERMIT NUMBER MO-0114855

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 upon issuance and remain in effect until **December 31, 2013**. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #001</u> - Domestic wastewater						
Flow	MGD	*		*	once/quarter**	24 hr. estimate
Biochemical Oxygen Demand ₅	mg/L		15	10	once/quarter**	****
Total Suspended Solids	mg/L		20	15	once/quarter**	****
pH – Units	SU	***		***	once/quarter**	grab
<i>E. coli</i> (Note 1)	#/100 ml	126		126	once/quarter**	grab
Total Residual Chlorine as Cl ₂	mg/L	0.016 (Note 2) (0.13 ML)		0.0082 (Note 2) (0.13ML)	once/quarter**	grab
Nitrate, Total (as NO ₃)	mg/L	*		*	once/quarter**	grab
Ammonia as N	mg/L	*		*	once/quarter**	grab
Oil and Grease	mg/L	15		10	once/quarter**	grab
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	DAILY MINIMUM	WEEKLY AVERAGE MINIMUM	MONTHLY AVERAGE MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #001</u>						
Dissolved Oxygen	mg/L	*		*	once/quarter**	grab

MONITORING REPORTS SHALL BE SUBMITTED **QUARTERLY**; THE FIRST REPORT IS DUE **JULY 28, 2011**. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

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 upon issuance and remain in effect until **December 31, 2013**. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)		INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #002 – Machine testing water</u>						
Flow	MGD	*		*	once/quarter**	24 hr. estimate
Settleable Solids	ml/L	1.0		0.5	once/quarter**	grab
Total Suspended Solids	mg/L	*		*	once/quarter**	grab
Oil & Grease	mg/L	15		10	once/quarter**	grab
pH – Units	SU	***		***	once/quarter**	grab
Iron, Total Recoverable	µg/L	786		300	once/quarter**	grab
Lead, Total Recoverable	µg/L	25		12	once/quarter**	grab
Hardness	mg/L	*		*	once/quarter**	grab

MONITORING REPORTS SHALL BE SUBMITTED **QUARTERLY**; THE FIRST REPORT IS DUE **JULY 28, 2011**. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #003 & #005 – Stormwater only</u>						
Flow	MGD	*		*	once/quarter*****	24 hr. estimate
Settleable Solids	ml/L	1.0		0.5	once/quarter*****	grab
pH – Units	SU	***		***	once/quarter*****	grab
Oil & Grease	mg/L	15		10	once/quarter*****	grab
Rainfall*****	inches	*		*	daily	grab

MONITORING REPORTS SHALL BE SUBMITTED **QUARTERLY**; THE FIRST REPORT IS DUE **JULY 28, 2011**. 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 10

PERMIT NUMBER MO-0114855

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, 2014** and remain in effect until expiration of this 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> - Domestic wastewater						
Flow	MGD	*		*	once/quarter**	24 hr. estimate
Biochemical Oxygen Demand ₅	mg/L		15	10	once/quarter**	****
Total Suspended Solids	mg/L		20	15	once/quarter**	****
pH – Units	SU	***		***	once/quarter**	grab
<i>E. coli</i> (Note 1)	#/100 ml	126		126	once/quarter**	grab
Total Residual Chlorine as Cl ₂	mg/L	0.016 (Note 2) (0.13 ML)		0.0082 (Note 2) (0.13ML)	once/quarter**	grab
Nitrate, Total (as NO ₃)	mg/L	*		*	once/quarter**	grab
Ammonia as N	mg/L	*		*	once/quarter**	grab
Oil and Grease	mg/L	15		10	once/quarter**	grab
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	DAILY MINIMUM	WEEKLY AVERAGE MINIMUM	MONTHLY AVERAGE MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #001</u>						
Dissolved Oxygen	mg/L	*		*	once/quarter**	grab

MONITORING REPORTS SHALL BE SUBMITTED **QUARTERLY**; THE FIRST REPORT IS DUE **APRIL 28, 2014**. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					PAGE NUMBER 6 of 10	
					PERMIT NUMBER MO-0114855	
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 January 1, 2014 and remain in effect until expiration of this permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)		FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #002</u> – Machine testing water						
Flow	MGD	*		*	once/quarter**	24 hr. estimate
Settleable Solids	ml/L	1.0		0.5	once/quarter**	grab
Total Suspended Solids	mg/L	30		15	once/quarter**	grab
Oil & Grease	mg/L	15		10	once/quarter**	grab
pH – Units	SU	***		***	once/quarter**	grab
Iron, Total Recoverable	µg/L	786		300	once/quarter**	grab
Lead, Total Recoverable	µg/L	10		5	once/quarter**	grab
Hardness	mg/L	*		*	once/quarter**	grab
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY ; THE FIRST REPORT IS DUE APRIL 28, 2014 . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #003 & #005</u> – Stormwater only						
Flow	MGD	*		*	once/quarter*****	24 hr. estimate
Settleable Solids	ml/L	1.0		0.5	once/quarter*****	grab
pH – Units	SU	***		***	once/quarter*****	grab
Oil & Grease	mg/L	15		10	once/quarter*****	grab
Rainfall*****	inches	*		*	daily	grab
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY ; THE FIRST REPORT IS DUE APRIL 28, 2014 . 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>Parts I & III</u> STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- * Monitoring requirement only.
- ** **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).**
- *** pH is measured in pH units and is not to be averaged. The pH for all facilities except lagoons is limited to the range of 6.5-9.0 pH units.
- **** 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.
- ***** **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 precipitation 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.
- ***** The total precipitation for the event sampled shall be reported.

Note 1 - Final effluent limits of 126 cfu per 100 ml daily maximum and monthly average applicable year round due to losing stream designation.

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

- (a) This effluent limit is below the minimum quantification level (ML) of the most common and practical EPA approved CLTRC methods. The Department has determined the current acceptable ML for total residual chlorine to be 0.13 mg/L when using the DPD Colorimetric Method #4500 – CL G. from Standard Methods for the Examination of Waters and Wastewater. The permittee will conduct analyses in accordance with this method, or equivalent, and report actual analytical values. Measured values greater than or equal to the minimum quantification level of 0.13 mg/L will be considered violations of the permit and values less than the minimum quantification level of 0.13 mg/L will be considered to be in compliance with the permit limitation. The minimum quantification level does not authorize the discharge of chlorine in excess of the effluent limits stated in the permit.
- (b) Disinfection is required year-round unless the permit specifically states that “Final limitations and monitoring requirements for *E. coli* are applicable only during the recreational season from April 1 through October 31.” If your permit does not require disinfection during the non-recreational months, do not disinfect in those months. **If the facility uses chlorine year-round to meet the Final Ammonia effluent limitations (Break-Point Chlorination), then the Total Residual Chlorine effluent limit shall be met and tested year-round.**
- (c) Do not chemically dechlorinate **if it is not needed to meet the limits in your permit.**
- (d) If no chlorine was used in a given sampling period, an actual analysis is not necessary. Simply report as “0 mg/L” TRC.

C. SPECIAL CONDITIONS

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

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

2. All outfalls must be clearly marked in the field.
3. Permittee will cease discharge by connection to a facility with an area-wide management plan per 10 CSR 20-6.010(3)(B) within 90 days of notice of its availability.
4. 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.
5. Report as no-discharge when a discharge does not occur during the report period.

6. 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;

C. SPECIAL CONDITIONS (continued)

- (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.
7. The permittee shall develop and implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must be prepared within 30 days and implemented within 90 days of issuance of coverage under this general permit. 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. Minimum BMPs are listed in SPECIAL CONDITIONS #8 below.
 - (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.
8. Permittee shall adhere to the following minimum Best Management Practices:
- (a) Prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicle maintenance, equipment cleaning, or warehouse activities and thereby prevent the contamination of storm water from these substances.
 - (b) Provide collection facilities and arrange for proper disposal of waste products including but not limited to petroleum waste products, and solvents.

C. SPECIAL CONDITIONS (continued)

- (c) Store all paint, solvents, petroleum products and petroleum waste products (except fuels), and storage containers (such as drums, cans, or cartons) so that these materials are not exposed to storm water or provide other prescribed BMP's such as plastic lids and/or portable spill pans to prevent the commingling of storm water with container contents. Commingled water may not be discharged under this permit. Provide spill prevention control, and/or management sufficient to prevent any spills of these pollutants from entering waters of the state. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater.
 - (d) Provide good housekeeping practices on the site to keep solid waste from entry into waters of the state.
 - (e) Provide sediment and erosion control sufficient to prevent or control sediment loss off of the property.
9. 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.
10. All spills must be **cleaned up** within 24 hours or as soon as possible, and a written report of the incident supplied with the facility's Discharge Monitoring Report. The following spills must be **reported** to the department at the earliest practicable moment, but no greater than 24 hours after the spill occurs:
- (a) Any spill, of any material, that leaves the property of the facility;
 - (b) Any spill, of any material outside of secondary containment and exposed to precipitation, greater than 25 gallons or equivalent volume of solid material.

The department may require the submittal of a written report detailing measures taken to clean up the spill within 5 days of the spill. Whether the written report is submitted with the Discharge Monitoring Report or required to be submitted within 5 days, it must include the type of material spilled, volume, date of spill, date clean-up completed, clean-up method, and final disposal method. If the spill occurs outside of normal business hours, or if the permit holder cannot reach regional office staff for any reason, the permit holder is instructed to report the spill to the department's 24 hour Environmental Emergency Response hotline at (573) 634-2436. Leaving a message on a department staff member voice-mail does not satisfy this reporting requirement. These reporting requirements apply whether or not the spill results in chemicals or materials leaving the permitted property or reaching waters of the state. This requirement is in addition to the Noncompliance Reporting requirement found in Standard Conditions Part I.

Federal Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

11. If the facility plans to store Organic Toxic Pollutants (listed in 40 CR 122 Appendix D) outside and exposed to stormwater, the permittee must notify the Department to have this MSOP modified to add monitoring requirements for the specified chemicals. If you have any questions about this condition, please contact the Missouri Department of Natural Resources, Southwest Regional Office by calling 417-891-4300 or by mail at 2040 West Woodland, Springfield, Missouri, 65807

D. SCHEDULE OF COMPLIANCE

- 1. The final effluent limits for Total Suspended Solids and Total Recoverable Lead (Outfall #002) are effective **January 1, 2014**. Meeting these limits may require changes to your current practices. By **February 1, 2012** submit a report to the Department detailing the steps you are taking to meet the new TSS and Lead limits.
- 2. If you are not able to meet the new TSS and Lead limits without constructing a treatment process, a construction permit is required. This requires a completed application for construction permit, application fee, and one copy each of an engineering report, plans and specifications prepared by a professional engineer registered in the State of Missouri to the Missouri Department of Natural Resources, 2040 West Woodland, Springfield, Missouri, 65807, for providing wastewater treatment system improvements to comply with the final effluent limitations as listed in Part A of this permit, designed in accordance with Missouri Clean Water Law Regulation 10 CSR 20 Chapter 8. If applicable, please submit the construction permit application packet by **February 1, 2012**.

If you have questions you may contact the Missouri Department of Natural Resources, Southwest Regional Office by calling 417-891-4300 or by mail at 2040 West Woodland, Springfield, Missouri, 65807.

**Missouri Department of Natural Resources
Statement of Basis
Speedline Technologies
MSOP #: MO-0114855
Camden County**

A Statement of Basis (Statement) gives pertinent information regarding the applicable regulations and rationale for the development of the NPDES Missouri State Operating Permit (operating permit). This Statement includes Wasteload Allocations, Water Quality Based Effluent Limitations, and Reasonable Potential Analysis calculations as well as any other calculations that effect the effluent limitations of this operating permit. This Statement does not pertain to operating permits that include sewage sludge land application plans and variance procedures, and does not include the public comment process for this operating permit.

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

Part I – Facility Information

Outfall #001 – Metal Working Machinery and Equipment / Sewerage Works - SIC # 3548 / 4952

Facility Description: Extended aeration / chlorination / dechlorination / sludge disposal by contract hauler
Design average daily flow is 0.018 MGD.

Outfall #002 – Metal Working Machinery and Equipment - SIC # 3548

Machine testing water.
Design flow is 0.00667 MGD.

Outfall #003 – Metal Working Machinery and Equipment - SIC # 3548

Stormwater discharge only.
Flow is dependent on rainfall.

Outfall #005 – Metal Working Machinery and Equipment - SIC # 3548

Stormwater discharge only.
Flow is dependent on rainfall.

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
001	0.028	Secondary	Domestic	6.6
002	0.019	Primary	Process water	6.7
003	Variable	Primary	Stormwater	6.8
005	Variable	Primary	Stormwater	6.8

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

A review of the facility’s Discharge Monitoring Reports (DMRs) submitted between October 2005 and October 2010 was conducted. According to the Water Quality Information Database, Speedline Technologies has submitted all required DMRs over the past five (5) years, with exception of three (3) quarterly DMRs for Outfall #005 and the annual reports for “Chemicals currently stored outside or in the last three years”, as required in page 6 of the previous MSOP. The following exceedances were noted:

- Outfall #001: BOD (4th Qtr 2008 and 1st Qtr 2009)
- Outfall #002: Iron, 3rd Qtr 2008 (250 µg/L); Lead- 4th Qtr 2005 (20 µg/L), 4th Qtr 2006 (30 µg/L), 2nd Qtr 2007 (20 µg /L), 3rd Qtr 2010 (14 µg /L); pH 4th Qtr 2009 (5.6 SU)

Outfall #003: No exceedances

Outfall #005: No DMR received for 1st Qtr 2006, 4th Qtr 2006, 3rd Qtr 2009; pH 3rd Qtr 2006 (5.6 SU); No annual DMR submitted for other chemicals used or stored on-site.

Comments: The facility was last inspected on October 14, 2009. A Letter of Warning was issued to the facility for failure to use the correct reporting requirements on submitted DMRs. The facility has corrected the deficiencies.

Speedline Technologies facility in Camdenton manufactures automatic soldering equipment and printed circuit board hydrocleaners. This facility requires a Missouri State Operating Permit to discharge industrial process water used for machine testing, stormwater, and discharge from a wastewater treatment facility.

Other Comments: The following changes have been made to the permit since the Public Notice: Monitoring requirements Total Phosphorous, Total Nitrogen, and Temperature have been removed. These parameters were not required on the previous permit therefore this is not backsliding. E. coli monitoring frequency was reduced to once per quarter; please see the Derivation and Discussion section for more details.

Part II – Operator Certification Requirements

As per [10 CSR 20-6.010(8) Terms and Conditions of a Permit], permittees shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions and regulations. Operators or supervisors of operations at regulated wastewater treatment facilities shall be certified in accordance with [10 CSR 20-9.020(2)] and any other applicable state law or regulation. As per [10 CSR 20-9.010(2)(A)], requirements for operation by certified personnel shall apply to all wastewater treatment systems, if applicable, as listed below:

Not Applicable ; This facility is not required to have a certified operator.

Part III – Receiving Stream Information

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:

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

Losing [10 CSR 20-7.015(4)]:

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 Race Track Hollow (U) (losing)	U	N/A	General Criteria, Losing	10290110	Ozark / Osage
Lake of the Ozarks	L2	07205	General Criteria, LWW, AQL, WBC-A, SCR		

* - 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).

** - Ecological Drainage Unit

RECEIVING STREAM(S) LOW-FLOW VALUES TABLE:

RECEIVING STREAM (U, C, P)	LOW-FLOW VALUES (CFS)		
	1Q10	7Q10	30Q10
Unnamed Tributary to Race Track Hollow (U) (losing)	0	0	0

MIXING CONSIDERATIONS

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)].

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

ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:

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

Not Applicable ;

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

ANTI-BACKSLIDING:

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

- 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.

AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:

As per [10 CSR 20-6.010(8)(A)10.], when a Continuing Authority under paragraph 10 CSR 20-6.010(3)(B)1. or 2. is expected to be available for connection within the next five (5) years, any operating permit issued to a permittee under this paragraph, located within the service area of the paragraph (3)(B)1. or 2. facility, shall contain the following special condition... This language is contained in Special Condition #3 of this operating permit.

ANTIDegradation:

Policies which ensure protection of water quality for a particular water body where the water quality exceeds levels necessary to protect fish and wildlife propagation and recreation on and in the water. This also includes special protection of waters designated as outstanding natural resource waters. Antidegradation requirements are consistent with 40 CFR 131.12 that outlines methods used to assess activities that may impact the integrity of a water and protect existing uses. This policy may compel the state to maintain a level of water quality above those mandated by criteria.

Not Applicable ;

Renewal; no degradation proposed and no further review necessary.

APPLICABLE PERMIT PARAMETERS:

Effluent parameters for conventional, non-conventional, and toxic pollutants have been obtained from the previous NPDES operating permit for this facility, technology based effluent limits, and from appropriate sections of the renewal application.

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. Additional information regarding biosolids and sludge is located at the following web address: <http://dnr.mo.gov/env/wpp/pub/index.html>, items WQ422 through WQ449.

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

COMPLIANCE AND ENFORCEMENT:

Action taken by the Department to resolve violations of the Missouri Clean Water Law, its implementing regulations, and/or any terms and condition of an operating permit.

Not Applicable ;

The permittee/facility is not under enforcement action and is considered to be in compliance with the Missouri Clean Water Law, its implementing regulations, and/or any terms and condition of an operating permit.

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)].

Not Applicable ;

At this time, the permittee is not required to implement and enforce a Pretreatment Program.

REASONABLE POTENTIAL ANALYSIS (RPA):

Limitations must control all pollutants or pollutant parameters that are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above the Missouri Water Quality Standards.

Applicable ;

A RPA was conducted for this facility for (parameters) and determined that this facility has the potential to cause or contribute to violations of Water Quality. Please see **APPENDIX A – RPA RESULTS**.

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). 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 ;

This wastewater treatment facility is not a POTW. 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 SSO 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.

Applicable ;

The time given for effluent limitations of this permit listed under Interim Effluent Limitation and Final Effluent Limitations were established in accordance with [10 CSR 20-7.031(10)].

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 *Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices* [EPA 832-R-92-006] (Storm Water Management), 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.

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 to 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
C_s = upstream concentration
Q_s = upstream flow
C_e = effluent concentration

Q_e = 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).

Number of Samples "n":

Additionally, in accordance with the TSD for water quality-based permitting, effluent quality is determined by the underlying distribution of daily values, which is determined by the Long Term Average (LTA) associated with a particular Wasteload Allocation (WLA) and by the Coefficient of Variation (CV) of the effluent concentrations. Increasing or decreasing the monitoring frequency does not affect this underlying distribution or treatment performance, which should be, at a minimum, be targeted to comply with the values dictated by the WLA. Therefore, it is recommended that the actual planned frequency of monitoring normally be used to determine the value of "n" for calculating the AML. However, in situations where monitoring frequency is once per month or less, a higher value for "n" must be assumed for AML derivation purposes. Thus, the statistical procedure being employed using an assumed number of samples is "n = 4" at a minimum. For Total Ammonia as Nitrogen, "n = 30" is used.

WLA MODELING:

Not Applicable ;

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

WATER QUALITY STANDARDS:

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

WHOLE EFFLUENT TOXICITY (WET) TEST:

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

Not Applicable ;

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

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

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

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

Not Applicable ;

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

Adjusted Design Flow:

10 CSR 20-6.011(1)(B)1. provides for an Adjusted Design Flow when calculating permit fees on human sewage treatment facilities. If the average flow is sixty percent (60%) or less than the system's design flow, the average flow may be substituted for the design flow when calculating the permit fee on human sewage treatment facilities. If the facility's actual average flow is consistently 60% or less than the permitted design flow, the facility may qualify for a reduction in your fee when:

- The facility has a valid permit, or has applied for re-issuance, is in compliance with the terms, conditions and effluent limitations of the permit, and the facility has a good compliance history; and
- Flow is not expected to exceed 60% of design flow for the remaining term of the existing operating permit.

Not Applicable ;

At this time, the permittee has not requested an Adjusted Design Flow modification. Further, industrial discharges do not qualify for Adjusted Design flows.

**Outfall #001 – Wastewater Treatment Facility
EFFLUENT LIMITATIONS TABLE:**

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	MGD	1	*		*	NO	S
BOD ₅	MG/L	1		15	10	NO	S
TSS	MG/L	1		20	15	NO	S
PH (S.U.)	SU	1	6.5-9.0		6.5-9.0	YES	6.0- 9.0
FECAL COLIFORM	MG/L	-	-		-	YES	1000/400
ESCHERICHIA COLI	***	1, 2	126		126	YES	****
CHLORINE, TOTAL RESIDUAL	MG/L	3	0.016 (0.13 ML)		0.0082 (0.13 ML)	YES	0.01, 0.01 (0.13 ML)
TOTAL NITRATE (AS NO ₃)	MG/L	8	*		*	YES	****
AMMONIA AS N	MG/L	3, 5	*		*	YES	****
OIL AND GREASE	MG/L	3, 8	15		10	YES	****
DISSOLVED OXYGEN	MG/L	11	*		*	YES	****
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

*** - Monitoring requirement only**

*** - # of colonies/100mL; the Monthly Average for E. coli is a geometric mean.

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

N/A – Not applicable

S – Same as previous operating permit

Basis for Limitations Codes:

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

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.

Biochemical Oxygen Demand (BOD₅).

– Effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information.**

Total Suspended Solids (TSS).

– Effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information.**

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.

Fecal coliform. Monitoring requirement and effluent limitations removed due to E. coli limits replacing fecal coliform as the applicable bacteria criteria in Missouri’s water quality standards.

Escherichia coli (E. coli). Monthly average of 126 per 100 mL and a daily maximum of 126 per 100 mL. Per 10 CSR 20-7.031 (4)(C) the E. coli count shall not exceed 126 per 100 mL at any time in a losing stream.

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

$$((Q_e + Q_s) * C - (Q_s * C_s)) / Q_e$$

Acute: $C_e = ((0.02 + 0) * 0.019 - (0 * 0)) / 0.02 = 0.019$
WLA_a = 0.019 mg/L

Chronic: $C_e = ((0.02 + 0) * 0.01 - (0 * 0)) / 0.02 = 0.01$
WLA_c = 0.01 mg/L

LTA_a = 0.019 (0.321) = 0.0061 mg/L [CV = 0.6, 99th Percentile]
LTA_c = 0.01 (0.5274) = **0.005274** mg/L [CV = 0.6, 99th Percentile]

MDL = 0.005274(3.114) = 0.016 mg/L [CV = 0.6, 99th Percentile]
AML = 0.005274(1.55) = 0.0082 mg/L [CV = 0.6, 95th Percentile, n = 4]

Total Nitrate (as NO₃). Monitoring requirement only. This facility discharges to a losing stream, therefore, surface water in this stream may be directly connected to groundwater. Nitrate can cause serious health risks to animals and humans. 10 CSR 20-7 Table A lists the Water Quality Standard for Groundwater as 10 mg/L.

Ammonia as N. Monitoring requirement only. Monitoring for ammonia is included to determine whether a “reasonable potential” exists to exceed water quality standards after the discharge begins.

Oil & Grease. Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum. According to Form C submitted, wastewater from this facility includes discharge from a commercial kitchen which is a potential source of oil and grease.

Dissolved Oxygen. Monitoring requirement only. Monitoring for dissolved oxygen is included to determine whether “reasonable potential” exists to exceed water quality standards after the discharge begins.

Minimum Sampling and Reporting Frequency Requirements. (Outfall #001)

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
FLOW	QUARTERLY	QUARTERLY
BOD ₅	QUARTERLY	QUARTERLY
TSS	QUARTERLY	QUARTERLY
PH	QUARTERLY	QUARTERLY
E. COLI	QUARTERLY	QUARTERLY
TOTAL RESIDUAL CHLORINE	QUARTERLY	QUARTERLY
TOTAL NITRATE (AS NO ₃)	QUARTERLY	QUARTERLY
AMMONIA AS N	QUARTERLY	QUARTERLY
OIL AND GREASE	QUARTERLY	QUARTERLY
DISSOLVED OXYGEN	QUARTERLY	QUARTERLY

**Outfall #002 – Industrial Process Water
EFFLUENT LIMITATIONS TABLE:**

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	MGD	1	*		*	NO	S
SS	ML/L	1	1.0		0.5	YES	****
TSS	MG/L	8	30		15	YES	*
OIL AND GREASE	MG/L	3, 8	15		10	NO	S
PH (S.U.)	SU	1	6.5-9.0		6.5-9.0	YES	6.0- 9.0
IRON, TOTAL RECOVERABLE	µG/L	3	786		300	YES	493, 246
LEAD, TOTAL RECOVERABLE	µG/L	3	10		5	YES	25, 12
HARDNESS	MG/L	3, 8	*		*	YES	****
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

*** - Monitoring requirement only**

*** - # of colonies/100mL; the Monthly Average for E. coli is a geometric mean.

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

N/A – Not applicable

S – Same as previous operating permit

Basis for Limitations Codes:

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

OUTFALL #002 – 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.

Settleable Solids (SS). Discharges to losing streams in previous permits have had Settleable Solid limits of 0.5 ml/L/hr. The monthly average is 0.5 ml/L/hr and the daily maximum effluent limit is 1.0 ml/L/hr. The daily maximum is calculated by $(0.5 \text{ AML})/(\text{LTAc}/1.5524 \text{ AML})(3.113/\text{LTAc})=1.0 \text{ ml/L}$ daily maximum. This method is outlined in SWRO-WP17-01.

Total Suspended Solids (TSS). According to 10 CSR 20-7.015 for TSS the Daily Maximum is 15 mg/L. The Daily maximum is twice the monthly average therefore 30 mg/L.

Oil & Grease. Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum. Oil and grease may be present in the machine testing process water as per Form C submitted with this renewal application.

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.

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
Cadmium	0.924	0.889
Chromium III	0.316	0.860
Chromium VI	0.982	0.962
Copper	0.960	0.960
Lead	0.721	0.721
Nickel	0.998	0.997
Silver	0.85	N.A.
Zinc	0.978	0.986

Conversion factors for Cd and Pb are hardness dependent. Values calculated using equation found in Section 1.3 of EPA 823-B-96-007 and hardness = 162 mg/L.

Iron, Total Recoverable. Based on a RPA there is a reasonable potential for effluent concentrations to exceed the water quality criteria for Protection of Aquatic Life (AQL) and Groundwater (GRW). Limits were derived for protection of AQL and GRW and compared. Toxicity of Iron does not vary significantly with hardness.

Protection of Aquatic Life Chronic Criteria = 1000 µg/L

$$((Q_e + Q_s) \cdot C - (Q_s \cdot C_s)) / Q_e$$

Chronic

$$C_c = ((0.019 + 0) * 1000 - (0 * 0.0)) / 0.019$$

$$C_c = 1000 \mu\text{g/L}$$

$$\text{WLA}_c = 1000 \mu\text{g/L}$$

$$\text{LTA}_c = 1000 \mu\text{g/L} (0.348) = 348 \mu\text{g/L} \quad [\text{CV} = 1.1, 99^{\text{th}} \text{ Percentile}]$$

$$\text{MDL} = 348 (5.289) = 1841 \mu\text{g/L} \quad [\text{CV} = 1.1, 99^{\text{th}} \text{ Percentile}]$$

$$\text{AML} = 348 (2.030) = 707 \mu\text{g/L} \quad [\text{CV} = 1.1, 95^{\text{th}} \text{ Percentile, } n=4]$$

Protection of Ground Water Chronic Criteria = 300 $\mu\text{g/L}$

$$\text{WLA} = 300 \mu\text{g/L}$$

Set the Average Monthly Limit equal to the WLA [per EPA/505/2-90-001 Section 5.4.4]
 $\text{AML} = 300 \mu\text{g/L}$

$$\text{MDL} = \text{AML} * 2.62 \quad [\text{CV} = 1.1, 95^{\text{th}} \text{ Percentile, } n=4]$$

$$\text{MDL} = 300 * 2.62 = 786 \mu\text{g/L}$$

$$\text{MDL} = 786 \mu\text{g/L}$$

$$\text{AML} = 300 \mu\text{g/L}$$

The more protective effluent limitations are derived from Protection of GRW Criteria method. Therefore, the effluent limitations is:

Maximum Daily Limit (MDL)	Average Monthly Limit (AML)
786 $\mu\text{g/L}$	300 $\mu\text{g/L}$

Lead, Total Recoverable. Based on a RPA there is a reasonable potential for effluent concentrations to exceed the water quality criteria for Protection of Aquatic Life (AQL) Chronic Criteria and Groundwater (GRW) Chronic Criteria. Limits were derived for protection of AQL and GRW and compared.

$$\text{Chronic} = 4/0.721 = 6 \mu\text{g/L}$$

$$\text{Acute} = 109/0.721 = 151 \mu\text{g/L}$$

Protection of Aquatic Life Chronic Criteria = 151 $\mu\text{g/L}$ and Acute Criteria = 6 $\mu\text{g/L}$, based on hardness set at the default value of 162 mg/L .

$$\text{LTA}_c = 6 (0.480) = 2.8 \mu\text{g/L} \quad [\text{CV} = 0.7, 99^{\text{th}} \text{ Percentile}]$$

$$\text{LTA}_a = 151 (0.281) = 42.4 \mu\text{g/L} \quad [\text{CV} = 0.7, 99^{\text{th}} \text{ Percentile}]$$

Use most protective number of LTA_c or LTA_a .

$$\text{MDL} = 2.8 (3.559) = 9.965 = 10 \mu\text{g/L} \quad [\text{CV} = 0.7, 99^{\text{th}} \text{ Percentile}]$$

$$\text{AML} = 2.8 (1.651) = 4.622 = 5 \mu\text{g/L} \quad [\text{CV} = 0.7, 95^{\text{th}} \text{ Percentile, } n = 4]$$

Protection of Ground Water Chronic Criteria = 15 $\mu\text{g/L}$

$$\text{WLA} = 15 \mu\text{g/L}$$

Set the Average Monthly Limit equal to the WLA
 $\text{AML} = 15 \mu\text{g/L}$

MDL = AML * 2.16
 MDL = 15 * 2.16 = 32 µg/L

[per EPA/505/2-90-001 Section 5.4.4]
 [CV = 0.7, 95th Percentile]

MDL = 32 µg/L
 AML = 15 µg/L

The more protective effluent limitations are derived from Protection of Aquatic Life Criteria method. Therefore, the effluent limitations are:

Maximum Daily Limit (MDL)	Average Monthly Limit (AML)
10 µg/L	5 µg/L

Color. Monitoring requirement removed. General Criteria Water Quality Standards in Special Conditions 6(b)(1) includes effluent characteristics such as color.

Hardness. Monitoring requirement only. The toxicity of Lead varies with hardness therefore hardness values are needed to determine the most accurate limits for metals.

Minimum Sampling and Reporting Frequency Requirements. (Outfall #002)

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
FLOW	QUARTERLY	QUARTERLY
SETTLABLE SOLIDS	QUARTERLY	QUARTERLY
TOTAL SUSPENDED SOLIDS	QUARTERLY	QUARTERLY
OIL & GREASE	QUARTERLY	QUARTERLY
PH	QUARTERLY	QUARTERLY
IRON, TOTAL RECOVERABLE	QUARTERLY	QUARTERLY
LEAD, TOTAL RECOVERABLE	QUARTERLY	QUARTERLY
HARDNESS	QUARTERLY	QUARTERLY

Outfall #003 and #005 – Stormwater

EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	MGD	1	*		*	NO	S
BOD ₅	MG/L		-		-	REMOVED	45/45
TSS	MG/L		-		-	REMOVED	*
SS	ML/L	1	1.0		0.5	YES	****
PH	SU	8	6.5-9.0		6.5-9.0	YES	6.0, 9.0
OIL AND GREASE	MG/L	3, 8	15		10	NO	****
RAINFALL	INCHES	8	*		*	NO	S
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

* - **Monitoring requirement only**

*** - # of colonies/100mL; the Monthly Average for E. coli is a geometric mean.

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

N/A – Not applicable

S – Same as previous operating permit

Basis for Limitations Codes:

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

OUTFALL #003 #005 – 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.

Biochemical Oxygen Demand (BOD₅). Monitoring requirement removed. Review of the past five (5) years of DMRs shows that BOD₅ is not present in stormwater runoff at concentrations that have the potential to exceed Effluent Regulations. Further, the facility no longer stores chemical outdoors which were a potential source of BOD₅.

Total Suspended Solids (TSS). Monitoring requirement removed. Review of the past five (5) years of Discharge Monitoring Reports (DMRs) shows that total suspended solids is not present in the storm water runoff at concentrations that have the potential to exceed standard limitations for industrial stormwater.

Settleable Solids (SS). Discharges to losing streams in previous permits have had Settleable Solid limits of 0.5 ml/L/hr. The monthly average is 0.5 ml/L/hr and the daily maximum effluent limit is 1.0 ml/L/hr. The daily maximum is calculated by $(0.5 \text{ AML})(\text{LTAc}/1.5524 \text{ AML})(3.113/\text{LTAc})=1.0 \text{ ml/L}$ daily maximum. This method is outlined in SWRO-WP17-01. These effluent limits have been demonstrated to be attainable by the facility with improved Best Management Practices.

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.

Oil & Grease. Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.

Chemicals stored outside currently or within the last three years. Monitoring requirement removed. Since 2008, the facility has not stored any chemicals outside. The chemical storage area is no longer used.

Minimum Sampling and Reporting Frequency Requirements. (Outfalls #003 and #005)

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
FLOW	QUARTERLY	QUARTERLY
SETTLEABLE SOLIDS	QUARTERLY	QUARTERLY
PH	QUARTERLY	QUARTERLY
OIL & GREASE	QUARTERLY	QUARTERLY
RAIN	DAILY	QUARTERLY

Sampling Frequency Justification:

Quarterly sampling is appropriate to obtain adequate data to conduct reasonable potential analysis on applicable parameters.

The Clean Water Commission has directed the Department to proceed with amending 10 CSR 20-7.015 to reduce the sampling frequency required for E.coli to a lesser frequency, still protective of water quality standards, for smaller facilities, including those with discharges of 100,000 gallons per day or less.

Sampling Type Justification

Outfall #001- Samples collected from mechanical plants with a small flow shall be modified composites, for applicable parameters.

Outfall #002- Grab samples for industrial process water is appropriate due to the variability of flow.

Outfalls #003 and #005- Grab samples for stormwater discharge is appropriate due to the variability of flow.

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.

Date of Factsheet: December 9, 2010

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APPENDIX A – RPA RESULTS:

Parameter	CMC*	RWC Acute*	CCC*	RWC Chronic*	n**	Range max/min	CV***	MF	RP Yes/No
Lead, Total Recoverable	151	81	5	81	20	30/5	0.733	2.711	Yes
Iron, Total Recoverable	300	2377	300	2377	20	620/10	1.089	3.833	Yes

N/A – Not Applicable

* - Units are (µg/L) unless otherwise noted.

** - If the number of samples is greater than 10, then the CV value must be used in the WQBEL for the applicable constituent.

*** - Coefficient of Variation (CV) is calculated by dividing the Standard Deviation of the sample set by the Mean of the same sample set.

RWC – Receiving Water Concentration. It is the concentration of a toxicant or the parameter toxicity in the receiving water after mixing (if applicable).

n – Is the number of samples.

MF – Multiplying Factor. 99% Confidence Level and 99% Probability Basis.

RP – Reasonable Potential. It is where an effluent is projected or calculated to cause an excursion above a water quality standard based on a number of factors including, as a minimum, the four factors listed in 40 CFR 122.44(d)(1)(ii).

Reasonable Potential Analysis is conducted as per (TSD, EPA/505/2-90-001, Section 3.3.2). A more detailed version including calculations of this RPA is available upon request.