

STATE OF MISSOURI  
**DEPARTMENT OF NATURAL RESOURCES**

MISSOURI CLEAN WATER COMMISSION



**MISSOURI STATE OPERATING PERMIT**

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

Permit No. MO-0002500

Owner: Tyson Chicken Inc.  
Address: 2200 Don Tyson Ave.  
Springdale, AR 72765

Continuing Authority: Same as above  
Address: Same as above

Facility Name: Tyson Foods - Noel  
Facility Address: 1 Tyson Ave.  
Noel, MO 64854

Legal Description: See page 2  
UTM Coordinates: 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 page 2

This permit authorizes only 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 Sections 640.013, 621.250, and 644.051.6 of the Law.

February 1, 2013      December 4, 2014  
Effective Date      Modification Date

Sara Parker Pauley, Director, Department of Natural Resources

June 30, 2015  
Expiration Date

John Madras, Director, Water Protection Program

**FACILITY DESCRIPTION (continued):**

Outfall #001 - Poultry Processing / Sewerage Works – SIC #2015

This outfall discharges process and sanitary wastewater. Treatments for these discharges involve dissolved air flotation, chemical addition for flocculation, flow equalization basin (anaerobic lagoon), anaerobic reactor, anoxic reactor, chemical addition to facilitate phosphorus removal, activated sludge, chlorination, de-chlorination, chemical addition for pH adjustment, sludge storage pond, and the 17-acre lagoon sludge is land applied. Total area drained is 2.5 acres.

Legal Description: NW ¼, NW ¼, Sec. 15, T21N, R33W, McDonald County

UTM Coordinates: X= 366126, Y= 4046861

Receiving Stream: Elk River (P) 303(d)

First Classified Stream and ID: Elk River (P) (3246) 303(d)

USGS Basin & Sub-watershed No.: (11070208-0504)

Design population equivalent is 398,360.

Design sludge production is 11,950 dry tons per year.

Design flow is 2.32 MGD.

Outfalls #002 & 003 & #004: Outfalls removed.

Now go through first flush system and discharge through Outfall #005.

Outfall #005 - SIC #2015 and NAICS #311613

This is a stormwater outfall. The facility's First Flush System captures 286,000 gallons before allowing waste to discharge at this outfall. Located near the receiving dock; structural curbs divert wash down water and runoff to water treatment. Total area drained is 750,000 sq. ft.

Legal Description: SE ¼, NW ¼, Sec. 15, T21N, R33W, McDonald County

UTM Coordinates: X= 366453, Y= 4046187

Receiving Stream: Elk River (P) 303(d)

First Classified Stream and ID: Elk River (P) (3246) 303(d)

USGS Basin & Sub-watershed No.: (11070208-0504)

Actual flow is dependent upon precipitation.

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

PAGE NUMBER 3 of 9

PERMIT NUMBER MO-0002500

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/weekday	24 hr. total
Biochemical Oxygen Demand <sub>5</sub>	mg/L	45		30	once/week***	24 hr. composite**
Total Suspended Solids	mg/L	45		30	once/week***	24 hr. composite**
Fecal Coliform (Note 5)	#/100 ml	400			once/week***	grab
<i>E. coli</i> (Note 1)	#/100 ml	630		126	once/week***	grab
pH	SU	*****		*****	once/week***	grab
Ammonia as N (Apr 1 – Sept 30)	mg/L	8.0		4.0	once/week***	grab
Ammonia as N (Oct 1 – Mar 31)	mg/L	8.0		4.0	once/week***	grab
Total Residual Chlorine (Note 2)	µg/L	23 (ML 130)		13 (ML 130)	once/week***	grab
Total Phosphorus as P	lb/day			19.4	once/week***	grab
Total Phosphorus as P	mg/L	1.5		1.0	once/week***	grab
Nitrite + Nitrate as N	mg/L	*		*	once/week***	grab
Total Kjeldahl Nitrogen as N	mg/L	*		*	once/week***	grab
Total Nitrogen as N (Note 3)	mg/L	25.5		25.5	once/week***	grab
Oil & Grease	mg/L	15		10	once/week***	grab
Temperature	°F	*		*	once/week***	grab
Sulfate, Total as (SO <sub>4</sub> )	mg/L	*		*	once/week***	grab

MONITORING REPORTS SHALL BE SUBMITTED **MONTHLY**; THE FIRST REPORT IS DUE **MARCH 28, 2013**. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

Whole Effluent Toxicity (WET) test	% Survival	See Special Conditions	once/year	24 hr. composite**
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MONITORING REPORTS SHALL BE SUBMITTED **ANNUALLY**; THE FIRST REPORT IS DUE **JANUARY 28, 2014**.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS				PAGE NUMBER 4 of 9		
				PERMIT NUMBER MO-0002500		
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 (Note 4)</u>						
Flow	MGD	*		*	once/quarter*****	24 hr. total
Total Suspended Solids	mg/L	*		*	once/quarter*****	grab
Biochemical Oxygen Demand <sub>5</sub>	mg/L	*		*	once/quarter*****	grab
<i>E. coli</i> (Note 1)	#/100 ml	*		*	once/quarter*****	grab
pH	SU	*****		*****	once/quarter*****	grab
Ammonia as N	mg/L	*		*	once/quarter*****	grab
Total Phosphorus as P	mg/L	*		*	once/quarter*****	grab
Nitrite + Nitrate as N	mg/L	*		*	once/quarter*****	grab
Total Kjeldahl Nitrogen as N	mg/L	*		*	once/quarter*****	grab
Total Nitrogen as N (Note 3)	mg/L	*		*	once/quarter*****	grab
Oil & Grease	mg/L	15		10	once/quarter*****	grab
Precipitation	Inches	*		*	once/quarter*****	grab
Temperature	°F	*		*	once/quarter*****	grab
MONITORING REPORTS SHALL BE SUBMITTED <b>QUARTERLY</b> ; THE FIRST REPORT IS DUE <b>APRIL 28, 2013</b> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
<b>B. STANDARD CONDITIONS</b>						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>PARTS I &amp; III</u> STANDARD CONDITIONS DATED OCTOBER 1, 1980 AND AUGUST 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

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

- \* Monitoring requirement only.
- \*\* A 24-hour composite sample is composed of 48 aliquots (subsamples) collected at 30 minute intervals by an automatic sampling device.
- \*\*\* Sample once per week means: the period from Sunday to Saturday.
- \*\*\*\* See table below for quarterly sampling.
- \*\*\*\*\* 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.

Sample discharge at least once for the months of:	Report is due:
January, February, March (1st Quarter)	April 28
April, May, June (2nd Quarter)	July 28
July, August, September (3rd Quarter)	October 28
October, November, December (4th Quarter)	January 28

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

- Note 1 Effluent limitations and monitoring requirements for *E. coli* are applicable only during the recreational season from April 1 through October 31. The Monthly Average Limit for *E. coli* is expressed as a geometric mean.
- 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 **130 µg/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 130 µg/L will be considered violations of the permit and values less than the minimum quantification level of 130 µg/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.”
  - (c) Do not chemically de-chlorinate **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.
- Note 3 Please note that Total Nitrogen as N (mg/L) is the sum of Total Kjeldahl Nitrogen as N (mg/L) and Nitrate + Nitrite as N (mg/L).
- Note 4 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.
- Note 5 Parameter has Federal Effluent Limit Guidelines (ELG). Facility operations subject to 40 CFR PART 432—MEAT AND POULTRY PRODUCTS POINT SOURCE CATEGORY.

**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. There shall be no discharge of toxic pollutants at levels which could cause an exceedance of Water Quality Standard.
4. 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.

**C. SPECIAL CONDITIONS cont.**

5. Water Quality Standards

- (a) To the extent required by law, 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. 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.

7. Report as no-discharge when a discharge does not occur during the report period.

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

9. The permittee shall comply with any applicable requirements listed in 10 CSR 20-9, unless the facility has received written notification that the Department has approved a modification to the requirements. The monitoring frequencies contained in this permit shall not be construed by the permittee as a modification of the monitoring frequencies listed in 10 CSR 20-9. If a modification of the monitoring frequencies listed in 10 CSR 20-9 is needed, the permittee shall submit a written request to the Department for review and, if deemed necessary, approval.

10. A least one gate, constructed of materials comparable to the fence, must be provided to access the lagoon and provide for maintenance and mowing. The gate shall remain locked except when opened by the permittee to perform maintenance or mowing.

11. At least one sign shall appear on the fence on each side of each facility. Minimum wording shall be "SEWAGE TREATMENT FACILITY – KEEP OUT", in letters at least 2 inches high.

12. The berms of storage basins shall be mowed and kept free of any trees, muskrat dens, or other potential sources of damage to the berms.

**C. SPECIAL CONDITIONS cont.**

13. The discharge from the lagoon system shall be conveyed to the receiving stream via a closed pipe or a paved or rip-rapped open channel. Sheet or meandering drainage is not acceptable. The outfall sewer shall be protected against the effects of floodwater, ice or other hazards as to reasonably insure its structural stability and freedom from stoppage. The outfall shall be maintained so that a sample of the effluent can be obtained at a point after the final treatment process and before the discharge mixes with the receiving stream.
14. A minimum of two (2) feet freeboard must be maintained in the lagoon cell.
15. The facility shall ensure that adequate provisions are provided to prevent surface water intrusion in to the lagoon and to divert stormwater runoff around the lagoon and protect embankments from erosion.
16. Sludge and Biosolids Use For Domestic Wastewater Treatment Facilities
  - (a) Permittee shall comply with the pollutant limitations, monitoring, reporting, and other requirements in accordance with the attached permit Standard Conditions.
  - (b) If sludge is not removed by a contract hauler, permittee is authorized to land apply biosolids. Permit Standard Conditions, Part III shall apply to the land application of biosolids. Permittee shall notify the Department at least 180 days prior to the planned removal of biosolids. The Department may require submittal of a biosolids management plan for Department review and approval as determined appropriate on a case-by-case basis.
17. 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 permit issuance. The SWPPP must be kept on-site and should not be sent to DNR unless specifically requested. The SWPPP must be reviewed and updated, if needed, every five (5) years or as site conditions change. 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) 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 #18 below.
  - (b) The SWPPP must include a schedule for twice per month site inspections and brief written reports. The inspections must include observation and evaluation of BMP effectiveness. Deficiencies must be corrected within seven (7) days and the actions taken to correct the deficiencies shall be included with the written report, including photographs. Any corrective measure that necessitates major construction may also need a construction permit. Inspection reports must be kept on site with the SWPPP and maintained for a period of five (5) years. These must be made available to DNR personnel upon request.
  - (c) A provision for designating an individual to be responsible for environmental matters.
  - (d) 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.
18. 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) 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
    - (d) Shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater.
    - (e) Provide good housekeeping practices on the site to keep trash from entry into waters of the state.

**C. SPECIAL CONDITIONS cont.**

- (f) Provide sediment and erosion control sufficient to prevent or control sediment loss off of the property. This could include the use of straw bales, silt fences, or sediment basins, if needed, to comply with effluent limits.
- 19. The purpose of the SWPPP and the BMPs listed herein is the prevention of pollution of waters of the state. A deficiency of a BMP means it was not effective in preventing pollution [10 CSR 20-2.010(56)] of waters of the state, and corrective actions means the facility took steps to eliminate the deficiency.
- 20. A copy of the SWPPP shall be submitted to the Department upon request.
- 21. By February 1, 2017, the facility must submit a report to the Southwest regional office evaluating the sources of Total Suspended Solids (TSS) loading to Outfall #005. The report should investigate potential new BMPs that will reduce TSS concentrations at Outfall #005. The report shall also identify any BMPs that have been implemented through the facilities SWPPP to reduce TSS loadings to Outfall #005.
- 22. Upon renewal of this permit, *E. coli* data from outfall #005 will be considered by the Department to determine the appropriateness of a performance based benchmarks. If appropriate, performance based benchmarks will be applied to outfall #005 upon renewal.
- 23. Whole Effluent Toxicity (WET) Test shall be conducted as follows:

SUMMARY OF ACUTE WET TESTING FOR THIS PERMIT				
OUTFALL	AEC	FREQUENCY	SAMPLE TYPE	MONTH
001	74%	Once/Year	24-hr. composite**	Any

\*\* A 24-hour composite sample is composed of 48 aliquots (subsamples) collected at 30 minute intervals by an automatic sampler.

Dilution Series						
74% effluent	37% effluent	18.5% effluent	9.25% effluent	4.625% effluent	(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.
  - (i) 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.
  - (ii) 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 analysis performed upon any other effluent concentration.
  - (iii) 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.
- (2) The WET test will be considered a failure if mortality observed in effluent concentrations equal to or less than the AEC is 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, synthetic laboratory control water may be used.
- (3) 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.

**C. SPECIAL CONDITIONS cont.**

- (4) If the effluent fails the test for BOTH test species, 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: Note: Written request regarding single species multiple dilution accelerated testing will be address by THE WATER PROTECTION PROGRAM on a case by case basis.
  - (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.
- (5) Follow-up tests do not negate an initial failed test.
- (6) 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.
- (7) Additionally, the following shall apply upon failure of the third follow up MULTIPLE DILUTION test The permittee should 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. If the permittee does not contact THE WATER PROTECTION PROGRAM upon the third follow up test failure, a toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. 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 the automatic trigger or 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.
- (8) 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.
- (9) 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.
- (10) When WET test sampling is required to run over one DMR period, each DMR report shall contain a copy of the Department's WET test report form that was generated during the reporting period.
- (11) Submit a concise summary in tabular format of all WET test results with the annual report.

(b) 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 unless approved by the Department on a case by case basis.
- (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) Tests will be run with 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent, and 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.
- (9) Whole-effluent-toxicity test 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

**MISSOURI DEPARTMENT OF NATURAL RESOURCES**  
**STATEMENT OF BASIS**  
**MO-0002500**  
**TYSON FOODS - NOEL**

This Statement of Basis (Statement) gives pertinent information regarding minor modification(s) to the above listed operating permit without the need for a public comment process.

A Statement is not an enforceable part of a Missouri State Operating Permit.

**Part I – Facility Information**

Facility Type: Industrial  
Facility SIC Code(s): #2015

Facility Description:

Poultry processing facility. See facility description on page 1 of the factsheet below for detailed description.

**Part II – Modification Rationale**

This operating permit is hereby modified to reflect a change in ownership, owner address correction and facility name change. The owner name has changed from Tyson Foods Inc. to Tyson Chicken Inc. The owner address has been updated from 2210 Don Tyson Parkway, Springdale, AR 72765 to 2200 Don Tyson Ave., Springdale, AR 72765. The facility name has changed from Tyson Foods Inc. to Tyson Foods – Noel. These changes are reflected in the modified permit.

No other changes were made at this time.

**Part III – 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 STATEMENT OF BASIS:** OCTOBER 9, 2014

**COMPLETED BY:**

**LOGAN COLE, ENVIRONMENTAL SPECIALIST**  
**MISSOURI DEPARTMENT OF NATURAL RESOURCES**  
**WATER PROTECTION PROGRAM**  
**OPERATING PERMITS SECTION – INDUSTRIAL PERMITS UNIT**  
**(573) 751-5827**  
**logan.cole@dnr.mo.gov**

**Missouri Department of Natural Resources**  
**FACT SHEET**  
**FOR THE PURPOSE OF RENEWAL**  
**OF**  
**MO-0002500**  
**TYSON FOODS INC. - NOEL**

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

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

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

This Factsheet is for an Industrial Facility

**Part I – Facility Information**

Facility Type: Industrial  
Facility SIC Code(s): 2015

**Facility Description:**

Tyson Foods, Inc. – Noel Facility's average Live Weight Killed (LKW) is 1.5 million lbs/day. The primary raw materials used in the chicken operations are corn and soybean meal used as feed and live chickens raised primarily by independent contract growers. The facility's vertically-integrated chicken process begins with the grandparent breeder flocks and ends with broilers for processing. Breeder flocks (i.e., grandparents) are raised to maturity in grandparent growing and laying farms where fertile eggs are produced. Fertile eggs are incubated at the grandparent hatchery and produce pullets (i.e., parents). Pullets are sent to breeder houses, and the resulting eggs are sent to our hatcheries. Once chicks have hatched, they are sent to broiler farms. There, contract growers care for and raise the chicks according to our standards, with advice from our technical service personnel, until the broilers reach the desired processing weight. Adult chickens are transported to processing plants, which are slaughtered and converted into finished products, then sent to distribution centers and delivered to customers. Tyson Foods operate their own feed mills to produce scientifically-formulated feeds. In fiscal 2011, corn, soybean meal and other feed ingredients were major production costs, representing roughly 69% of our cost of growing a live chicken. In addition to feed ingredients to grow the chickens, we use cooking ingredients, packaging materials and cryogenic agents.

**STORMWATER**

Stormwater at the Noel facility is collected and treated in 2 ways. The stormwater system is a collection of curbing, culverts, and lift stations. Stormwater from the majority of the employee parking lot, shipping & receiving, and recycling area is collected thru the facility's first flush system. Stormwater is collected and routed to the head works (Wet Well) of the waste water treatment system for treatment before discharge to the Elk River. The remaining storm water of the property is collected and routed to the stormwater lagoon on the North side of the property, where the stormwater can be brought to the head works (Wet Well) of the waste water treatment system for treatment before discharge to the Elk River.

**FIRST FLUSH SYSTEM**

Tyson Foods Inc. – Noel Facility's First Flush System was designed to capture the first inch of rainfall from the processing plant drainage area which is approx. 17 acres. The collection system will include curbing berms, and culverts around areas 2 and 3, which will flow to a new lift station capable of pumping 3,590 GPM for a maximum of one hour. Four pumps, each sized to pump 1,350 GPM at 61 feet of total dynamic head, installed on a pump pad physically separate from the wet well. A wet well with collection capacity of 22,365 gallons complete with underflow outlet weir and batch totalizer flow meters. The pump station will channel the **first one inch of flow** back to the existing treatment facility. Full treatment to the first one-inch of any rainfall event over a period of

24 hours will occur. The 24-hour clock will reset at midnight each night. All samples shall be collected from a discharge resulting from a precipitation event greater than 0.1 inch in magnitude and that occurs at least 72 hours from the previously measurable rain event. Wastewater will be received by the Tyson Foods, Inc. WWTF. The facility uses chlorine to perform break-point chlorination in order to help control high ammonia levels. This permit requires the facility to submit a report to the Southwest regional office evaluating the sources of Total Suspended Solids (TSS) loading to Outfall #005 by February 1, 2017. This schedule will be applied to the next permit renewal.

### WASTE WATER

The waste water system collects water from the processing plant, sanitary sewer, and storm water runoff. Below is a description of the flow thru the wastewater plant.

1. Flow Equalization Basin (FEB)
  - Water from the processing plant is received in the FEB. The purpose of the FEB is to equalize the flow into the treatment plant and provide a consistent mixing of the processing plant's waste water.
2. Dissolved Air Flotation System (DAF)
  - The DAF is used as a pretreatment system to remove solids from the waste water stream. Solids from the DAF are then routed to a tricanter that separates the oil from the solids. The separated oil is used in further processing operations and the solids are land fill by an approved contractor.
3. Wet Well
  - The Wet Well is where waste water from the processing plant, sanitary sewer, and storm water meet and then are routed into the waste water treatment plant.
4. Covered Anaerobic Lagoon (AL)
  - Anaerobic Bacteria in the AL continue to break down loading and solids from the waste water stream thru biological processes.
5. Anoxic Tank
  - The Anoxic tank is part of the biological process that aids in nitrogen removal.
6. Anaerobic Tank
  - The Anaerobic Tank is part of the biological process that removes phosphorus. This tank is currently off line, potentially coming back online.
7. CMASS
  - The CMASS is the aeration basin that aids in the aerobic process of nitrogen, ammonia, and solids removal. Aluminum Sulfate (Alum) is injected at the exit point of the CMASS to aid in phosphorous removal.
8. Clarifier
  - The clarifier separates the water from the RAS solids.
9. Contact Chambers
  - The contact chambers are the disinfection process.
10. Wasting Cell Lagoon
  - Daily wasting of solids no longer beneficial to the system are collected in the wasting cell. Water from the wasting cell is decanted to the wet well as needed. And solids are removed thru dredging. Tyson of Noel is currently looking into a belt filter press to handle the daily RAS.
11. 17 Acre Lagoon
  - The 17 acre lagoon provides back up over flow capacity for storm water and/or waste water.

### POSSIBLE SOURCES OF POLLUTANTS

Materials found in the facility that are currently or in the past three years have been treated, stored or disposed in a manner to allow exposure to stormwater:

- **Live birds**- 1968- present; 3 trailers; northwest of plant; open sided cages; stormwater is collected and treated.
- **Offal**- 1968- present; 3 trailers; northwest of plant; open top trailers, stormwater is collected and treated.
- **No. 2 Fuel Oil**- 1968- present; 1 tank; east side of processing plant; enclosed tank secondary containment.
- **Wooden pallets**- 1968- present; 3 pallets located north, northwest, and east; open top dumpsters; stormwater is collected and treated.
- **Fresh product trailers**- 1968- present; 14 trailers; southeast corner of processing plant; totally enclosed trailers; area swept and washed down.

### SIC #4952 Sewerage Systems

-Establishments primarily engaged in the collection and disposal of wastes conducted through a sewer system, including such treatment processes as may be provided.

### SIC #2015 Poultry Slaughtering and Processing

-Establishments primarily engaged in slaughtering, dressing, packing, freezing, and canning poultry, rabbits, and other small game, or in manufacturing products from such meats, for their own account or on a contract basis for the trade. This industry also includes the drying, freezing, and breaking of eggs.

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

No.

Application Date: 05/17/10  
 Expiration Date: 12/15/10  
 Last Inspection: 06/06/12 In Compliance ; Non-Compliance

**OUTFALL(S) TABLE:**

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
#001	3.596	Advanced	Non-domestic processed wastewater	0.01
#005	0	BMP	Stormwater	0.18

Outfall #001 - Poultry Processing / Sewerage Works – SIC #2015 and 4952

This outfall discharges process and sanitary wastewater.  
 Legal Description: NW ¼, NW ¼, Sec. 15, T21N, R33W, McDonald County  
 UTM Coordinates: X= 366126, Y= 4046861  
 Receiving Stream: Elk River (P) 303(d)  
 First Classified Stream and ID: Elk River (P) (3246) 303(d)  
 USGS Basin & Sub-watershed No.: (11070208-0504)  
 Design population equivalent is 398,360.  
 Design sludge production is 11,950 dry tons per year.  
 Design flow is 2.32 MGD.

Outfalls #002 & 003 & #004: Outfalls removed.  
 Discharges from these outfalls now go through first flush system and discharged through Outfall #005.

Outfall #005 - Poultry Processing / Sewerage Works – SIC #2015 (NAICS #311613) and SIC #4952

This is a stormwater outfall. The facility’s First Flush System captures 286,000 gallons before allowing waste to discharge at this outfall.  
 Legal Description: SE ¼, NW ¼, Sec. 15, T21N, R33W, McDonald County  
 UTM Coordinates: X= 366453, Y= 4046187  
 Receiving Stream: Elk River (P) 303(d)  
 First Classified Stream and ID: Elk River (P) (3246) 303(d)  
 USGS Basin & Sub-watershed No.: (11070208-0504)  
 Actual flow is dependent upon precipitation.

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

Elk River is listed on the 2004 Missouri 303(d) List for nutrients. Length of impairment: 21.5 miles. The impairment of the Elk River is based on exceedance of the general criteria contained in Missouri’s Water Quality Standards, 10 CSR 20-7.031 (3)(A) and (C). Water quality monitoring of the Elk River near the Oklahoma State line has shown a significant steady increase in the amount of nitrogen in the river over the last 35 years. Several factors are believed to contribute to this trend, but the most significant contributor has been the growth of the poultry production and processing industry in Northwest Arkansas and Southwest Missouri. Much of the poultry litter generated in this region, which is high in nitrogen and phosphorus, is applied to agricultural lands within the Elk River watershed. Because nitrogen and phosphorus are water soluble, they are easily flushed from or through soils into ground waters and surface streams. Poultry processing plants and growth in population due to the availability of jobs in the poultry industry have also significantly added to the nutrient loading coming from point sources. High nutrient input into a waterbody encourages the growth of nuisance algae. To determine how to stop algal growth, the limiting factor must be identified. The limiting factor is the nutrient that limits the growth of plants, in this case algae, if it is not available in sufficient quantities. Generally, a system is either nitrogen or phosphorus limited. In the Elk River, the ecosystem is phosphorus limited, indicated by an N:P ratio (nitrogen to phosphorus) of 17. For more information on Elk River TMDL condition, please visit <http://dnr.mo.gov/env/wpp/tmdl/3246-elk-r-record.htm>

Comments:

MSOP MO-0002500, issued on Dec. 16, 2005, was modified in July 2008 to correct the facility description by removing outfalls #002, #003, and #004 and adding outfall #005 due to the new First Flush System (FFS). Temperature monitoring was also added to outfall #001 and the WET test language was updated. Discharges from the removed outfalls have been routed with the new FFS to a new outfall #005. The facility's FFS captures 286,000 gallons before allowing waste to discharge at outfall #005.

Tyson Foods – Noel, MO currently have permit exemptions for land application of fertilizer products derived from industrial process wastes. Oros & Busch land applies the facility's sludge and their Permit No. is 07350 which will expire on June 30, 2013. Outfall #005, a stormwater outfall, had monitoring requirements only, except for Oil & Grease and pH. Under derivation of limits/rationale section you will find outfall #005's discharge monitoring report (DMR) from Dec. 16, 2005 thru July 31, 2012 for each parameter. Some quarters have either "Analysis Not Conducted" or "No Discharge". Having these monitoring data, the Department can add numeric limitations to protect the stream, if needed.

Please note that there is a Consent Decree Agreement (2001) between the Tyson Noel Processing Plant and the State of Missouri. Tyson Foods- Noel is one of the two facilities in the watershed having nutrient limits added to their permits prior to the development of the TMDL. The changes included a total phosphorus effluent limit of 1.0 mg/L monthly average concentration for the Bentonville Arkansas treatment facility and 1.5 mg/L daily maximum for the Tyson Noel Processing Plant in Missouri. The TMDL limits have been applied to the facility's main outfall, Outfall #001. A reasonable potential analysis was conducted for Outfall #005 TP and TN; it showed no potential to impact the Water Quality Standard. Therefore, monitoring only requirement has been established for this outfall.

In addition to Outfall #005's discharge monitoring report, the Form C and 2F submitted for this outfall showed the following concentrations:

Pollutant	Maximum Values, mg/L	Average Values, mg/L
Oil & Grease	3.79	2.55
BOD <sub>5</sub>	31.20	15.57
COD	33.10	56.30
TSS	114	271
Total Nitrogen	5.88	2.85
Total Phosphorus	1.02	0.53
pH	6.22 – 7.56	
Fecal Coliform	7600 CFU/100 mL	4504 CFU/100 mL
Nitrate – Nitrite	0.48	0.316
Ammonia as N	1.30	0.86

**DMR LIMITS VIOLATIONS**

Tyson Noel Processing Plant's discharge monitoring report (DMR) from Dec. 16, 2005 to July 25, 2012 for outfall #001, showed the following limits exceedance.

MPED	Parameter	DMR Concentration	Daily Max	Monthly Average
8/31/09	Total Residual Chlorine	0.13 mg/L	0.033 mg/L	0.033 mg/L
6/30/09	pH	6.04	6.5-9.0	6.5-9.0
5/31/09	pH	6.26	6.5-9.0	6.5-9.0
4/30/09	pH	6.05	6.5-9.0	6.5-9.0
3/31/09	pH	6.03	6.5-9.0	6.5-9.0

**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 20-9.020(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 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.

All Other Waters [10 CSR 20-7.015(8)]:

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

**RECEIVING STREAM(S) TABLE:**

WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	12-DIGIT HUC**
Elk River	P	3246	IRR, LWW, AQL, CLF, WBC-A, SCR	11070208-0504

\* - 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).

\*\* - Hydrological Unit Code

**RECEIVING STREAM(S) LOW-FLOW VALUES TABLE:**

RECEIVING STREAM (U, C, P)	LOW-FLOW VALUES (CFS)		
	1Q10	7Q10	30Q10
Elk River (P)	47.59	50.04	62.61

*The low flow values were calculated using the mean discharge of Elk River obtained from USGS 07189000 Elk River near Tiff City, Mo.*

**MIXING CONSIDERATIONS TABLE:**

MIXING ZONE (CFS) [10 CSR 20-7.031(4)(A)4.B.(III)(a)]			ZONE OF INITIAL DILUTION (CFS) [10 CSR 20-7.031(4)(A)4.B.(III)(b)]		
1Q10	7Q10	30Q10	1Q10	7Q10	30Q10
11.89	12.51	15.65	1.19	1.25	1.57

*Streams with 7Q10 low flow of greater than 20 cfs, mixing zone is ¼ of flow volume. ZID is 1/10 of the mixing zone flow volume.*

**RECEIVING STREAM MONITORING REQUIREMENTS:**

No receiving water monitoring requirements recommended at this time.

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

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

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

Not Applicable;

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

### **ANTI-BACKSLIDING:**

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

- All limits in this operating permit are at least as protective as those previously established.

Please note that changes in the previous permit limitations were a result of the Waste Load Allocation calculation from the monitoring data available for this permit cycle. Backsliding does not apply.

### **ANTIDegradation:**

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

- Renewal no degradation proposed and no further review necessary.

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

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

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

Biosolids are solid materials resulting from domestic wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). Sewage sludge is solids, semi-solids, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works. Additional information regarding biosolids and sludge is located at the following web address:

<http://dnr.mo.gov/env/wpp/pub/index.html>, items WQ422 through WQ449.

- Permittee land applies biosolids in accordance with Standard Conditions III and a Department approved biosolids management plan.

Tyson Foods – Noel, MO currently have permit exemptions for land application of fertilizer products derived from industrial process wastes. Oros & Busch land applies the facility's sludge and their Permit No. is 07350 which will expire on June 30, 2013.

### **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.

Applicable;

An RPA was conducted for this facility and found NO reasonable potential to cause, or contribute to an in-stream excursion above the WQS. Please refer to Page 13 of the Fact Sheet.

**REMOVAL EFFICIENCY:**

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

Not Applicable;

Influent monitoring is not being required to determine percent removal.

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

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

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

Not applicable;

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

**SCHEDULE OF COMPLIANCE (SOC):**

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

Not Applicable;

This permit does not contain a SOC.

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

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

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

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

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).

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:**

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:

Other – Industrial discharge of greater than 1 MGD.

$$\text{Acute AEC\%} = [(3.596 \text{ cfs} + 1.25 \text{ cfs}) / 3.596 \text{ cfs}] \times 100 = 74\%$$

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

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

Not Applicable;

This facility does not bypass.

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

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

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

Applicable;

Elk River is listed on the 2004 Missouri 303(d) List for nutrients. The impairment of the Elk River is based on exceedance of the general criteria contained in Missouri’s Water Quality Standards, 10 CSR 20-7.031 (3)(A) and (C). For more information on Elk River TMDL, please visit <http://dnr.mo.gov/env/wpp/tmdl/3246-elk-r-record.htm>

**Part V – Effluent Limits Determination**

**EFFLUENT LIMITATIONS TABLE: *Outfall #001* – Main Facility Outfall**

PARAMETER	UNIT	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	MGD	*		*	NO	*
BIOLOGICAL OXYGEN DEMAND (BOD <sub>5</sub> )	MG/L	45		30	NO	
TOTAL SUSPENDED SOLIDS (TSS)	MG/L	45		30	NO	
pH	SU	6.5-9.0		6.5-9.0	NO	6.5-9.0
OIL & GREASE	MG/L	15		10	NO	
FECAL COLIFORM	#/100 ML	400			YES	1000/400
E. COLI	#/100 ML	630		126	NEW PARAMETER	
TOTAL RESIDUAL CHLORINE	µG/L	23 ML 130		13 ML 130	YES	33/33 (130 ML)
TOTAL PHOSPHORUS	MG/L	1.5		1.0	NO	1.5/1.0
TOTAL PHOSPHORUS	LB/DAY			19.4	NO	
AMMONIA AS N (APRIL 1 – SEPT 30)	MG/L	8.0		4.0	YES	4.0 WEEKLY
AMMONIA AS N (OCT 1 – MARCH 31)	MG/L	8.0		4.0	YES	7.0 WEEKLY
NITRITE + NITRATE AS N	MG/L	*		*	NO	*
TOTAL KJELDAHL NITROGEN AS N	MG/L	*		*	NO	*
TOTAL NITROGEN AS N	MG/L	25.5		25.5	YES	25.5/*
TEMPERATURE	°F	90		90	YES	*
SULFATE, TOTAL AS SO <sub>4</sub>	MG/L	*		*	NEW PARAMETER	
WHOLE EFFLUENT TOXICITY (WET) TEST	% SURVIVAL	PLEASE SEE WET TEST IN THE DERIVATION AND DISCUSSION SECTION BELOW.				

**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 (BOD<sub>5</sub>).** Parameter retained from the previous permit. The 12/16/2005 - 07/31/2012 discharge monitoring report shows weekly average concentrations ranging from 1.09 to 11.8 mg/L and monthly average concentrations ranging from 1.02 to 11.8 mg/L. The 45 mg/L as a Weekly Average and 30 mg/L as a Monthly Average for BOD<sub>5</sub> are achievable by the facility as shown on their DMR. Technology-based limits [40 CFR Part 432] were calculated based on the facility’s 1.5 million lbs/day (LWK). The facility clearly demonstrated compliance of the current limits.
- **Total Suspended Solids (TSS).** Parameter retained from previous permit. The 12/16/2005 - 07/31/2012 discharge monitoring report shows weekly average concentrations ranging from 2.6 to 12.6 mg/L and monthly average concentrations ranging from 2.08 to 8.85 mg/L. The 45 mg/L as a Weekly Average and 30 mg/L as a Monthly Average for TSS are achievable by the facility as demonstrated. Technology-based limits [40 CFR Part 432] were calculated based on the facility’s 1.5 million lbs/day (LWK). The facility can achieve the current limits.
- **pH.** Effluent limitations have been retained from previous permit. pH shall be maintained in the range from 6.5-9.0 standard units in accordance with 10 CSR 20-7.015(8)A(2).
- **Oil & Grease.** Effluent limitations of 10 mg/L monthly average and 15 mg/L daily maximum for this conventional pollutant have been retained from previous state operating permit for protection of aquatic life.
- **Fecal Coliform.** The Federal ELG criterion for fecal coliform is 400 MPN/100 mL maximum at any time as outlined in 40 CFR Part 432.22(a).

- **E. coli.** This parameter has been added due to the receiving stream's designated uses. Among the Elk River's uses are WBC-A and SCR. In accordance with 10 CSR 20-7.031(4)(C), the Water Quality Criteria for *E. coli* is 126 CFU/100 mL for WBC-A and 1,134 CFU/100 mL for SCR as a geometric mean. The Whole Body Contact Recreation (A) criterion is more protective of the Water Quality Standard than the Secondary Contact Recreation (SCR), thus **126 CFU/100 mL** limit for *E. coli* will be utilized as a geometric mean and daily maximum of **630 CFU/100 mL** during the recreational season (April 1 – October 31) to protect WBC-A designated use of the receiving stream, as per 10 CSR 20-7.031(4)(C).

An effluent limit for both monthly average and daily maximum is required by 40 CFR 122.45(d). The geometric mean indicates the central tendency or typical value of a set of numbers. This is calculated by multiplying all the numbers (n), and taking the nth root of the total.

- **Total Residual Chlorine (TRC).** The facility uses chlorine to perform break-point chlorination in order to help control high ammonia levels therefore TRC limits was established.

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

Chronic WLA:  $C_e = ((3.596 \text{ cfs} + 12.51 \text{ cfs}) 10 \mu\text{g/L} - (12.51 \text{ cfs} * 0.0))/3.596 \text{ cfs}$   
 $C_e = 44.75 \mu\text{g/L}$

Acute WLA:  $C_e = ((3.596 \text{ cfs} + 1.25 \text{ cfs}) 19 \mu\text{g/L} - (1.25 \text{ cfs} * 0.0))/3.596 \text{ cfs}$   
 $C_e = 25.60 \mu\text{g/L}$

$LTA_c = 44.75 \mu\text{g/L} (0.527) = 23.59 \mu\text{g/L}$  [CV = 0.6, 99<sup>th</sup> Percentile]  
 $LTA_a = 25.60 \mu\text{g/L} (0.321) = \mathbf{8.22 \mu\text{g/L}}$  [CV = 0.6, 99<sup>th</sup> Percentile]

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

MDL = 8.22 µg/L (3.11) = 25.56 µg/L [CV = 0.6, 99<sup>th</sup> Percentile]  
AML = 8.22 µg/L (1.55) = 12.74 µg/L [CV = 0.6, 95<sup>th</sup> Percentile, n = 4]

The effluent limits for TRC based on the Waste Load Allocation are 26 µg/L daily maximum and 13 µg/L monthly average. The Department has determined the current acceptable ML for total residual chlorine to be **130 µg/L** when using the DPD Colorimetric Method #4500 – CL G. from Standard Methods for the Examination of Waters and Wastewater. Measured values greater than or equal to the minimum quantification level of 130 µg/L will be considered violations of the permit and values less than the minimum quantification level of 130 µg/L will be considered to be in compliance with the permit limitation.

- **Total Phosphorus as P.** Previous limits remain. Per TMDL, all permitted facilities in Missouri discharging to the Elk River or its tributaries and with a design flow greater than or equal to 0.4 MGD shall have total phosphorus limits included in their permit of no more than **1.5 mg/L** as a maximum daily concentration and no more than **1.0 mg/L** as a monthly average.

The TMDL **lb/day** calculation was done as follows:

$\text{Lb/day} = \text{Design flow} \times \text{conversion factor} \times \text{TP monthly average concentration}$   
 $= 3.596 \text{ cfs} \times 5.395 \times 1.0 \text{ mg/L} = \mathbf{19.4 \text{ lb/day}}$

From 12/16/2005 to 07/31/2012, the facility had 78 concentrations of Total Phosphorus for Outfall #001. The daily maximum values ranged from 0.1 to 0.69 mg/L and monthly average ranged from 0.12 to 0.71 mg/L. The average values are 0.281 mg/L and 0.372 mg/L for daily max and monthly average, respectively. The monthly average in lbs/day ranges from 0.14 to 11.1 with an average of 3.66 lbs/day. These values show that facility is able to attain compliance with the TMDL limit for this parameter.

- **Ammonia as N.** There are Technology-based Federal Effluent Limit Guidelines (ELGs) for ammonia as outlined in 40 CFR Part 432 and Water Quality Standard (WQS) outlined in 10 CSR 20-7.031. In order to determine whether technology-based or WQS limit is more protective of the stream, WLA will be calculated as follows:

Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(4) (B) 7.C. & Table B3]; default pH of 7.8 SU. Background total ammonia nitrogen = 0.01 mg/L (Default).

Season	Temp (°C)	pH (SU)	Total Ammonia Nitrogen CCC (mg/L)	Total Ammonia Nitrogen CMC (mg/L)
Summer	26	7.8	1.5	12.1
Winter	6	7.8	3.1	12.1

**Summer: April 1 – September 30**

Chronic WLA:  $C_e = ((3.596 \text{ cfs} + 12.51 \text{ cfs}) 1.5 \text{ mg/L} - (12.51 \text{ cfs} * 0.01 \text{ mg/L}))/3.596 \text{ cfs}$   
 $C_e = 6.7 \text{ mg/L}$

Acute WLA:  $C_e = ((3.596 \text{ cfs} + 1.25 \text{ cfs}) 12.1 \text{ mg/L} - (1.25 \text{ cfs} * 0.01 \text{ mg/L}))/3.596 \text{ cfs}$   
 $C_e = 16 \text{ mg/L}$

$LTA_c = 6.7 \text{ mg/L} (0.780) = 5.2 \text{ mg/L}$  [CV = 0.6, 99<sup>th</sup> Percentile, 30 day avg.]  
 $LTA_a = 16 \text{ mg/L} (0.321) = 5.1 \text{ mg/L}$  [CV = 0.6, 99<sup>th</sup> Percentile]

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

MDL = 5.1 mg/L (3.11) = **16 mg/L** [CV = 0.6, 99<sup>th</sup> Percentile]  
 AML = 5.1 mg/L (1.19) = **6 mg/L** [CV = 0.6, 95<sup>th</sup> Percentile, n=30]

**Winter: October 1 – March 31**

Chronic WLA:  $C_e = ((3.596 \text{ cfs} + 12.51 \text{ cfs}) 3.1 \text{ mg/L} - (12.51 \text{ cfs} * 0.01 \text{ mg/L}))/3.596 \text{ cfs}$   
 $C_e = 13.85 \text{ mg/L}$

Acute WLA:  $C_e = ((3.596 \text{ cfs} + 1.25 \text{ cfs}) 12.1 \text{ mg/L} - (1.25 * 0.01 \text{ mg/L}))/3.596 \text{ cfs}$   
 $C_e = 16.30 \text{ mg/L}$

$LTA_c = 13.85 \text{ mg/L} (0.780) = 10.8 \text{ mg/L}$  [CV = 0.6, 99<sup>th</sup> Percentile, 30 day avg.]  
 $LTA_a = 16.301 \text{ mg/L} (0.321) = 5.23 \text{ mg/L}$  [CV = 0.6, 99<sup>th</sup> Percentile]

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

MDL = 5.23 mg/L (3.11) = **16 mg/L** [CV = 0.6, 99<sup>th</sup> Percentile]  
 AML = 5.23 mg/L (1.19) = **6 mg/L** [CV = 0.6, 95<sup>th</sup> Percentile, n=30]

The previous limits for ammonia were 7.0 mg/L for winter and 4.0 mg/L for summer weekly average in which the basis cannot be verified by the permit writer. However, for this permit cycle, these limits will be changed to reflect the actual limits established in 40 CFR 432.63 (Meat Cutter Subcategory) which is **8.0 mg/L daily maximum and 4.0 mg/L monthly average**. Best Available Technology (BAT) is more protective than the Water Quality Standard (WQS) for ammonia as shown in the above WLA calculation.

- **Total Nitrogen (TN).** In the Elk River, the N: P ratio is 17:1, thereby indicating a phosphorus-limited ecosystem. Per TMDL, the Phosphorus limit is 1.5 mg/L daily maximum and 1.0 monthly average. Utilizing this ratio,

TN = the TP daily maximum limit of 1.5 mg/L x 17 = 25.5 mg/L.

The previous permit had 25.5 mg/L daily maximum limit (Section 4.2 of the TMDL) established for permitted facilities with a design flow greater than 0.4 MGD. From 12/16/2005 to 7/31/2012, the facility had 58 available concentrations for Outfall #001's Total Nitrogen. These data showed concentrations ranging from 7.12 mg/L to 22.11 mg/L which averaged to 17.33 mg/L daily maximum and monthly average. This average indicates that the facility is able to comply with the TN limit as established by the TMDL.

- **Nitrite + Nitrate as N.** Monitoring requirement only. This parameter is needed to calculate Total Nitrogen per Elk River TMDL. [Total Nitrogen = the sum of Total Kjeldahl Nitrogen (TKN) and Nitrite + Nitrate Nitrogen (NO<sub>2</sub> + NO<sub>3</sub> as N)]. The data will be used to reevaluate the limits for the next permit cycle.
- **Total Kjeldahl Nitrogen as N.** Monitoring requirement only. This parameter is needed to calculate Total Nitrogen per Elk River TMDL. [Total Nitrogen = the sum of Total Kjeldahl Nitrogen (TKN) and Nitrite + Nitrate Nitrogen (NO<sub>2</sub> + NO<sub>3</sub> as N)]. The data will be used to reevaluate the limits for the next permit cycle.
- **Arsenic.** Eliminated. The previous permit had arsenic monitoring. The facility's 78 data reported from 12/16/05 – 07/31/12 DMR showed concentrations of no more than 2 µg/L. Historically, Sierra Club commented on the 2005 PN draft of the permit that Arsenic is an additive in chicken feeds and requires monitoring. Hence, Arsenic monitoring was added. An RPA was conducted and found no reasonable potential for this pollutant to cause exceedance of the WQS. Thus, monitoring has been eliminated for this permit cycle. Additionally, the facility stated in writing that there is indeed no Arsenic added into the formulation of feeds.
- **Temperature.** In accordance with 10 CSR 20-7.031(4)(D)5., this facility shall not exceed the monthly temperature criteria established of 90°F. The facility reported temperature readings on 10/31/10 of 32.3°C (90.14°F) and on 8/31/10 of 34°C (93.2°F). The permit writer determined that even with this exceedance, the facility is below the temperature cap of 90° using the Tcap formula. Therefore, monitoring requirement remains.
- **Sulfate, Total as (SO<sub>4</sub>).** The facility's expanded effluent test showed 277 mg/L concentration of sulfate. There is Water Quality Criteria for Sulfate; hence, a monitoring requirement for this parameter has been established. The monitoring data will be used to determine effluent compliance for sulfate for the next permit cycle.
- **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. (Any schedule more frequent than what is established below will need justification. If a WET testing schedule is not listed below, but has been determined appropriate, please justify here. If a facility has multiple schedules, then the most frequent should be used.)
  - Acute (default)
  - No less than **ONCE/YEAR:**
    - Facility has Water Quality-based effluent limitations for toxic substances (other than NH<sub>3</sub>).

Acute AEC% =  $[(3.596 \text{ cfs} + 1.25 \text{ cfs}) / 3.596 \text{ cfs}] \times 100 = 74\%$

**REASONABLE POTENTIAL ANALYSIS:**

Symbol	Analyte	CMC	RWC Acute	CCC	RWC Chronic	Reasonable Potential	n	CV
NH <sub>3</sub>	Total Ammonia as Nitrogen (Summer) in mg/L	12.10	0.73	1.50	0.18	<b>NO</b>	53	0.350
NH <sub>3</sub>	Total Ammonia as Nitrogen (Winter) in mg/L	12.10	6.41	3.10	1.84	<b>NO</b>	33	1.429
As	Arsenic in µg/L	n/a	0.00	20.00	0.00	<b>NO</b>	0.002	0.006

**EFFLUENT LIMITATIONS TABLE: *Outfall #005* – Stormwater Outfall**

PARAMETER	UNIT	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	MGD	*		*	NO	*
PH	SU	6.5-9.0		6.5-9.0	NO	6.5-9.0
BIOLOGICAL OXYGEN DEMAND <sub>5</sub>	MG/L	*		*	NO	*
TOTAL SUSPENDED SOLIDS	MG/L	*		*	NO	*
E. COLI	#/100 ML	*		*	NEW PARAMETER	FECAL COLIFORM
TOTAL PHOSPHORUS	MG/L	*		*	NO	*
AMMONIA AS N	MG/L	*		*	NO	*
NITRITE + NITRATE AS N	MG/L	*		*	NO	*
TOTAL KJELDAHL NITROGEN AS N	MG/L	*		*	NO	*
TOTAL NITROGEN AS N	MG/L	*		*	NO	*
OIL & GREASE	MG/L	15		10	NO	15/10
PRECIPITATION	INCHES	*		*	NO	*
TEMPERATURE	°F	*		*	NO	*

\* - Monitoring requirement only.

**OUTFALL #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.

Outfall #005's average flow as reported in the DMR after the First Flush System (FFS) was installed was **0.570477 MGD**. Prior to the FFS installation, the 5-year DMR average flow was **0.66762 MGD**.

- **Biochemical Oxygen Demand (BOD<sub>5</sub>).** This parameter previously had monitoring requirement only. Based on the data reported since this outfall has been added, no numeric effluent limitations will be established for BOD<sub>5</sub> for this permit cycle. Monitoring requirement remains.

MPED	Parameter	Unit	Conc	Stat Base Code	DMR	Conc	Stat Base Code	DMR
03/31/12	BOD, 5-day, 20 deg. C	mg/L	MONITOR	Monthly Avg.	17.9	MONITOR	Daily Max.	17.9
06/30/10	BOD, 5-day, 20 deg. C	mg/L	MONITOR	Monthly Avg.	8.94	MONITOR	Daily Max.	8.94
03/31/10	BOD, 5-day, 20 deg. C	mg/L	MONITOR	Monthly Avg.	43	MONITOR	Daily Max.	43
12/31/09	BOD, 5-day, 20 deg. C	mg/L	MONITOR	Monthly Avg.	5.44	MONITOR	Daily Max.	5.44
09/30/09	BOD, 5-day, 20 deg. C	mg/L	MONITOR	Monthly Avg.	13	MONITOR	Daily Max.	13
06/30/09	BOD, 5-day, 20 deg. C	mg/L	MONITOR	Monthly Avg.	10.6	MONITOR	Daily Max.	10.6
03/31/09	BOD, 5-day, 20 deg. C	mg/L	MONITOR	Monthly Avg.	17.6	MONITOR	Daily Max.	17.6

- **Total Suspended Solids (TSS).** This parameter has monitoring requirement only. For this permit cycle, the facility will be establishing specific BMPs necessary to regulate the TSS concentration for this outfall. For the next permit cycle, a performance evaluation will be conducted on the data collected and based on the outcome, performance based limits may or may not be established.

MPED	Parameter	Unit	Conc	Stat Base Code	DMR	Conc	Stat Base Code	DMR
03/31/12	Total Suspended Solids (TSS)	mg/L	MONITOR	Monthly Avg.	238	MONITOR	Daily Max.	238
06/30/10	Total Suspended Solids (TSS)	mg/L	MONITOR	Monthly Avg.	40	MONITOR	Daily Max.	40
03/31/10	Total Suspended Solids (TSS)	mg/L	MONITOR	Monthly Avg.	374	MONITOR	Daily Max.	374
12/31/09	Total Suspended Solids (TSS)	mg/L	MONITOR	Monthly Avg.	25	MONITOR	Daily Max.	25
09/30/09	Total Suspended Solids (TSS)	mg/L	MONITOR	Monthly Avg.	102	MONITOR	Daily Max.	102
06/30/09	Total Suspended Solids (TSS)	mg/L	MONITOR	Monthly Avg.	39	MONITOR	Daily Max.	39
03/31/09	Total Suspended Solids (TSS)	mg/L	MONITOR	Monthly Avg.	133	MONITOR	Daily Max.	133

- **pH.** Effluent limitations have been retained from previous permit. pH shall be maintained in the range from 6.5-9.0 standard units in accordance with 10 CSR 20-7.015(8)A(2).

- **Fecal Coliform.** Removed/replaced. The previous permit had a monitoring requirement for this parameter. However, because there is no Water Quality Standard for fecal coliform, *E. coli* bacteria monitoring will replace this parameter.
- **E. coli Bacteria.** Monitoring requirement only. This parameter has been added to replace the fecal coliform monitoring requirement as it is a more applicable criterion for bacteria in the Missouri's Water Quality Standard than fecal coliform.
- **Ammonia as N.** Previous monitoring requirement remains for ammonia. DMR from July 31, 2008 thru July 31, 2012 shows concentrations well below the Water Quality Criteria established in [10 CSR 20-7.031(4) (B) 7.C. and Table B3]. Additionally, the EPA's 2008 MSQP Benchmark for Ammonia is 2.14 mg/L [EPA 833-B-09-002] and the facility's ammonia concentration for this outfall is well below the benchmark.

MPED	Parameter	Unit	Conc	Stat Base Code	DMR	Conc	Stat Base Code	DMR
03/31/12	Ammonia (as N)	mg/L	MONITOR	Monthly Avg.	0.36	MONITOR	Daily Max.	0.36
06/30/10	Ammonia (as N)	mg/L	MONITOR	Monthly Avg.	0.452	MONITOR	Daily Max.	0.452
03/31/10	Ammonia (as N)	mg/L	MONITOR	Monthly Avg.	1.39	MONITOR	Daily Max.	1.39
12/31/09	Ammonia (as N)	mg/L	MONITOR	Monthly Avg.	0.298	MONITOR	Daily Max.	0.298
09/30/09	Ammonia (as N)	mg/L	MONITOR	Monthly Avg.	0.954	MONITOR	Daily Max.	0.954
06/30/09	Ammonia (as N)	mg/L	MONITOR	Monthly Avg.	0.477	MONITOR	Daily Max.	0.477
03/31/09	Ammonia (as N)	mg/L	MONITOR	Monthly Avg.	1.3	MONITOR	Daily Max.	1.3

- **Total Phosphorus as P.** This parameter has monitoring requirement only. The reasonable potential analysis (RPA) conducted did not show potential to impact the Water Quality Standard.
- **Total Nitrogen (TN).** This parameter has monitoring requirement only. The reasonable potential analysis (RPA) conducted did not show potential to impact the Water Quality Standard.
- **Total Kjeldahl Nitrogen as N.** Monitoring requirement for this parameter remains.
- **Oil & Grease.** Effluent limitations of 10 mg/L monthly average and 15 mg/L daily maximum for this conventional pollutant have been retained from previous state operating permit for protection of aquatic life.

MPED	Parameter	Unit	Conc	Stat Base Code	DMR	Conc	Stat Base Code	DMR
03/31/12	Oil and grease (soxhlet extr.) tot.	mg/L	10	Monthly Avg.	5.4	15	Daily Max.	5.4
06/30/10	Oil and grease (soxhlet extr.) tot.	mg/L	10	Monthly Avg.	1.47	15	Daily Max.	1.47
03/31/10	Oil and grease (soxhlet extr.) tot.	mg/L	10	Monthly Avg.	5.05	15	Daily Max.	5.05
12/31/09	Oil and grease (soxhlet extr.) tot.	mg/L	10	Monthly Avg.	2.11	15	Daily Max.	2.11
09/30/09	Oil and grease (soxhlet extr.) tot.	mg/L	10	Monthly Avg.	3.26	15	Daily Max.	3.26
06/30/09	Oil and grease (soxhlet extr.) tot.	mg/L	10	Monthly Avg.	1.05	15	Daily Max.	1.05
03/31/09	Oil and grease (soxhlet extr.) tot.	mg/L	10	Monthly Avg.	2.53	15	Daily Max.	2.53

- **Temperature.** Monitoring requirement only. In accordance with 10 CSR 20-7.031(4)(D)5., this facility shall not exceed the monthly temperature criteria established of 90°F. The facility's maximum temperature reported was 77.72°F.

MPED	Parameter	Unit	Conc	Stat Base Code	DMR	Conc	Stat Base Code	DMR
03/31/12	Temperature	deg F	MONITOR	Monthly Avg.	17.4	MONITOR	Daily Max.	17.4
06/30/10	Temperature	deg F	MONITOR	Monthly Avg.	19.7	MONITOR	Daily Max.	19.7
03/31/10	Temperature	deg F	MONITOR	Monthly Avg.	16.1	MONITOR	Daily Max.	16.1
12/31/09	Temperature	deg F	MONITOR	Monthly Avg.	71.4	MONITOR	Daily Max.	71.4
09/30/09	Temperature	deg F	MONITOR	Monthly Avg.	77.72	MONITOR	Daily Max.	77.72
06/30/09	Temperature	deg F	MONITOR	Monthly Avg.	67.46	MONITOR	Daily Max.	67.46
03/31/09	Temperature	deg F	MONITOR	Monthly Avg.	15.6	MONITOR	Daily Max.	15.6

- **Precipitation.** Stormwater flow is dependent upon precipitation. Hence, monitoring requirement has been established.

## **Part VI - Finding of Affordability**

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

Not Applicable;

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

## **Part VII – Administrative Requirements**

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

### **PERMIT SYNCHRONIZATION:**

The Department of Natural Resources is currently undergoing a synchronization process for operating permits. Permits are normally issued on a five-year term, but to achieve synchronization many permits will need to be issued for less than the full five years allowed by regulation. The intent is that all permits within a watershed will move through the Watershed Based Management (WBM) cycle together will all expire in the same fiscal year. This will allow further streamlining by placing multiple permits within a smaller geographic area on public notice simultaneously, thereby reducing repeated administrative efforts. This will also allow the Department to explore a watershed based permitting effort at some point in the future.

This permit will expire on **June 30, 2015** in order to meet the permit synchronization goals.

### **PUBLIC NOTICE:**

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

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

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

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

The Public Notice period for this operating permit was from November 24, 2012 to December 24, 2012. No responses received or 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.

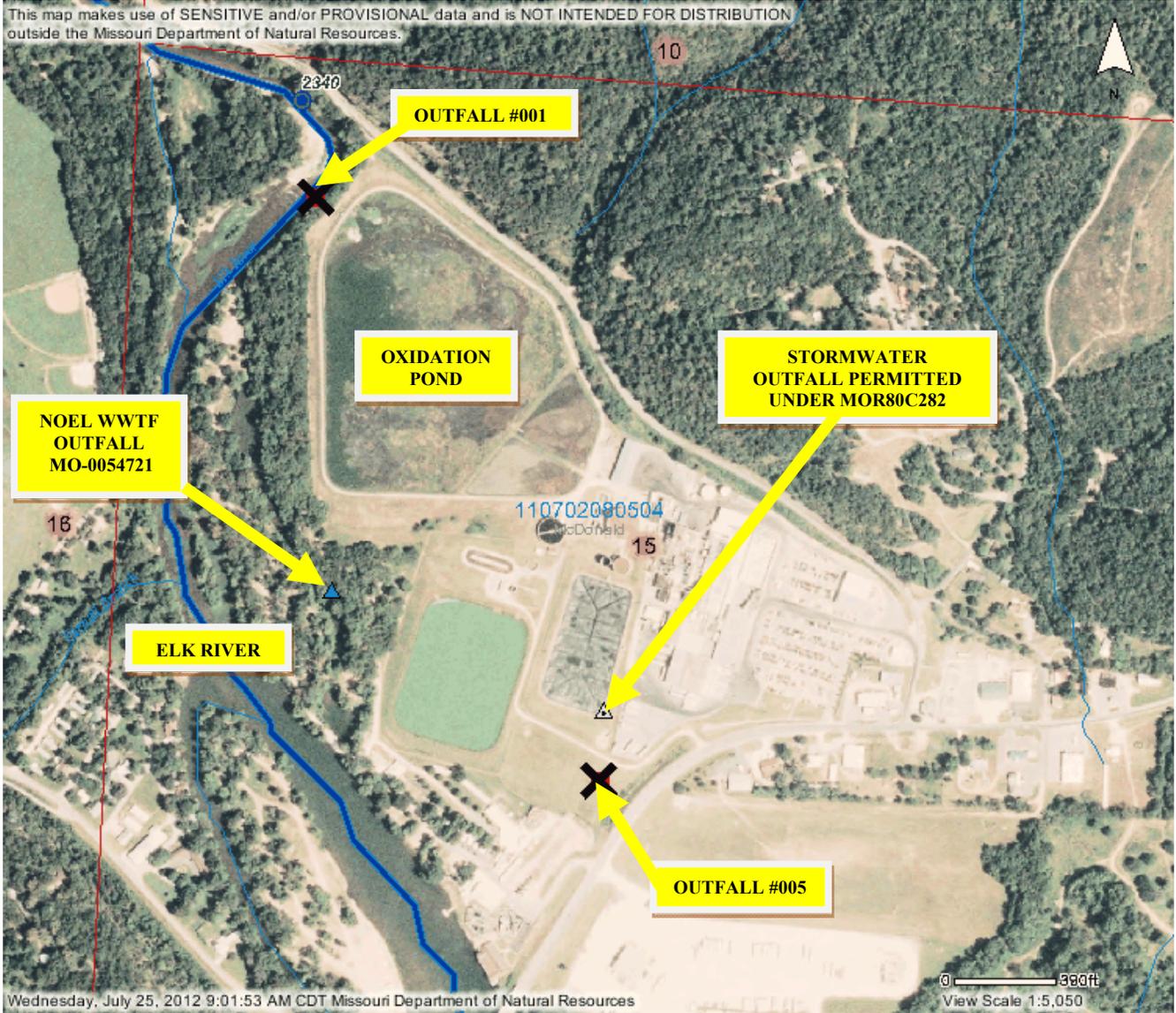
**DATE OF FACT SHEET: DECEMBER 27, 2012**

### **COMPLETED BY:**

**JOY JOHNSON, ENVIRONMENTAL SPECIALIST III**  
**NPDES PERMITS UNIT**  
**WATER PROTECTION PROGRAM**  
**(573) 751-6982**  
**joy.johnson@dnr.mo.gov**

**Appendix**

**Tyson Foods Inc. – Noel Processing Facility**



**STANDARD CONDITIONS FOR NPDES PERMITS  
ISSUED BY  
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES  
MISSOURI CLEAN WATER COMMISSION**

Revised  
October 1, 1980

**PART I - GENERAL CONDITIONS  
SECTION A - MONITORING AND REPORTING**

1. **Representative Sampling**
  - a. Samples and measurements taken as required herein shall be representative of the nature and volume, respectively, of the monitored discharge. All samples shall be taken at the outfall(s), and unless specified, before the effluent joins or is diluted by any other body of water or substance.
  - b. Monitoring results shall be recorded and reported on forms provided by the Department, postmarked no later than the 28th day of the month following the completed reporting period. Signed copies of these, and all other reports required herein, shall be submitted to the respective Department Regional Office, the Regional Office address is indicated in the cover letter transmitting the permit.
2. **Schedule of Compliance**

No later than fourteen (14) calendar days following each date identified in the "Schedule of Compliance", the permittee shall submit to the respective Department Regional Office as required therein, either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements, or if there are no more scheduled requirements, when such noncompliance will be corrected. The Regional Office address is indicated in the cover letter transmitting the permit.
3. **Definitions**

Definitions as set forth in the Missouri Clean Water Law and Missouri Clean Water Commission Definition Regulation 10 CSR 20-2.010 shall apply to terms used herein.
4. **Test Procedures**

Test procedures for the analysis of pollutant shall be in accordance with the Missouri Clean Water Commission Effluent Regulation 10 CSR 20-7015.
5. **Recording of Results**
  - a. For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:
    - (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. 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 this permit 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 both.
  - c. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.
6. **Additional Monitoring by Permittee**

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Monitoring Report Form. Such increased frequency shall also be indicated.

7. **Records Retention**

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recording for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this 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.

**SECTION B - MANAGEMENT REQUIREMENTS**

1. **Change in Discharge**
  - a. All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant not authorized by this permit or any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit.
  - b. Any facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants shall be reported by submission of a new NPDES application at least sixty (60) days before each such change, or, if they will not violate the effluent limitations specified in the permit, by notice to the Department at least thirty (30) days before such changes.
2. **Noncompliance Notification**
  - a. If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum effluent limitation specified in this permit, the permittee shall provide the Department with the following information, in writing within five (5) days of becoming aware of such conditions:
    - (i) a description of the discharge and cause of noncompliance, and
    - (ii) the period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.
  - b. Twenty-four hour reporting. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally with 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided with five (5) days of the time the permittee becomes aware of the circumstances. The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.
3. **Facilities Operation**

Permittees shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions. Operators or supervisors of operations at publicly owned or publicly regulated wastewater treatment facilities shall be certified in accordance with 10 CSR 209.020(2) and any other applicable law or regulation. Operators of other wastewater treatment facilities, water contaminant source or point sources, shall, upon request by the Department, demonstrate that wastewater treatment equipment and facilities are effectively operated and maintained by competent personnel.
4. **Adverse Impact**

The permittee shall take all necessary steps to minimize any adverse impact to waters of the state resulting from noncompliance with any effluent limitations specified in this permit or set forth in the Missouri Clean Water Law and Regulations (hereinafter the Law and Regulations), including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

- a. Any bypass or shut down of a wastewater treatment facility and tributary sewer system or any part of such a facility and sewer system that results in a violation of permit limits or conditions is prohibited except:
    - (i) where unavoidable to prevent loss of life, personal injury, or severe property damages; and
    - (ii) where unavoidable excessive storm drainage or runoff would catastrophically damage any facilities or processes necessary for compliance with the effluent limitations and conditions of this permit;
    - (iii) where maintenance is necessary to ensure efficient operation and alternative measures have been taken to maintain effluent quality during the period of maintenance.
  - b. The permittee shall notify the Department in writing of all bypasses or shut down that result in a violation of permit limits or conditions. This section does not excuse any person from liability, unless such relief is otherwise provided by the statute.
6. **Removed Substances**  
Solids, sludges, filter backwash, or any other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutants from entering waters of the state unless permitted by the Law, and a permanent record of the date and time, volume and methods of removal and disposal of such substances shall be maintained by the permittee.
  7. **Power Failures**  
In order to maintain compliance with the effluent limitations and other provisions of this permit, the permittee shall either:
    - a. in accordance with the "Schedule of Compliance", provide an alternative power source sufficient to operate the wastewater control facilities; or,
    - b. if such alternative power source is not in existence, and no date for its implementation appears in the Compliance Schedule, halt or otherwise control production and all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater control facilities.
  8. **Right of Entry**  
For the purpose of inspecting, monitoring, or sampling the point source, water contaminant source, or wastewater treatment facility for compliance with the Clean Water Law and these regulations, authorized representatives of the Department, shall be allowed by the permittee, upon presentation of credentials and at reasonable times;
    - a. to enter upon permittee's premises in which a point source, water contaminant source, or wastewater treatment facility is located or in which any records are required to be kept under terms and conditions of the permit;
    - b. to have access to, or copy, any records required to be kept under terms and conditions of the permit;
    - c. to inspect any monitoring equipment or method required in the permit;
    - d. to inspect any collection, treatment, or discharge facility covered under the permit; and
    - e. to sample any wastewater at any point in the collection system or treatment process.
  9. **Permits Transferable**
    - a. Subject to Section (3) of 10 CSR 20-6.010 an operating permit may be transferred upon submission to the Department of an application to transfer signed by a new owner. Until such time as the permit is officially transferred, the original permittee remains responsible for complying with the terms and conditions of the existing permit.
    - b. The Department, within thirty (30) days of receipt of the application shall notify the new permittee of its intent to revoke and reissue or transfer the permit.
  10. **Availability of Reports**  
Except for data determined to be confidential under Section 308 of the Act, and the Law and Missouri Clean Water Commission Regulation for Public Participation, Hearings and Notice to Governmental Agencies 10 CSR 20-6.020, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. As required by statute, effluent data shall not be considered confidential. Knowingly making any false statement on any such report shall be subject to the imposition of criminal penalties as provided in Section 204.076 of the Law.
  - 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) violation 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 and 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.
12. **Permit Modification - Less Stringent Requirements**  
If any permit provisions are based on legal requirements which are lessened or removed, and should no other basis exist for such permit provisions, the permit shall be modified after notice and opportunity for a hearing.
  13. **Civil and Criminal Liability**  
Except as authorized by statute and provided in permit conditions on "Bypassing" (Standard Condition B-5) and "Power Failures" (Standard Condition B-7) nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.
  14. **Oil and Hazardous Substance Liability**  
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act, and the Law and Regulations. Oil and hazardous materials discharges must be reported in compliance with the requirements of the Federal Clean Water Act.
  15. **State Laws**  
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state statute or regulations.
  16. **Property Rights**  
The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of or violation of federal, state or local laws or regulations.
  17. **Duty to Reapply**  
If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for a new permit 180 days prior to expiration of this permit.
  18. **Toxic Pollutants**  
If a toxic effluent standard, prohibition, or schedule of compliance is established, under Section 307(a) of the Federal Clean Water Act for a toxic pollutant in the discharge of permittee's facility and such standard is more stringent than the limitations in the permit, then the more stringent standard, prohibition, or schedule shall be incorporated into the permit as one of its conditions, upon notice to the permittee.
  19. **Signatory Requirement**  
All reports, or information submitted to the Director shall be signed (see 40 CFR-122.6).
  20. **Rights Not Affected**  
Nothing in this permit shall affect the permittee's right to appeal or seek a variance from applicable laws or regulations as allowed by law.
  21. **Severability**  
The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

**STANDARD CONDITIONS FOR NPDES PERMITS  
ISSUED BY  
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES  
MISSOURI CLEAN WATER COMMISSION  
AUGUST 15, 1994**

**PART III – SLUDGE & BIOSOLIDS FROM DOMESTIC WASTEWATER TREATMENT FACILITIES**

**SECTION A – GENERAL REQUIREMENTS**

1. This permit pertains to sludge requirements under the Missouri Clean Water Law and regulation and incorporates applicable federal sludge disposal requirements under 40 CFR 503. The Environmental Protection Agency (EPA) has principal authority for permitting and enforcement of the federal sludge regulations under 40 CFS 503 until such time as Missouri is delegated the new EPA sludge program. EPA has reviewed and accepted these standard sludge conditions. EPA may choose to issue a separate sludge addendum to this permit or a separate federal sludge permit at their discretion to further address federal requirements.
2. These PART III Standard Conditions apply only to sludge and biosolids generated at domestic wastewater treatment facilities, including public owned treatment works (POTW) and privately owned facilities.
3. Sludge and Biosolids Use and Disposal Practices.
  - a. Permittee is authorized to operate the sludge and biosolids treatment, storage, use, and disposal facilities listed in the facility description of this permit.
  - b. Permittee shall not exceed the design sludge volume listed in the facility description and shall not use sludge disposal methods that are not listed in the facility description, without prior approval of the permitting authority.
  - c. Permittee is authorized to operate the storage, treatment or generating sites listed in the Facility Description section of this permit.
  - d. A separate operating permit is required for each operating location where sludge or biosolids are generated, stored, treated, or disposed, unless specifically exempted in this permit or in 10 CSR 20, Chapter 6 regulations. For land application, see section H, subsection 3 of these standard conditions.
4. Sludge Received From Other Facilities
  - a. Permittees may accept domestic wastewater sludge from other facilities including septic tank pumpings from residential sources as long as the design sludge volume is not exceeded and the treatment facility performance is not impaired.
  - b. The permittee shall obtain a signed statement from the sludge generator or hauler that certifies the type and source of the sludge.
  - c. Sludge received from out-of-state generators shall receive prior approval of the permitting authority and shall be listed in the facility description or special conditions section of the permit.
5. These permit requirements do not supersede nor remove liability for compliance with county and other local ordinances.
6. These permit requirements do not supersede nor remove liability for compliance with other environmental regulations such as odor emissions under the Missouri Air Pollution Control Law and regulations.
7. This permit may (after du process) be modified, or alternatively revoked and reissued, to comply with any applicable sludge disposal standard or limitation issued or approved under Section 405(d) of the Clean Water Act or under Chapter 644 RsMo.
8. In addition to the STANDARD CONDITIONS, the department may include sludge limitations in the special conditions portion or other sections of this permit.
9. Alternate Limits in Site Specific Permit.

Where deemed appropriate, the department may require an individual site specific permit in order to authorize alternate limitations:

  - a. An individual permit must be obtained for each operating location, including application sites.
  - b. To request a site specific permit, an individual permit application, permit fees, and supporting documents shall be submitted for each operating location. This shall include a detailed sludge/biosolids management plan or engineering report.
10. Exceptions to these Standard Conditions may be authorized on a case-by-case basis by the department, as follows:
  - a. The department will prepare a permit modification and follow permit public notice provisions as applicable under 10 CSR 20-6.020, 40 CFR 124.10, and 40 CFR 501.15(a)(2)(ix)(E). This includes notification of the owners of property located adjacent to each land application site, where appropriate.
  - b. Exceptions cannot be granted where prohibited by the federal sludge regulations under 40 CFR 503.
11. Compliance Period  
Compliance shall be achieved as expeditiously as possible but no later than the compliance dates under 40 CFR 503.2.

## **SECTION B – DEFINITIONS**

1. Biosolids means an organic fertilizer or soil amendment produced by the treatment of domestic wastewater sludge. Untreated sludge or sludge that does not conform to the pollutants and pathogen treatment requirements in this permit is not considered biosolids.
2. Biosolids land application facility is a facility where biosolids are spread onto the land at agronomic rates for production of food or fiber. The facility includes any structures necessary to store the biosolids until soil, weather, and crop conditions are favorable for land application.
3. Class A biosolids means a material that has met the Class A pathogen reduction requirements or equivalent treatment by a Process to Further Reduce Pathogens (PFRP) in accordance with 40 CFR 503.
4. Class B biosolids means a material that has met the Class B pathogen reduction requirements or equivalent treatment by a Process to Significantly Reduce Pathogens (PFRP) in accordance with 40 CFR 503.
5. Domestic wastewater means wastewater originating from the sanitary conveniences of residences, commercial buildings, factories and institutions; or co-mingled sanitary and industrial wastewater processed by a public owned treatment works (POTW) or privately owned facility.
6. Mechanical treatment plants are wastewater treatment facilities that use mechanical devices to treat wastewater, including septic tanks, extended aeration, activated sludge, contact stabilization, trickling filters, rotating biological discs, and other similar facilities. It does not include unaerated wastewater treatment lagoons and constructed wetlands for wastewater treatment.
7. Operating location as defined in 10 CSR 20-2.010 is all contiguous lands owned, operated or controlled by one (1) person or by two (2) or more persons jointly or as tenants in common.
8. Plant Available Nitrogen (PAN) is the nitrogen that will be available to plants during the next growing season after biosolids application.
9. Sinkhole is a depression in the land surface into which surface water flows to join an underground drainage system.
10. Site Specific Permit is a permit that has alternate limits developed to address specific site conditions for each land application site or storage site.
11. Sludge is the solid, semisolid, or liquid residue removed during the treatment of wastewater. Sludge includes septage removed from septic tanks.
12. Sludge lagoon is an earthen basin that receives sludge that has been removed from a wastewater treatment facility. It does not include a wastewater treatment lagoon or sludge treatment units that are not a part of a mechanical wastewater treatment facility.
13. Wetlands are those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamp, marshes, bogs, and similar areas. Wetlands do not include constructed wetlands used for wastewater treatment.

## **SECTION C – MECHANICAL WASTEWATER TREATMENT FACILITIES**

1. Sludge shall be routinely removed from the wastewater treatment facilities and handled according to the permit facility description and sludge conditions in this permit.
2. The permittee shall operate the facility so that there is no sludge loss into the discharged effluent in excess of permit limits, no sludge bypassing, and no discharge of sludge to waters of the state.
3. Mechanical treatment plants shall have separate sludge storage compartments in accordance with 10 CSR 20, Chapter 8. Failure to remove sludge from these storage compartments on the required design schedule is a violation of this permit.

## **SECTION D – SLUDGE DISPOSED AT OTHER TREATMENT FACILITY OR CONTRACT HAULER**

1. This section applies to permittees that haul sludge to another treatment facility for disposal or use contract haulers to remove and dispose of sludge.
2. Permittees that use contract haulers are responsible for compliance with all the terms of this permit including final disposal, unless the hauler has a separate permit for sludge or biosolids disposal issued by the department; or the hauler transports the sludge to another permitted treatment facility.
3. The permittee shall require documentation from the contractor of the disposal methods used and permits obtained by the contractor.
4. Testing of sludge, other than total solids content, is not required if sludge is hauled to a municipal wastewater treatment facility or other permitted wastewater treatment facility.

## **SECTION E – WASTEWATER TREATMENT LAGOONS AND STORMWATER RETENTION BASINS**

1. Sludge that is retained within a wastewater treatment lagoon is subject to sludge disposal requirements when the sludge is removed from the lagoon or when the lagoon ceases to receive and treat wastewater.
2. If sludge is removed during the year, an annual sludge report must be submitted.
3. Storm water retention basins or other earthen basins, which have been used as sludge storage for a mechanical treatment system is considered a sludge lagoon and must comply with Section G of this permit.

## **SECTION F – INCINERATION OF SLUDGE**

1. Sludge incineration facilities shall comply with the requirements of 40 CFR 503 Subpart E; air pollution control regulations under 10 CSR 10; and solid waste management regulations under 10 CSR 80.
2. Permittee may be authorized under the facility description of this permit to store incineration ash in lagoons or ash ponds. This permit does not authorize the disposal of incineration ash. Incineration ash shall be disposed in accordance with 10 CSR 80; or if the ash is determined to be hazardous waste, shall be disposed in accordance with 10 CSR 25.
3. In addition to normal sludge monitoring, incineration facilities shall report the following as part of the annual report, quantity of sludge incinerated, quantity of ash generated, quantity of ash stored; and ash use or disposal method, quantity, and location. Permittee shall also provide the name of the disposal facility and the applicable permit number.
4. Additional limitations, monitoring, and reporting requirements may be addressed in the Special Conditions sections of this permit.

## **SECTION G – SURFACE DISPOSAL SITES AND SLUDGE LAGOONS**

1. Surface disposal sites shall comply with the requirements in 40 CFR 503 Subpart C, and solid waste disposal regulations under 10 CSR 80.
2. Additional limitations, monitoring, and reporting requirements may be addressed in the Special Conditions section of this permit.
3. Effective February 19, 1995, a sludge lagoon that has been in use for more than two years without removal of accumulated sludge, or that has not been properly closed shall comply with one of the following options:
  - a. Permittee shall obtain a site specific permit to address surface disposal requirements under 40 CFR 503, ground water quality regulations under 10 CSR 20, Chapter 7 and 8, and solid waste management regulations under 10 CSR 80;
  - b. Permittee shall clean out the sludge lagoon to remove any sludge over two years old and shall continue to remove accumulated sludge at least every two years or an alternate schedule approved under 40 CFR 503.20(b). In order to avoid damage to the lagoon seal during cleaning, the permittee may leave a layer of sludge on the bottom of the lagoon, upon prior approval of the department; or
  - c. Permittee shall close the lagoon in accordance with Section 1.

## **SECTION H – LAND APPLICATION**

1. The permittee shall not land apply sludge or biosolids unless land application is authorized in the Facility Description or special conditions section of the permit.
2. This permit replaces and terminates all previous sludge management plan approvals by the department for land application of sludge or biosolids.
3. Land application sites within a 20 mile radius of the wastewater treatment facility are authorized under this permit when biosolids are applied for beneficial use in accordance with these standard conditions unless a site specific permit is required under Section A, Subsection 9.
4. Biosolids shall not be applied unless authorized in this permit or exempted under 10 CSR 20, Chapter 6.
  - a. This permit does not authorize the land application of sludge except when sludge meets the definition of biosolids.
  - b. This permit authorizes “Class A or B” biosolids derived from domestic wastewater sludges to be land applied onto grass land, crop land, timber land or other similar agricultural or silviculture lands at rates suitable for beneficial use as organic fertilizer and soil conditioner.
5. Public Contact Sites.  
Permittees who wish to apply Class A biosolids to public contact sites must obtain approval from the department. Applications for approval shall be in the form of an engineering report and shall address priority pollutants and dioxin concentrations. Authorization for land applications must be provided in the special conditions section of this permit or in a separate site-specific permit.

6. Agricultural and Silvicultural Sites.

In addition to specified conditions herein, this permit is subject to the attached Water Quality Guides numbers WQ 422 through 426 published by the University of Missouri, and hereby incorporated as though fully set forth herein. The guide topics are as follows:

WQ 422	Land Application of Septage
WQ 423	Monitoring Requirements for Biosolids Land Application
WQ 424	Biosolids Standards for Pathogens and Vectors
WQ 425	Biosolids Standards for Metals and Other Trace Substances
WQ 426	Best Management Practices for Biosolids Land Applications

### SECTION I – CLOSURE REQUIREMENTS

1. This section applies to all wastewater treatment facilities (mechanical and lagoons) and sludge or biosolids storage and treatment facilities and incineration ash ponds. It does not apply to land application sites.
2. Permittees who plan to cease operation must obtain department approval of a closure plan which addresses proper removal and disposal of all residues, including sludge, biosolids, and ash. Permittee must maintain this permit until the facility is properly closed per 10 CSR 20-6.010 and 10 CSR 20-6.015.
3. Residuals that are left in place during closure of a lagoon or earthen structure shall not exceed the agricultural loading rates as follows:
  - a. Residuals shall meet the monitoring and land application limits for agricultural rates as referenced in Section H of these standard conditions.
  - b. If a wastewater treatment lagoon has been in operation for 15 years or more, the sludge in the lagoon qualifies for Class B with respect to pathogens (see WQ 424, Table 3), and testing for fecal coliform is not required. For other lagoons, testing for fecal coliform is required to show compliance with Class B limitations. See WQ 423 and 424.
  - c. The allowable nitrogen loading that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. See WQ 426 for calculation procedures. For a grass cover crop, the allowable PAN is 300 pounds/acre.
4. When closing a wastewater treatment lagoon with a design treatment capacity equal or less than 150 persons, the residuals are considered “septage” under the similar treatment works” definition. See WQ 422. Under the septage category, residuals may be left in place as follows:
  - a. Testing for metals or fecal coliform is not required.
  - b. If the wastewater treatment lagoon has been in use for less than 15 years, mix lime with the sludge at the rate of 50 pounds of hydrated lime per 1000 gallons (134 cubic feet) of sludge.
  - c. The amount of sludge that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. 100 dry tons/acre of sludge may be left in the basin without testing for nitrogen. If more than 100 dry tons/acre will be left in the lagoon, test for nitrogen and determine the PAN in accordance with WQ 426. Allowable PAN loading is 300 pounds/acre.
5. Residuals left within the lagoon shall be mixed with soil on at least a 1 to 1 ratio, the lagoon berms shall be demolished, and the site shall be graded and vegetated so as to avoid ponding of storm water and provide adequate surface water drainage without creating erosion.
6. Lagoon closure activities shall obtain a storm water permit for land disturbance activities that equal or exceed five acres in accordance with 10 CSR 20-6.200.
7. If sludge exceeds agricultural loading rates under Section H or I, a landfill permit or solid waste disposal permit shall be obtained to authorize on-site sludge disposal under the Missouri Solid Waste Management Law and regulations per 10 CSR 80, and the permittee must comply with the surface disposal requirements under 40 CFR 503, Subpart C.

### SECTION J – MONITORING FREQUENCY

1. At a minimum, sludge or biosolids shall be tested for volume and percent total solids on a frequency that will accurately represent sludge quantities produced and disposed.
2. Testing for land application is listed under Section H, Subsection 6 of these standard conditions (see WQ 423). Once per year is the minimum test frequency. Additional testing shall be performed for each 100 dry tons of sludge generated or stored during the year.
3. Additional testing may be required in the special conditions or other sections of the permit. Permittees receiving industrial wastewater may be required to conduct additional testing upon request from the department.
4. Monitoring requirements shall be performed in accordance with, “POTW Sludge Sampling and Analysis Guidance Document”, United States Environmental Protection Agency, August 1989, and subsequent revisions.

## SECTION K – RECORD KEEPING AND REPORTING REQUIREMENTS

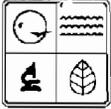
1. The permittee shall maintain records on file at the facility for at least five years for the items listed in these Standard Conditions and any additional items in the Special Conditions section of this permit. This shall include dates when the sludge facility is checked for proper operation, records of maintenance and repairs and other relevant information.
2. Reporting Period
  - a. By January 28<sup>th</sup> of each year, an annual report shall be submitted for the previous calendar year period for all mechanical wastewater treatment facilities, sludge lagoons, and sludge or biosolids disposal facilities.
  - b. Permittees with wastewater treatment lagoons shall submit the above annual report only when sludge or biosolids are removed from the lagoon during the report period or when the lagoon is closed.
3. Report Forms. The annual report shall be submitted on report forms provided by the department or equivalent forms approved by the department.
4. Report shall be submitted as follows:  
Major facilities (those serving 10,000 persons or 1 million gallons per day) shall report to both the department and EPA. Other facilities need to report only to the department. Reports shall be submitted to the addresses listed as follows:

DNR regional office listed in your permit  
(See cover letter of permit)

EPA Region VII  
Water Compliance Branch (WACM)  
Sludge Coordinator  
901 N 5<sup>th</sup> Street  
Kansas City, KS 66101

5. Annual Report Contents. The annual report shall include the following:
  - a. Sludge/biosolids testing performed. Include a copy or summary of all test results, even if not required by this permit.
  - b. Sludge or Biosolids quantity shall be reported as dry tons for quantity generated by the wastewater treatment facility, the quantity stored on site at end of year, and the quantity used or disposed.
  - c. Gallons and % solids data used to calculate the dry ton amounts.
  - d. Description of any unusual operating conditions.
  - e. Final disposal method, dates, and location, and person responsible for hauling and disposal.
    - (1) This must include the name, address and permit number for the hauler and the sludge facility. If hauled to a municipal wastewater treatment facility, sanitary landfill, or other approved treatment facility, give the name and permit number of that facility.
    - (2) Include a description of the type of hauling equipment used and the capacity in tons, gallons, or cubic feet.
  - f. Contract Hauler Activities.  
If contract hauler, provide a copy of a signed contract or billing receipts from the contractor. Permittee shall require the contractor to supply information required under this permit for which the contractor is responsible. The permittee shall submit a signed statement from the contractor that he has complied with the standards contained in this permit, unless the contract hauler has a separate sludge disposal or biosolids use permit.
  - g. Land Application Sites.
    - (1) Report the location of each application site, the annual and cumulative dry tons/acre for each site, and the landowners name and address. The location for each spreading site shall be given as legal description for nearest ¼, ¼, Section, Township, Range, and County, or as latitude and longitude.
    - (2) If biosolids application exceeds 2 dry tons/acre/year, report biosolids nitrogen results. Plant Available Nitrogen (PAN) in pounds/acre, crop nitrogen requirement, available nitrogen in the soil prior to biosolids application, and PAN calculations for each site.
    - (3) If the “Low Metals” criteria is exceeded, report the annual and cumulative pollutant loading rates in pounds per acre for each applicable pollutant, and report the percent of cumulative loading which has been reached at each site.
    - (4) Report the method used for compliance with pathogen and vector attraction requirements.
    - (5) Report soil test results for pH, CEC, and phosphorus. If none was tested during the year, report the last date when tested and results.

RECEIVED: Fee Received



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH (201)  
(SEE MAP FOR APPROPRIATE REGIONAL OFFICE)  
APPLICATION FOR TRANSFER OF OPERATING PERMIT

FOR AGENCY USE ONLY	
CHECK NO.	
DATE RECEIVED	FEE SUBMITTED
8/13/14	ESB

1 - 4 TO BE COMPLETED BY CURRENT PERMITTEE (PRESENT OWNER/SELLER) THE FOLLOWING ITEMS PRESENTLY APPLY TO THIS FACILITY: (SEE INSTRUCTIONS FOR APPROPRIATE FEE TO BE SUBMITTED WITH APPLICATION.)

1 FACILITY			
NAME Tyson Foods Inc		TELEPHONE NUMBER WITH AREA CODE (417) 475-8269	
ADDRESS 1 Tyson Ave	CITY Noel	STATE MO	ZIP 64854

2 CURRENT OWNER			
NAME Tyson Foods Inc		PHONE 804-798-8357	E-MAIL doug.baxter@tyson.com
ADDRESS 2200 Don Tyson Ave	CITY Springdale	STATE AR	ZIP 72765

3 CONTINUING AUTHORITY: (If same as owner, write same.)			
NAME Same		TELEPHONE NUMBER WITH AREA CODE	
ADDRESS	CITY	STATE	ZIP

4 SIGNATURE	
I certify I am familiar with the information given above, that to the best of my knowledge and belief such information is true, complete and accurate, and until transfer approval, I agree to continue to abide by the Missouri Clean Water Law and its implementing regulations, orders and decisions, subject to any legitimate appeal available under the Missouri Clean Water Law.	
NAME AND OFFICIAL TITLE (TYPE OR PRINT) Aaron Rice, Complex Environmental Manager	TELEPHONE NUMBER WITH AREA CODE (417) 475-8269
SIGNATURE	DATE SIGNED

THE FOLLOWING ITEMS (5 -10) WILL APPLY AFTER COMPLETION OF TRANSFER (SALE) AND ARE TO BE COMPLETED BY THE APPLICANT FOR TRANSFER OF OPERATING PERMIT (BUYER) OR AUTHORIZED AGENT.

5 FACILITY			
NAME Tyson Foods-Noel		NPDES NUMBER MO- 0002500	TELEPHONE NUMBER WITH AREA CODE (417) 475-8269
ADDRESS 1 Tyson Ave	CITY Noel	STATE MO	ZIP 64854

6 FUTURE OWNER			
NAME Tyson Chicken Inc		TELEPHONE NUMBER WITH AREA CODE (804) 798-8357	
ADDRESS 2200 Don Tyson Ave	CITY Springdale	STATE AR	ZIP 72765

7 CONTINUING AUTHORITY: (if same as owner, write same)			
NAME Same		TELEPHONE NUMBER WITH AREA CODE	
ADDRESS	CITY	STATE	ZIP

8 FACILITY CONTACT	
NAME Aaron Rice	TELEPHONE NUMBER WITH AREA CODE (417) 475-8269
TITLE Complex Environmental Manager	

9 ADDITIONAL INFORMATION	
ANTICIPATED EFFECTIVE DATE OF TRANSFER IN OWNERSHIP 7/28/14	

ARE ANY CHANGES IN PRODUCTION, RAW MATERIALS OR IN THE QUANTITY OR QUALITY OF THE DISCHARGES FROM THIS FACILITY PLANNED OR ANTICIPATED?  
 YES  NO If yes, explain (if additional space is required, attach sheet)

10.00 SIGNATURE	
I certify I am familiar with the information given above, that to the best of my knowledge and belief such information is true, complete and accurate, and upon transfer approval, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders and decisions, subject to any legitimate appeal available under the Missouri Clean Water Law. Further, I certify I have read the existing permit and agree to abide by the terms and conditions once the transfer is complete.	
NAME AND OFFICIAL TITLE (TYPE OR PRINT) Aaron Rice, Complex Environmental Manager	TELEPHONE NUMBER WITH AREA CODE 417-475-8269
SIGNATURE	DATE SIGNED 8/13/14