

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

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

Permit No.	MO-0036773
Owner:	Simmons Foods, Inc.
Address:	P.O. Box 121, Southwest City, MO 64863
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	Simmons Foods, Inc.
Facility Address:	Route 1, Southwest City, MO 64863
Legal Description:	See page two (2)
Receiving Stream:	Tributary to Cave Spring Branch (U)
First Classified Stream and ID:	Out of State (U) (9999)
USGS Basin & Sub-watershed No.:	(11070206-040010)

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

FACILITY DESCRIPTION

Outfall #001 -

See page two (2)

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

<u>September 20, 2006</u>	<u>April 23, 2008</u>
Effective Date	(Revised)

A handwritten signature in black ink, reading "Doyle Childer".

Doyle Childer, Director, Department of Natural Resources
Executive Secretary, Clean Water Commission

September 19, 2011
Expiration Date
MO 780-0041 (10-93)

Cynthia S. Davies, Regional Director, Southwest Regional Office

LEGAL DESCRIPTION

Outfall #001 – N ½, SW ¼, NW ¼, Sec. 22, T21N, R34W, McDonald County – Discharge is no longer authorized.

Outfall #002 – NW ¼, NW ¼, SW ¼, Sec. 22, T21N, R34W, McDonald County – Discharge is no longer authorized.

Outfall #003 – N ½, NW ¼, Sec. 22, T21N, R34W, McDonald County – Discharge is no longer authorized.

Outfall #004 – N ½, SW ¼, NW ¼, Sec. 22, T21N, R34W, McDonald County

Lat / Long: +3632427 / -09436197

Outfall #005 – NE ¼, Sec. 21, T21N, R34W, McDonald County

Lat / Long: +3632459 / -09436305

Outfall #006 – N ½, NW ¼, Sec. 21, T21N, R34W, McDonald County – Instream Monitoring Location #1

Lat / Long: +3632507 / -09437044

Outfall #007 – NW ¼, Sec. 22, T21N, R34W, McDonald County

Lat / Long: +3632146 / -09436093

Outfall #008 – Sec. 17 & 18, T24N, R25E, Delaware County, Oklahoma – Instream Monitoring Location #2 – Location no longer monitored.

Outfall #009 – NW ¼, Sec. 22, T21N, R34W, McDonald County

Lat / Long: +3632456 / -09436111

FACILITY DESCRIPTION – Poultry Processing – SIC #2015 & Offal Rendering – SIC #2077

Outfall #001 - Discharge from this outfall is no longer permitted. For record management purposes the outfall will retain its number.

Outfall #002 - Discharge from this outfall is no longer permitted. For record management purposes the outfall will retain its number.

Outfall #003 - Discharge from this outfall is no longer permitted. For record management purposes the outfall will retain its number.

Outfall #004 - Offal screening / dissolved air flotation / aerated lagoon / waste activated sludge holding lagoon / anaerobic lagoon / Schreiber activated sludge system / final clarifier / continuous flow batch reactor / disc filtration system / chemical phosphorus removal / ultraviolet disinfection system/dechlorination system. Design flow is 2.0 MGD / design population equivalent is 189,312 / design sludge production is 1,354 dry tons/year. Sludge is disposed by contract hauler.

Outfall #005 - Stormwater contaminated with process water is captured and pumped to the wastewater treatment facility for treatment. First flush from stormwater from other areas of the property is treated with the balance discharging through Outfall #005.

Outfall #006 - This is not a discharge outfall. The instream monitoring location is where Cave Springs Branch crosses the Missouri / Oklahoma state line N½, NW¼, Sec. 21, T21N, R34W, McDonald County.

Outfall #007 - This is not a discharge outfall. Outfall #007 consists of groundwater monitoring wells for the land application site. MW #007a and MW #007b

Outfall #008 – Sampling is no longer required. For record management purposes the outfall will retain its number.

Outfall #009 – This is not a discharge outfall. Outfall #009 is for all other monitoring wells existing and new as defined by schedule of compliance to locate the zone of interest.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)				PAGE NUMBER 4 of 18		
				PERMIT NUMBER MO-0036773		
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The interim effluent limitations shall become effective upon issuance and remain in effect until September 30, 2009 . Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #004</u> (continued)						
Selenium	mg/L	*		*	once/quarter****	grab
Chlorides	mg/L	*		*	once/quarter****	grab
Sulfates	mg/L	*		*	once/quarter****	grab
Arsenic	mg/L	*		*	once/quarter****	grab
Total Dissolved Solids	mg/L	*		*	once/quarter****	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE JUNE 28, 2008 .						
Acute Whole Effluent Toxicity (Wet) Test	% Survival	(See Special Conditions)			once/year in August	24 hr. composite
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE OCTOBER 28, 2008 . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
Chronic Whole Effluent Toxicity (Wet) Test	% Survival	(See Special Conditions)			once/year in December	24 hr. composite
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE FEBRUARY 28, 2009 . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

MONITORING REPORTS SHALL BE SUBMITTED **MONTHLY**; THE FIRST REPORT IS DUE **November 28, 2009**.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)				PAGE NUMBER 6 of 18		
				PERMIT NUMBER MO-0036773		
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 October 1, 2009 and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #004</u> (continued)						
Selenium	mg/L	*		*	once/quarter****	grab
Chlorides	mg/L	*		*	once/quarter****	grab
Sulfates	mg/L	*		*	once/quarter****	grab
Arsenic	mg/L	*		*	once/quarter****	grab
Total Dissolved Solids	mg/L	*		*	once/quarter****	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>JANUARY 28, 2010</u> .						
Acute Whole Effluent Toxicity (Wet) Test	% Survival	(See Special Conditions)			once/year in August	24 hr. composite
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>OCTOBER 28, 2010</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
Chronic Whole Effluent Toxicity (Wet) Test	% Survival	(See Special Conditions)			once/year in December	24 hr. composite
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>FEBRUARY 28, 2010</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)					PAGE NUMBER 7 of 18	
					PERMIT NUMBER MO-0036773	
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #005</u> (Notes 6)						
Flow	MGD	*		*	once/month*****	24 hr. estimate
Biochemical Oxygen Demand ₅	mg/L	45		30	once/month*****	grab
Total Suspended Solids	mg/L	*		*	once/month*****	grab
pH – Units	SU	***		***	once/month*****	grab
Fecal Coliform	#/100 ml	*		*	once/month*****	grab
Total Phosphorus as P	mg/L	*		*	once/month*****	grab
Ammonia as N	mg/L	*		*	once/month*****	grab
Oil & Grease	mg/L	15		10	once/month*****	grab
Temperature	°C	*		*	once/month*****	grab
Rainfall*****	inches	*		*	once/month*****	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE <u>JUNE 28, 2008</u> .						
<u>Outfall #006 - Instream Monitoring Location #1</u> – Downstream Monitoring – Missouri / Oklahoma State Line						
Carbonaceous Biochemical Oxygen Demand ₅	mg/L	*		*	once/week**	grab
Total Suspended Solids	mg/L	*		*	once/week**	grab
pH – Units	SU	*		*	once/week**	grab
Fecal Coliform	#/100 ml	*		*	once/week**	grab
Ammonia as N	mg/L	*		*	once/week**	grab
Nitrate / Nitrite as N	mg/L	*		*	once/week**	grab
Total Phosphorus as P	mg/L	*		*	once/week**	grab
Temperature	°F	*		*	once/week**	grab
Alkalinity & Hardness	mg/L	*		*	once/week**	grab
Dissolved Oxygen	mg/L	*		*	once/week**	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE <u>JUNE 28, 2008</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
<u>Outfall #007</u> – Existing Groundwater Monitoring Wells From Land Application Site						
Nitrate / Nitrite as N	mg/L	*		*	once/quarter****	grab
Ammonia as N	mg/L	*		*	once/quarter****	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>JUNE 28, 2008</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)					PAGE NUMBER 8 of 18	
PERMIT NUMBER MO-0036773						
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #009 – Existing and New Groundwater Monitoring Wells (Note 7)						
Flow	MGD	*		*	once/month**	24 hr. estimate
Carbonaceous Biochemical Oxygen Demand ₅	mg/L	*		*	once/month**	grab
pH – Units	SU	*		*	once/month**	grab
Fecal Coliform	#/100 ml	*		*	once/month**	grab
Ammonia as N	mg/L	*		*	once/month**	grab
Nitrate / Nitrite as N	mg/L	*		*	once/month**	grab
Temperature	mg/L	*		*	once/month**	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY ; THE FIRST REPORT IS DUE April 28, 2008 . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
B. STANDARD CONDITIONS						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I & III 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.
- ** Reports shall be submitted by the 28th day of the month following the reporting period, e.g. Reporting period is the month of March (samples collected daily, weekly, monthly), report due by April 28th.
- *** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-9.0 pH units.
- **** Sample once per quarter in the months of **March, June, September, and December**. Reports shall be submitted by the 28th day of the month following the reporting period, e.g. Reporting period is the 1st quarter (sample collected in March), report due by April 28th.
- ***** **All samples shall be collected from a discharge resulting from a precipitation event greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable precipitation event. Sampling shall occur monthly. If a precipitation event that causes a discharge does not occur within the reporting period, report as no discharge. Reports shall be submitted by the 28th day of the month following the reporting period, e.g. Reporting period is the month of March, report due by April 28th.**
- ***** The total precipitation for the event sampled shall be reported.

Note 1 - This effluent limit is below the minimum quantification level (ML) of the most common and practical EPA approved CBOD methods. The department has determined the current acceptable ML for CBOD to be 6.36 mg/L. Measured values greater than or equal to the minimum quantification level of 6.36 mg/L will be considered violations of the permit and values less than the minimum quantification level of 6.36 mg/L will be considered to be in compliance with the permit limitation. The minimum quantification level does not authorize the discharge of CBOD in excess of the effluent limits stated in the permit.

Note 2 - Monthly average limit for Fecal Coliform is expressed as a geometric mean. Geometric mean for

$$n \text{ samples} = [a_1 \times a_2 \times a_3 \dots \times a_n]^{1/n}$$

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

Note 3 - This permit contains a Total Residual Chlorine (TRC) limit.

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

Note 4 - The Dissolved Oxygen limits are the minimums. The facility shall not go below the set limits.

Note 5 - If no Aluminum or Iron was used in a given sampling period, an actual analysis is not necessary. Simply report as “0 mg/L”.

Note 6 - Sample point at Outfall #005 shall be at the flow weir during discharge. If there is no discharge through the weir report as no discharge.

Note 7 - If the resulting values from the monitoring well data is greater than the water quality standards established in 10 CSR 7 Table A and Table B and, meets the following definition of significant non-compliance, the department will implement a schedule of compliance for the lining or closure of lagoons commonly referred to as lagoon #1, #2, and #3. This applies only to the parameters of fecal coliform, ammonia as N and nitrate/nitrite as N.

Significant non-compliance shall be defined as two (2) major exceedances of a specific parameter at any one (1) monitoring well within a six (6) month period. A major exceedance is defined as a value that is 140% or more of the parameter of the monthly average limit value. Significant non-compliance will also consist of 4 exceedances of the monthly average limit (does not have to be major) of any kind, at any one (1) monitoring well within a six (6) month period. If the daily maximum limit is exceeded, it is not considered a major exceedance unless the monthly average is also exceeded.

The schedule of compliance will require the lining or closing of the lagoons within 3 years of notification by the department. The lining or closing of the lagoons shall be in accordance with the Missouri Clean Water Law and Regulations.

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, geological study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards and/or the Oklahoma Water Quality Standards. In furtherance of this, permittee shall, to the best of its abilities, operate and maintain facilities to comply with the Missouri Clean Water Law, the Oklahoma Environmental Quality Code, and applicable permit conditions.
 - (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.

C. SPECIAL CONDITIONS (continued)

2. All outfalls must be clearly marked in the field.

3. Changes in Discharges of Toxic Substances

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

(a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"

(1) One hundred micrograms per liter (100 µg/L);

(2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;

(3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;

(4) The level established in Part A of the permit by the Director.

(b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.

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

6. Industrial Sludge Use and Disposal Requirements

(a) This permit does not authorize land application or disposal of industrial sludge. The term "sludge" used herein, means sludge, biosolids, by-products and residuals from industrial waste sources.

(b) All land application sites must be public noticed and included in a modified permit prior to land application in accordance with 10 CSR 20 Chapter 6 rules. To request a permit for land application, the permittee or contractor shall submit a revised permit application, Forms A and R; names and mailing addresses for the landowners and the adjacent property owners for each application site, topographic maps of each site and other pertinent information.

(c) An annual report on sludge disposal shall be submitted by January 28 or each year for the previous calendar year. This report shall be submitted using report forms approved by the Department and shall include a summary of the monitoring, record keeping and sludge disposal activities. The report shall include, but is not limited to , a narrative summary of sludge disposal activities, the quantity of sludge generated and disposed, disposal method and the name and address of contract haulers. This includes sludge that is hauled to another state.

(d) Simmons and/or contract haulers shall obtain permits from appropriate states where land application occurs.

7. Water Quality Standards

(a) Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.

(b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:

(1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;

(2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;

(3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;

(4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;

C. SPECIAL CONDITIONS (continued)

- (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.

8. Whole Effluent Toxicity (WET) tests

A. Acute Whole Effluent Toxicity (WET) tests shall be conducted as follows:

SUMMARY OF WET TESTING FOR THIS PERMIT				
OUTFALL	A.E.C. %	FREQUENCY	SAMPLE TYPE	MONTH
#004	100%	Annually	24 hr. comp.	August

(a) Test Schedule and Follow-Up Requirements

- (1) Perform a single-dilution test in the months and at the frequency specified above. If the effluent passes the test, do not repeat the test until the next test period. Submit test results along with complete copies of the test reports as received from the laboratory within 30 calendar days of availability to the WPB, Planning Section, P.O. Box 176, Jefferson City, MO 65102.
- (2) If the effluent fails the test, a multiple dilution test shall be performed within 30 calendar days, and biweekly thereafter, until one of the following conditions are met:
 - a. THREE CONSECUTIVE MULTIPLE-DILUTION TESTS PASS. No further tests need to be performed until next regularly scheduled test period.
 - b. A TOTAL OF THREE MULTIPLE-DILUTION TESTS FAIL.
- (3) 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 WPCP, Planning Section, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the third failed test.
- (4) Additionally, the following shall apply upon failure of the third test: A toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. The permittee shall contact WPCP, Planning Section to ascertain as to whether a TIE or TRE is appropriate. The permittee shall submit a plan for conducting a TIE or TRE to the Planning Section of the WPCP within 60 calendar days of the date of DNR's direction to perform either a TIE or TRE. This plan must be approved by DNR before the TIE or TRE is begun. A schedule for completing the TIE or TRE shall be established in the plan approval.
- (5) 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.
- (6) 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.
- (7) All failing test results shall be reported to WPCP, Planning Section, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the availability of the results.
- (8) When WET test sampling is required to run over one DMR period, each DMR report shall contain information generated during the reporting period.

C. SPECIAL CONDITIONS (continued)

(9) Submit a concise summary of all test results with the annual report.

(b) PASS/FAIL procedure and effluent limitations:

- (1) To pass a single-dilution test, mortality observed in the AEC test concentration shall not be significantly different (at the 95% confidence level; $p = 0.05$) than that observed in the upstream receiving-water control sample. The appropriate statistical tests of significance will be those outlined in the most current USEPA acute toxicity manual or those specified by the MDNR.
- (2) To pass a multiple-dilution test:
 - a. the computed percent effluent at the edge of the zone of initial dilution, Acceptable Effluent Concentration (AEC), must be less than three-tenths (0.3) of the LC_{50} concentration for the most sensitive of the test organisms; or,
 - b. all dilutions equal to or greater than the AEC must be nontoxic. Failure of one multiple-dilution test is an effluent limit violation.

(c) Test Conditions

- (1) Test Type: Acute Static non-renewal
- (2) 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.
- (3) Test period: 48 hours at the "Acceptable Effluent Concentration" (AEC) specified above.
- (4) When dilutions are required, 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.
- (5) Single-dilution tests will be run with:
 - a. Effluent at the AEC concentration;
 - b. 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
 - c. reconstituted water.
- (6) Multiple-dilution tests will be run with:
 - a. 100%, 50%, 25%, 12.5%, and 6.25% effluent, unless the AEC is less than 25% effluent, in which case dilutions will be 4 times the AEC, two times the AEC, AEC, 1/2 AEC and 1/4 AEC;
 - b. 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
 - c. reconstituted water.
- (7) If reconstituted-water control mortality for a test species exceeds 10%, the entire test will be rerun.

C. SPECIAL CONDITIONS (continued)

SUMMARY OF TEST METHODOLOGY FOR WHOLE-EFFLUENT TOXICITY TESTS

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

Test conditions for Ceriodaphnia dubia:

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

Test conditions for Pimephales promelas:

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

C. SPECIAL CONDITIONS (continued)

8. Whole Effluent Toxicity (WET) Test (continued)

B. Chronic 7-Day NOEC Freshwater Toxicity (WET) tests:

Effluent Characteristic			Monitoring Requirements	
			Frequency (Reporting Period)	Sample Type
Biomonitoring Ceriodaphnia dubia 7-day chronic NOEC, static renewal	Survival	Pass/Fail Survival [TLP3B]	Annually in December	24-hour comp
		NOEC (%) Survival [TOP3B]		
		NOEC _L Survival [TOP3B]		
	Sublethal Effects	NOEC (%) Reprod [TPP3B]		
		% Mortality at Critical Dilution [TJP3B]		
		Pass/Fail Reproduction [TGP3B]		
		NOEC _s Reproduction [TPP3B]		
		% Coeff of Variation [TQP3B]		
Biomonitoring Pimephales promelas (fathead minnow) 7-day chronic NOEC, static renewal	Survival	Pass/Fail [TLP6C]	Annually in December	24-hour comp
		NOEC _L Survival [TOP6C]		
	Sublethal Effects	% Mortality at Critical Dilution [TJP6C]		
		Pass/Fail Growth [TGP6C]		
		NOEC _s Growth [TPP6C]		
		% Coeff of Variation [TQP6C]		

1. Scope and Methodology

- a. The permittee shall test the effluent for toxicity in accordance with the provisions in this section.

Applicable To Outfall:	004
Critical Dilution (%):	100
Effluent Dilution Series (%):	100, 75, 56, 42, 32
Composite Sample Type:	Defined in Part I
Test Species/Methods:	40 CFR 136, except as required by EPA Region 6

Ceriodaphnia dubia chronic static renewal 7-day survival and reproduction test, Method 1002.0, EPA-821-R-02-013 (October 2002), or most recent update thereof, except as required by EPA, Region 6. A minimum of ten (10) replicates with one (1) organism per test chamber, must be used in the control and in each effluent dilution of this test. This test should be terminated when 60% of the surviving females in the control produce three broods or at the end of eight days, whichever comes first. If these criteria are not met at the end of 8 days, the test must be repeated.

Pimephales promelas (Fathead minnow) chronic static renewal 7-day larval survival and growth test, Method 1000.0, EPA-821-R-02-013 (October 2002) (except for changes required by EPA region 6) or most recent update thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

- b. The NOEC_L (No Observed Lethal Effect Concentration) is defined as the greatest effluent dilution at and below which lethality that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic lethal test failure (chronic NOEC_L test) is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution.

C. SPECIAL CONDITIONS (continued)

- c. The NOEC_s (No Observed Sublethal Effect Concentration) is defined as the greatest effluent dilution at and below which sublethality (inhibited reproduction in the *Ceriodaphnia dubia* test or inhibited growth in the Fathead minnow test) that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic sublethal test failure (chronic NOEC_s test) is defined as a demonstration of a statistically significant sublethal effect at test completion to a test species at or below the critical dilution.

2. Required Toxicity Testing Conditions

a. Test Acceptance

The permittee shall repeat a test, including the control and all effluent dilutions, if the procedures and quality assurance requirements defined in the test methods or in this permit are not satisfied, including the following additional criteria:

- (1) The toxicity test control (0% effluent) must have survival equal to or greater than 80%.
- (2) The mean number of *Ceriodaphnia dubia* neonates produced per surviving female in the control (0% effluent) must be 15 or more.
- (3) Sixty (60) percent of the surviving *Ceriodaphnia dubia* control females must produce three broods.
- (4) The mean dry weight of surviving Fathead minnow larvae at the end of the 7 days in the control (0% effluent) must be 0.25 mg per larva or greater.
- (5) The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for the young of surviving females in the *Ceriodaphnia dubia* reproduction test and for the growth and survival endpoints of the Fathead minnow test.
- (6) The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal or sublethal effects are exhibited for the young of surviving females in the *Ceriodaphnia dubia* reproduction test and for the growth and survival endpoints of the Fathead minnow test.
- (7) As documented at test termination, no more than forty (40) percent of the *Ceriodaphnia dubia* test organisms in the control (0% effluent) or any effluent dilution shall be male.

Test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40% in the critical dilution. A repeat test shall be conducted within the reporting period of any test determined to be invalid.

b. Statistical Interpretation

- (1) For the *Ceriodaphnia dubia* survival test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be Fisher's Exact Test as described in EPA-821-R-02-013 or most recent update thereof.
- (2) For the *Ceriodaphnia dubia* reproduction test and the Fathead minnow larval survival and growth test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be in accordance with the methods for determining the No Observed Effect Concentration (NOEC) as described in EPA-821-R-02-013 or most recent update thereof.
- (3) If the conditions of test acceptability are met in Item 3.a above and the percent survival of the test organism is equal to or greater than 80% in the critical dilution concentration and all lower dilution concentrations, the test shall be considered to be a passing test, and the permittee shall report an NOEC_L of not less than the critical dilution for the DMR reporting requirements found in Item 4 below.

C. SPECIAL CONDITIONS (continued)

c. Dilution Water

- (1) Dilution water used in the toxicity tests will be receiving water collected as close to the point of discharge as possible but unaffected by the discharge. The permittee shall substitute synthetic dilution water of similar pH, hardness and alkalinity to the closest downstream perennial water where the toxicity test is conducted on an effluent discharge to a receiving stream classified as intermittent or to a receiving stream with no flow due to zero flow conditions.
- (2) If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria of Item 3.a.), the permittee must submit the test results exhibiting receiving water toxicity with the full test report required in Item 4 below and may thereafter substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:
 - (a) a synthetic dilution water control which fulfills the test acceptance requirements of Item 3.a. was run concurrently with the receiving water control;
 - (b) the test indicating receiving water toxicity was carried out to completion; and
 - (c) the synthetic dilution water had a pH, hardness and alkalinity similar to that of the receiving water or closest downstream perennial water not adversely affected by the discharge, provided the magnitude of these parameters will not cause toxicity in the synthetic dilution water.

d. Samples and Composites

- (1) Unless grab sampling is specifically authorized in Part I of the permit, the permittee shall collect three flow-weighted 24-hour composite samples representative of the flows during normal operation from the outfall(s) listed at Item 1.a above. If grab sampling is authorized, all requirements specified below for composite sampling also pertain to grab sampling. In such cases, collection of the grab sample is considered equivalent to collection of the last portion of a composite sample. Unless otherwise specified in Part I of the permit, a 24-hour composite sample consists of a minimum of 12 effluent portions collected at equal time intervals representative of a 24-hour operating day and combined proportional to flow or a sample continuously collected proportional to flow over a 24-hour operating day.
- (2) The first composite effluent sample shall be used to initiate each test and must be collected so that its holding time (between collection of the last portion of the sample and test initiation) does not exceed 36 hours. Collection of the second and third composite effluent samples must be timed so as to permit an approximately equal use distribution of the three composite samples for daily static renewals. In no case shall the holding time of the second and third composite samples (between collection of the last portion of the sample and its first use) exceed 36 hours. All samples shall be chilled to 4 °C during collection, shipping and/or storage.
- (3) The permittee shall collect the 24-hour composite samples such that the effluent samples are representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on an intermittent basis.
- (4) If it is anticipated that flow from the outfall being tested may cease prior to collection of all required effluent samples, the permittee must ensure that the first and second composite effluent samples are of sufficient volume to complete the required testing with daily renewal of effluent. The abbreviated effluent composite sample collection duration, the static renewal protocol associated with an abbreviated sample collection, and a summary of the circumstances justifying collection of an abbreviated sample must be adequately documented in the full test report required in Item 4 of this section. The DEQ reserves the right to require a retest and/or consider the permittee in violation of this permit if the basis offered for justification of an abbreviated sample is insufficient, flawed, or in any way reflects an effort on the part of the permittee to avoid test failure by use of an abbreviated sample.

3. Reporting Requirements

- a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this section for every valid or invalid toxicity test initiated whether carried to completion or not by **October 28** of the following year.

D. SCHEDULE OF COMPLIANCE

For ammonia

The winter ammonia limits will go into effect on **October 1, 2009**. Prior to this date if construction is needed to meet the new limits then the following shall occur:

1. By **April 1, 2007** submit a completed application for construction permit, application fee, and one copy each of an engineering report, plans and specifications prepared by a professional engineer registered in the State of Missouri to the Missouri Department of Natural Resources, 2040 West Woodland, Springfield, Missouri, 65807, for providing wastewater treatment facility improvements to comply with the final effluent limitations as list in Part A of this permit, designed in accordance with Missouri Clean Water Law Regulation 10 CSR 20 Chapter 8.
2. Within fifteen (15) calendar days of receipt of any request for additional information or changes in the engineering report, plans or specifications, respond and if necessary submit engineering modifications to the department.
3. Within 365 calendar days of issuance of the construction permit, construct the permitted wastewater treatment facility improvements.
4. Within fifteen (15) calendar days of completion of construction of wastewater treatment facility improvements, submit a Statement of Work Completed form, signed, sealed, and dated by a professional engineer registered in the State of Missouri certifying that the project has been completed substantially in accordance with the approved plans and specifications. In addition to the Statement of Work Completed, submit an application for a Missouri State Operating Permit modification complete with the appropriate modification fee to the Missouri Department of Natural Resources, 2040 West Woodland, Springfield, Missouri, 65807.

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

For Lagoons and monitoring wells

1. Within 18 months of issuance of the permit, Simmons shall provide the department with a decision on whether the three lagoons will be closed or, will have completed the installation of the groundwater monitoring wells as further described within this schedule of compliance.
2. If the decision is to close the lagoons, the closure plan shall be provided to the department within 18 months of the issuance of the permit. Lagoon closure shall be completed within 36 months of the issuance of the permit.
3. If the lagoons are not closed, but instead groundwater monitoring wells are installed they shall be added because of the following:

The Department has reviewed site investigation workplan and reports prepared by Genesis Environmental Consulting, Inc.(GEC), Little Rock, Arkansas. A review of the well logs notes the likelihood of a highly conductive groundwater zone or feature encountered near the monitoring Monitoring Well 5 cluster. This observation was noted during the installation of monitoring wells MW-5B and MW-5D in June and July 2000. This location is west of the Simmons lagoons and is also the approximate direction of groundwater flow known from potentiometric surface maps prepared for Zone A and Zone B by GEC. The information suggests that this groundwater feature may be present at a depth of approximately 19-24 feet below ground surface (bgs). During the construction of MW-5B, problems were encountered when attempting to set casing and, this highly productive zone was grouted with 180 to 185 gallons of cement-bentonite grout. This grouting may have partially or completely excluded this highly conductive zone from monitoring. The water encountered during drilling at this location was reported to have a "brown, foamy rancid smell" and seemed "lagoon-like" according to the GEC documents. A similar situation was encountered during installation of MW-5D when a large amount of water, in excess of 100 gallons per minute, was blown out of the well. The GEC report concludes: "A saturated, highly permeable zone exists in the upper portion of the borehole . . .".

Due to these findings and, the June 6, 2002 findings of Dr. J.M. Ham purporting seepage from Simmons lagoon B, the Department is requiring the following special conditions, as incorporated into the schedule of compliance of this permit:

- a. Simmons shall establish a system of groundwater monitoring wells if the lagoons are not closed that will effectively identify and monitor the highly conductive groundwater zone encountered during the installation of MW-5B and MW-5D. This zone is believed to be at approximately 19-24 feet below ground surface (bgs), but the exact nature and depth of this zone must be determined. This system shall be installed in an iterative manner, beginning near the MW-5 cluster and adding subsequent wells based on information obtained through drilling. The system must establish the lateral extent and vertical location of the highly conductive groundwater feature north, south and west of the Simmons wastewater lagoon systems and the MW-5 cluster. The wells in this system should produce water samples which are representative of the subject highly conductive feature. The monitoring well system shall include provisions to determine the lateral extent of this groundwater zone from the Simmons Lagoons to Cave Springs Branch and/or its tributary streams. The installation of monitoring wells shall comply with all applicable Missouri Laws and Regulations.

D. SCHEDULE OF COMPLIANCE (continued)

If the resulting values from the monitoring well data is greater than the water quality standards established in 10 CSR 7 Table A and Table B and, meets the following definition of significant non-compliance, the department will implement a schedule of compliance for the lining or closure of lagoons commonly referred to as lagoon #1, #2, and #3. This applies only to the parameters of fecal coliform, ammonia as N and nitrate/nitrite as N.

Significant non-compliance shall be defined as two (2) major exceedances of a specific parameter at any one (1) monitoring well within a six (6) month period. A major exceedance is defined as a value that is 140% or more of the parameter of the monthly average limit value. Significant non-compliance will also consist of 4 exceedances of the monthly average limit (does not have to be major) of any kind, at any one (1) monitoring well within a six (6) month period. If the daily maximum limit is exceeded, it is not considered a major exceedance unless the monthly average is also exceeded.

The schedule of compliance will require the lining or closing of the lagoons within 3 years of notification by the department. The lining or closing of the lagoons shall be in accordance with the Missouri Clean Water Law and Regulations.

- b. Simmons shall establish methods and complete hydraulic conductivity testing of shallow, deep and high-conductivity wells to determine interconnection as described at section 7.6.2, page 30 of the GEC Workplan (revision 7). The findings shall be transmitted to the Department within 24 months of the issuance of this permit.
- c. Simmons shall identify and investigate any other groundwater feature or zone encountered during the investigation for or, installation of the monitoring well system. These zones, if encountered, shall be subject to special conditions a and b, as described in Schedule D. of this permit.

Missouri Department of Natural Resources
Statement of Basis
NPDES #: MO-0036773
Simmons Foods, Inc.

This Statement of Basis (Statement) gives pertinent information regarding minor/simple 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.

FACILITY DESCRIPTION

The facility process poultry at the site.

Outfall #004 - Offal screening / dissolved air flotation / aerated lagoon / waste activated sludge holding lagoon / anaerobic lagoon / Schreiber activated sludge system / final clarifier / continuous flow batch reactor / disc filtration system / chemical phosphorus removal / ultraviolet disinfection system/dechlorination system. Design flow is 2.0 MGD / design population equivalent is 189,312 / design sludge production is 1,354 dry tons/year. Sludge is disposed by contract hauler.

Outfall #005 - Stormwater contaminated with process water is captured and pumped to the wastewater treatment facility for treatment. First flush from stormwater from other areas of the property is treated with the balance discharging through Outfall #005.

Outfall #009 – This is not a discharge outfall. Outfall #009 is for all other monitoring wells existing and new as defined by schedule of compliance to locate the zone of interest.

MODIFICATION RATIONALE

This operating permit is hereby modified to reflect the pH change for outfall #009 to monitoring only. All parameters for instream should have been monitoring. Instream data is used to monitor the health of the stream. This data along with the discharge data from Outfall #004 and Outfall #005 will determine if the facility's permit is protective of the stream.