

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-0110825

Owner: Winfield Solutions, LLC  
Address: 4001 Lexington Ave., Arden Hills, MN 55126-2998

Continuing Authority: Same as above  
Address: Same as above

Facility Name: Omnium Ag Chemical Plant  
Facility Address: 1417 Lower Lake Rd., St. Joseph, MO 64504

Legal Description: NW ¼, SE ¼, Sec 25, T57N, R36W, Buchanan County  
UTM Coordinates: X=338419, Y= 4398497  
Receiving Stream: Unnamed Tributary to the Missouri River (P)  
First Classified Stream and ID: Missouri River (P) (00226), 2002 303(d) List  
USGS Basin & Sub-watershed No.: (10240011-050001)

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

### FACILITY DESCRIPTION

Omnium Agriculture Chemical Plant is a formulation facility that combines chemicals to make herbicides and pesticides. It is a branch of WinField Solutions that produces seed and plant protection products as well as plant nutrients and other agricultural proprietary products. Omnium Agriculture Chemical Plant has an onsite manufacturing plant and multiple above ground storage tanks (ASTs) to hold these products. Manufacturing quantities and levels vary throughout the year to reflect seasonal changes in product as well as demand. This change may bring about varying parameters quantities and discharge rates throughout the year.

Facility is a pesticide and agricultural chemical manufacturer with **SIC #2879**. All tanks on the property are equipped with secondary containment. Tank trailers are loaded and unloaded in secondary containment areas. Product movement is minimized during storm events. Finished product shipping and receiving areas are covered. **No certified operator is required.**

See Page 2 for Outfall Location and Description

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

March 30, 2011                      September 9, 2011  
Effective Date                      Revised

Sara Parker Pauley, Director, Department of Natural Resources

March 29, 2016  
Expiration Date

John Madras, Director Water Protection Program

FACILITY DESCRIPTION (continued)

Outfall #001 – Stormwater Runoff - SIC #2879

Stormwater runoff.

Legal Description: NW ¼, SE ¼, Sec 25, T57N, R36W, Buchanan County

UTM Coordinates: X= 338419, Y= 4398497

Receiving Stream: Unnamed Tributary to the Missouri River (U)

First Classified Stream and ID: Missouri River (P) (00226)

Design flow is 265,947 gallons per day.

Actual flow is dependent upon precipitation.

Outfall #002 – Stormwater Runoff - SIC #2879

Stormwater runoff.

Legal Description: SE ¼, SE ¼, Sec 25, T57N, R36W, Buchanan County

UTM Coordinates: X= 338816, Y= 4398322

Receiving Stream: Unnamed Tributary to the Missouri River (U)

First Classified Stream and ID: Missouri River (P) (00226)

Design flow is 20,680 gallons per day.

Actual flow is dependent upon precipitation.

Outfall #003 – Stormwater Runoff - SIC #2879

Stormwater runoff.

Legal Description: SE ¼, SE ¼, Sec 25, T57N, R36W

UTM Coordinates: X= 338785, Y= 4398316

Receiving Stream: Unnamed Tributary to the Missouri River (U)

First Classified Stream and ID: Missouri River (P) (00226)

Design flow is 10,684 gallons per day.

Actual flow is dependent upon precipitation.

| A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS   |       |                              |                |                 | PAGE NUMBER 3 of 8       |             |
|---|-------|------------------------------|----------------|-----------------|--------------------------|-------------|
|   |       |                              |                |                 | PERMIT NUMBER MO-0110825 |             |
| 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 for <b>one year</b> at which time final effluent limitation will become effective. Such discharges shall be controlled, limited and monitored by the permittee as specified below: |       |                              |                |                 |                          |             |
| OUTFALL NUMBER AND EFFLUENT PARAMETER(S)  | UNITS | INTERIM EFFLUENT LIMITATIONS |                |                 | MONITORING REQUIREMENTS  |             |
|   |       | DAILY MAXIMUM                | WEEKLY AVERAGE | MONTHLY AVERAGE | MEASUREMENT FREQUENCY    | SAMPLE TYPE |
| <u>Outfall #001, #002 and #003 – stormwater*****</u>  |       |                              |                |                 |                          |             |
| Chlordane, Total  | µg/L  | *                            |                | *               | once/year****            | grab        |
| Gamma-BHC (Lindane)   | µg/L  | *                            |                | *               | once/year****            | grab        |
| Alpha, Beta, Delta BHC  | µg/L  | *                            |                | *               | once/year****            | grab        |
| 4-4' dichlorodiphenyldichloroethane (DDD)   | µg/L  | *                            |                | *               | once/year****            | grab        |
| Dieldrin  | µg/L  | *                            |                | *               | once/year****            | grab        |
| Endosulfan  | µg/L  | *                            |                | *               | once/year****            | grab        |
| MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>October 28, 2012</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.   |       |                              |                |                 |                          |             |
| 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 <b>one year</b> from 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 &amp; #002 &amp; #003 -- stormwater*****</u>  |       |                              |                |                 |                          |             |
| Chlordane, Total  | µg/L  | 0.00096                      |                | 0.00048         | once/year****            | grab        |
| Gamma-BHC (Lindane)   | µg/L  | 0.125                        |                | 0.062           | once/year****            | grab        |
| Alpha, Beta, Delta BHC  | µg/L  | 0.0149                       |                | 0.0074          | once/year****            | grab        |
| 4-4' dichlorodiphenyldichloroethane (DDD)   | µg/L  | 0.00167                      |                | 0.00083         | once/year****            | grab        |
| Dieldrin  | µg/L  | 0.00015                      |                | 0.000076        | once/year****            | grab        |
| Endosulfan  | µg/L  | 0.092                        |                | 0.0459          | once/year****            | grab        |
| MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>October 28, 2013</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 4 of 8  |  |
|--|--|---|----------------|--|---|--|
| 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, #002 and #003 -- stormwater*****</u><br>Flow<br>Oil and Grease<br>Settleable Solids<br>Nitrate as N<br>pH – Units<br>Chemical Oxygen Demand (COD)<br>Precipitation*****   | MGD<br>mg/L<br>mL/L/hr<br>mg/L<br>SU<br>mg/L<br>inches/day   | *<br>15<br>2.0<br>*<br>***<br>120<br>*  |                | *<br>10<br>1.0<br>*<br>***<br>90<br>*  | once/quarter**<br>once/quarter**<br>once/quarter**<br>once/quarter**<br>once/quarter**<br>once/quarter**<br>once/weekday  | 24 hr. estimate<br>grab<br>grab<br>grab<br>grab<br>grab<br>24 hr. total                              |
| MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>July 28, 2011</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.  |  |   |                |  |   |  |
| Total Toxic Organics (Note 1)  | mg/L   | *   |                | *  | Once/year*****  | grab   |
| MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>October 28, 2012</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.  |  |   |                |  |   |  |
| Ametryn<br>Prometryn<br>Imidacloprid<br>Malathion<br>2, 4, D<br>Atrazine<br>Diuron<br>Dicamba<br>Carbaryl<br>Metolachlor<br>Glyphosate<br>Tebupirimphos<br>Chlorpyrifos<br>Dimethylamine<br>Trichlorfon  | µg/L<br>µg/L<br>µg/L<br>µg/L<br>µg/L<br>µg/L<br>µg/L<br>µg/L<br>µg/L<br>µg/L<br>µg/L<br>µg/L<br>µg/L<br>µg/L<br>µg/L | 60.0<br>No Detect<br>No Detect<br>5.0<br>No Detect<br>15.0<br>10.0<br>200.0<br>No Detect<br>70.0<br>No Detect<br>No Detect<br>5.0<br>No Detect<br>No Detect |                | No Detect<br>No Detect | once/year*****<br>once/year*****<br>once/year*****<br>once/year*****<br>once/year*****<br>once/quarter**<br>once/quarter**<br>once/year*****<br>once/year****<br>once/quarter**<br>once/year*****<br>once/year*****<br>once/year*****<br>once/year*****<br>once/year***** | grab<br>grab<br>grab<br>grab<br>grab<br>grab<br>grab<br>grab<br>grab<br>grab<br>grab<br>grab<br>grab |
| MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>October 28, 2012</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THATN TRACE AMOUNTS.   |  |   |                |  |   |  |

|  |                       |
|--|-----------------------|
| <b>A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)</b> | Page 6 of 8           |
|  | Permit No. MO-0110825 |

- \* Monitoring requirement only.
- \*\* Sample once per quarter in the months of March, June, September, and December.
- \*\*\* 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.
- \*\*\*\* Once per year in the month of April.
- \*\*\*\*\* Storm water samples shall be collected within the first 60 minutes of storm events of 0.1 inches or greater, that result in a discharge. Storm events include rainfall as well as run-off from the melting of frozen precipitation.

Note 1 – See Total Toxic Organics, page 7.

|  |
|--|
| <b>B. STANDARD CONDITIONS</b>  |
| IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>PART I</u> STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN. |

Note 1 – Total Toxic Organics

|  |   |
|--|---|
| Acenaphthene                                   | 4-chlorophenyl phenyl ether                       |
| Acrolein                                       | 4-bromophenyl phenyl ether                        |
| Acrylonitrile                                  | Bis (2-chloroisopropyl) ether                     |
| Benzene  | Bis (2-chloroethoxy) methane                      |
| Benzidine                                      | Methylene Chloride (dichloromethane)              |
| Carbon Tetrachloride (tetrachloromethane)      | Methyl Chloride (chloromethane)                   |
| Chlorobenzene                                  | Methyl bromide (bromomethane)                     |
| 1,2,4-trichlorobenzene                         | Bromoform (tribromomethane)                       |
| Hexachlorobenzene                              | Dichlorobromomethane                              |
| 1,2-dichloroethane                             | Chlorodibromomethane                              |
| 1,1,1-trichloroethane                          | Hexachlorobutadiene                               |
| Hexachloroethane                               | Hexachlorocyclopentadiene                         |
| 1,1-dichloroethane                             | Isophorone  |
| 1,1,2-trichloroethane                          | Naphthalene                                       |
| 1,1,2,2-tetrachloroethane                      | Nitrobenzene                                      |
| Chloroethane                                   | 2-nitrophenol                                     |
| Bis (2-chloroethyl) ether                      | 4-nitrophenol                                     |
| 2-chloroethyl vinyl ether                      | 2,4-dinitrophenol                                 |
| N-nitrosodi-n-propylamine                      | 4,6-dintro-o-cresol                               |
| Pentachlorophenol                              | N-nitrosodimethylamine                            |
| Phenol   | N-nitrosodiphenylamine                            |
| Bis (2-ethylhexyl) phthalate                   | Phenanthrene                                      |
| Butyl benzyl phthalate                         | 1,2,5,6-dibenzanthracene (dibenzo(a,h)anthracene) |
| Di-n-butyl phthalate                           | Indeno (1,2,3-cd) pyrene                          |
|  | (2,3-o-phenylene pyrene)                          |
| Di-n-octyl phthalate                           | Pyrene  |
| Diethyl phthalate                              | Tetrachloroethylene                               |
| Dimethyl phthalate                             | Toluene   |
| 1,2-benzanthracene (benzo(a)anthracene)        | Trichloroethylene                                 |
| Benzo(a)pyrene (3,4-benzopyrene)               | Vinyl Chloride (chloroethylene)                   |
| 3,4-benzofluoranthene (benzo(b)fluoranthene)   | Aldrin  |
| 11,12-benzofluoranthene (benzo(k)fluoranthene) | Diieldrin   |
| Chrysene                                       | Chlordane (technical mixture and metabolites)     |
| Anthracene                                     | 4,4-DDT   |
| 1,12-benzoperylene (benzo(ghi)perylene)        | 4,4-DDE (p,p-DDX)                                 |
| Fluorene                                       | 4,4-DDD (p,p-TDE)                                 |
| 2-chloronaphthalene                            | Alpha-endosulfan                                  |
| 2,4,6-trichlorophenol                          | Beta-endosulfan                                   |
| Parachlorometa cresol                          | Endosulfan sulfate                                |
| Chloroform (trichloromethane)                  | Endrin  |
| 2-chlorophenol                                 | Endrin aldehyde                                   |
| 1,2-dichlorobenzene                            | Heptachlor  |
| 1,3-dichlorobenzene                            | Heptachlor epoxide (BHC hexachlorocyclohexane)    |
| 1,4-dichlorobenzene                            | Alpha-BHC   |
| 3,3-dichlorobenzidine                          | Beta-BHC  |
| 1,1-dichloroethylene                           | Gamma-BHC   |
| 1,2-trans-dichloroethylene                     | Delta-BHC (PCB polychlorinated biphenyls)         |
| 2,4-dichlorophenol                             | PCB-1242 (Arochlor 1242)                          |
| 1,2-dichloropropane (1,3-dichloropropane)      | PCB-1254 (Arochlor 1254)                          |
| 2,4-dimethylphenol                             | PCB-1221 (Arochlor 1221)                          |
| 2,4-dinitrotoluene                             | PCB-1232 (Arochlor 1232)                          |
| 2,6-dinitrotoluene                             | PCB-1248 (Arochlor 1248)                          |
| 1,2-diphenylhydrazine                          | PCB-1260 (Arochlor 1260)                          |
| Ethylbenzene                                   | PCB-1016 (Arochlor 1016)                          |
| Fluoranthene                                   | Toxaphene   |

### 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. 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 ug/L);
    - (2) Two hundred micrograms per liter (200 ug/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/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.
4. Report as no-discharge when a discharge does not occur during the report period.

#### 5. General Criteria

The following 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:

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

C. SPECIAL CONDITIONS (continued)

6. General Criteria (continued)

- (c) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
- (d) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
- (e) There shall be no significant human health hazard from incidental contact with the water;
- (f) There shall be no acute toxicity to livestock or wildlife watering;
- (g) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
- (h) 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 260.200-260.240.

**Missouri Department of Natural Resources**  
**FACT SHEET**  
**FOR THE PURPOSE OF RENEWAL**  
**MO-0110825**  
**OMNIUM AG CHEMICAL PLANT**

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

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

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

This Factsheet is for a Minor , Industrial Facility .

Facility Type: IND  
 Facility SIC Code(s): 2879

Facility Description:

Facility is a pesticide and agricultural chemical manufacturer with **SIC #2879**. Omnum Agriculture Chemical Plant is a formulation facility that combines chemicals to make herbicides and pesticides. It is a branch of WinField Solutions which produces seed and plant protection products and well as plant nutrients and other agricultural proprietary products. Omnum Agriculture Chemical Plant has an onsite manufacturing plant and multiple above ground storage tanks (ASTs) to hold these products. Manufacturing quantities and levels vary throughout the year to reflect seasonal changes in product as well as demand. This change may bring about varying parameters quantities and discharge rates throughout the year.

All tanks on the property are equipped with secondary containment. Tank trailers are loaded and unloaded in secondary containment areas. Product movement is minimized during storm events. Finished product shipping and receiving areas are covered.

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

- Yes; (please provide simple description or reference appropriate location in the Fact Sheet.  
 - No.

Application Date: 05/14/2010  
 Expiration Date: 11/17/2010  
 Last Inspection: 02/08/2010 In Compliance .

**OUTFALL(S) TABLE:**

| OUTFALL | DESIGN FLOW (CFS) | TREATMENT LEVEL | EFFLUENT TYPE   | DISTANCE TO CLASSIFIED SEGMENT (MI) |
|---------|-------------------|-----------------|-----------------|-------------------------------------|
| #001    | 0.41              | None            | Stormwater only | 0.3                                 |
| #002    | 0.03              | None            | Stormwater only | 0.5                                 |
| #003    | 0.02              | None            | Stormwater only | 0.5                                 |

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

Both Outfall's 001 and 002 had exceedences for Total Carbaryl and 2, 4-D on April 2008 and April 2009, Metolachlor and Atrazine on April 2010 and 2009, and Diuron on April 2008. Outfall 003 had the same exceedences during the same sampling events except that Total Carbaryl only exceeded in April 2008. Outfall 001 exceeded oil and grease on March 2006. Facility stormwater is sampled once per year for total toxic organics (TTO). In 2010, facility had detections for 4,4-DDD (p,p-TDE), Dieldrin and Endosulfan II during its TTO testing.

The applicant maintains that these chemicals have not been used or handled at this facility, and that the detections noted above must have been the result of an error in analysis. However, the department must act upon the information available in drafting this permit. The applicant may collect additional data and may apply for modification of this permit if additional monitoring shows these chemicals do not in fact appear in the wastewater (stormwater) from this facility.

Comments:

The applicant requested that the outfall sample location for Outfall 001 be moved to a new location on the Omuium facility. We denied the request for the following reasons: 1) drainage area does not reflect the entire facility, i.e., Omuium does not own and use the entire drainage area that would reflect that sample point; 2) wastes from offsite industry could become part of the sampled storm water; 3) flooding during Missouri River high flow will dilute and prevent sampling at this location. The current sampling location is best because it reflects the storm water from the facility operation. Four pesticides were removed from the effluent limitation table because the facility is no longer using these products and no detections were found in the monitoring data. Three pesticides were added based upon a "list of the five most used products" that were provided by the permittee.

Omnium Agriculture Chemical Plant maintains a separate pretreatment (prior to discharge to a sanitary sewer) wastewater treatment plant for process wastewater. This plant is used for treating water from manufacturing process and released material caught in the containments at loading/runoff drains. Treated effluent is filtered through activated carbon then sent to the City of St Joseph's Publicly Owned Treatment Works. Omuium Agriculture Chemical Plant samples its wastewater before sending it to the sanitary sewer.

**Part II – Operator Certification Requirements**

**No operator is required.**

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

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

**Part III – Receiving Stream Information**

**APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:**

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

- Missouri or Mississippi River [10 CSR 20-7.015(2)]:
- 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)].

**OUTFALL #001, 002, 003**

**RECEIVING STREAM(S) TABLE:**

| WATERBODY NAME                 | CLASS | WBID  | DESIGNATED USES*                       | 8-DIGIT HUC | EDU**                                     |
|--------------------------------|-------|-------|--|-------------|---|
| Unnamed Trib to Missouri River | U     | -     | General Criteria                       | 10240011    | Central Plains/<br>Nishnabotna/<br>Platte |
| Missouri River                 | P     | 00226 | IRR, LWW, AQL, SCR, DWS, IND, WBC-B*** |             |   |

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

\*\* - Ecological Drainage Unit

\*\*\* - UAA has not been conducted.

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

| RECEIVING STREAM (U, C, P)     | LOW-FLOW VALUES (CFS) |          |          |
|--------------------------------|-----------------------|----------|----------|
|                                | 1Q10                  | 7Q10     | 30Q10    |
| Unnamed Trib to Missouri River | -                     | -        | -        |
| Missouri River                 | 9111.9                | 11,231.9 | 15,290.9 |

SEE APPENDIX A FOR DETERMINATION OF LOW FLOW VALUES AT ST. JOSEPH USGS GAGE STATION.

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

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

**RECEIVING STREAM MONITORING REQUIREMENTS:**

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.

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

**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, SLUDGE, & SEWAGE SLUDGE:**

Bio-solids are solid materials resulting from wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). Sludge is any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar characteristics and effect. Sewage sludge is solids, semi-solids, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works. Additional information regarding biosolids and sludge is located at the following web address: <http://dnr.mo.gov/env/wpp/pub/index.html>, items WQ422 through WQ449.

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

**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.

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 ;  
A RPA was conducted on appropriate parameters. This reasonable potential analysis involved the review of the discharge monitoring data and the water quality standards that apply for the pollutant. Too many non-detections and no flow reported during the 5-year permit cycle makes a statistical-based RPA unrealistic. The following pesticides exceeded water quality standards: Atrazine, Diuron, and Metolachlor. For these pollutants, monitoring frequencies must be increased.

The applicant has requested that six pesticides be removed from the effluent limitation table because they are not longer used or present at the facility since 2005. Captan, MCPA, Disulfoton, and Monoethylamine were not detected in the last 5 years. These four pesticides were removed from the effluent limitation table. However, 2, 4 D and Carbaryl were detected above the permit limitations in several recent stormwater monitoring events from all outfalls. For this reason, 2, 4 D and Carbaryl were retained in the permit effluent limitation table.

The applicant also requested that six pesticides be changed from limitations that are no detection to limitations that follow those in the Missouri General Stormwater Discharge Permit MO-R240000. Two of the above pesticides that exceeded water quality standards were part of the requested six pesticides. After review of the discharge monitoring data submitted by the applicant, staff concluded that limitations may be changed if the facility cannot meet the limitation imposed per the Antibalcksliding previsions in Section 402(o) of the Clean Water Act.

**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. Please see the United States Environmental Protection Agency's (EPA) website for interpretation of percent removal requirements for National Pollutant Discharge Elimination System Permit Application Requirements for Publicly Owned Treatment Works and Other Treatment Works Treating Domestic Sewage @ [www.epa.gov/fedrgstr/EPA-WATER/1999/August/Day-04/w18866.htm](http://www.epa.gov/fedrgstr/EPA-WATER/1999/August/Day-04/w18866.htm).

Not Applicable ;  
Influent monitoring is not being required to determine percent removal.

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

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

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:

$$C = \frac{(Cs \times Qs) + (Ce \times Qe)}{(Qe + Qs)} \quad (\text{EPA/505/2-90-001, Section 4.5.5})$$

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.

Not Applicable ;

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

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

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

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

Applicable ;  
 Missouri River is listed on the 2002 Missouri 303(d) List for (pollutant).

**Part V – Effluent Limits Determination**

***Outfall #001, 002, 003– Stormwater Outfall***

Effluent limitations derived and established in the below Effluent Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersedes the terms and conditions, including effluent limitations, of this operating permit.

**EFFLUENT LIMITATIONS TABLE FOR NON-PESTICIDE POLLUTANTS:**

| PARAMETER              | UNIT   | BASIS FOR LIMITS | DAILY MAXIMUM | WEEKLY AVERAGE | MONTHLY AVERAGE | MODIFIED | PREVIOUS PERMIT LIMITATIONS |
|------------------------|--|------------------|---------------|----------------|-----------------|----------|-----------------------------|
| FLOW                   | MGD  | 1                | *             |                | *               | NO       | SAME                        |
| TSS                    | MG/L   | 9                | 50            |                | 50              | NO       | SAME                        |
| pH                     | SU   | 1/2              | 6.5 – 9.0     |                | 6.5 – 9.0       | YES      | 6.0 – 9.0                   |
| SETTLABLE SOLIDS (SS)  | ML/L/HR  | 9                | 2.0           |                | 1.0             | NO       | SAME                        |
| NITRATES AS N          | MG/L   | 9                | *             |                | *               | NO       | SAME                        |
| OIL & GREASE           | MG/L   | 1/2              | 15            |                | 10              | NO       | SAME                        |
| PRECIPITATION****      | INCHES   | 9                | *             |                | *               | YES      | NEW                         |
| CHEMICAL OXYGEN DEMAND | MG/L   | 9                | 120           |                | 90              | NO       | SAME                        |
| MONITORING FREQUENCY   | Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below. |                  |               |                |                 |          |                             |

\* - *Monitoring requirement only.*

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

**Basis for Limitations Codes:**

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

**EFFLUENT LIMITATIONS TABLE FOR PESTICIDES:**

| PARAMETER                                  | UNIT   | BASIS FOR LIMITS | DAILY MAXIMUM | WEEKLY AVERAGE | MONTHLY AVERAGE | MODIFIED | PREVIOUS PERMIT LIMITATIONS |
|--|--|------------------|---------------|----------------|-----------------|----------|-----------------------------|
| CHLORDANE, TOTAL                           | µg/L   | 3                | 0.00096       |                | 0.00048         | -        | NEW                         |
| GAMMA-BHC (LINDANE)                        | µg/L   | 3                | 0.125         |                | 0.062           | -        | NEW                         |
| ALPHA, BETA, DELTA BHC                     | µg/L   | 3                | 0.0149        |                | 0.0074          | -        | NEW                         |
| 4-4' DICHLORODIPHENYLDI-CHLOROETHANE (DDD) | µg/L   | 3                | 0.00167       |                | 0.00083         | -        | NEW                         |
| DIELDRIN                                   | µg/L   | 3                | 0.00015       |                | 0.000076        | -        | NEW                         |
| ENDOSULFAN                                 | µg/L   | 3                | 0.092         |                | 0.0459          | -        | NEW                         |
| MALATHION**                                | µg/L   | 1,9              | 5.0           |                |                 | YES      | ND                          |
| 2, 4 D                                     | µg/L   | 9                | ND***         |                | ND              | NO       | SAME                        |
| AMETRYN                                    | µg/L   | 3                | 60            |                |                 | -        | NEW                         |
| PROMETRYN                                  | µg/L   | 9                | ND            |                | ND              | -        | NEW                         |
| IMIDACLOPRID                               | µg/L   | 9                | ND            |                | ND              | -        | NEW                         |
| ATRAZINE**                                 | µg/L   | 1,9              | 15.0          |                |                 | YES      | ND                          |
| DIURON                                     | µg/L   | 1,9              | 10.0          |                |                 | YES      | ND                          |
| CARBARYL                                   | µg/L   | 9                | ND            |                | ND              | NO       | SAME                        |
| METOLCHLOR                                 | µg/L   | 1,9              | 70.0          |                |                 | YES      | ND                          |
| GLYPHOSATE                                 | µg/L   | 9                | ND            |                | ND              | NO       | SAME                        |
| TEBUPIRIMPHOS                              | µg/L   | 9                | ND            |                | ND              | NO       | SAME                        |
| TEBUPIRIMPHOS                              | µg/L   | 9                | ND            |                | ND              | NO       | SAME                        |
| DIMETHYLAMINE                              | µg/L   | 9                | ND            |                | ND              | NO       | SAME                        |
| TRICHLORFON                                | µg/L   | 9                | ND            |                | ND              | NO       | SAME                        |
| CHLORPYIFOS**                              | µg/L   | 1,9              | 5.0           |                |                 | YES      | ND                          |
| DICAMBA****                                | µg/L   | 1,9              | 200.0         |                |                 | YES      | ND                          |
| MONITORING FREQUENCY                       | Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below. |                  |               |                |                 |          |                             |

\* **Monitoring requirement only.**

\*\* Allowance made for 5:1 dilution ratio as per the General Permit- R29

\*\*\* No detection (ND)

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

**Basis for Limitations Codes:**

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

**OUTFALL #001, 002, 003 – 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.
- **Chemical Oxygen Demand (COD).** Maximum daily limit (MDL) of 120 mg/L and average monthly limit (AML) of 90 mg/L. Using the ratios theoretical oxygen demand (THOD) = COD, BOD5 = 0.7 ultimate BOD (BODu) and BODu = 0.9 THOD\*\*, staff determined that the daily maximum limit is equivalent to a BOD5 of 83 mg/L and the AML, a BOD5 of 62 mg/L. For the Missouri River, staff believes these limitations are protective of dissolved oxygen in the Missouri River. Effluent limitations from the previous state operating permit have been reassessed and verified that they are still protective of the receiving stream's Water Quality. Therefore, effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information**.

\*\* Reference: E. Roberts Alley, 2007. *Water Quality Control Handbook*, The McGraw Hill Companies, Inc.

- **Settleable Solids (SS)**. Maximum daily limit (MDL) of 2.0 mL/L/HR and average monthly limit (AML) of 1.0 mL/L/HR. Effluent limitations from the previous state operating permit have been reassessed and verified that they are still protective of the receiving stream's Water Quality. Therefore, effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information**.
- **Nitrate as N**. Monitoring only requirement. Effluent limitations from the previous state operating permit have been reassessed and verified that they are still protective of the receiving stream's Water Quality. Therefore, effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information**.
- **pH**. Effluent limitations have been modified from previous state operating permit. According to 10 CSR 20-7.031(E), pH must be maintained from 6.5 to 9.0 SU. Please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information**.
- **Oil & Grease**. Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.
- **Nitrate as N**. Monitoring only requirement. Effluent limitations from the previous state operating permit have been reassessed and verified that they are still protective of the receiving stream's Water Quality. Therefore, effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information**.
- **Total Toxic Organics**. Monitoring only requirement. Effluent limitations from the previous state operating permit have been reassessed and verified that they are still protective of the receiving stream's Water Quality. Therefore, effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information**.
- **Pesticides**. Effluent limitations from the previous state operating permit have been reassessed and verified that they are still protective of the receiving stream's Water Quality. Captan, MCPA, Disulfoton, and Monoethylamine were removed from the effluent limitation table above because Omnium Ag Chemicals does not use or have these chemicals at the facility. 2,4 D and Carbaryl were retained because both were detected in several recent monitoring events. Numeric effluent limitations for six pesticides listed in the table above were included because the facility had difficulty meeting the stringent no-detection limitations. Reissuance of this permit conforms to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 CFR Part 122.44, where it states that in circumstances where the permittee has been unable to meet permit limitations after properly operating and maintaining required treatment facilities, less stringent limitations may be imposed. Because of exceedences of water quality standards for Atrazine, Diuron, and Metolachlor, monitoring frequencies for these pollutants were increased (see below). Three new pesticides were added to the effluent limitation table based upon a list of the five most used products provided by the permittee. These new pesticides included Ametryn, Imidacloprid, and Prometryn. We assigned ametryn limitations based on the Missouri drinking water standards. Imidacloprid and Prometryn have no standards so we assigned each of them as "no detect" based on past practices.
- **Chlordane, Total, Gamma-BHC (Lindane), Alpha, Beta, Delta BHC, 4-4' dichlorodiphenyldichloroethane (DDD), Dieldrin, Endosulfan**. These pesticides were added to the effluent limitation table with interim monitoring requirement and final water quality based limitations because of the yearly sampling of the total toxic organics found these pollutants to be exceeding water quality standards. Below are water quality based effluent limitation calculations:

Outfall #001, 002, 003

Unclassified Stream

Facility Name Omnium Ag. Chemical

Permit Number **Mo-00110825**

Stream name **Unclassified to Missouri River**

Qs= **0.00**

Cs= **0.00**

Qe= **0.410 All units are in ug/L**

Allowable discharge is equal to  $Ce = ((Qe + Qs)Cwq - (Qs * Cs)) / Qe$

Cwq= downstream concentration, the Water Quality Standard (WQS)

Qs = Stream 7Q10 flow (ft<sup>3</sup>/s)

Qe = Effluent design flow (ft<sup>3</sup>/s)

Cs = upstream concentration

Ce = effluent concentration

WLAa= Ce using the chronic WQS

WLAc= Ce using the acute WQS

LTAa = WLA acute \* LTAa multiplier

LTAc = WLA chronic \* LTAc multiplier

MDL ug/L = the more protective LTA (LTAa or LTAc) \* AML multiplier

AML ug/L = the more protective LTA (LTAa or LTAc) \* MDL multiplier

|  | Aquatic Life             |               | Human Health Fish | Chronic Drinking Water | Receiving Stream   |      |          |       |        |                |                 |
|--|--------------------------|---------------|-------------------|------------------------|--------------------|------|----------|-------|--------|----------------|-----------------|
|  | Aquatic Life Acute (Cwq) | Chronic (Cwq) | Consumption (Cwq) | Standard (Cwq)         | Concentration (Cs) | WLAa | WLAc     | LTAa  | LTAc   | MDL            | AML             |
| Chlordane, Total                           |                          |               | 0.00048           | 2                      | 0.00               | NA   | 0.0005   | NA    | NA     | <b>0.00096</b> | <b>0.00048</b>  |
| Gamma-BHC (Lindane)                        |                          |               | 0.062             | 0.2                    | 0.00               | NA   | 0.062    | NA    | NA     | <b>0.125</b>   | <b>0.062</b>    |
| Alpha, Beta, Delta BHC                     |                          |               | 0.0074            | 0.0022                 | 0.00               | NA   | 0.0074   | NA    | NA     | <b>0.0149</b>  | <b>0.0074</b>   |
| 4-4' dichlorodiphenyl-dichloroethane (DDD) |                          |               | 0.00084           | 0.00083                | 0.00               | NA   | 0.00083  | NA    | NA     | <b>0.00167</b> | <b>0.00083</b>  |
| Dieldrin                                   |                          |               | 0.000076          | 0.00014                | 0.00               | NA   | 0.000076 | NA    | NA     | <b>0.00015</b> | <b>0.000076</b> |
| Endosulfan                                 | 0.11                     | 0.056         |                   |                        | 0.00               | 0.11 | 0.0560   | 0.035 | 0.0295 | <b>0.0920</b>  | <b>0.0459</b>   |

**Assumptions and Basis:**

Aquatic Life Calculations:

LTAa = 0.321 MDL = 3.11 n=4

LTAc = 0.527 AML = 1.55 cv=0.6

For LTA, MDL the 99th Percentile was used.

For AML, the 95th Percentile was used.

Human Health Calculation:

AML=WLAc

MDL multiplier = 2.01 \* AML

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

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

Because mixing is not allowed stream flow is assumed to be zero.

**WQ Criteria:**

The greater of the Human Health Fish Consumption and Drinking Water Standards was used.

**Explanation of Limits:**

The lesser of the LTAa or LTAc was used to determine MDL and AML (shown in bold letters above on table).

The presence of zeros or NA in the WLA and LTA columns indicates that no water quality criteria available.

Because the calculation discount effluent design flow (Ce), assumed flow for Outfall 001 only.

- Minimum Sampling and Reporting Frequency Requirements.** In most cases, sampling and reporting frequency requirements have been retained from previous state operating permit. However, where the parameter exceeded both the effluent limitations and the water quality standards, monitoring requirements were developed in accordance with 10 CSR 20-7.015(8).

MGD = 266000 gpd ÷ 50,000 gpd/ sample per year = 5.3 samples per year or once per quarter.

**Part VI – Administrative Requirements**

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

**PUBLIC NOTICE:**

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

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

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

FACT SHEET  
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OMNIUM AG CHEMICAL PLANT  
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**DATE OF FACT SHEET:** JANUARY 20, 2011

**COMPLETED BY:**

**TODD BLANC, ENVIRONMENTAL SPECIALIST IV  
WASTEWATER ENGINEERING UNIT  
PERMITTING AND ENGINEERING SECTION  
WATER PROTECTION PROGRAM  
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APPENDIX A: LOW FLOW CALCULATIONS FOR THE MISSOURI RIVER AT ST. JOSEPH USGS GAGE STATION

