

## Chapter 6: Wastewater Treatment Plant Permits

### 6.1 Introduction

This chapter discusses the wastewater effluent discharge and air pollution control operation permits applicable to this *Treatment Report*. As discussed in Chapter 3, *Analytical Methods/Data Sources*, the Wisconsin Department of Natural Resources (WDNR) regulates municipal and industrial wastewater discharges to surface or groundwater through the Wisconsin Pollutant Discharge Elimination System (WPDES) permit program. This program, called the National Pollution Discharge Elimination System (NPDES), is authorized by the federal Clean Water Act. The NPDES Program is overseen by the U.S. Environmental Protection Agency (USEPA), which has authority to delegate program responsibility to the states where state law provides sufficient authority for the state agency to effectively manage the permit program. In 1976, the USEPA delegated the authority for issuing NPDES permits to the WDNR. The WDNR also regulates air quality through air pollution control operation permits. Included in this chapter is an overview of current Milwaukee Metropolitan Sewerage District (MMSD) requirements at Jones Island and South Shore Wastewater Treatment Plants (JIWWTP and SSWWTP, respectively), specifically WPDES requirements such as influent requirements, surface water requirements, whole effluent toxicity (WET) monitoring requirements, land application requirements, and standard requirements, and MMSD's current air emission permits. Also presented is a discussion of the South Milwaukee WPDES permit and its associated influent monitoring requirements, effluent monitoring requirements, WET monitoring requirements, and sludge monitoring requirements.

### 6.2 Current Milwaukee Metropolitan Sewerage District Wisconsin Pollutant Discharge Elimination System Permit Requirements

The current MMSD WPDES permit, issued on April 1, 2003 and due to expire on March 31, 2008, specified the conditions and requirements that MMSD wastewater discharges must meet. A copy of the MMSD WPDES permit is in Appendix 6A, *MMSD WPDES Permit*. MMSD operated under the last permit from 1997 until the current permit was issued.

#### 6.2.1 Influent Requirements

Section 1 of the MMSD WPDES permit sets out influent sampling requirements. The following influent sampling points are identified at JIWWTP and SSWWTP:

- ◆ Sampling Point No. 701 – JIWWTP influent before coarse screening
- ◆ Sampling Point No. 702 – SSWWTP influent after coarse screening

These points, set by the WDNR, reflect the location of the influent samplers. Note that the location listed for Sampling Point No. 702 at SSWWTP is as stated in the MMSD WPDES permit. The actual sampling for all parameters, except flow, is before influent screening. Flow monitoring is after grit removal but before primary clarification.

The MMSD must comply with the influent monitoring requirements listed in Table 6-1, which are the same at both plants. The permit requires only monitoring on the influent; there are no influent limitations.

**TABLE 6-1  
JIWWTP AND SSWWTP INFLUENT MONITORING REQUIREMENTS**

| <b>Parameter</b>                                    | <b>Limit Type</b> | <b>Limit and Units</b> | <b>Sample Frequency</b> | <b>Sample Type</b> |
|---|-------------------|------------------------|-------------------------|--------------------|
| Flow Rate   |                   | MGD                    | Continuous              | Continuous         |
| Biological Oxygen Demand (BOD) <sub>5</sub> , Total |                   | mg/L                   | Daily                   | 24-Hr Comp         |
| Suspended Solids, Total                             |                   | mg/L                   | Daily                   | 24-Hr Comp         |
| Phosphorus, Total                                   |                   | mg/L                   | Daily                   | 24-Hr Comp         |
| Nitrogen, Ammonia (NH <sub>3</sub> -N) Total        |                   | mg/L                   | Daily                   | 24-Hr Comp         |
| Cadmium, Total Recoverable                          |                   | µg/L                   | Monthly                 | 24-Hr Comp         |
| Chromium, Total Recoverable                         |                   | µg/L                   | Monthly                 | 24-Hr Comp         |
| Copper, Total Recoverable                           |                   | µg/L                   | Monthly                 | 24-Hr Comp         |
| Lead, Total Recoverable                             |                   | µg/L                   | Monthly                 | 24-Hr Comp         |
| Nickel, Total Recoverable                           |                   | µg/L                   | Monthly                 | 24-Hr Comp         |
| Zinc, Total Recoverable                             |                   | µg/L                   | Monthly                 | 24-Hr Comp         |
| Mercury, Total Recoverable                          |                   | µg/L                   | Monthly                 | 24-Hr Comp         |

Comp = Composite

Hr = Hour

MGD = Million Gallons per Day

mg/L = Milligrams per Liter

µg/L = Micrograms per Liter

The following information is also included in the MMSD WPDES permit in relation to mercury in the plants' influent:

- ◆ Mercury monitoring includes collecting a mercury field blank sample for each day that mercury samples are collected. Mercury field blanks are taken from sample points expected to have the lowest mercury concentrations (effluent and intake water) and are reported under Sample Points No. 101 for SSWWTP and 102 for JIWWTP in the monthly Discharge Monitoring Report (DMR).

### 6.2.2 Surface Water Requirements

Section 5 of the MMSD WPDES permit sets out monitoring requirements and effluent limitations. The sampling points that relate directly to the treatment plants include:

- ◆ Sampling Point No. 001 – SSWWTP effluent from the effluent channel adjacent to the effluent pump station after chlorination and dechlorination
- ◆ Sampling Point No. 002 – JIWWTP effluent from the effluent channel via the sampler located in the effluent pump station prior to discharge



- ◆ Sampling Point No. 003 – Non-contact cooling water at JIWWTP prior to discharge
- ◆ Sampling Point No. 040 – JIWWTP in-plant diversion

For all pollutant parameters except flow rate, samples are collected at Sampling Points No. 001 at SSWWTP and 002 at JIWWTP, which are located in the effluent channels of each of the plants. As discussed in Section 4.2.1, *Treatment Plants Overview*, in Chapter 4, *Treatment Assessment - Existing Condition*, recent modifications have been done to update effluent flow rate monitoring at both treatment plants under committed projects. Committed projects are defined as those capital projects that were planned but not yet completed by June 30, 2004 (the end date of the treatment system existing condition analysis).

### ***Sampling Point No. 001 – South Shore Wastewater Treatment Plant Effluent***

Specific limits and monitoring requirements are listed below in Table 6-2. Additional requirements are as follows:

- ◆ Applicable mass limits for Total Residual Chlorine are 79 lbs/day (daily maximum), 75 lbs/day (non-wet weather weekly average), and 127 lbs/day (wet weather weekly average). Applicability of alternative wet weather limitations are listed in Section 9.3.8 of the MMSD WPDES permit.
- ◆ Waste load allocation requirements for ammonia are only applicable from June through September of each year. Table 6-3 indicates the total ammonia nitrogen weekly limitations.
- ◆ The mercury field blank discussed in Section 6.1.1, *Influent Requirements*, should be compared to effluent mercury samples as well.
- ◆ WET testing is required in accord with Wis. Admin. Code NR 219. Toxicity tests shall be performed on the effluent in accordance with the procedures specified in the *State of Wisconsin Aquatic Life Toxicity Testing Methods Manual*.(1) Both the acute and chronic WET tests should be done in varying quarters of each year on the following schedule: March - June 2003, July - September 2004, October - December 2005, January - March 2006 and April - June 2007.

| Parameter                                    | Limit Type            | Limit and Units  | Sample Frequency | Sample Type          |
|--|-----------------------|------------------|------------------|----------------------|
| Flow Rate                                    |                       | MGD              | Continuous       | Continuous           |
| BOD <sub>5</sub> , Total                     | Monthly Avg           | 30 mg/L          | Daily            | 24-Hr Flow Prop Comp |
| BOD <sub>5</sub> , Total                     | Weekly Avg            | 45 mg/L          | Daily            | 24-Hr Flow Prop Comp |
| Suspended Solids, Total                      | Monthly Avg           | 30 mg/L          | Daily            | 24-Hr Flow Prop Comp |
| Suspended Solids, Total                      | Weekly Avg            | 45 mg/L          | Daily            | 24-Hr Flow Prop Comp |
| Chlorine, Total Residual                     | Daily Max             | 38 µg/L          | Daily            | Grab                 |
| Chlorine, Total Residual                     | Weekly Avg            | 80 µg/L          | Daily            | Grab                 |
| Fecal coliform                               | Geometric Mean        | 400#/100 mL      | Daily            | Grab                 |
| E. coli                                      |                       | #/100 mL         | Daily            | Grab                 |
| Phosphorus, Total                            | Monthly Avg           | 1.0 mg/L         | Daily            | 24-Hr Flow Prop Comp |
| pH Field                                     | Daily Max             | 9.0 su           | Daily            | Grab                 |
| pH Field                                     | Daily Min             | 6.0 su           | Daily            | Grab                 |
| Nitrogen, Ammonia (NH <sub>3</sub> -N) Total | Weekly Avg — Variable | mg/L             | Daily            | 24-Hr Flow Prop Comp |
| Nitrogen, Ammonia Variable Limit             |                       | mg/L             | Weekly           | See Table 6.3        |
| Cadmium, Total Recoverable                   |                       | µg/L             | Monthly          | 24-Hr Flow Prop Comp |
| Chromium, Total Recoverable                  |                       | µg/L             | Monthly          | 24-Hr Flow Prop Comp |
| Copper, Total Recoverable                    |                       | µg/L             | Monthly          | 24-Hr Flow Prop Comp |
| Lead, Total Recoverable                      |                       | µg/L             | Monthly          | 24-Hr Flow Prop Comp |
| Nickel, Total Recoverable                    |                       | µg/L             | Monthly          | 24-Hr Flow Prop Comp |
| Zinc, Total Recoverable                      |                       | µg/L             | Monthly          | 24-Hr Flow Prop Comp |
| Mercury, Total Recoverable                   |                       | µg/L             | Monthly          | Grab                 |
| Acute WET                                    |                       | TU <sub>a</sub>  | Annual           | 24-Hr Flow Prop Comp |
| Chronic WET                                  |                       | rTU <sub>c</sub> | Annual           | 24-Hr Flow Prop Comp |

Avg = Average  
 BOD = Biochemical Oxygen Demand  
 hr = hour  
 Max = Maximum  
 µg/L = Micrograms Per Liter  
 MGD = Million Gallons per Day  
 mg/l = Milligrams/liter

Min = Minimum  
 mL = Milliliters  
 pH = The measurement of acidity of a solution in terms of activity of Hydrogen (H)  
 Prop Comp = Proportional Composite  
 rTU<sub>c</sub> = Relative Toxic Unit — Chronic  
 su = Standard Units  
 TU<sub>a</sub> = Toxic Unit — Acute



TABLE 6-2  
**SSWWTP SAMPLING POINT NO. 001:  
 EFFLUENT MONITORING REQUIREMENTS  
 AND EFFLUENT LIMITATIONS**  
 2020 TREATMENT REPORT  
 5/20/07

**TABLE 6-3**  
**SSWWTP SAMPLING POINT NO. 001:**  
**TOTAL AMMONIA NITROGEN (NH<sub>3</sub>-N) WEEKLY LIMITATIONS, MG/L**

| Month     | pH 7.0 | pH 7.1 | pH 7.2 | pH 7.3 | pH 7.4 | pH 7.5 |
|-----------|--------|--------|--------|--------|--------|--------|
| June      | 16.7   | 16.7   | 13.1   | 13.1   | 13.1   | 13.1   |
| July      | 11.3   | 8.8    | 8.8    | 8.8    | 6.8    | 6.8    |
| August    | 11.1   | 8.7    | 8.7    | 6.7    | 6.7    | 6.7    |
| September | 12.7   | 12.7   | 10.0   | 10.0   | 10.0   | 10.0   |

mg/L = Milligrams per Liter

pH = The measure of the acidity of a solution in terms of activity of hydrogen (H<sup>+</sup>)

***Sampling Point No. 002 – Jones Island Wastewater Treatment Plant Effluent***

Specific limits and monitoring requirements are listed below in Table 6-4. Additional requirements are as follows:

- ◆ Applicable mass limits for total residual chlorine are 95 lbs/day (daily maximum), 37 lbs/day (non-wet weather weekly average), and 57 lbs/day (wet weather weekly average). Applicability of alternative wet weather limitations are listed in Section 9.3.8, *Applicability of Alternative Wet Weather Mass Limitations*.
- ◆ The mercury field blank discussed in this chapter above in Section 6.2.1, *Influent Requirements*, should be compared to effluent mercury samples as well.
- ◆ WET testing is required in accord with Wis. Admin. Code NR 219. Toxicity tests shall be performed on the effluent in accordance with the procedures specified in the *State of Wisconsin Aquatic Life Toxicity Testing Methods Manual*.(2) Both the acute and chronic WET tests should be done in varying quarters of each year on the following schedule: March - June 2003, July - September 2004, October - December 2005, January - March 2006 and April - June 2007.

| Parameter                                    | Limit Type     | Limit and Units  | Sample Frequency | Sample Type          |
|--|----------------|------------------|------------------|----------------------|
| Flow Rate                                    |                | MGD              | Continuous       | Continuous           |
| BOD <sub>5</sub> , Total                     | Monthly Avg    | 30 mg/L          | Daily            | 24-Hr Flow Prop Comp |
| BOD <sub>5</sub> , Total                     | Weekly Avg     | 45 mg/L          | Daily            | 24-Hr Flow Prop Comp |
| Suspended Solids, Total                      | Monthly Avg    | 30 mg/L          | Daily            | 24-Hr Flow Prop Comp |
| Suspended Solids, Total                      | Weekly Avg     | 45 mg/L          | Daily            | 24-Hr Flow Prop Comp |
| Chlorine, Total Residual                     | Daily Max      | 38 µg/L          | Daily            | Grab                 |
| Chlorine, Total Residual                     | Weekly Avg     | 36 µg/L          | Daily            | Grab                 |
| Fecal coliform                               | Geometric Mean | 400#/100 mL      | Daily            | Grab                 |
| E. coli                                      |                | #/100 mL         | Daily            | Grab                 |
| Nitrogen, Ammonia (NH <sub>3</sub> -N) Total |                | mg/L             | Daily            | 24-Hr Flow Prop Comp |
| pH Field                                     | Daily Max      | 9.0 su           | Daily            | Grab                 |
| pH Field                                     | Daily Min      | 6.0 su           | Daily            | Grab                 |
| Phosphorus, Total                            | Monthly Avg    | 1.0 mg/L         | Daily            | 24-Hr Flow Prop Comp |
| Cadmium, Total Recoverable                   |                | µg/L             | Monthly          | 24-Hr Flow Prop Comp |
| Chromium, Total Recoverable                  |                | µg/L             | Monthly          | 24-Hr Flow Prop Comp |
| Copper, Total Recoverable                    |                | µg/L             | Monthly          | 24-Hr Flow Prop Comp |
| Lead, Total Recoverable                      |                | µg/L             | Monthly          | 24-Hr Flow Prop Comp |
| Nickel, Total Recoverable                    |                | µg/L             | Monthly          | 24-Hr Flow Prop Comp |
| Zinc, Total Recoverable                      |                | µg/L             | Monthly          | 24-Hr Flow Prop Comp |
| Mercury, Total Recoverable                   |                | µg/L             | Monthly          | Grab                 |
| Acute WET                                    |                | TU <sub>a</sub>  | Annual           | 24-Hr Flow Prop Comp |
| Chronic WET                                  |                | rTU <sub>c</sub> | Annual           | 24-Hr Flow Prop Comp |

Avg = Average  
 BOD = Biochemical Oxygen Demand  
 hr = hour  
 Max = Maximum  
 µg/L = Micrograms Per Liter  
 MGD = Million Gallons per Day  
 mg/l = Milligrams/liter

Min = Minimum  
 mL = Milliliters  
 pH = The measurement of acidity of a solution in terms of activity of Hydrogen (H)  
 Prop Comp = Proportional Composite  
 rTU<sub>c</sub> = Relative Toxic Unit — Chronic  
 su = Standard Units  
 TU<sub>a</sub> = Toxic Unit — Acute



TABLE 6-4  
**JIWWTP SAMPLING POINT NO. 002:  
 EFFLUENT MONITORING REQUIREMENTS  
 AND EFFLUENT LIMITATIONS**  
 2020 TREATMENT REPORT  
 5/20/07

***Sampling Point No. 003 Jones Island Wastewater Treatment Plant Non-Contact Cooling Water***

Specific limits and monitoring requirements are listed below in Table 6-5.

**TABLE 6-5  
JIWWTP SAMPLING POINT NO. 003:  
NON-CONTACT COOLING WATER MONITORING REQUIREMENTS AND EFFLUENT LIMITATIONS**

| Parameter                                    | Limit Type | Limit and Units | Sample Frequency | Sample Type        |
|--|------------|-----------------|------------------|--------------------|
| Flow Rate                                    |            | MGD             | Monthly          | Estimated          |
| Temperature                                  |            | Deg F           | Monthly          | Grab               |
| BOD <sub>5</sub> , Total                     |            | mg/L            | Monthly          | Grab               |
| Chlorine, Total Residual                     | Daily Max  | 38 µg/L         | Weekly           | Grab               |
| Nitrogen, Ammonia (NH <sub>3</sub> -N) Total |            | mg/L            | Monthly          | Grab               |
| Oil & Grease (Hexane)                        |            | mg/L            | Monthly          | Grab               |
| Phosphorus, Total                            |            | mg/L            | Monthly          | Grab               |
| Additive Water Treatment - Specify           |            | lbs/day         | Per occurrence   | Record of Addition |

µg/L = Micrograms per Liter  
Deg F = Degrees Fahrenheit  
mg/L = Milligrams per Liter

BOD<sub>5</sub> = Biological Oxygen Demand  
lbs/day = Pounds per Day

Specific notes regarding the requirements are as follows:

- ◆ *Flow Rate* - Estimate of flow means a reasonable approximation of the average daily flow based on a water balance, an uncalibrated weir, calculations from the velocity and cross-section of the discharge, intake water meter readings, or other department-approved methods.
- ◆ *Total Residual Chlorine* - Chlorine residual monitoring only applies when chlorine is added to cooling water, which is typically during the summer months. Chlorine is added for purposes of zebra muscle control.

***Sampling Point No. 040 – Jones Island Wastewater Treatment Plant In-Plant Diversion***

Specific limits and monitoring requirements are listed below in Table 6-6.

**TABLE 6-6**  
**JIIWWTP SAMPLING POINT NO. 040:**  
**IN-PLANT DIVERSION MONITORING REQUIREMENTS**

| <b>Parameter</b> | <b>Limit Type</b> | <b>Limit and Units</b> | <b>Sample Frequency</b> | <b>Sample Type</b> |
|------------------|-------------------|------------------------|-------------------------|--------------------|
| Flow Rate        |                   | MGD                    | Continuous              | Continuous         |

MGD = Million Gallons per Day

Conditions regarding the in-plant diversion are stated in Section 5.2.4 of the MMSD WPDES permit (unless otherwise noted) as follows:

The permittee is authorized to operate an in-plant diversion at Jones Island during wet weather, not to exceed 60 million gallons per day subject to the following conditions and monitoring:

- ◆ All wet weather flow is recombined prior to disinfection and all Jones Island plant effluent limitations are met at Outfall 002.
- ◆ All flow shall receive treatment equivalent to primary treatment and disinfection.
- ◆ The in-plant diversion should be operated during wet weather only when peak flows are in excess of secondary treatment capacity and only after flow is maximized to the South Shore plant to the extent practicable.
- ◆ The permittee shall ensure that the District's collection system is designed, operated, and maintained to maximize system storage and conveyance capacity according to accepted good engineering practices.
- ◆ Permittee shall sample once every 4 hours for Chlorine, E. coli, and pH during each in-plant diversion in 2003 and 2004 and provide an annual report to the WDNR by March 31<sup>st</sup> of the year following the sampling events. (Section 8.9 of MMSD WPDES permit)
- ◆ Permittee shall take one Mercury grab sample per month during an in-plant diversion in 2003 and in 2004. (Section 8.9 of MMSD WPDES permit)



### 6.2.3 Land Application Requirements

Section 7 of the MMSD WPDES permit sets out monitoring and sludge quality limits for biosolids disposal. The MMSD is limited to land application of the waste types designated for the sampling points listed below on WDNR approved sites:

- ◆ Sampling Point No. 004 – Agri-Life®, anaerobically digested liquid sludge, which is land applied onto agricultural sites
- ◆ Sampling Point No. 005 – Anaerobically digested cake sludge
- ◆ Sampling Point No. 006 – Milorganite®, heat dried sludge, packaged for public marketing and distribution or bulk applied to land

#### ***Sampling Point No. 004 – Agri-Life®***

Agri-Life®, which is classified as a Class B sludge under the USEPA Part 503 Biosolids Rule, has the following monitoring requirements and limitations listed below in Table 6-7. The limitations listed only apply during the report periods when land application or public distribution occurs.

Other sludge requirements include pathogen control and vector attraction reduction standards that must be met on a bimonthly basis. See *Parameter Lists* in Section 7.2.1 of the MMSD WPDES permit for more discussion.

#### ***Sampling Point No. 005 – Anaerobically Digested Cake Sludge***

Anaerobically digested cake sludge has to meet Class B standards when it is land applied or publicly distributed. The monitoring requirements and limitations listed below in Table 6-7 also apply to cake sludge, except for the Polychlorinated Biphenyl (PCB) and Municipal Sludge Priority Pollutant Scan requirements. As with Agri-Life®, limitations listed for cake sludge only have to be met during the report periods when land application or public distribution occur.

Other sludge requirements include pathogen control and vector attraction reduction standards that must be met on a bimonthly basis. See *Parameter Lists* in Section 7.2.2 of the MMSD WPDES permit for more discussion.

#### ***Sampling Point No. 006 - Milorganite®***

Milorganite® has to meet Class A standards when it is land applied or publicly distributed. Table 6-8 below shows the monitoring requirements and limitations required when it is land applied or publicly distributed.

#### ***“Ceiling” and “High Quality”***

The terms “Ceiling” and “High Quality,” referred to under Limit Type for Tables 6-7 and 6-8, are defined in the USEPA Part 503 Biosolids Rule(3). The "High Quality" limit is the concentration that any of the same heavy metals must be below to qualify the biosolid for application under the "Exceptional Quality Option" or the "Pollutant Concentration Option." The Exceptional Quality Option is used for Class A biosolids such as Milorganite®. The Pollutant Concentration Option is used for either Class A or Class B biosolids such as Agrilife® or anaerobically digested cake sludge. There are more restrictions and monitoring requirements if the heavy metal concentrations are above the High Quality limit. The “Ceiling” limit is the maximum concentration that can be found for any 10 heavy metals. If the concentration exceeds

the ceiling concentration, the sludge can not be land applied. Other sludge requirements include pathogen control and vector attraction reduction, which must be met prior to land application on a monthly basis. See the following Subsection, *Parameter Lists*, for more discussion.

### ***Parameter Lists***

The parameters listed in Tables 6-7 and 6-8 for the monitoring requirements and limitations at each of the sampling points are broken down into four groups in the MMSD WPDES permit: List 1, 2, 3 and 4. These lists are established in the USEPA Part 503 Biosolids Rule.

- ◆ Lists 1 and 2 establish the parameters to monitor and the unit of measurement for each parameter. The parameters, which are the same for all three sampling points, are listed below in Table 6-7.
- ◆ List 3 establishes the treatment options available to meet the Pathogen Control requirements. The treatment option choices vary for the three sampling points based on whether the sludge being sampled must meet Class A or Class B standards. Sampling Points No. 004 and 005, Agri-Life®, and anaerobically digested cake sludge, respectively, must meet Class B standards; therefore, a Fecal Coliform limit of 2,000,000 Most Probable Number per gram of Total Solids (MPN/gTS) must be met. Seven samples are taken per month over a three-day period. The geometric mean of the seven samples must be less than the limit. Sample Point No. 006, Milorganite®, must meet Class A standards, so a Fecal Coliform limit of 1,000 MPN/gTS must be met. Three samples are taken per month and the geometric mean of the samples must be less than the limit.
- ◆ List 4 establishes the treatment options available to meet vector attraction reduction requirements. For Agri-Life®, injection when applied was chosen. For anaerobically digested cake sludge, incorporation within six hours of application was chosen. For Milorganite®, total solids greater than 90% when drying with primary solids when applied or bagged was chosen because, currently, primary solids are sometimes added directly to the drying process.

| Parameter                                    | Limit Type   | Limit and Units | Sample Frequency | Sample Type |
|--|--------------|-----------------|------------------|-------------|
| Solids, Total                                |              | Percent         | 1/ 2 Months      | Composite   |
| Arsenic Dry Wt                               | High Quality | 41 mg/kg        | 1/ 2 Months      | Composite   |
| Arsenic Dry Wt                               | Ceiling      | 75 mg/kg        | 1/ 2 Months      | Composite   |
| Cadmium Dry Wt                               | High Quality | 39 mg/kg        | 1/ 2 Months      | Composite   |
| Cadmium Dry Wt                               | Ceiling      | 85 mg/kg        | 1/ 2 Months      | Composite   |
| Copper Dry Wt                                | High Quality | 1,500 mg/kg     | 1/ 2 Months      | Composite   |
| Copper Dry Wt                                | Ceiling      | 4,300 mg/kg     | 1/ 2 Months      | Composite   |
| Lead Dry Wt                                  | High Quality | 300 mg/kg       | 1/ 2 Months      | Composite   |
| Lead Dry Wt                                  | Ceiling      | 840 mg/kg       | 1/ 2 Months      | Composite   |
| Mercury Dry Wt                               | High Quality | 17 mg/kg        | 1/ 2 Months      | Composite   |
| Mercury Dry Wt                               | Ceiling      | 57 mg/kg        | 1/ 2 Months      | Composite   |
| Molybdenum Dry Wt                            | Ceiling      | 75 mg/kg        | 1/ 2 Months      | Composite   |
| Nickel Dry Wt                                | High Quality | 420 mg/kg       | 1/ 2 Months      | Composite   |
| Nickel Dry Wt                                | Ceiling      | 420 mg/kg       | 1/ 2 Months      | Composite   |
| Selenium Dry Wt                              | High Quality | 100 mg/kg       | 1/ 2 Months      | Composite   |
| Selenium Dry Wt                              | Ceiling      | 100 mg/kg       | 1/ 2 Months      | Composite   |
| Zinc Dry Wt                                  | High Quality | 2,800 mg/kg     | 1/ 2 Months      | Composite   |
| Zinc Dry Wt                                  | Ceiling      | 7,500 mg/kg     | 1/ 2 Months      | Composite   |
| Nitrogen, Total Kjeldahl                     |              | Percent         | 1/ 2 Months      | Composite   |
| Nitrogen, Ammonia (NH <sub>4</sub> -N) Total |              | Percent         | 1/ 2 Months      | Composite   |
| Phosphorus, Total                            |              | Percent         | 1/ 2 Months      | Composite   |
| Potassium, Total Recoverable                 |              | Percent         | 1/ 2 Months      | Composite   |
| PCB Total Dry Wt *                           |              | mg/kg           | Annual           | Composite   |
| Municipal Sludge Priority Pollutant Scan *   |              |                 | Annual           | Composite   |

\* Only applies to Agri-Life®

| <b>Parameter</b>                         | <b>Limit Type</b> | <b>Limit and Units</b> | <b>Sample Frequency</b> | <b>Sample Type</b> |
|--|-------------------|------------------------|-------------------------|--------------------|
| Solids, Total                            |                   | Percent                | Monthly                 | Composite          |
| Arsenic Dry Wt                           | High Quality      | 41 mg/kg               | Monthly                 | Composite          |
| Cadmium Dry Wt                           | High Quality      | 39 mg/kg               | Monthly                 | Composite          |
| Copper Dry Wt                            | High Quality      | 1,500 mg/kg            | Monthly                 | Composite          |
| Lead Dry Wt                              | High Quality      | 300 mg/kg              | Monthly                 | Composite          |
| Mercury Dry Wt                           | High Quality      | 17 mg/kg               | Monthly                 | Composite          |
| Molybdenum Dry Wt                        | Ceiling           | 75 mg/kg               | Monthly                 | Composite          |
| Nickel Dry Wt                            | High Quality      | 420 mg/kg              | Monthly                 | Composite          |
| Selenium Dry Wt                          | High Quality      | 100 mg/kg              | Monthly                 | Composite          |
| Zinc Dry Wt                              | High Quality      | 2,800 mg/kg            | Monthly                 | Composite          |
| Nitrogen, Total Kjeldahl                 |                   | Percent                | Monthly                 | Composite          |
| Phosphorus, Total                        |                   | Percent                | Monthly                 | Composite          |
| Potassium, Total Recoverable             |                   | Percent                | Monthly                 | Composite          |
| PCB Total Dry Wt                         |                   | mg/kg                  | Annual                  | Composite          |
| Municipal Sludge Priority Pollutant Scan |                   |                        | Annual                  | Composite          |

mg/kg = Milligrams per Kilogram  
Wt = Weight

#### 6.2.4 Standard Requirements

Section 9 of the MMSD WPDES permit summarizes standard requirements applicable to all dischargers, which are also found in Wis. Admin. Code NR 205. Requirements that apply directly to the treatment plants include:

- ◆ Reporting and Monitoring Requirements
- ◆ System Operating Requirements
- ◆ Surface Water Requirements
- ◆ Pretreatment Program Requirements
- ◆ Land Application Requirements

#### 6.3 Current Milwaukee Metropolitan Sewerage District Air Pollution Control Operation Permits

The permits that govern current operations at both treatment plants are the Air Pollution Control Operation Permits issued by the WDNR. These permits are sometimes called the “Title V permits”; this is a reference to Title V of the Clean Air Act, which established the air emissions permit program. These two permits regulate all air emissions sources at each of the treatment plants; they were issued on November 22, 2004 for JIWWTP (Permit No. 241029250-P01; expires November 22, 2009) and on August 31, 2004 for SSWWTP (Permit No. 241228350-P01; expires August 31, 2009). A copy of the JIWWTP air pollution control permit is located in Appendix 6B, *JIWWTP Air Permit*. The SSWWTP air pollution control permit is located in Appendix 6C, *SSWWTP Air Permit*. Before these permits were issued, some of the air emission sources at each of the plants were regulated under individual, source specific construction or operation permits. The permits applicable to the air emission sources at JIWWTP and SSWWTP before the new permits were issued are discussed in Chapter 4, *Treatment Assessment - Existing Condition*. Both treatment plants are classified as Part 70 Sources, which defines them as major sources of air pollution emissions. The operating permits establish requirements and conditions of operation for each source of air emissions at the treatment plant listed in the permit. The MMSD is required to submit an Air Emission Inventory Summary Report for each treatment plant every year to the WDNR.

**References**

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- (1) Wisconsin Department of Natural Resources, Bureau of Watershed Management, *State of Wisconsin Aquatic Life Toxicity Testing Methods Manual*, 2nd ed. (November 2004, PUB-WT-797)
- (2) Ibid.
- (3) U. S. Environmental Protection Agency, *The Standards for the Use or Disposal of Sewage Sludge, Title 40 of the Code of Federal Regulations [CFR], Part 503* (Effective 22 March 1993). Also known as the USEPA Part 503 Biosolids Rule.