

December 20, 2007

Mr. Dale Clark  
Anson-Madison Sanitary District  
73 Main Street  
Madison, Maine 04950

**RE: *Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0101389  
Maine Waste Discharge License (WDL) Application #W002710-5M-I-R  
Final MEPDES Permit/WDL***

Dear Mr. Clark:

Enclosed, please find a copy of your **final** MEPDES permit and Maine WDL, which was approved by the Department of Environmental Protection. Please read the permit/license and its attached conditions carefully. You must follow the conditions in the order to satisfy the requirements of law. Any discharge not receiving adequate treatment is in violation of State law and is subject to enforcement action.

Any interested person aggrieved by a Department determination made pursuant to applicable regulations, may appeal the decision following the procedures described in the attached DEP FACT SHEET entitled "*Appealing a Commissioner's Licensing Decision.*"

If you have any questions regarding the matter, please feel free to call me at 287-7659.

Sincerely,

Bill Hinkel  
Division of Water Quality Management  
Bureau of Land and Water Quality

Enc.

pc: Jim Crowley, DEP  
Lori Mitchell, DEP  
Sandy Lao, USEPA  
File #2710

**IN THE MATTER OF**

|                                 |   |                           |
|---------------------------------|---|---------------------------|
| ANSON-MADISON SANITARY DISTRICT | ) | MAINE POLLUTANT DISCHARGE |
| ANSON, SOMERSET COUNTY          | ) | ELIMINATION SYSTEM PERMIT |
| PUBLICLY OWNED TREATMENT WORKS  | ) | AND                       |
| #ME0101389                      | ) | WASTE DISCHARGE LICENSE   |
| #W002710-5M-I-R                 | ) | <b>RENEWAL</b>            |
| <b>APPROVAL</b>                 | ) |                           |

Pursuant to the provisions of the *Federal Water Pollution Control Act*, Title 33 USC, §1251, *Conditions of licenses*, 38 M.R.S.A. § 414-A, and applicable regulations, the Department of Environmental Protection (Department) has considered the application of ANSON-MADISON SANITARY DISTRICT (AMSD), with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

**APPLICATION SUMMARY**

The AMSD has applied to the Department for a renewal of Waste Discharge License (WDL) #W002710-5M-H-R / Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0101389, which was issued on June 27, 2001, and expired on June 27, 2006. The 6/27/01 MEPDES permit authorized the monthly average discharge of up to 5.0 million gallons per day (MGD) of secondary treated municipal waste waters from a publicly owned treatment works (POTW) to the Kennebec River, Class B, in Anson, Maine.

On April 10, 2006, the Department amended the 6/27/01 permit to incorporate the testing requirements of the *Surface Water Toxics Control Program*, 06-096 CMR 530 (effective October 9, 2005).

## PERMIT SUMMARY

**This permitting action is similar to the 6/27/01 permitting action and 4/10/05 permit amendment in that it is:**

1. Carrying forward the monthly average discharge flow limit of 5.0 MGD and the daily maximum discharge flow reporting requirement;
2. Carrying forward the monthly average and daily maximum concentration and mass limitations for biochemical oxygen demand (BOD<sub>5</sub>) and total suspended solids (TSS) with the exception that seasonally-adjusted limits are being eliminated and the daily maximum BOD<sub>5</sub> concentration limit is being corrected from 112 mg/L to 120 mg/L;
3. Carrying forward the daily maximum, technology-based concentration limitation of 0.3 ml/L for settleable solids;
4. Carrying forward the seasonal monthly average and daily maximum concentration limits for *Escherichia coli* bacteria;
5. Carrying forward the technology-based, daily maximum concentration limit of 1.0 mg/L for total residual chlorine (TRC);
6. Carrying forward the pH range limit of 6.0 to 9.0 standard units (SU); and
7. Carrying forward the minimum monitoring frequency requirements for all monitored parameters, except settleable solids and total phosphorus, which are being revised.

**This permitting action is different from the 6/27/01 permitting action and 4/10/05 permit amendment in that it is:**

1. Revising the seasonal (June 1 through September 30 of each year) weekly average effluent concentration monitoring and reporting requirement for total phosphorus by establishing monthly average and daily maximum concentration and mass reporting requirements and a minimum monitoring frequency requirement of twice per month;
2. Establishing seasonal monthly average and daily maximum effluent concentration and mass monitoring and reporting requirements for orthophosphate during the calendar year 2008 season only;
3. Eliminating the monthly average concentration and mass limits and establishing a daily maximum concentration reporting requirement for total arsenic;
4. Establishing monthly average concentration and mass limits for inorganic arsenic, a toxicity reduction evaluation plan submission requirement for arsenic (Special Condition J), and a schedule of compliance (Special Condition K) for implementation of these limitations;
5. Eliminating the monthly average concentration and mass limitations for dieldrin based on the results of facility testing;

**PERMIT SUMMARY (cont'd)**

6. Establishing a monthly average water quality-based concentration and mass effluent limitations for heptachlor based on the results of facility testing;
7. Eliminating the chronic limit of 0.34% for the water flea based on results of facility testing;
8. Establishing Special Condition I, *Surface Water Toxics Control Program Statement for Reduced/Waived Toxics Testing*, an annual notification requirement for waived surveillance level toxics testing; and
9. Revising the minimum monitoring frequency requirements for settleable solids and total phosphorous.

## CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated December 20, 2007, and subject to the Conditions listed below, the Department makes the following conclusions:

1. The discharge, either by itself or in combination with other discharges, will not lower the quality of any classified body of water below such classification.
2. The discharge, either by itself or in combination with other discharges, will not lower the quality of any unclassified body of water below the classification which the Department expects to adopt in accordance with state law.
3. The provisions of the State's antidegradation policy, *Classification of Maine Waters*, 38 M.R.S.A. § 464(4)(F), will be met, in that:
  - (a) Existing in-stream water uses and the level of water quality necessary to protect and maintain those existing uses will be maintained and protected;
  - (b) Where high quality waters of the State constitute an outstanding national resource, that water quality will be maintained and protected;
  - (c) The standards of classification of the receiving water body are met or, where the standards of classification of the receiving water body are not met, the discharge will not cause or contribute to the failure of the water body to meet the standards of classification;
  - (d) Where the actual quality of any classified receiving water body exceeds the minimum standards of the next highest classification that higher water quality will be maintained and protected; and
  - (e) Where a discharge will result in lowering the existing water quality of any water body, the Department has made the finding, following opportunity for public participation, that this action is necessary to achieve important economic or social benefits to the State.
4. The discharge will be subject to effluent limitations that require application of best practicable treatment as defined in 38 M.R.S.A. § 414-A(1)(D).

**ACTION**

THEREFORE, the Department APPROVES the above noted application of the ANSON-MADISON SANITARY DISTRICT to discharge a monthly average flow of up to 5.0 million gallons per day of secondary treated municipal (sanitary and industrial) waste waters to the Kennebec River, Class B, in Anson, Maine, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations including:

1. *Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable To All Permits*, revised July 1, 2002, copy attached.
2. The attached Special Conditions, including any effluent limitations and monitoring requirements.
3. The expiration date of this permit is five (5) years from the date of signature below.

DONE AND DATED AT AUGUSTA, MAINE, THIS 21<sup>st</sup> DAY OF DECEMBER, 2007.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: \_\_\_\_\_  
DAVID P. LITTELL, Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: April 3, 2006

Date of application acceptance: April 3, 2006

Date filed with Board of Environmental Protection: \_\_\_\_\_.

**SPECIAL CONDITIONS**

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

1. The permittee is authorized to discharge **secondary treated municipal (sanitary, commercial and industrial) waste waters from Outfall #001A** to the Kennebec River at Anson. Such discharges shall be limited and monitored by the permittee as specified below<sup>(1)</sup>:

| Effluent Characteristic   | Discharge Limitations                  |                                      | Monitoring Requirements                |                                      |  |                                    |
|---|--|--------------------------------------|--|--------------------------------------|--|------------------------------------|
|   | <u>Monthly Average</u><br>as specified | <u>Daily Maximum</u><br>as specified | <u>Monthly Average</u><br>as specified | <u>Daily Maximum</u><br>as specified | <u>Measurement Frequency</u><br>as specified | <u>Sample Type</u><br>as specified |
| <b>Flow</b><br>[50050]  | 5.0 MGD<br>[03]                        | Report MGD<br>[03]                   | ---                                    | ---                                  | Continuous<br>[99/99]                        | Recorder<br>[RC]                   |
| <b>BOD<sub>5</sub></b><br>[00310]   | 2,780 lbs./day<br>[26]                 | 5,000 lbs./day<br>[26]               | 67 mg/L<br>[19]                        | 120 mg/L<br>[19]                     | 3/Week<br>[03/07]                            | Composite<br>[24]                  |
| <b>TSS</b><br>[00530]   | 3,580 lbs./day<br>[26]                 | 5,560 lbs./day<br>[26]               | 86 mg/L<br>[19]                        | 133 mg/L<br>[19]                     | 3/Week<br>[03/07]                            | Composite<br>[24]                  |
| <b>Settleable Solids</b><br>[00545]   | ---                                    | ---                                  | ---                                    | 0.3 ml/L<br>[25]                     | 5/Week<br>[05/07]                            | Grab<br>[GR]                       |
| <b><i>E. coli</i> Bacteria<sup>(2)</sup></b><br><b>(May 15 – Sept. 30)</b> [31633]              | ---                                    | ---                                  | 64/100 ml <sup>(3)</sup><br>[13]       | 427/100 ml<br>[13]                   | 3/Week<br>[03/07]                            | Grab<br>[GR]                       |
| <b>Total Residual Chlorine</b> [50060]  | ---                                    | ---                                  | ---                                    | 1.0 mg/L<br>[19]                     | 1/Day<br>[01/01]                             | Grab<br>[GR]                       |
| <b>Total Phosphorus<sup>(4)</sup></b> [00665]<br><b>(June 1 – Sept. 30, each year)</b>          | Report lbs./day<br>[26]                | Report lbs./day<br>[26]              | Report mg/L<br>[19]                    | Report mg/L<br>[19]                  | 2/Month <sup>(6)</sup><br>[02/30]            | 24-Hour<br>Composite [24]          |
| <b>Orthophosphate<sup>(5)</sup></b> [04175]<br><b>(Through Sept. 30, 2007)</b>                  | Report lbs./day<br>[26]                | Report lbs./day<br>[26]              | Report mg/L<br>[19]                    | Report mg/L<br>[19]                  | 2/Month <sup>(6)</sup><br>[02/30]            | 24-Hour<br>Composite [24]          |
| <b><u>Arsenic (Total)</u><sup>(7)</sup></b><br>[01002] ( <i>Upon permit issuance</i> )          | ---                                    | ---                                  | ---                                    | Report µg/L<br>[28]                  | 1/Quarter<br>[01/90]                         | 24-Hour<br>Composite [24]          |
| <b><u>Arsenic (Inorganic)</u><sup>(8)</sup></b> [01252]<br>( <i>Upon test method approval</i> ) | 0.16 lbs./day<br>[26]                  | ---                                  | 3.9 µg/L<br>[28]                       | ---                                  | 1/Quarter<br>[01/90]                         | 24-Hour<br>Composite [24]          |
| <b>Heptachlor</b><br>[39410]  | 0.0006 lbs./day<br>[26]                | ---                                  | ---                                    | 0.021 µg/L <sup>(9)</sup><br>[28]    | 1/Year<br>[01/01]                            | 24-Hour<br>Composite [24]          |
| <b>pH</b><br>[00400]  | ---                                    | ---                                  | ---                                    | 6.0 – 9.0 SU<br>[12]                 | 1/Day<br>[01/01]                             | Grab<br>[GR]                       |

The italicized numeric values bracketed in the table and in subsequent text are code numbers that Department personnel utilize to code the monthly Discharge Monitoring Reports.

**FOOTNOTES:** See Pages 7 through 11 of this permit for applicable footnotes.

**SPECIAL CONDITIONS**

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)**

2. **SCREENING LEVEL TESTING.** During the period **beginning 12 months prior to permit expiration and lasting through permit expiration and every five years thereafter, for Outfall #001A**, the permittee shall perform **WHOLE EFFLUENT TOXICITY (WET), PRIORITY POLLUTANT, AND ANALYTICAL CHEMISTRY TESTING** as follows:

| <b>WHOLE EFFLUENT TOXICITY (WET) <sup>(10)</sup></b>      | <b><u>Daily Maximum</u></b> | <b><u>Minimum Frequency</u></b> | <b><u>Sample Type</u></b>         |
|---|-----------------------------|---------------------------------|-----------------------------------|
| <b><u>Acute No Observed Effect Level (A-NOEL)</u></b>     |                             |                                 |                                   |
| <b>Water Flea (<i>Ceriodaphnia dubia</i>) [TDA3B]</b>     | Report % [23]               | 1/Year [01/YR]                  | 24-Hour Composite [24]            |
| <b>Brook Trout (<i>Salvelinus fontinalis</i>) [TDA6F]</b> | Report % [23]               | 1/Year [01/YR]                  | 24-Hour Composite [24]            |
| <b><u>Chronic No Observed Effect Level (C-NOEL)</u></b>   |                             |                                 |                                   |
| <b>Water Flea (<i>Ceriodaphnia dubia</i>) [TBP3B]</b>     | Report % [23]               | 1/Year [01/YR]                  | 24-Hour Composite [24]            |
| <b>Brook Trout (<i>Salvelinus fontinalis</i>) [TBQ6F]</b> | Report % [23]               | 1/Year [01/YR]                  | 24-Hour Composite [24]            |
| <b>ANALYTICAL CHEMISTRY<sup>(11)</sup></b><br>[51168]     | Report µg/L<br>[28]         | 1/Quarter<br>[01/90]            | 24-Hour Composite/Grab<br>[24/GR] |
| <b>PRIORITY POLLUTANT<sup>(12)</sup></b><br>[50008]       | Report µg/L<br>[28]         | 1/Year [01/YR]                  | 24-Hour Composite/Grab<br>[24/GR] |

The italicized numeric values bracketed in the table and in subsequent text are code numbers that Department personnel utilize to code the monthly Discharge Monitoring Reports.

**FOOTNOTES:** See Pages 7 through 11 of this permit for applicable footnotes.



## SPECIAL CONDITIONS

### A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

#### FOOTNOTES:

1. **Sampling** – Sampling and analysis must be conducted in accordance with; a) methods approved by 40 Code of Federal Regulations (CFR) Part 136, b) alternative methods approved by the Department in accordance with the procedures in 40 CFR Part 136, or c) as otherwise specified by the Department. Samples that are sent out for analysis shall be analyzed by a laboratory certified by the State of Maine's Department of Health and Human Services. Samples that are sent to a POTW licensed pursuant to *Waste discharge licenses*, 38 M.R.S.A. § 413 are subject to the provisions and restrictions of *Maine Comprehensive and Limited Environmental Laboratory Certification Rules*, 10-144 CMR 263 (last amended February 13, 2000).

All detectable analytical test results shall be reported to the Department including results which are detected below the respective reporting limits (RLs) specified by the Department. See Attachment E of this permit for a list of the Department's current RLs. If a non-detect analytical test result is below the respective RL, the concentration result shall be reported as <Y where Y is the actual detection limit achieved by the laboratory for each respective parameter. Reporting a value of <Y that is greater than an established RL is not acceptable and will be rejected by the Department. For mass, if the analytical result is reported as <Y or if a detectable result is less than a RL, report a <X lbs/day, where X is the parameter specific limitation established in the permit. Compliance with this permit will be evaluated based on whether or not a compound is detected at or above the Department's RL.

2. **Bacteria Limits** – *E. coli* bacteria limits and monitoring requirements are seasonal and apply between May 15 and September 30 of each year. The Department reserves the right to require year-round bacteria limits to protect the health, safety and welfare of the public.
3. **Bacteria Reporting** – The monthly average *E. coli* bacteria limitation is a geometric mean limitation and sample results shall be reported as such.
4. **Total Phosphorus** – Total phosphorus (total-P) monitoring shall be performed in accordance with Attachment A of this permit, *Protocol For Total Phosphorous Sample Collection and Analysis for Waste Water and Receiving Water Monitoring Required by Permits, Finalized April, 2008*, unless otherwise specified by the Department.
5. **Orthophosphate** – Orthophosphate (ortho-P) monitoring shall be performed in accordance with Attachment B of this permit, *Protocol For Orthophosphate Sample Collection and Analysis for Waste Water and Receiving Water Monitoring Required by Permits, Finalized April, 2008*, unless otherwise specified by the Department. Orthophosphate monitoring is required through September 30, 2008 only. Upon reviewing the results of this sampling, the Department may require sampling in subsequent years.

## SPECIAL CONDITIONS

### A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

#### FOOTNOTES:

6. **Orthophosphate and Total Phosphorous Monitoring** – Sampling for orthophosphate and total phosphorous shall be conducted with at least 14 days separating sampling events. Upon request by the permittee following completion of at least one full monitoring season, the Department may authorize grab sample collection for total-P or ortho-P in consideration of test results on record.
7. **Arsenic (Total)** – **Beginning upon issuance of this permit modification and lasting through the date that the USEPA approves a test method for inorganic arsenic**, the permittee shall sample and analyze the discharge from the facility for total arsenic. The Department's most current reporting limit (RL) for total arsenic is 5 ug/L but may be subject to revision during the term of this permit. All detectable analytical test results shall be reported to the Department, including results which are detected below the Department's most current RL at the time of sampling and reporting. Only the detectable results greater than the total arsenic threshold of 7.8 ug/L (see page 21 of the Fact Sheet attached to this permit) or the Department's RL at the time (whichever is higher) will be considered as a possible exceedence of the inorganic limit. If a test result is determined to be a possible exceedence, the permittee shall submit a toxicity reduction evaluation (TRE) to the Department for review and approval within 45 days of receiving the test result of concern from the laboratory.
8. **Arsenic (Inorganic)** – The limitations and monitoring requirements for inorganic arsenic are not in effect until the USEPA approves of a test method for inorganic arsenic. See Special Condition K, *Schedule of Compliance – Inorganic Arsenic*, of this permit.
9. **Heptachlor** – Compliance with this limitation will be based on the Department's RL of 0.15 µg/L. The monthly DMR will be coded with the 0.15 µg/L value such that detectable values reported between 0.15 µg/L and 0.021 µg/L will not be recorded as violations of the permit.

## SPECIAL CONDITIONS

### A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

#### **FOOTNOTES:**

10. **Whole effluent toxicity (WET) testing** – Definitive WET testing is a multi-concentration testing event (a minimum of five dilutions bracketing the critical acute and chronic thresholds of 0.41% and 0.34% respectively), which provides a point estimate of toxicity in terms of No Observed Effect Level, commonly referred to as NOEL or NOEC. A-NOEL is defined as the acute no observed effect level with survival as the end point. C-NOEL is defined as the chronic no observed effect level with survival, reproduction and growth as the end points. The critical acute and chronic thresholds were derived as the mathematical inverse of the applicable acute and chronic dilution factors of 241:1 and 296:1, respectively.

Surveillance level WET testing is waived for this facility pursuant to 06-096 CMR 530(2)(D)(3)(b).

**Beginning twelve months prior to the expiration date of the permit and every five years thereafter**, the permittee shall initiate screening level WET testing at a minimum frequency of once per year. Acute and chronic testing shall be conducted on the water flea and the brook trout. Screening level WET testing may be conducted in any calendar quarter provided the sample is representative of the discharge and any seasonal or other variations in effluent quality.

WET test results must be submitted to the Department not later than the next Discharge Monitoring Report (DMR) required by the permit, provided, however, that the permittee may review the toxicity reports for up to 10 business days of their availability before submitting them. The permittee shall evaluate test results being submitted and identify to the Department possible exceedences of the critical acute and chronic water quality thresholds of 0.41% and 0.34%, respectively.

Toxicity tests must be conducted by an experienced laboratory approved by the Department. The laboratory must follow procedures as described in the following USEPA methods manuals.

- a. U.S. Environmental Protection Agency. 2002. *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, 5<sup>th</sup> ed. EPA 821-R-02-012. U.S. Environmental Protection Agency, Office of Water, Washington, D.C., October 2002 (the acute method manual).
- b. U.S. Environmental Protection Agency. 2002. *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, 4th ed. EPA 821-R-02-013. U.S. Environmental Protection Agency, Office of Water, Washington, D.C., October 2002 (the freshwater chronic method manual).

## SPECIAL CONDITIONS

### A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

#### FOOTNOTES:

Results of WET tests shall be reported on the “WET Results Report – Fresh Waters” form included as Attachment C of this permit each time a WET test is performed. The permittee is required to analyze the effluent for the nine (9) parameters specified on the “WET and Analytical Chemistry Results – Fresh Waters” form included as Attachment D of this permit each time a WET test is performed.

11. **Analytical Chemistry** – Pursuant to 06-096 CMR 530(2)(C)(4), analytical chemistry refers to a suite of thirteen (13) chemical tests that consist of: ammonia nitrogen (as N), total aluminum, total arsenic, total cadmium, total chromium, total copper, total cyanide, total hardness, total lead, total nickel, total silver, total zinc and total residual chlorine.

Analytical chemistry and priority pollutant testing shall be conducted using methods that permit detection of a pollutant at existing levels in the effluent or that achieve minimum reporting levels of detection as specified by the Department on the form entitled, “Maine Department of Environmental Protection WET and Chemical-Specific Data Report Form” included as Attachment E of this permit.

Surveillance level analytical chemistry testing is waived for this facility pursuant to 06-096 CMR 530(2)(D)(3)(b).

**Beginning twelve months prior to the expiration date of this permit and every five years thereafter**, the permittee shall conduct screening level analytical chemistry testing at a minimum frequency of four times per year (4/Year) in successive calendar quarters.

Analytical chemistry and priority pollutant test results must be submitted to the Department not later than the next Discharge Monitoring Report (DMR) required by the permit, provided, however, that the permittee may review the toxicity reports for up to 10 business days of their availability before submitting them. The permittee shall evaluate test results being submitted and identify to the Department, possible exceedences of the acute, chronic or human health ambient water quality criteria (AWQC) as established in *Surface Water Quality Criteria for Toxic Pollutants*, 06-096 CMR 584 (effective October 9, 2005).

For the purposes of DMR reporting, enter a “1” for yes, testing done this monitoring period or “NODI-9” monitoring not required this period.

## SPECIAL CONDITIONS

### A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

#### FOOTNOTES:

12. **Priority Pollutant Testing** – Priority pollutants are those parameters specified at *Effluent Guidelines and Standards*, 06-096 CMR 525(4)(IV) (effective January 12, 2001).

Surveillance level analytical chemistry testing is waived for this facility pursuant to 06-096 CMR 530(2)(D)(3)(b).

**Beginning twelve months prior to the expiration date of this permit and every five years thereafter**, the permittee shall conduct screening level priority pollutant testing at a minimum frequency of once per year (1/Year) in any calendar quarter provided the sample is representative of the discharge and any seasonal or other variations in effluent quality.

All mercury sampling required to determine compliance with interim limitations established pursuant to *Interim Effluent Limitations and Controls for the Discharge of Mercury*, 06-096 CMR 519 (last amended October 6, 2001), shall be conducted in accordance with EPA's "clean sampling techniques" found in EPA Method 1669, Sampling Ambient Water For Trace Metals At EPA Water Quality Criteria Levels. All mercury analysis shall be conducted in accordance with EPA Method 1631, Determination of Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Fluorescence Spectrometry.

### B. NARRATIVE EFFLUENT LIMITATIONS

1. The effluent shall not contain a visible oil sheen, foam or floating solids at any time which would impair the usages designated by the classification of the receiving waters.
2. The effluent shall not contain materials in concentrations or combinations which are hazardous or toxic to aquatic life, or which would impair the usages designated by the classification of the receiving waters.
3. The discharge shall not cause visible discoloration or turbidity in the receiving waters, which would impair the usages designated by the classification of the receiving waters.
4. Notwithstanding specific conditions of this permit the effluent must not lower the quality of any classified body of water below such classification, or lower the existing quality of any body of water if the existing quality is higher than the classification.

## **SPECIAL CONDITIONS**

### **C. DISINFECTION**

If chlorination is used as the means of disinfection, an approved chlorine contact tank providing the proper detention time consistent with good engineering practice must be utilized followed by a dechlorination system if the imposed total residual chlorine (TRC) limit cannot be achieved by dissipation in the detention tank. The total residual chlorine in the effluent shall at no time cause any demonstrable harm to aquatic life in the receiving waters. The dose of chlorine applied shall provide a TRC concentration that will effectively reduce *E. coli* bacteria levels to or below those specified in Special Condition A, *Effluent Limitation and Monitoring Requirements*, above.

### **D. TREATMENT PLANT OPERATOR**

The treatment facility must be operated by a person holding a minimum of a **Grade V** certificate (or by a Maine registered professional engineer) pursuant to *Sewerage Treatment Operators*, 32 M.R.S.A. §§ 4171-4182. All proposed contracts for facility operation by any person must be approved by the Department before the permittee may engage the services of the contract operator.

### **E. AUTHORIZED DISCHARGES**

The permittee is authorized to discharge only in accordance with: 1) the permittee's General Application for Waste Discharge Permit, accepted for processing on April 3, 2006; 2) the terms and conditions of this permit; and 3) only from Outfall #001A. Discharges of wastewater from any other point source are not authorized under this permit, and shall be reported in accordance with Standard Condition B(5), *Bypasses*, of this permit.

### **F. LIMITATIONS FOR INDUSTRIAL USERS**

Pollutants introduced into the waste water collection and treatment system by a non-domestic source (user) shall not pass through or interfere with the operation of the treatment system.

## SPECIAL CONDITIONS

### G. MONITORING AND REPORTING

Monitoring results obtained during the previous month shall be summarized for each month and reported on separate Discharge Monitoring Report (DMR) forms provided by the Department and **postmarked on or before the thirteenth (13<sup>th</sup>) day of the month or hand-delivered to the Department's Regional Office such that the DMR's are received by the Department on or before the fifteenth (15<sup>th</sup>) day of the month** following the completed reporting period. A signed copy of the DMR and all other reports required herein shall be submitted to the Department assigned inspector (unless otherwise specified by the Department) at the following address:

Department of Environmental Protection  
Bureau of Land and Water Quality  
Division of Water Quality Management  
17 State House Station  
Augusta, Maine 04333-0017

### H. NOTIFICATION REQUIREMENTS

In accordance with Standard Condition D, the permittee shall notify the Department of the following:

1. Any introduction of pollutants into the waste water collection and treatment system from an indirect discharger in a primary industrial category discharging process waste water; and
2. Any substantial change in the volume or character of pollutants being introduced into the waste water collection and treatment system by a source introducing pollutants to the system at the time of permit issuance.
3. For the purposes of this section, adequate notice shall include information on:
  - a. The quality and quantity of waste water introduced to the waste water collection and treatment system; and
  - b. Any anticipated impact of the change in the quantity or quality of the waste water to be discharged from the treatment system.

## **SPECIAL CONDITIONS**

### **I. SURFACE WATER TOXICS CONTROL PROGRAM STATEMENT FOR REDUCED/WAIVED TOXICS TESTING**

On or before December 31<sup>st</sup> of each year of the effective term of this permit [*PCS Code 95799*], the permittee shall provide the Department with statements describing the following:

- (a) Changes in the number or types of non-domestic wastes contributed directly or indirectly to the wastewater treatment works that may increase the toxicity of the discharge;
- (b) Changes in the operation of the treatment works that may increase the toxicity of the discharge; and
- (c) Changes in industrial manufacturing processes contributing wastewater to the treatment works that may increase the toxicity of the discharge.

Further, the Department may require that annual testing be re-instituted if it determines that there have been changes in the character of the discharge or if annual certifications described above are not submitted.

### **J. TOXICITY REDUCTION EVALUATION (TRE)**

**Within forty-five (45) days of the effective date of this permit, [*PCS code 02199*]** the permittee shall submit to the Department for review and approval, a TRE plan which outlines a strategy to identify the source(s) and action items to be implemented to mitigate or eliminate exceedences of ambient water quality criteria associated with arsenic. Upon approving the permittee's TRE for arsenic, the Department reserves the right to reopen this permit in accordance with Special Condition L and *Waste Discharge License Conditions*, 06-096 CMR 523(7)(3) (effective January 12, 2001), to establish interim compliance dates for arsenic.

### **K. SCHEDULE OF COMPLIANCE – INORGANIC ARSENIC**

**Beginning upon issuance of this permit modification** and lasting through a date on which the USEPA approves a test method for inorganic arsenic, the limitations and monitoring requirements for inorganic are not in effect. During this time frame, the permittee is required by Special Condition A, *Effluent Limitations and Monitoring Requirements*, of this permit to conduct 1/Quarter sampling and analysis for total arsenic.

Upon receiving written notification by the Department that a test method for inorganic arsenic has been approved by the USEPA, the limitations and monitoring requirements for inorganic arsenic become effective and enforceable and the permittee is relieved of their obligation to sample and analyze for total arsenic.



## SPECIAL CONDITIONS

### L. OPERATIONS AND MAINTENANCE (O&M) PLAN

This facility shall have a current written comprehensive Operation & Maintenance (O&M) Plan. The plan shall provide a systematic approach by which the permittee shall at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit.

**By December 31 of each year, or within 90 days of any process changes or minor equipment upgrades,** the permittee shall evaluate and modify the O&M Plan including site plan(s) and schematic(s) for the waste water treatment facility to ensure that it is up-to-date. The O&M Plan shall be kept on-site at all times and made available to Department and EPA personnel upon request.

**Within 90 days of completion of new and or substantial upgrades of the waste water treatment facility,** the permittee shall submit the updated O&M Plan to their Department inspector for review and comment.

### M. WET WEATHER MANAGEMENT PLAN

The treatment facility staff shall maintain a Wet Weather Management Plan to direct the staff on how to operate the facility effectively during periods of high flow. The Department acknowledges that the existing collection system may deliver flows in excess of the monthly average design capacity of the treatment plant during periods of high infiltration and rainfall. A specific objective of the plan shall be to maximize the volume of wastewater receiving secondary treatment under all operating conditions. The revised plan shall include operating procedures for a range of intensities, address solids handling procedures (including septic waste and other high strength wastes if applicable) and provide written operating and maintenance procedures during the events.

**Once the Wet Weather Management Plan has been approved, the permittee shall review their plan at least annually and record any necessary changes to keep the plan up to date.** The Department may require review and update of the plan as it is determined to be necessary.

### N. REOPENING OF PERMIT FOR MODIFICATION

Upon evaluation of the tests results in the Special Conditions of this permitting action, new site specific information, or any other pertinent test results or information obtained during the term of this permit, the Department may, at anytime and with notice to the permittee, modify this permit to: (1) include effluent limits necessary to control specific pollutants or whole effluent toxicity where there is a reasonable potential that the effluent may cause water quality criteria to be exceeded; (2) require additional monitoring if results on file are inconclusive; or (3) change monitoring requirements or limitations based on new information.

## **SPECIAL CONDITIONS**

### **O. SEVERABILITY**

In the event that any provision, or part thereof, of this permit is declared to be unlawful by a reviewing court, the remainder of the permit shall remain in full force and effect, and shall be construed and enforced in all aspects as if such unlawful provision, or part thereof, had been omitted, unless otherwise ordered by the court.

**MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT  
MAINE WASTE DISCHARGE LICENSE**

**FACT SHEET**

DATE: **DECEMBER 20, 2007**

PERMIT NUMBER: **#ME0101389**  
WASTE DISCHARGE LICENSE: **#W002710-5M-I-R**

NAME AND ADDRESS OF APPLICANT:

**ANSON-MADISON SANITARY DISTRICT  
73 MAIN STREET  
MADISON, MAINE 04950**

COUNTY: **SOMERSET**

NAME AND ADDRESS WHERE DISCHARGE(S) OCCUR(S):

**ANSON-MADISON SANITARY DISTRICT  
49 PINE STREET  
MADISON, MAINE 04950**

RECEIVING WATER/CLASSIFICATION: **KENNEBEC RIVER/CLASS B**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **MR. DALE CLARK  
(207) 696-3246**

**1. APPLICATION SUMMARY**

Application: The Anson-Madison Sanitary District (AMSD) has applied to the Department of Environmental Protection (Department) for a renewal of Waste Discharge License (WDL) #W002710-5M-H-R / Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0101389, which was issued on June 27, 2001, and expired on June 27, 2006. The 6/27/01 MEPDES permit authorized the monthly average discharge of up to 5.0 million gallons per day (MGD) of secondary treated municipal waste waters from a publicly owned treatment works (POTW) to the Kennebec River, Class B, in Anson, Maine.

On April 10, 2006, the Department amended the 6/27/01 permit to incorporate the testing requirements of the *Surface Water Toxics Control Program*, 06-096 CMR 530 (effective October 9, 2005).

## 2. PERMIT SUMMARY

a. Terms and Conditions: **This permitting action is similar to the 6/27/01 permitting action and 4/10/05 permit amendment in that it is:**

1. Carrying forward the monthly average discharge flow limit of 5.0 MGD and the daily maximum discharge flow reporting requirement;
2. Carrying forward the monthly average and daily maximum concentration and mass limitations for biochemical oxygen demand (BOD<sub>5</sub>) and total suspended solids (TSS) with the exception that seasonally-adjusted limits are being eliminated and the daily maximum BOD<sub>5</sub> concentration limit is being corrected from 112 mg/L to 120 mg/L;
3. Carrying forward the daily maximum, technology-based concentration limitation of 0.3 ml/L for settleable solids;
4. Carrying forward the seasonal monthly average and daily maximum concentration limits for *Escherichia coli* bacteria;
5. Carrying forward the technology-based, daily maximum concentration limit of 1.0 mg/L for total residual chlorine (TRC);
6. Carrying forward the pH range limit of 6.0 to 9.0 standard units (SU); and
7. Carrying forward the minimum monitoring frequency requirements for all monitored parameters, except settleable solids and total phosphorus, which are being revised.

**This permitting action is different from the 6/27/01 permitting action and 4/10/05 permit amendment in that it is:**

1. Revising the seasonal (June 1 through September 30 of each year) weekly average effluent concentration monitoring and reporting requirement for total phosphorus by establishing monthly average and daily maximum concentration and mass reporting requirements and a minimum monitoring frequency requirement of twice per month;
2. Establishing seasonal monthly average and daily maximum effluent concentration and mass monitoring and reporting requirements for orthophosphate during the calendar year 2007 season only;
3. Eliminating the monthly average concentration and mass limits and establishing a daily maximum concentration reporting requirement for total arsenic;
4. Establishing monthly average concentration and mass limits for inorganic arsenic, a toxicity reduction evaluation plan submission requirement for arsenic (Special Condition J), and a schedule of compliance (Special Condition K) for implementation of these limitations;

## 2. PERMIT SUMMARY (cont'd)

5. Eliminating the monthly average concentration and mass limitations for dieldrin based on the results of facility testing;
  6. Establishing a monthly average water quality-based concentration and mass effluent limitations for heptachlor based on the results of facility testing;
  7. Eliminating the chronic limit of 0.34% for the water flea based on results of facility testing;
  8. Establishing Special Condition I, *Surface Water Toxics Control Program Statement for Reduced/Waived Toxics Testing*, an annual notification requirement for waived surveillance level toxics testing; and
  9. Revising the minimum monitoring frequency requirements for settleable solids and total phosphorous.
- b. History: This section provides a summary of significant licensing/permitting actions and milestones that have been completed for the Anson-Madison Wastewater Treatment Facility.

October 1, 1998 – The USEPA issued National Pollutant Discharge Elimination System (NPDES) permit #ME0101389 to the AMSD for a five-year term, which superseded the previous NPDES permit issued to the AMSD for this facility by the USEPA on August 26, 1991.

May 23, 2000 – Pursuant to *Certain deposits and discharges prohibited*, 38 M.R.S.A. § 420 and *Waste discharge licenses*, 38 M.R.S.A. § 413 and *Interim Effluent Limitations and Controls for the Discharge of Mercury*, 06-096 CMR 519 (last amended October 6, 2001), the Department issued a *Notice of Interim Limits for the Discharge of Mercury* to the permittee thereby administratively modifying WDL #W002710-47-E-R by establishing interim monthly average and daily maximum effluent concentration limits of 7.1 parts per trillion (ppt) and 10.6 ppt, respectively, and a minimum monitoring frequency requirement of four (4) tests per year for mercury. It is noted the limitations have not been incorporated into Special Condition A, *Effluent Limitations And Monitoring Requirements*, of this permit as limitations and monitoring frequencies are regulated separately through 38 M.R.S.A. § 413 and 06-096 CMR 519. However, the interim limitations remain in effect and enforceable and any modifications to the limits and or monitoring requirements will be formalized outside of this permitting document.

January 12, 2001 – The Department received authorization from the U.S. Environmental Protection Agency (USEPA) to administer the National Pollutant Discharge Elimination System (NPDES) permit program in Maine, excluding areas of special interest to Maine Indian Tribes. From this point forward, the program has been referred to as the Maine Pollutant Discharge Elimination System (MEPDES) program, and MEPDES permit #ME0101389 has been utilized for this facility.

## 2. PERMIT SUMMARY (cont'd)

June 27, 2001 – The Department issued WDL #W002710-5M-H-R / MEPDES permit #ME0101389 to the AMSD for a five-year term. The 6/27/01 permit superseded WDL Modification #W002710-5M-G-M issued on July 22, 1999, WDL Modification #W002710-47-F-M issued on January 14, 1997, WDL #W002710-47-E-R issued on January 10, 1996, WDL #W002710-47-D-R issued on September 24, 1990, WDL Amendment #W002710-47-B-A issued on June 22, 1987, and WDL #W002710-47-A-R issued on October 24, 1984 (earliest Order on file with the Department), as well as the 10/1/98 NPDES permit issued by the USEPA.

April 3, 2006 – The AMSD submitted a timely and complete General Application to the Department for renewal of the 6/27/01 MEPDES permit. The application was accepted for processing on April 3, 2006 and was assigned WDL #W002710-5M-I-R / MEPDES #ME0101389.

April 10, 2006 – The Department amended the 6/27/01 permit to incorporate testing requirements of 06-096 CMR 530.

- c. Source Description: Source information is based on information provided in the previous MEPDES permit and AMSD's 4/3/06 application for renewal. The AMSD wastewater treatment facility provides treatment of sanitary sewage generated by entities in the Towns of Anson and Madison, and an average of 3.0 million gallons per day of process waste waters from Madison Paper Industries (MPI). MPI, which is an integrated ground wood coarse molded newsprint pulp and paper mill, generates approximately 80% of the flow that is treated by AMSD. MPI also contributes 2,000 gallons per day of domestic holding tank waste waters from their Ground Wood Mill location at a frequency of approximately 3 times per week. The facility receives approximately 2,900 gallons per day of leachate from an adjacent landfill. A map created by the Department showing the location of the treatment facility, paper mill and receiving water is included as Fact Sheet Attachment A.

The facility has not requested authorization to receive or introduce into the treatment process septage wastes. There are no combined sewer overflow points associated with the collection system.

*Pretreatment Program*, 06-096 CMR 528 (effective January 12, 2001) describes the conditions under which a formal pretreatment program must be implemented for industrial sources which discharge pollutants into sewers systems which are served by publicly owned treatment works. Department rule Chapter 528 Section 9.(a) states, in part, "Any POTW (or combination of POTWs operated by the same authority) with a total design flow greater than 5 million gallons per day (mgd) and receiving from Industrial Users pollutants which Pass Through or Interfere with the operation of the POTW or are otherwise subject to Pretreatment Standards will be required to establish a POTW Pretreatment Program *unless the NPDES State exercises its option to assume local responsibilities as provided for in 40 CFR 403.10(e)*" (emphasis added). Based on best professional judgment and provision of 06-096 CMR 528, the Department has chosen to exercise its option to assume local responsibilities as provided for in 40 CFR 403.10(e). At this time, the Department is not

## 2. PERMIT SUMMARY (cont'd)

requiring formal pretreatment program development and therefore AMSD is not required to apply for or develop an

Approved Pretreatment Program in accordance with applicable provisions of 40 CFR. However, the Department reserves the right to reopen this permit, with notice to the permittee, to establish formal pretreatment program requirements as necessary to control the discharge. The BOD<sub>5</sub> and TSS effluent limitations established in this permitting action were derived based on calculations using loading limits established and agreed to between the AMSD and MPI in a written pretreatment agreement dated calendar year 2002. Any significant changes in the numeric limits established by this agreement that would result in the calculation of more stringent (lower) BOD<sub>5</sub> or TSS effluent limitations must be reported to the Department in accordance with Special Condition H of this permit.

- d. Wastewater Treatment: The AMSD facility provides a secondary level of treatment via a 25-million gallon aerated lagoon and 3.7-million gallon polishing pond. The industrial and sanitary waste streams have separate primary treatment processes and primary treated flows are combined for secondary treatment.

Primary treatment for MPIs industrial "whitewater" flow includes a bar rack and 90-foot diameter primary clarifier. The influent is monitored for flow, pH, BOD, and TSS, for which target levels for these parameters have been established by formal agreement between AMSD and MPI. Primary clarifier supernatant is conveyed to a mixing chamber where urea (nutrient source) is added.

Primary treatment for the municipal sanitary waste waters include a channel grinder or bar rack, a vortex grit removal system, and primary clarification. The primary sanitary clarifier is located directly beneath the industrial clarifier. When sanitary flows exceed 2.0 MGD, all flows above 2.0 MGD bypass the clarifier and are pumped directly to the primary mixing chamber where primary treated sanitary and industrial waste waters are combined.

Final effluent is conveyed for discharge to the Kennebec River at Madison via a 24-inch diameter outfall pipe that is submerged to a depth of approximately 30 feet at mean low water. The outfall pipe is fitted with a diffuser to enhance mixing of the effluent with the receiving waters. The Department's Division of Environmental Assessment has determined that the effluent does achieve complete and rapid mixing with the receiving waters.

A process flow diagram submitted by the permittee is included as Fact Sheet Attachment B.

### 3. CONDITIONS OF PERMIT

*Conditions of licenses*, 38 M.R.S.A. § 414-A, requires that the effluent limitations prescribed for discharges, including, but not limited to, effluent toxicity, require application of best practicable treatment (BPT), be consistent with the U.S. Clean Water Act, and ensure that the receiving waters attain the State water quality standards as described in Maine's Surface Water Classification System. In addition, 38 M.R.S.A., § 420 and 06-096 CMR 530 require the regulation of toxic substances not to exceed levels set forth in *Surface Water Quality Criteria for Toxic Pollutants*, 06-096 CMR 584 (effective October 9, 2005), and that ensure safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected.

### 4. RECEIVING WATER QUALITY STANDARDS

*Classification of major river basins*, 38 M.R.S.A. § 467(4)(A)(9) classifies the Kennebec River “From the Route 201A bridge in Anson-Madison to the Fairfield-Skowhegan boundary, including all impoundments” which includes the river at the point of discharge, as Class B waters. *Standards for classification of fresh surface waters*, 38 M.R.S.A. § 465(3) describes the standards for Class B waters.

### 5. RECEIVING WATER QUALITY CONDITIONS

*The State of Maine 2004 Integrated Water Quality Monitoring and Assessment Report*, prepared by the Department pursuant to Sections 303(d) and 305(b) of the Federal Water Pollution Control Act, lists a 22.8-mile reach of the Kennebec River from Carrabassett River to the Fairfield-Skowhegan boundary (Hydrologic Unit Code #ME0103000306 / Waterbody ID #339R) as, “Category 4-B-1: Rivers and Streams Impaired by Pollutants – Pollution Control Requirements Reasonably Expected to Result in Attainment.” Impairment in this context refers to a statewide fish consumption advisory due to the presence of dioxin.

The Report lists all of Maine’s fresh waters as, “Category 4-B-3: Waters Impaired by Atmospheric Deposition of Mercury. Regional or National TMDL may be Required.” Impairment in this context refers to a statewide fish consumption advisory due to elevated levels of mercury in some fish tissues. The Report states, “the impairment is presumed to be from atmospheric contamination and deposition. The advisory is based on probability data that a stream, river, or lake may contain some fish that exceed the advisory action level. Any freshwater may contain both contaminated and uncontaminated fish depending on size, age and species occurrence in that water.” Pursuant to 38 M.R.S.A. § 420(1-B)(B), “a facility is not in violation of the ambient criteria for mercury if the facility is in compliance with an interim discharge limit established by the Department pursuant to section 413 subsection 11.” The Department has established interim monthly average and daily maximum mercury concentration limits for this facility.



## 5. RECEIVING WATER QUALITY CONDITIONS (cont'd)

Additional discussion of water quality as it pertains to nutrients is included in Section 6.j. of this fact sheet below.

The Department has no information at this time that the discharge from the Anson-Madison Sanitary District will cause or contribute to the failure of the receiving water to meet the designated uses of its ascribed classification.

## 6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS

- a. Applicability of National Effluent Guidelines: The USEPA has promulgated effluent guidelines for the Pulp, Paper, and Paperboard Point Source Category at 40 CFR Part 430. Subpart G, Mechanical Pulp Subcategory, of this Part specifies the applicability and a description as follows: “The provisions of this subpart are applicable to discharges resulting from: the production of pulp and paper at groundwood chemi-mechanical mills; the production of pulp and paper at groundwood mills through the application of the thermo-mechanical process; the integrated production of pulp and coarse paper, molded pulp products, and newsprint at groundwood mills; and the integrated production of pulp and fine paper at groundwood mills.”

40 CFR Part 430.76 specifies the pretreatment standards for existing sources as follows: “The following applies to mechanical pulp facilities where pulp and paper at groundwood mills are produced through the application of the thermo-mechanical process; mechanical pulp facilities where the integrated production of pulp and coarse paper, molded pulp products, and newsprint at groundwood mills occurs; and mechanical pulp facilities where the integrated production of pulp and fine paper at groundwood mills occurs: except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart that introduces pollutants into a publicly owned treatment works must comply with 40 CFR part 403 and achieve the following pretreatment standards for existing sources (PSES). Pentachlorophenol and trichlorophenol limitations are only applicable at facilities where chlorophenolic-containing biocides are used. Permittees not using chlorophenolic-containing biocides must certify to the permit-issuing authority that they are not using these biocides. Zinc limitations are only applicable at facilities where zinc hydrosulfite is used as a bleaching agent. Permittees not using zinc hydrosulfite as a bleaching agent must certify to the permit-issuing authority that they are not using this bleaching compound.” This subpart continues with limitations for pentachlorophenol, trichlorophenol, and zinc with a footnote stating, “The following equivalent mass limitations are provided as guidance in cases when POTWs find it necessary to impose mass effluent limitations.” MPI does not utilize chlorophenolic-containing biocides or zinc hydrosulfite in its production processes. Therefore, the pretreatment standards promulgated in federal regulation are not applicable to the discharge from MPI or AMSD.

## 6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

- b. Flow: The previous permitting action established, and this permitting action is carrying forward, a monthly average discharge flow limitation of 5.0 MGD based on the monthly average dry weather design capacity of the facility, and a daily maximum discharge flow reporting requirement to assist in compliance evaluations.

A review of the monthly average flow data as reported on the Discharge Monitoring Reports submitted to the Department for the period October 2003 – October 2006 indicates the monthly average flow has ranged from 2.9 MGD to 4.7 MGD with an arithmetic mean of 3.9 MGD (n=27). It is noted that effluent data for this facility reported after December 2005 has not been entered into the Permit Compliance System (PCS) database at this time.

- c. Dilution Factors: Dilution factors associated with the permitted discharge flow of 5.0 MGD from the facility were derived in accordance with 06-096 CMR 530(4)(A) and were calculated as follows:

$$\text{Acute: } 1\text{Q}10^1 = 1,860 \text{ cfs} \quad \Rightarrow \frac{(1,860 \text{ cfs})(0.6464) + 5.0 \text{ MGD}}{5.0 \text{ MGD}} = 241:1$$

$$\text{Chronic: } 7\text{Q}10^1 = 2,287 \text{ cfs} \quad \Rightarrow \frac{(2,287 \text{ cfs})(0.6464) + 5.0 \text{ MGD}}{5.0 \text{ MGD}} = 297:1$$

$$\text{Harmonic Mean}^2 = 3,322 \text{ cfs} \quad \Rightarrow \frac{(3,322 \text{ cfs})(0.6464) + 5.0 \text{ MGD}}{5.0 \text{ MGD}} = 430:1$$

The Department's Division of Environmental Assessment (DEA) has determined that mixing of the effluent with the receiving water is complete and rapid and recommends that acute evaluations be based on the full 1Q10 value rather than the default stream design flow of ¼ of the 1Q10 in accordance with 06-096 CMR 530(4)(B)(1).

- d. Biochemical Oxygen Demand (BOD<sub>5</sub>) and Total Suspended Solids (TSS): This permitting action is carrying forward the monthly average and daily maximum effluent mass limitations of 2,780 lbs./day and 5,000 lbs./day, respectively, for BOD<sub>5</sub> and the monthly average and daily maximum effluent mass limitations of 3,580 lbs./day and 5,560 lbs./day, respectively, for TSS. With regard to the derivation of BOD<sub>5</sub> and TSS effluent limitations, the previous permitting action stated,

*“The previous licensing action established seasonal BOD<sub>5</sub> and TSS limitations based on water quality considerations (D.O., dissolved oxygen) in the Kennebec River. During the summer months (June 1<sup>st</sup> through October 31<sup>st</sup>), the receiving waters are more susceptible to a lowering of water quality than during other times of the year. Between June 1 and October 31, inclusive, of each year the monthly average limits*

<sup>1</sup> The 1Q10 and 7Q10 low flow values used in this permitting action were derived based on the *Kennebec River Modeling Report Final April 2000*, prepared by the Department.

<sup>2</sup> The DEA has determined the harmonic mean river flow value based on a calendar year 1991 study and drainage area calculations.

## 6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

*previously established for BOD<sub>5</sub> were 2,780 pounds per day and 5,000 pounds per day as a daily maximum limit. For TSS, between June 1<sup>st</sup> and October 31<sup>st</sup> the monthly average limits previously established was 3,580 pounds per day and 5,560 pounds per day as a daily maximum limit.*

*Between November 1<sup>st</sup> and May 31<sup>st</sup> the monthly average limits previously established for BOD<sub>5</sub> were 2,780 pounds per day and 5,275 pounds per day as a daily maximum. For TSS, between November 1<sup>st</sup> and May 31<sup>st</sup> the monthly average limits previously established was 3,580 pounds and 6,635 pounds per day as a daily maximum limit.*

*The secondary treatment requirements found in Department Rule Chapter 525, §3(sub-§VI) [40 CFR [133.103(b)(2)] allow technology based industrial categorical limitations to be applied to municipal discharges where more than 10% of the flow or loading is industrial.*

*Approximately 75% of the BOD<sub>5</sub> and TSS loading from the AMSD treatment plant is contributed by MPI.*

*Monthly average and daily maximum BOD<sub>5</sub> and TSS limits are the sum of the allowable loadings for the municipal flow of approximately 5.0 MGD and the production based Best Available Technology Economically Achievable (BAT) loading limits for the influent from MPI based on the National Effluent Guidelines for the pulp and paper industry. Monthly average and daily maximum BOD<sub>5</sub> and TSS concentration limits are derived by holding the flow limitation and BOD and TSS limitations and back calculations said concentration limits.*

*The previous mass limitations are being carried forward in this permitting action based on existing loading rates and flow capacity.”*

The mathematical formulas for the exact derivation of these limitations was not provided in the previous permit or fact sheet.

The USEPA has not promulgated pretreatment standards for TSS or BOD<sub>5</sub> for the Mechanical Pulp Subcategory. Therefore, this permitting action is establishing the more stringent of either previous permit limits or calculated limits based on a formal pretreatment agreement between AMSD and MPI. AMSD has provided the Department with a copy of “Anson-Madison Sanitary District Industrial Wastewater Discharge Permit” (pretreatment agreement) issued by AMSD to MPI in calendar year 2002, which specifies the maximum allowable flow, BOD<sub>5</sub> and TSS loadings from MPI to AMSD as follows:

## 6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

|                                |                     |
|--------------------------------|---------------------|
| Average Monthly Flow (MGD)     | 4.0                 |
| TSS (lbs./day) Monthly Average | 40,000              |
| TSS (lbs./day) Daily Maximum   | 60,000 <sup>1</sup> |
| BOD (lbs./day) Monthly Average | 11,000              |
| BOD (lbs./day) Daily Maximum   | 15,000              |

*Effluent Guidelines and Standards*, 06-096 CMR 525(3)(IV)(b) (effective January 12, 2001) (special considerations for industrial wastes) states that for certain industrial categories where the flow or loading of pollutants introduced by the industrial category exceeds 10 percent of the design flow or loading of the publicly owned treatment works, the effluent limitations for BOD<sub>5</sub> and TSS may be less stringent than the values given for secondary treated wastewater at 06-096 CMR 525(3)(III).

Secondary treatment standards for BOD<sub>5</sub> and TSS are as follows: the 30-day average shall not exceed 30 mg/L, the 7-day average shall not exceed 45 mg/L, and the 30-day average percent removal shall not be less than 85 percent. The adjusted limits attributable to the industrial category may not be greater than those which would be permitted under the Federal Water Pollution Control Act (Clean Water Act) if such industrial category were to discharge directly into the navigable waters. The pretreatment agreement between AMSD and MPI authorize the mill to discharge a monthly average flow of up to 4.0 MGD to the AMSD, which is 80% of the 5.0 MGD dry weather design flow for AMSD. Therefore, the Department concludes that AMSD qualifies for adjustment of BOD<sub>5</sub> and TSS limits consistent with the special considerations for industrial wastes, and is utilizing the AMSD's pretreatment limits specified above to calculate the industrial portion of BOD<sub>5</sub> and TSS effluent limitations for AMSD.

AMSD regulates the *influent* loadings from MPI. This permit regulates *effluent* loadings to the receiving water. To account for biological treatment provided by the AMSD's treatment system, this permitting action shall assume that the facility can consistently achieve a minimum 30-day percent removal rate of 65% for BOD<sub>5</sub> and TSS contributed by MPI. This is the minimum removal rate allowable pursuant to 06-096 CMR 525(3)(IV).

Based on the pretreatment limits specified above and an assumed minimum 65% removal efficiently, the industrial portion of allowable loadings may be calculated as follows:

### BOD<sub>5</sub>

$$\text{(Monthly Average Pretreatment Limit)(65\% removal) = Allowable Industrial Portion}$$
$$(11,000 \text{ lbs./day})(0.35) = 3,850 \text{ lbs./day}$$

$$\text{(Daily Maximum Pretreatment Limit)(65\% removal) = Allowable Industrial Portion}$$
$$(15,000 \text{ lbs./day})(0.35) = 5,250 \text{ lbs./day}$$

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<sup>1</sup> It is noted that the pretreatment agreement specifies the daily maximum TSS limit is 45,000 lbs./day. AMSD stated in an electronic mail to the Department dated November 7, 2006, that the daily maximum limit has been increased to 60,000 lbs./day.

## 6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

### TSS

(Monthly Average Pretreatment Limit)(65% removal) = Allowable Industrial Portion  
(40,000 lbs./day)(0.35) = 14,000 lbs./day

(Daily Maximum Pretreatment Limit)(65% removal) = Allowable Industrial Portion  
(60,000 lbs./day)(0.35) = 21,000 lbs./day

Based on an average sanitary flow of 1.0 MGD and the secondary treatment standards specified above, the sanitary portion of allowable loadings may be calculated as follows:

Monthly Average Mass Portion: (30 mg/L)(8.34 lbs./gallon)(1.0 MGD) = 250 lbs./day

Daily Maximum Mass Portion: (50 mg/L<sup>1</sup>)(8.34 lbs./gallon)(1.0 MGD) = 417 lbs./day

Monthly average and daily maximum effluent BOD<sub>5</sub> and TSS limitations are the sum of the allowable industrial and sanitary portions.

### BOD<sub>5</sub>

Sum of Monthly Average Loadings: 3,850 lbs./day + 250 lbs./day = 4,100 lbs./day

Sum of Daily Maximum Loadings: 5,250 lbs./day + 417 lbs./day = 5,667 lbs./day

### TSS

Sum of Monthly Average Loadings: 14,000 lbs./day + 250 lbs./day = 14,250 lbs./day

Sum of Daily Maximum Loadings: 21,000 lbs./day + 417 lbs./day = 21,417 lbs./day

Consistent with the intent of the anti-backsliding provisions of *Waste Discharge License Conditions*, 06-096 CMR 523(5)(1) (effective January 12, 2001) and the Clean Water Act, this permitting action is establishing the more stringent of either the sum of allowable BOD<sub>5</sub> and TSS loadings calculated immediately above or the limits established in the previous permit.

| Parameter        | Previous Limit<br>Monthly Average<br>Daily Maximum | Allowable Loadings<br>Monthly Average<br>Daily Maximum | Limit<br>Established<br>in this Permit |
|------------------|--|--|--|
| BOD <sub>5</sub> | 2780#/day<br>5000#/day                             | 4100#/day<br>5250#/day                                 | <b>2780#/day</b><br><b>5000#/day</b>   |
| TSS              | 3580#/day<br>5560#/day                             | 14250#/day<br>21417#/day                               | <b>3580#/day</b><br><b>5560#/day</b>   |

The effluent limitations for BOD<sub>5</sub> and TSS established in the previous permitting action are more stringent than the allowable loadings calculated above and are therefore being carried forward in this permitting action. The previous permitting action established seasonally-adjusted daily maximum effluent concentration and mass limitations for BOD<sub>5</sub> and TSS, which were carried forward from the 1/10/96 licensing action. The Department has no

<sup>1</sup> The daily maximum BOD<sub>5</sub> & TSS concentration limit of 50 mg/L is based on a Department best professional judgment of best practicable treatment for secondary treated wastewater.

## 6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

information at this time that seasonally adjusted BOD<sub>5</sub> or TSS limits are necessary to protect receiving water quality, and the Department's Division of Environmental Assessment has not recommended lower limits for the warm season months. As a matter of conservatism given water quality concerns documented in the Department's *Kennebec River Modeling Report* (see Section 6.i. of this fact sheet for more information), this permitting action is carrying forward the more stringent of the previously established seasonal daily maximum BOD<sub>5</sub> and TSS limits on a year-round basis.

06-096 CMR 523(6)(f)(2) states that "...pollutants limited in terms of mass additionally may be limited in terms of other units of measurement and the permit shall require the permittee to comply with both limitations." To ensure best practicable treatment is being applied to the discharge from the AMSD at all times, the Department has made a best professional judgment determination that carrying forward monthly average and daily maximum technology-based concentrations limits for BOD<sub>5</sub> and TSS is appropriate. The previous permitting action established monthly average and seasonally adjusted daily maximum concentration limits. This permitting action is eliminating seasonally adjusted limits for BOD<sub>5</sub> and TSS. Concentration limits were derived by back-calculating from the applicable mass limit as follows:

$$\text{BOD}_5 \text{ Monthly Average: } \frac{2,780 \text{ lbs./day}}{(8.34 \text{ lbs./gallon})(5.0 \text{ MGD})} = 67 \text{ mg/L}$$

$$\text{BOD}_5 \text{ Daily Maximum: } \frac{5,000 \text{ lbs./day}}{(8.34 \text{ lbs./gallon})(5.0 \text{ MGD})} = 120 \text{ mg/L}^1$$

$$\text{TSS Monthly Average: } \frac{3,580 \text{ lbs./day}}{(8.34 \text{ lbs./gallon})(5.0 \text{ MGD})} = 86 \text{ mg/L}$$

$$\text{TSS Daily Maximum: } \frac{5,560 \text{ lbs./day}}{(8.34 \text{ lbs./gallon})(5.0 \text{ MGD})} = 133 \text{ mg/L}$$

The BOD<sub>5</sub> data as reported on the Discharge Monitoring Reports submitted to the Department for the period October 2003 – December 2005 indicates the monthly average effluent BOD<sub>5</sub> mass has ranged from 153 lbs./day to 955 lbs./day with an arithmetic mean of 422 lbs./day (# DMRs = 26) the daily maximum effluent BOD<sub>5</sub> mass has ranged from 278 lbs./day to 1,759 lbs./day with an arithmetic mean of 790 lbs./day (# DMRs = 27).

The TSS data as reported on the Discharge Monitoring Reports submitted to the Department for the period October 2003 – December 2005 indicates the monthly average effluent TSS mass has ranged from 70 lbs./day to 894 lbs./day with an arithmetic mean of 309 lbs./day (# DMRs = 27) and the daily maximum effluent TSS mass has ranged from 117 lbs./day to 1,578 lbs./day with an arithmetic mean of 27 lbs./day ((# DMRs = 27).

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<sup>1</sup> It is noted that the previous permit contained an error in the daily maximum BOD<sub>5</sub> concentration limitation calculation. This permitting action serves to establish the correct concentration limit of 120 mg/L.

## 6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

06-096 CMR 525(3)(III)(b)(3) specifies a requirement to achieve a minimum 30-day average removal of 85 percent for BOD<sub>5</sub> and TSS for secondary treated wastewaters. The Department is making a best professional judgment determination that the percent removal requirement is not applicable for this facility due to the significant industrial wastewater characteristic of the effluent. Reiterating, the Department applied an assumed percent removal efficient rate of 65% to the industrial waste stream contributed by MPI in calculating mass limitation thresholds above.

The previous permitting action established, and this permitting action is carrying forward, a minimum monitoring frequency requirement of three times per week for BOD<sub>5</sub> and TSS, which is less frequent than Department guidance for POTWs permitted to discharge more than 5.0 MGD, based on a review of compliance data as summarized above.

- e. Settleable Solids: The previous permitting action established, and this permitting action is carrying forward, a technology-based daily maximum concentration limit of 0.3 ml/L for settleable solids, which is considered a best practicable treatment limitation (BPT) for secondary treated wastewater. This permitting action revising the minimum monitoring frequency requirement from once per day to five times per week based on a request by the permittee to provide the facility with personnel flexibility and review of compliance data as summarized below.

A review of the daily maximum settleable solids data as reported on the Discharge Monitoring Reports submitted to the Department for the period October 2003 – December 2005 indicates the daily maximum settleable solids concentration discharge has been 0.1 ml/L or below 96% of the time during said reporting period (# DMRs = 27). The facility reported one result of 0.2 ml/L and no exceedences of the 0.3 ml/L limit.

- f. Escherichia coli Bacteria: The pervious permitting action established seasonal (May 15–September 30) monthly average and daily maximum concentration limits for *E. coli* bacteria of 64 colonies/100 ml (geometric mean) and 427 colonies/100 ml (instantaneous level), respectively, which were based on the State of Maine Water Classification Program criteria for Class B waters, and a minimum monitoring frequency requirements of twice per week. This permitting action is carrying forward both concentration limitations based on the Water Classification Program criteria and is carrying forward the minimum monitoring frequency requirement of three times per week, which is less frequent than Department guidance for POTWs permitted to discharge more than 5.0 MGD, based on a review of compliance data as summarized below. Although *E. coli* bacteria limits are seasonal and apply between May 15 and September 30 of each year, the Department reserves the right to impose year-round bacteria limits if deemed necessary to protect the health, safety and welfare of the public.

**6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)**

A review of the monthly average and daily maximum data as reported on the Discharge Monitoring Reports submitted to the Department for the period October 2003 – December 2005 (months of May through September only) indicates the monthly (geometric mean) *E. coli* bacteria discharged has ranged from 0 colonies/100 ml to 4 colonies/100 ml with an arithmetic mean of 1.7 colonies/100 ml (# DMRs = 10). The maximum *E. coli* bacteria discharged has ranged from 1 colony/100 ml to 758 colonies/100 ml with an arithmetic mean of 97 colonies/100 ml ((# DMRs = 10).

- g. Total Residual Chlorine: The previous permitting action established a daily maximum technology-based concentration limit of 1.0 mg/L for TRC and a minimum monitoring frequency requirement of five times per week. Limitations on TRC are specified to ensure that ambient water quality standards are maintained and that BPT technology is being applied to the discharge. Department licensing/permitting actions impose the more stringent of either a water quality-based or BPT based limit. End-of-pipe acute and chronic water quality based concentration thresholds may be calculated as follows:

| Acute (A)<br>Criterion | Chronic (C)<br>Criterion | A & C<br>Dilution Factors | Calculated         |                      |
|------------------------|--------------------------|---------------------------|--------------------|----------------------|
|                        |                          |                           | Acute<br>Threshold | Chronic<br>Threshold |
| 0.019 mg/L             | 0.011 mg/L               | 241:1 (A)<br>297:1 (C)    | 4.6 mg/L           | 3.3 mg/L             |

The Department has established a daily maximum BPT limitation of 1.0 mg/L for facilities that disinfect their effluent with elemental chlorine or chlorine-based compounds. The technology-based limit of 1.0 mg/L is more stringent than either calculated water quality-based threshold above and is therefore being carried forward in this permitting action.

This permitting action is carrying forward the minimum monitoring frequency requirement of once per day for TRC consistent with Department guidance for POTWs permitted to discharge more than 5.0 MGD.

A review of the daily maximum data as reported on the Discharge Monitoring Reports submitted to the Department for the period October 2003 – December 2005 (months of May through September only corresponding to seasonal bacteria limits) indicates the maximum TRC discharged has ranged from 0.3 mg/L to 1.0 mg/L with an arithmetic mean of 0.8 mg/L (# DMRs = 10). The DMR data indicate the facility has been in compliance with the daily maximum limitation 100% of the time during said reporting period.

- h. pH: The previous permitting action established, and this permitting action is carrying forward, a technology-based pH limit of 6.0 – 9.0 standard units, which is based on 06-096 CMR 525(3)(III), and is carrying forward the minimum monitoring frequency requirement of once per day consistent with Department guidance for POTWs permitted to discharge more than 5.0 MGD.

The DMR data indicate the facility has been in compliance with the pH range limitation 100% of the time during the period of October 2003 – December 2005 (# DMRs = 27).



## 6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

- i. Whole Effluent Toxicity (WET), Priority Pollutant, and Analytical Chemistry Testing:  
38 M.R.S.A. § 414-A and 38 M.R.S.A. § 420 prohibit the discharge of effluents containing substances in amounts that would cause the surface waters of the State to contain toxic substances above levels set forth in Federal Water Quality Criteria as established by the USEPA. 06-096 CMR 530 sets forth effluent monitoring requirements and procedures to establish safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected and narrative and numeric water quality criteria are met. 06-096 CMR 584 sets forth ambient water quality criteria (AWQC) for toxic pollutants and procedures necessary to control levels of toxic pollutants in surface waters.

WET, priority pollutant and analytical chemistry testing, as required by 06-096 CMR 530, is included in this permit in order to characterize the effluent. WET monitoring is required to assess and protect against impacts upon water quality and designated uses caused by the aggregate effect of the discharge on specific aquatic organisms. Acute and chronic WET tests are performed on invertebrate water flea (*Ceriodaphnia dubia*) and vertebrate brook trout (*Salvelinus fontinalis*). Chemical-specific monitoring is required to assess the levels of individual toxic pollutants in the discharge, comparing each pollutant to acute, chronic, and human health water quality criteria. Priority pollutant testing refers to the analysis for levels of priority pollutants listed in 06-096 CMR 525(4)(VI). Analytical chemistry refers to a suite of thirteen (13) chemical tests consisting of: ammonia-nitrogen, total aluminum, total cadmium, total chromium, total copper, total hardness (fresh water only), total lead, total nickel, total silver, total zinc, total arsenic, total cyanide and total residual chlorine.

06-096 CMR 530(2)(A) specifies the dischargers subject to the rule as, “*all licensed dischargers of industrial process wastewater or domestic wastes discharging to surface waters of the State must meet the testing requirements of this section. Dischargers of other types of wastewater are subject to this subsection when and if the Department determines that toxicity of effluents may have reasonable potential to cause or contribute to exceedences of narrative or numerical water quality criteria.*” The AMSD discharges domestic (sanitary) and industrial process waste waters to surface waters and is therefore subject to the testing requirements of the toxics rule.

06-096 CMR 530(4)(C) states “*The background concentration of specific chemicals must be included in all calculations using the following procedures. The Department may publish and periodically update a list of default background concentrations for specific pollutants on a regional, watershed or statewide basis. In doing so, the Department shall use data collected from reference sites that are measured at points not significantly affected by point and non-point discharges and best calculated to accurately represent ambient water quality conditions.*” “*The Department shall use the same general methods as those in section 4(D) to determine background concentrations. For pollutants not listed by the Department, an assumed concentration of 10% of the applicable water quality criteria must be used in calculations.*” The Department has no information on the background levels of metals in the water column in the Kennebec River. Therefore, a default background concentration of 10% of applicable water quality criteria is being used in the calculations of this permitting action.

## 6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

06-096 CMR 530(4)(E) states *“In allocating assimilative capacity for toxic pollutants, the Department shall hold a portion of the total capacity in an unallocated reserve to allow for new or changed discharges and non-point source contributions. The unallocated reserve must be reviewed and restored as necessary at intervals of not more than five years. The water quality reserve must be not less than 15% of the total assimilative quantity.”*

Therefore, the Department is reserving 15% of applicable water quality criteria used in the calculations of this permitting action.

06-096 CMR 530(4)(F) requires evaluation of toxic pollutant impacts on a watershed basis. This section of the rule states, *“Where there is more than one discharge into the same fresh or estuarine receiving water or watershed, the Department shall consider the cumulative effects of those discharges when determining the need for and establishment of the level of effluent limits. The Department shall calculate the total allowable discharge quantity for specific pollutants, less the water quality reserve and background concentration, necessary to achieve or maintain water quality criteria at all points of discharge, and in the entire watershed.”* The Department is currently working to construct a computer program model to conduct this analysis. Until such time the model is complete and a multi-discharger statistical evaluation can be conducted, the Department is evaluating the impact of the AMSD’s discharge assuming it is the only discharger to the river. Should the multi-discharger evaluation indicate there are parameters that exceed or have a reasonable potential to exceed applicable AWQC, this permit may be reopened pursuant to Special Condition L, *Reopening of Permit For Modifications*, to incorporate additional limitations and or revise monitoring requirements.

This permit provides for reconsideration of effluent limits and monitoring schedules after evaluation of toxicity testing results. The monitoring schedule includes consideration of results currently on file, the nature of the wastewater, existing treatment, and receiving water characteristics.

The previous permitting action established: surveillance level WET testing at a frequency of once per year on the water flea and fathead minnow, screening level WET testing at a frequency of four times per year on the water flea and twice per year each on the brook trout and fathead minnow, a numerical limit of 0.34% for the water flea, surveillance level chemical-specific testing at once per year and screening level chemical-specific testing at four times per year. These requirement were based on the toxics rule in effect at that time, and a demonstration of reasonable potential for the chronic water flea threshold.

On October 9, 2005, a new Department rule, 06-096 CMR 530, became effective and replaced the previous toxics rule, Chapter 530.5. On April 10, 2006, the Department amended WDL#W002710-5M-H-R by issuing a Surface Waters Toxics Control Program fact sheet for this facility. The fact sheet waived routine surveillance level testing requirements with an exception for total arsenic and heptachlor, which were to be monitored once per year based on “a determination of reasonable potential in a review of the most recent 60 months of test results on record.” The fact sheet revised screening level WET testing to once per year and eliminated the fathead minnow tests, revised priority pollutant

## 6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

testing to once per year and established analytical chemistry testing at a frequency of once per calendar quarter. The basis for these determinations is discussed in greater detail below.

06-096 CMR 530(2)(A) specifies dischargers subject to the requirements of the rule are as follows, "All licensed dischargers of industrial process wastewater or domestic wastes discharging to surface waters of the State...." 06-096 CMR 530(2)(B) categorizes dischargers subject to the toxics rule into one of four levels (Levels I through IV). Level III dischargers are "Those dischargers having a chronic dilution factor of at least 100 but less than 500 to 1, or dischargers having a chronic dilution factor of more than 500 to 1 and a permitted flow of 1 million gallons per day or greater." The chronic dilution factor associated with the discharge from the AMSD is 297 to 1. Therefore, this facility is considered a Level III facility for purposes of toxics testing.

06-096 CMR 530(2)(D) specifies default WET, priority pollutant, and analytical chemistry test schedules for Level III dischargers as follows:

| <b>Level III Dischargers</b>              | <b>WET</b> | <b>Priority Pollutant</b> | <b>Analytical</b> |
|---|------------|---------------------------|-------------------|
| <b>Surveillance Level (first 4 years)</b> | 1 per year | None Required             | 1 per year        |
| <b>Screening Level (last year)</b>        | 1 per year | 1 per year                | 4 per year        |

A review of the data on file with the Department for the AMSD indicates that, to date, they have fulfilled the WET, priority pollutant, and analytical chemistry testing requirements imposed by the previous permitting action and 4/10/06 toxics fact sheet. See Attachment C of this Fact Sheet for a summary of the WET test results, and Attachment D of this Fact Sheet for a summary of chemical-specific test dates and arsenic test results.

### WET Evaluation

06-096 CMR 530(3)(E) states:

*For effluent monitoring data and the variability of the pollutant in the effluent, the Department shall apply the statistical approach in Section 3.3.2 and Table 3-2 of USEPA's "Technical Support Document for Water Quality-Based Toxics Control" (USEPA Publication 505/2-90-001, March, 1991, EPA, Office of Water, Washington, D.C.) to data to determine whether water-quality based effluent limits must be included in a waste discharge license. Where it is determined through this approach that a discharge contains pollutants or WET at levels that have a reasonable potential to cause or contribute to an exceedence of water quality criteria, appropriate water quality-based limits must be established in any licensing action.*

## 6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

On May 29, 2007, the Department conducted a statistical evaluation on the most recent 60 months of WET test results on file with the Department for the AMSD in accordance with the statistical approach outlined above. **The 5/29/07 statistical evaluation indicates the discharge from the Anson Madison Wastewater Treatment Facility does not demonstrate a reasonable potential (RP) to exceed the critical water quality thresholds for any species tested, including the water flea.** The evaluation was updated on October 11, 2007, which indicated that the discharge does not demonstrate RP to exceed the critical water quality thresholds for any species tested.

Therefore, this permitting action is eliminating the chronic limit of 0.34% for the water flea. 06-096 CMR 530(2)(D)(3)(b) states, in part, *“Dischargers in Levels III and IV may be waived from conducting surveillance testing for individual WET species or chemicals provided that testing in the preceding 60 months does not indicate any reasonable potential for exceedence.”* Based on the provisions of 06-096 CMR 530 and Department best professional judgment, this permitting action is granting the AMSD a waiver from surveillance level WET testing and is establishing screening level acute and chronic WET testing on the water flea and brook trout at a frequency of once per year in any calendar quarter provided the sample is representative of the discharge and any seasonal or other variations in effluent quality.

06-096 CMR 530(2)(D)(4) states, “All dischargers having waived or reduced testing must file statements with the Department on or before December 31 of each year describing the following.

- (a) Changes in the number or types of non-domestic wastes contributed directly or indirectly to the wastewater treatment works that may increase the toxicity of the discharge;
- (b) Changes in the operation of the treatment works that may increase the toxicity of the discharge; and
- (c) Changes in industrial manufacturing processes contributing wastewater to the treatment works that may increase the toxicity of the discharge.”

The 4/10/06 fact sheet discussed above specified that the facility must comply with this annual notification statement to continue waived surveillance level testing. This permitting action is formally establishing the notification requirement in this permitting action as Special Condition I, *Surface Water Toxics Control Program Statement for Reduced/Waived Toxics Testing*, pursuant to 06-096 CMR 530(2)(D)(4). This permit provides for reconsideration of testing requirements, including the imposition of certain testing, in consideration of the nature of the wastewater discharged, existing wastewater treatment, receiving water characteristics, and results of testing.

## 6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

### Priority Pollutant Evaluation

The previous permitting action established monthly average water quality-based concentration and mass limits of 12 µg/L and 0.32 lbs./day, respectively, for total arsenic based on a May 7, 2001 statistical evaluation that indicated the discharge exhibited a reasonable potential (RP) to exceed the human health-based (water and organisms) ambient water quality criterion for arsenic. The previous permitting action established monthly average water quality-based concentration and mass limits of 0.087 µg/L and 0.0024 lbs./day, respectively, for dieldrin based on a May 7, 2001 statistical evaluation that indicated the discharge exceeded the human health-based (water, water and organisms) ambient water quality criteria for dieldrin. The Department did not require AMSD to complete and submit a toxicity reduction evaluation (TRE) plan for the dieldrin exceedence based on best professional judgment in consideration of test results.

On May 29, 2007, the Department conducted a statistical evaluation on the most recent 60 months of chemical-specific tests results on file with the Department for the AMSD in accordance with the statistical approach outlined above. **The 5/29/07 statistical evaluation indicates the maximum total arsenic effluent concentration result of 6.0 µg/L reported for October 3, 2005 potentially exceeds the human health-based AWQC for inorganic arsenic and the maximum heptachlor test result of 3.3 µg/L reported for October 3, 2005 exceeds the critical chronic and human health-based (water and organism) ambient water quality criteria for heptachlor.** With the exception of the 10/3/05 results, all reported results for arsenic and heptachlor are less than their respective minimum reporting levels of 5 µg/L and 0.15 µg/L. The discharge does not demonstrate a reasonable potential to exceed the critical AWQC for any other pollutant tested, including dieldrin. The evaluation was updated on October 11, 2007, which indicated no additional instances of RP or exceedences of the AWQC.

06-096 CMR 530(3) states, *“the Department shall establish appropriate discharge prohibitions, effluent limits and monitoring requirements in waste discharge licenses if a discharge contains pollutants that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an ambient excursion in excess of a numeric or narrative water quality criteria or that may impair existing or designated uses.”*

Therefore, this permitting action is establishing monthly average water quality-based concentration and mass limits for inorganic arsenic and heptachlor, and is eliminating the concentration and mass limits for dieldrin.

On October 9, 2005, a new Department rule, 06-096 CMR 584, became effective. The rule establishes ambient water quality criteria for toxic pollutants in surface waters of the State. For arsenic, the current human health (water and organisms) AWQC of 0.012 µg/L is more stringent than the 0.018 µg/L AWQC in effect at the time of the previous permitting action. The current human health (water and organisms) AWQC for heptachlor of 0.000043 µg/L is more stringent than the chronic criterion of 0.00380 µg/L. The discharge exceeded both the chronic and human health-based AWQC. Therefore, this permitting action is establishing limits based on the more stringent human health-based criterion of 0.000043 µg/L.

## 6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

### Inorganic Arsenic

End-of-pipe (EOP), water quality-based, monthly average concentration and mass limits for inorganic arsenic may be calculated as follows:

$$\text{EOP Concentration Threshold} = (\text{Dilution Factor})[(0.75)(\text{criterion})] + (0.25)(\text{criterion})$$

$$\begin{aligned} \text{EOP Human Health-Based Monthly Average Concentration Threshold} = \\ (430)[(0.75)(0.012 \mu\text{g/L})] + (0.25)(0.012 \mu\text{g/L}) = 3.9 \mu\text{g/L} \end{aligned}$$

$$\text{EOP Mass Limit} = (\text{EOP Conc. Threshold})(8.34 \text{ lbs./gallon})(\text{discharge flow limit, MGD})$$

$$\text{Monthly Avg. EOP Arsenic Mass Limit} = \frac{(3.9 \mu\text{g/L})(8.34 \text{ lbs./gallon})(5.0 \text{ MGD})}{1000 \mu\text{g/mg}} = \mathbf{0.16 \text{ lbs./day}}$$

Department rule Chapter 530 (C)(6) states:

*All chemical testing must be carried out by approved methods that permit detection of a pollutant at existing levels in the discharge or that achieve detection levels as specified by the Department. When chemical testing results are reported as less than, or detected below the Department's specified detection limits, those results will be considered as not being present for the purposes of determining exceedences of water quality criteria.*

The USEPA has not approved a test method for inorganic arsenic as of the date of issuance of this permit. Therefore, there is no way for the permittee to formally demonstrate compliance with the monthly average water quality based mass and concentration limits for inorganic arsenic established in this permitting action. Therefore, beginning upon issuance of this permit and lasting through the date in which the USEPA approves a test method for inorganic arsenic the permittee is being required to monitor for total arsenic. Once a test method is approved, the Department will notify the permittee in writing and the limitations and monitoring requirements for inorganic arsenic become effective thereafter.

As of the date of this permitting action, the Department has limited data on the percentage of inorganic arsenic (approximately 50%) in total arsenic test results. Based on a literature search conducted by the Department, the inorganic fraction can range from 1% - 99% depending on the source of the arsenic. Generally speaking, ground water supplies derived from bedrock wells will likely tend to have higher fractions of inorganic arsenic ( $\text{As}^{+3}$ -arsenite and/or  $\text{As}^{+5}$ -arsenate) than one may find in a food processing facility where the inorganic fraction is low and the organic fraction (arsenobetaine, arsenoribosides) is high. Until the Department and the regulated community in Maine develop a larger database to establish statistically defensible ratios of inorganic and organic fractions in total arsenic test results, the Department is making a rebuttable presumption that the effluent contains a ratio of 50% inorganic arsenic and 50% organic arsenic in total arsenic results.

## 6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

Being that the only approved test methods for compliance with arsenic limits established in permits is for total arsenic, the Department converted the water quality based end-of pipe monthly average concentration value of 3.9 ug/L for inorganic arsenic calculated on page 26 of this Fact Sheet into an equivalent total arsenic threshold (assuming 50% of the total arsenic is inorganic arsenic). This results in a total arsenic end-of-pipe monthly average concentration threshold of 7.8 ug/L. The calculation is as follows:

$$\frac{3.9 \text{ ug/L inorganic arsenic}}{0.5 \text{ ug/L inorganic arsenic} / 1.0 \text{ ug/L total arsenic}} = 7.8 \text{ ug/L total arsenic}$$

Therefore, a total arsenic value greater than 7.8 ug/L is potentially exceeding the water quality based end-of pipe monthly average concentration value of 3.9 ug/L for inorganic arsenic. However, the Department's most current reporting limit (RL) for total arsenic is 5 ug/L and may be subject to revision during the term of this permit. All detectable analytical test results shall be reported to the Department including results which are detected below the Department's most current RL at the time of sampling and reporting. Only the results greater than the total arsenic threshold of 7.8 ug/L or the Department's RL at the time of sampling (whichever is higher) will be considered a potential exceedence of the inorganic limit of 3.9 ug/L.

If a test result is determined to be a potential exceedence, the permittee shall submit a toxicity reduction evaluation (TRE) to the Department for review and approval within 45 days of receiving the test result of concern from the laboratory. Contact the Department's compliance inspector for a copy of the Department's December 2007 guidance on conducting a TRE for arsenic.

Maine law, 38 M.R.S.A., §414-A(2), Schedules of Compliance states "*Within the terms and conditions of a license, the department may establish a schedule of compliance for a final effluent limitation based on a water quality standard adopted after July 1, 1977. When a final effluent limitation is based on new or more stringent technology-based treatment requirements, the department may establish a schedule of compliance consistent with the time limitations permitted for compliance under the Federal Water Pollution Control Act, Public Law 92-500, as amended. A schedule of compliance may include interim and final dates for attainment of specific standards necessary to carry out the purposes of this subchapter and must be as short as possible, based on consideration of the technological, economic and environmental impact of the steps necessary to attain those standards.*"

Special Condition J, *Schedule of Compliance*, of this permit modification establishes a schedule as follows:

*Beginning upon issuance of this permit modification and lasting through a date on which the USEPA approves a test method for inorganic arsenic, the limitations and monitoring requirements for inorganic are not in effect. During this time frame, the permittee is required by Special Condition A, Effluent Limitations and Monitoring Requirements, of this permit to conduct 1/Quarter sampling and analysis for total arsenic.*

## 6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

*Upon receiving written notification by the Department that a test method for inorganic arsenic has been approved by the USEPA, the limitations and monitoring requirements for inorganic arsenic become effective and enforceable and the permittee is relieved of their obligation to sample and analyze for total arsenic.*

The schedule of compliance reserves the final date for compliance with the limit for inorganic arsenic. This reservation stems from the fact the EPA has no schedule for approving a test method for inorganic arsenic nor does the Department have any authority to require the EPA to do so. Therefore, the Department considers the aforementioned schedule for inorganic arsenic to be as short as possible given the technological (or lack thereof) issue of not being able to sample and analyze for inorganic arsenic with an approved method.

Department rule Chapter 523, Waste Discharge License Conditions, § Section 7, *Schedules of Compliance* sub-§3, *Interim dates*, states in part, “*if a permit establishes a schedule of compliance which exceeds 1 year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement.*”

- (i) The time between interim dates shall not exceed 1 year, except that in the case of a schedule for compliance with standards for sewage sludge use and disposal, the time between interim dates shall not exceed six months.*
- (ii) If the time necessary for completion of any interim requirement (such as the construction of a control facility) is more than 1 year and is not readily divisible into stages for completion, the permit shall specify interim dates for the submission of reports of progress toward completion of the interim requirements and indicate a projected completion date.*

Special Condition A, *Effluent Limitations and Monitoring Requirements*, of this permit requires that beginning upon issuance of this permit and lasting through USEPA approval of a test method for inorganic arsenic, the permittee shall conduct 1/Quarter monitoring for total arsenic. Should the test method approval for inorganic arsenic extend more than one year from the date of the issuance of this permit, the sampling and analysis for total arsenic will serve to satisfy the interim requirements specified by Department rule, Chapter 523, *Waste Discharge License Conditions*, Section 7, *Schedules of Compliance*, Sub-section 3, *Interim dates*.

Chapter 530 §(3)(D)(1) states “*For specific chemicals, effluent limits must be expressed in total quantity that may be discharged and in effluent concentration. In establishing concentration, the Department may increase allowable values to reflect actual flows that are lower than permitted flows and/or provide opportunities for flow reductions and pollution prevention provided water quality criteria are not exceeded. With regard to concentration limits, the Department may review past and projected flows and set limits to reflect proper operation of the treatment facilities that will keep the discharge of pollutants to the minimum level practicable.*”



## 6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

It is noted the calculations for establishing limitations for inorganic arsenic on page 21 do not increase the EOP concentration for inorganic arsenic by a factor of 1.5 due to uncertainty of the ratio between organic and inorganic fractions of total arsenic. However, the Department has given the permittee some flexibility by evaluating possible exceedences using the rebuttable presumption that the effluent contains a ratio of 50% inorganic arsenic and 50% organic arsenic in total arsenic results. In other words, the equivalent total arsenic concentration threshold has been increased by a factor of 2.0. Refer to the discussion and calculations on pages 20 and 21 of this Fact Sheet.

Chapter 530 does not establish specific monitoring frequencies for parameters that exceed or have a reasonable to exceed AWQC. This permitting action is establishing the monitoring frequencies for arsenic based on a best professional judgment given the timing, frequency and severity of the exceedence or reasonable to exceed AWQC. To be consistent with the default monitoring requirements in Chapter 530, the Department is establishing a monitoring frequency of 1/Quarter for total arsenic.

### Heptachlor

End-of-pipe (EOP), water quality-based, monthly average concentration and mass limits for heptachlor may be calculated as follows:

$$\text{EOP Concentration Threshold} = (\text{Dilution Factor})[(0.75)(\text{criterion})] + (0.25)(\text{criterion})$$

$$\begin{aligned} \text{EOP Human Health-Based Monthly Average Concentration Threshold} = \\ (430)[(0.75)(0.000043 \mu\text{g/L})] + (0.25)(0.000043 \mu\text{g/L}) = 0.014 \mu\text{g/L} \end{aligned}$$

$$\text{EOP Mass Limit} = (\text{EOP Conc. Threshold})(8.34 \text{ lbs./gallon})(\text{discharge flow limit, MGD})$$

**Monthly Avg. EOP Heptachlor Mass Limit =**

$$\frac{(0.014 \mu\text{g/L})(8.34 \text{ lbs./gallon})(5.0 \text{ MGD})}{1000 \mu\text{g/mg}} = \mathbf{0.0006 \text{ lbs./day}}$$

Pursuant to 06-096 CMR 530(3)(D)(1) and so as not to penalize the permittee for operating at flows less than the permitted flow, the Department is establishing concentration limits based on a factor of 1.5 as follows:

$$\text{EOP Concentration Limit} = (\text{EOP Concentration Threshold})(1.5)$$

**Monthly Average EOP Heptachlor Concentration Limit = (0.014  $\mu\text{g/L}$ )(1.5) = 0.021  $\mu\text{g/L}$**

This permitting action is establishing a minimum monitoring frequency requirement of once per year for heptachlor based on a review of heptachlor data on file with the Department.

## 6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

As stated above for waived surveillance level WET testing (excepting the water flea), this permitting action is formally establishing a notification requirement (Special Condition I of this permit) pursuant to Chapter 530 Section 2.D.4. for waived surveillance level priority pollutant and analytical chemistry testing. Screening level priority pollutant testing is required at a frequency of once per year in any calendar quarter. Screening level analytical chemistry testing is required at a frequency of once per calendar quarter in successive quarters.

- j. Total Phosphorous (total-P): The previous permitting action established a seasonal (June 1 – September 30 of each year) weekly average concentration reporting requirement and minimum monitoring frequency requirement of three times per week for total-P. The monitoring requirement was based on Department best professional judgment in consideration of a report entitled, *Kennebec River Modeling Report Final April 2000* (report), prepared by the Department. The Department concluded in the report's executive summary that, "The majority of the phosphorous loading to the river is from point sources. There are indications that nutrient loading may become a major water quality issue in the future" and "The paper mills are the major source of phosphorous. [The Department] should work with the paper mills to investigate methods to reduce phosphorous loading through process controls. Investigation of nutrient reduction may have to be extended to municipal plants as well." The report states, "Plant growth is a function of available light and nutrients. Light limitation is a function of bank cover (for narrow streams) and water clarity. The nutrients of concern include nitrogen and phosphorous. In general it has been found that in fresh water systems phosphorous is the growth limiting nutrient while in marine systems nitrogen is the limiting nutrient." Based on surveys conducted by the Department in calendar years 1997 and 1998, the report concludes that AMSD accounts for 18.6% of total-P loading to the river. The Department's modeling effort indicted two areas of marginal attainment of applicable water quality classification standards (dissolved oxygen for Class B waters in this case). "The first area is near the end of the class B segment below Skowhegan. No assimilative capacity remains in regard to loading to this segment. The major discharge to this segment is from Anson-Madison [Sanitary District]. Plant/nutrient impact is a major component here and the data indicate a significant phosphorous loading from the Anson-Madison [Sanitary District] discharge. The majority of flow to the [Sanitary District] is from Madison Paper and paper mills often must add nutrients in order to achieve good wastewater treatment. If this is the case it may be possible to better control the phosphorous levels in the effluent through tighter process control."

A review of the weekly average data as reported on the Discharge Monitoring Reports submitted to the Department for the period June 2004 – September 2005 (months of June through September only; includes all data on record) indicates total-P discharged has ranged from 5.7 mg/L to 9.9 mg/L with an arithmetic mean of 7.3 mg/L (n=8).

The number of effluent total-P test results on file is small for reliable statistical analyses. The Department concludes, based on best professional judgment, that the AMSD should continue to collect effluent total-P samples to accurately characterize the discharge. Therefore, this permitting action is revising total-P monitoring by establishing monthly

## 6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

average and daily maximum concentration and mass reporting requirements for total phosphorous during the warm season period of June 1 through September 30 of each year at a minimum frequency of twice per month. This permitting action is establishing monthly average and daily maximum concentration and mass reporting requirements for orthophosphate (ortho-P) during the calendar year 2008 warm season only (June 1 through September 30, 2008) in order to correlate a relationship between total-P and the highly available ortho-P. If additional ortho-P monitoring is necessary, the Department may reopen this permit in accordance with Special Condition L of this permit.

## 7. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

As permitted, the Department has determined the existing water uses will be maintained and protected and the discharge will not cause or contribute to the failure of the water body to meet standards for Class B classification.

## 8. PUBLIC COMMENTS

Public notice of this application was made in the *Morning Sentinel* newspaper on or about April 1, 2006. The Department receives public comments on an application until the date a final agency action is taken on the application. Those persons receiving copies of draft permits shall have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to Chapter 522 of the Department's rules.

## 9. DEPARTMENT CONTACTS

Additional information concerning this permitting action may be obtained from, and written comments sent to:

William F. Hinkel  
Division of Water Quality Management  
Bureau of Land & Water Quality  
Department of Environmental Protection  
17 State House Station  
Augusta, Maine 04333-0017 Telephone: (207) 287-7659 Fax: (207) 287-3435  
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## 10. RESPONSE TO COMMENTS

During the period of November 8, 2006 through December 7, 2006, the Department solicited comments on the proposed draft Maine Pollutant Discharge Elimination System Permit to be issued to the Anson-Madison Sanitary District for the proposed discharge. The Department received significant comments on the proposed draft permit from the AMSD in a letter from Woodard and Curran dated December 7, 2006. The Department has summarized and responded as follows.

## 10. RESPONSE TO COMMENTS (cont'd)

**Comment #1:** The AMSD stated, “Anson-Madison Sanitary District is requesting that DEP consider excluding Heptachlor as a permit parameter. Anson-Madison Sanitary District collected an effluent sample on October 4, 2005 for a Priority Pollutant Scan. Heptachlor was one of the pesticide parameters analyzed. The result of this test was 3.3 ug/L using EPA method 608 (detection limit of 0.15 ug/L). Since this test result exceeded the Maine D.E.P. reporting limit, 0.15 ug/L, the sample was retested using EPA method GC/MS (detection limit of 1.0 ug/L) to confirm results. The Heptachlor result was not confirmed using the GC/MS method, the result of the retest was non-detect (<1.0 ug/L). On November 11, 2005 a second sample was collected to retest for Heptachlor. Using EPA test method 608, the test result was non-detect <0.15 ug/L. Since Heptachlor has been banned for use since 1988 as a pesticide and our records for the past five years show no detection of Heptachlor, Anson-Madison Sanitary District is asking that the Department consider the test result for the sample collected on October 4, 2005 be an anomaly/testing error and acknowledge the November 11th sample result as the reported concentration value.”

**Response #1:** Department rule Chapter 530 Section 3 states, “the Department *shall* establish appropriate discharge prohibitions, effluent limits and monitoring requirements in waste discharge licenses if a discharge contains pollutants that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an ambient excursion in excess of a numeric or narrative water quality criteria or that may impair existing or designated uses.” (Emphasis added.) The 10/3/05 heptachlor test result of 3.3 µg/L is significantly higher (22 times higher) than the Department’s minimum reporting level of 0.15 µg/L and must therefore be considered in reasonable potential calculations. The Department acknowledges that the follow-up testing for this parameter conducted by the AMSD constitutes a Phase I Toxicity Reduction Evaluation (TRE). The Phase I TRE indicates that the detection of heptachlor in the effluent is not a chronic problem associated with this facility. Therefore, this permitting action is requiring routine testing for heptachlor at the minimum frequency of once per year (see Department rule Chapter 523 Section 5 (i) (2)).

**Comment #2:** The AMSD stated that the effluent limitations table on page 5 of 14 of the draft permit contained a typographical error for the daily maximum BOD<sub>5</sub> concentration limit and that it should correctly read 120 mg/L rather than 119 mg/L.

**Response#2:** The Department has corrected the typographical error on page 5 of the draft permit to correct specify that the daily maximum BOD<sub>5</sub> concentration limit is 120 mg/L.

**Comment #3:** The AMSD stated, “The calculations to determine the Monthly Average EOP “total” Arsenic Concentration Limit of 5.9 ug/L is based on Human Health – for consumption of water and organisms criteria. In reference to Chapter 584 Surface Water Quality Criteria for Toxic Pollutants – Appendix A., Table I., Arsenic parameter of 0.012 ug/L is described in footnote “S” as inorganic form only. It appears the Arsenic limit on page 5 of 14 (Draft Permit) Special Conditions table, should be relabeled to “inorganic” to correlate with the Human Health-Based limit used in the calculation of the permit limit of 5.9 ug/L.”

## 10. RESPONSE TO COMMENTS (cont'd)

**Response #3:** The ambient water quality criteria for arsenic established by Chapter 584 of the Department's rules refers to the inorganic form only. The USEPA's ambient water quality criteria for arsenic is also based on the inorganic form only. The draft permit specifies this limit as "Total Arsenic" which has been done historically for other facilities due to the relative complexity of determining the inorganic portion only. Since a reported total arsenic test result includes both organic and inorganic forms, the Department has accepted total arsenic test results from facilities required to monitor and report effluent arsenic data. The ratio of organic to inorganic forms of arsenic present in a wastewater sample will vary depending on the sources of wastewater treated at the facility. In recent months, certain facilities have requested that the Department clarify that the effluent limitation for arsenic is inorganic only. The Department has modified Special Condition A of the draft permit by specifying that the limit for arsenic is Inorganic Arsenic and added Special Condition A Footnote #7 regarding acceptable analysis and reporting requirements.

**Comment #4:** The AMSD requested that the sample type required for total phosphorous (total-P) and orthophosphate (ortho-P) monitoring be changed from a 24-hour composite, as specified in the draft permit, to a grab sample due to the long detention time provided by the lagoon system.

**Response #4:** The draft and final permit require 24-hour composite samples for several parameters, including BOD<sub>5</sub>, TSS and priority pollutants to ensure samples are representative of the discharge over the course of an entire discharge day. The collection of representative phosphorous data is important in characterizing the discharge and the impact of the discharge on receiving water quality. Therefore, the Department concludes that a 24-hour composite sample type for total-P and ortho-P is appropriate and justified. The draft permit at Special Condition A Footnote #6 has been modified to allow the Department to revise the sample type from 24-hour composite to grab based on a request by the permittee for the Department to reconsider sample types following the first full year of total-P and ortho-P testing required by this permit.