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STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAWN R. GALLAGHER
COMMISSIONER

June 26, 2003

Mr. Richard Dickinson
A.E. Staley Manufacturing Co.
2200 East Eldorado Street
Decatur, Illinois 62525

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0002216
Maine Waste Discharge License (WDL) Application #W00940-5N-D-R
Final Permit

Dear Mr. Dickinson:

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.*"

We would like to make you aware that your monthly Discharge Monitoring Reports (DMR) may not reflect the revisions in this permitting action for several months. We would like to bring to your attention that you are required to report applicable test results for parameters required by this permitting action that do not appear on the DMR.

If you have any questions, please feel free to call me at (207) 287-6114.

Sincerely,

Robert D. Stratton

Robert D. Stratton
Division of Water Resource Regulation
Bureau of Land and Water Quality

Enc.
cc: Mark Cassidy, Ryan Walling, AE Staley, Houlton, Me.
Sean Bernard, Nick Archer, MEDEP
Ted Lavery, Doug Koopman, USEPA
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STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE HOUSE STATION 17 AUGUSTA, MAINE 04333

DEPARTMENT ORDER

IN THE MATTER OF

A.E. STALEY MANUFACTURING CO. HOULTON, AROOSTOOK COUNTY, MAINE STARCH PROCESSING FACILITY #ME0002216 #W000940-5N-D-R **APPROVAL**	) MAINE POLLUTANT DISCHARGE) ELIMINATION SYSTEM PERMIT) AND) WASTE DISCHARGE LICENSE) **RENEWAL**

Pursuant to the provisions of the Federal Water Pollution Control Act, Title 33 USC, Section 1251, et. seq and Maine Law 38 M.R.S.A., Section 414-A et seq., and applicable regulations the Department of Environmental Protection (Department) has considered the application of the A.E. STALEY MANUFACTURING CO. (Staley), with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

The applicant has applied for a renewal of Waste Discharge License (WDL) #W-000940-44-B-R, which expired on November 17, 2000. The WDL approved the discharge of: (1) 0.04 million gallons per day (MGD) of boiler blowdown and process wastewater from a starch modification operation through Outfall #001; and (2) 0.05 MGD of non-contact cooling water through Outfall #002. The process wastewater from Outfall #001 receives secondary treatment. The non-contact cooling water from Outfall #002 receives no treatment, as it is uncontaminated except for heat. The Staley facility receives tapioca, potato, and corn starches, which it chemically modifies, dewaters, and redries. Wastewater is discharged to the Meduxnekeag River, a Class B water in Houlton, Maine. The WDL also approved the discharge of 15,000 gallons per day (GPD) of process wastewater through spray irrigation on pasture land, from May to October.

By this renewal, the Department is carrying forward the existing limits for: (1) flow; (2) biochemical oxygen demand (BOD_5) mass; (3) total suspended solids (TSS) mass; (4) total phosphorous mass for 3 years; (5) the 30 cubic feet per second ambient river flow based discharge prohibition from Outfall #001A to the Meduxnekeag River for 3 years; (6) pH; (7) non-contact cooling water effluent temperature; and (8) the weekly per acre spray irrigation application rate limitation.

This permitting action is different from the previous licensing action in that it is: (1) establishing an effluent concentration limit for BOD_5; (2) establishing a TSS concentration reporting requirement followed by limits beginning in 3 years; (3) establishing a total phosphorous concentration reporting requirement followed by a concentration limit and revised mass limit beginning in 3 years; (4) modifying the ambient river flow based discharge prohibition from Outfall #001A to the Meduxnekeag River beginning in 3 years; (5) modifying the ambient river dissolved oxygen concentration based discharge prohibition from Outfall #001A;

(6) establishing a once per day monitoring requirement for pH; (7) requiring Whole Effluent Toxicity (WET) and chemical specific testing for Outfall #001A; (8) revising the monitoring requirement for non-contact cooling water effluent temperature; (9) establishing Outfall #003A to distinguish the boiler blowdown and process wastewater that is disposed of through spray irrigation from the same wastewater disposed of through Outfall #001A to the Meduxnekeag River; (10) changing the 15,000 GPD spray irrigation application limit to report only; (11) establishing a daily per acre spray irrigation application rate limitation; (12) revising spray irrigation limitations and monitoring requirements for the spray field and ground water monitoring wells, as well as establishing soil sampling requirements, to ensure consistency in sampled constituents, frequencies and sampling methods with other licensed spray irrigation facilities and in consideration of site specific conditions; (13) revising spray irrigation operational requirements to be consistent with other spray facilities, and (14) establishing action levels for sodium and sulfate in groundwater monitoring wells and for pH in soil samples for new spray areas at this time and for existing spray areas beginning in 3 years.

CONCLUSIONS

BASED on the findings in the attached Fact Sheet, dated May 16, 2002 and revised July 19, 2002, March 28, 2003, and June 11 2003, 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 (surface or ground 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, 38 MRSA Section 464(4)(F), will be met, in that:
   (a) Existing in-stream and ground 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 bodies are met or, where the standards of classification of the receiving water bodies are not met, the discharge will not cause or contribute to the failure of the water bodies 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 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.

ACTION

THEREFORE, the Department APPROVES the above noted application of A.E. STALEY MANUFACTURING CO. to discharge 0.09 MGD of boiler blowdown, process wastewater, and non-contact cooling water to the Meduxnekeag River, Class B, and to operate a surface wastewater disposal system (spray irrigation) for process wastewater, 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 term of this permit is five (5) years from the date of signature.

DONE AND DATED AT AUGUSTA, MAINE, THIS 26th DAY OF June, 2003.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Brooke E. Barnes for
Dawn R. Gallagher, Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: November 17, 2000
Date of application acceptance: November 21, 2000

FILED
JUN 27 2003
BOARD OF ENVIRONMENTAL PROT.
STATE OF MAINE

Date filed with Board of Environmental Protection _____.

This Order prepared by Robert D. Stratton, BUREAU OF LAND & WATER QUALITY

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period **beginning the effective date of this permit and lasting through 3-years following the effective date**, the permittee is authorized to discharge **boiler blowdown and process wastewater** during **June 1 through September 30** from **Outfall #001A** to the Meduxnekeag River. Such discharges shall be limited and monitored by the permittee as specified below:[3]

Effluent Characteristic	Discharge Limitations				Monitoring Requirements		
	Monthly Average	Daily Maximum	Monthly Average	Daily Minimum	Daily Maximum	Measurement Frequency	Sample Type
	as specified	as specified	as specified	as specified	as specified	as specified	as specified
Flow [50050]	---	---	0.04 MGD [03]	---	Report MGD [03]	Continuous [CN]	Recorder [RC]
BOD_5 [00310]	54 lb/day [26]	67 lb/day [26]	243 mg/L [19]	---	300 mg/L [19]	2/Week [02/07]	24-Hr. Composite [24]
TSS [00530]	63 lb/day [26]	126 lb/day [26]	Report mg/L [19]	---	Report mg/L [19]	2/Week [02/07]	24-Hr. Composite [24]
Total Phosphorous **June 1 – Sept 15** [00665]	1.14 lb/day [26]	Report lb/day [26]	Report mg/L [19]	---	Report mg/L [19]	2/Week [02/07]	24-Hr. Composite [24]
River Flow(1) **June 1 – Sept 15** [00060]	---	---	Report CFS [08]	30 CFS [08]	Report CFS [08]	1/Day [01/01]	Flow Meter [MT]
Dissolved Oxygen(2) **June 1 – Sept 15** [00300]	---	---	---	7 PPM [20]	---	1/Day [01/01]	Grab [GR]
Dissolved Oxygen(2) **June 1 – Sept 15** [00300]	---	---	---	7.3 PPM [20]	---	1/Day [01/01]	Grab [GR]
pH [00400]	---	---	---		6.0-8.5 S.U. [12]	1/Day [01/01]	Grab [GR]

FOOTNOTES: - See pages 15-19 of this permit for the applicable footnotes.

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

2. During the period **beginning 3-years following the effective date of this permit and lasting through permit expiration**, the permittee is authorized to discharge **boiler blowdown and process wastewater** during **June 1 through September 30** **from Outfall #001A** to the Meduxnekeag River. Such discharges shall be limited and monitored by the permittee as specified below:[3]

Effluent Characteristic	Discharge Limitations				Monitoring Requirements		
	Monthly Average	Daily Maximum	Monthly Average	Daily Minimum	Daily Maximum	Measurement Frequency	Sample Type
	as specified	as specified	as specified	as specified	as specified	as specified	as specified
Flow *[50050]*	---	---	0.04 MGD *[03]*	---	Report MGD *[03]*	Continuous *[CN]*	Recorder *[RC]*
BOD_5 *[00310]*	54 lb/day *[26]*	67 lb/day *[26]*	243 mg/L *[19]*	---	300 mg/L *[19]*	2/Week *[02/07]*	24-Hr. Composite *[24]*
TSS *[00530]*	63 lb/day *[26]*	126 lb/day *[26]*	284 mg/L *[19]*	---	567 mg/L *[19]*	2/Week *[02/07]*	24-Hr. Composite *[24]*
Total Phosphorous **June 1 – Sept 15** *[00665]*	0.17 lb/day *[26]*	Report lb/day *[26]*	0.5 mg/L *[19]*	---	Report mg/L *[19]*	2/Week *[02/07]*	24-Hr. Composite *[24]*
River Flow(1) **June 1 – Sept 15** *[00060]*	---	---	Report CFS *[08]*	15 CFS *[08]*	Report CFS *[08]*	1/Day *[01/01]*	Flow Meter *[MT]*
Dissolved Oxygen(2) **June 1 – Sept 15** *[00300]*	---	---	---	7 PPM *[20]*	---	1/Day *[01/01]*	Grab *[GR]*
Dissolved Oxygen(2) **June 1 – Sept 15** *[00300]*	---	---	---	7.3 PPM *[20]*	---	1/Day *[01/01]*	Grab *[GR]*
pH *[00400]*	---	---	---		6.0-8.5 S.U. *[12]*	1/Day *[01/01]*	Grab *[GR]*

FOOTNOTES: - See pages 15-19 of this permit for the applicable footnotes.

SPECIAL CONDITIONS

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

3. During the period **beginning the effective date of this permit and lasting through 3-years following the effective date**, the permittee is authorized to discharge **boiler blowdown and process wastewater** during **October 1 through May 31** from **Outfall #001A** to the Meduxnekeag River. Such discharges shall be limited and monitored by the permittee as specified below[3]:

Effluent Characteristic	Discharge Limitations			Monitoring Requirements		
	Monthly Average as specified	Daily Maximum as specified	Monthly Average as specified	Daily Maximum as specified	Measurement Frequency as specified	Sample Type as specified
Flow *[50050]*	---	---	0.04 MGD *[03]*	Report MGD *[03]*	Continuous *[CN]*	Recorder *[RC]*
BOD_5 *[00310]*	75 lb/day *[26]*	133 lb/day *[26]*	338 mg/L *[19]*	599 mg/L *[19]*	2/Week *[02/07]*	24-Hr. Composite *[24]*
TSS *[00530]*	63 lb/day *[26]*	126 lb/day *[26]*	Report mg/L *[19]*	Report mg/L *[19]*	2/Week *[02/07]*	24-Hr. Composite *[24]*
pH *[00400]*	---	---	---	6.0-8.5 S.U. *[12]*	1/Day *[01/01]*	Grab *[GR]*

FOOTNOTES: - See pages 15-19 of this permit for the applicable footnotes.

SPECIAL CONDITIONS

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

4. During the period **beginning 3-years following the effective date of this permit and lasting through permit expiration**, the permittee is authorized to discharge **boiler blowdown and process wastewater** during **October 1 through May 31** **from Outfall #001A** to the Meduxnekeag River. Such discharges shall be limited and monitored by the permittee as specified below[3]:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements			
	Monthly Average as specified	Daily Maximum as specified	Monthly Average as specified	Daily Maximum as specified	Measurement Frequency as specified	Sample Type as specified
Flow *[50050]*	---	---	0.04 MGD *[03]*	Report MGD *[03]*	Continuous *[CN]*	Recorder *[RC]*
BOD_5 *[00310]*	75 lb/day *[26]*	133 lb/day *[26]*	338 mg/L *[19]*	599 mg/L *[19]*	2/Week *[02/07]*	24-Hr. Composite *[24]*
TSS *[00530]*	63 lb/day *[26]*	126 lb/day *[26]*	284 mg/L *[19]*	567 mg/L *[19]*	2/Week *[02/07]*	24-Hr. Composite *[24]*
pH *[00400]*	---	---	---	6.0-8.5 S.U. *[12]*	1/Day *[01/01]*	Grab *[GR]*

FOOTNOTES: - See pages 15-19 of this permit for the applicable footnotes.

SPECIAL CONDITIONS

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

5. Outfall #001A BEGINNING THE EFFECTIVE DATE OF THIS PERMIT AND EXTENDING FOR AT LEAST 4 CONSECUTIVE CALENDAR QUARTE WHEN DISCHARGING THROUGH OUTFALL #001A - SCREENING LEVEL TESTING

Effluent Characteristic	Discharge Limitations						Monitoring Requirements	
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum	Measurement Frequency	Sample Type
WET Testing								
A-NOEC(4) Ceriodaphnia dubia [TDA3B]	---	---	---	---	---	Report % [23]	1/Quarter [01/90]	Composite [24]
A-NOEC(4) Salvelinus fontinalis [TDA6F]	---	---	---	---	---	Report % [23]	1/Quarter [01/90]	Composite [24]
C-NOEC(4) Ceriodaphnia dubia [TBP3B]	---	---	---	---	---	Report % [23]	1/Quarter [01/90]	Composite [24]
C-NOEC(4) Salvelinus fontinalis [TBQ6F]	---	---	---	---	---	Report % [23]	1/Quarter [01/90]	Composite [24]
Chemical Specific Testing(5) [50008]	---	---	---	---	---	Report ug/L(5) [28]	1/Quarter [01/90]	Grab/ Composite [24]

FOOTNOTES: - See pages 15-19 of this permit for the applicable footnotes.

SPECIAL CONDITIONS

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

6. During the period beginning the effective date of this permit and lasting through permit expiration, the permittee is authorized to discharge **non-contact cooling water on a year round basis from Outfall #002A** to the Meduxnekeag River. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristic	Discharge Limitations		Monitoring Requirements			
	Monthly Average lb/day	Daily Maximum lb/day	Monthly Average as specified	Daily Maximum as specified	Measurement Frequency as specified	Sample Type as specified
Flow *[50050]*	---	---	0.05 MGD *[03]*	Report MGD *[03]*	Continuous *[CN]*	Recorder *[RC]*
Temperature[6] *[00011]*	---	---	Report °F *[15]*	75°F *[15]*	1/Week *[01/07]*	Grab *[GR]*
pH[6] *[00400]*	---	---	---	6.0-8.5 S.U. *[12]*	1/Day *[01/01]*	Grab *[GR]*

FOOTNOTES: - See pages 15-19 of this permit for the applicable footnotes.

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

7. During the period beginning the effective date of this permit and lasting through permit expiration, the permittee is authorized to discharge **boiler blowdown and process wastewater** during **May 15 through November 15** from **Outfall #003A through spray irrigation**. Such discharges shall be limited and monitored by the permittee as specified in **Permit Special Condition D** and as specified below:

Monitoring Requirements

	Weekly Average as specified	Daily Maximum as specified	Measurement Frequency as specified	Sample Type as specified
Flow *[50050]*	---	Report GPD *[07]*	1/Month(7) *[01/30]*	Calculate *[CA]*
BOD_5 *[00310]*	---	Report (mg/L) *[19]*	1/Month(7) *[01/30]*	8-Hr. Composite(8) *[08]*
Total Phosphorous *[00665]*	---	Report (mg/L) *[19]*	1/Month(7) *[01/30]*	8-Hr. Composite(8) *[08]*
Total Sodium as Na *[00929]*	---	Report (mg/L) *[19]*	1/Month(7) *[01/30]*	8-Hr. Composite(8) *[08]*
Sulfate as SO_4 *[00945]*	---	Report (mg/L) *[19]*	1/Month(7) *[01/30]*	8-Hr. Composite(8) *[08]*
Nitrate-Nitrogen (NO_3) *[00620]*	---	Report (mg/L) *[19]*	1/Month(7) *[01/30]*	8-Hr. Composite(8) *[08]*
Total Kjeldahl-Nitrogen *[00625]*	---	Report (mg/L) *[19]*	1/Month(7) *[01/30]*	8-Hr. Composite(8) *[08]*
Total Ammonia Nitrogen (as N) *[00610]*	---	Report (mg/L) *[19]*	1/Month(7) *[01/30]*	8-Hr. Composite(8) *[08]*
Chemical Oxygen Demand *[81017]*	---	Report (mg/L) *[19]*	1/Month(7) *[01/30]*	8-Hr. Composite(8) *[08]*
Specific Conductance *[00095]*	---	Report (umhos/cm) *[11]*	1/Month(7) *[01/30]*	8-Hr. Composite(8) *[08]*
pH *[00400]*	---	6.0 – 8.5 S.U *[12]*	1/Month(7) *[01/30]*	Grab *[GR]*

FOOTNOTES: - See pages 15-19 of this permit for the applicable footnotes.

SPECIAL CONDITIONS

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

8. During the period beginning the effective date of the permit and lasting through the permit expiration date, the permittee is authorized to operate a surface wastewater treatment and disposal system from **May 15 through November 15**. The **SPRAY IRRIGATION FIELD (SF-1)** shall be limited and monitored as specified below.

Monitoring Requirements

	Weekly Average as specified	Daily Maximum as specified	Measurement Frequency as specified	Sample Type as specified
Application Rate (Weekly) (9) *[01287]*	40,728 gal/acre (10) *[8B]*	---	1/Week *[01/07]*	Calculate *[CA]*
Application Rate (Daily) *[01284]*	---	20,362 gal/acre (10) *[8B]*	1/Day *[01/01]*	Calculate *[CA]*

FOOTNOTES: - See pages 15-19 of this permit for the applicable footnotes.

SPECIAL CONDITIONS

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

9. During the period beginning the effective date of the permit and lasting through the permit expiration date, the permittee shall monitor the ground water conditions in **GROUND WATER MONITORING WELLS (MW-1, MW-2A, MW-2B, MW-3A, MW-3B, MW-4, MW-5A, MW-5B, TW-1, TW-5, TW-6, and TW-8) OR REPLACEMENT WELLS**[11] as specified below.

Monitoring Requirements

	Weekly Average as specified	Daily Maximum as specified	Measurement Frequency as specified	Sample Type as specified
Nitrate-Nitrogen (NO_3) *[00620]*	---	10 mg/L(12) *[19]*	3/year(13) *[03/YR]*	Grab *[GR]*
Total Kjeldahl-Nitrogen *[00625]*	---	Report (mg/L) *[19]*	3/year(13) *[03/YR]*	Grab *[GR]*
Total Ammonia Nitrogen (as N) *[00610]*	---	Report (mg/L) *[19]*	3/year(13) *[03/YR]*	Grab *[GR]*
pH (Standard Units) *[00400]*	---	6.0 – 8.5 S.U(14) *[12]*	3/year(13) *[03/YR]*	Grab *[GR]*
Specific Conductance *[00095]*	---	Report (umhos/cm)(14) *[11]*	3/year(13) *[03/YR]*	Grab *[GR]*
Chemical Oxygen Demand *[81017]*	---	Report (mg/L) *[19]*	3/year(13) *[03/YR]*	Grab *[GR]*
Temperature (ºF) *[00011]*	---	Report (ºF)(14) *[15]*	3/year(13) *[03/YR]*	Grab *[GR]*
Total Sodium as Na *[00929]*	---	Report (mg/L)(15) *[19]*	3/year(13) *[03/YR]*	Grab *[GR]*
Sulfate as SO_4 *[00945]*	---	Report (mg/L)(16) *[19]*	3/year(13) *[03/YR]*	Grab *[GR]*
Total Phosphorous *[00665]*	---	Report (mg/L) *[19]*	3/year(13) *[03/YR]*	Grab *[GR]*

FOOTNOTES: - See pages 15-19 of this permit for the applicable footnotes.

SPECIAL CONDITIONS

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

10. During the period beginning the effective date of the permit and lasting through the permit expiration date, **SOIL SAMPLING** shall be conducted in the spray fields. Soil samples shall be collected **in the fourth calendar quarter annually during the term of the permit** and analyzed for the following parameters as specified:

Monitoring Requirements

	Weekly Average as specified	Daily Maximum as specified	Measurement Frequency As specified	Sample Type As specified
Nitrate-Nitrogen *[00620]*	---	Report (mg/kg) *[69]*	Annual(17) *[01/YR]*	Composite(18) *[CP]*
Total Kjeldahl-Nitrogen *[00625]*	---	Report (mg/kg) *[69]*	Annual(17) *[01/YR]*	Composite(18) *[CP]*
Total Ammonia Nitrogen (as N) *[00610]*	---	Report (mg/kg) *[69]*	Annual(17) *[01/YR]*	Composite(18) *[CP]*
Calcium *[00916]*	---	Report (mg/kg) *[69]*	Annual(17) *[01/YR]*	Composite(18) *[CP]*
Magnesium *[00927]*	---	Report (mg/kg) *[69]*	Annual(17) *[01/YR]*	Composite(18) *[CP]*
Total Phosphorus *[00665]*	---	Report (mg/kg) *[69]*	Annual(17) *[01/YR]*	Composite(18) *[CP]*
Potassium *[00937]*	---	Report (mg/kg) *[69]*	Annual(17) *[01/YR]*	Composite(18) *[CP]*
Total Sodium as Na *[00929]*	---	Report (mg/kg) *[69]*	Annual(17) *[01/YR]*	Composite(18) *[CP]*

SOIL SAMPLING LIMITATIONS AND MONITORING REQUIREMENTS CONTINUED ON NEXT PAGE

SPECIAL CONDITIONS

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

10. **SOIL SAMPLING** (cont'd)

Monitoring Requirements

	Weekly Average as specified	Daily Maximum as specified	Measurement Frequency As specified	Sample Type As specified
Sulfate as SO_4 *[00945]*	---	Report (mg/kg) *[69]*	Annual(17) *[01/YR]*	Composite(18) *[CP]*
Cation Exchange Capacity	---	Report (meq/100g)	Annual(17) *[01/YR]*	Composite(18) *[CP]*
pH (Standard Units) *[00400]*	---	Report (S.U)(19) *[12]*	Annual(17) *[01/YR]*	Composite(18) *[CP]*

FOOTNOTES: - See pages 15-19 of this permit for the applicable footnotes.

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The italicized numeric values bracketed in the tables on the previous pages and within the text on subsequent pages are code numbers that Department personnel utilize to code the monthly Discharge Monitoring Reports.

All 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 Human Services.

FOOTNOTES:

1. The permittee shall monitor and record flow in the Meduxnekeag River **each day** from **June 1 through September 15** when Staley discharges or intends to discharge from Outfall #001A. **The permittee is not authorized to discharge from Outfall #001A when the flow in the Meduxnekeag River at the Staley Outfall is less than 30 cubic feet per second (cfs) during the monitoring period**. The permittee shall submit a monthly average value, along with a monthly maximum and minimum value on the Discharge Monitoring Report, expressed as cfs. The permittee shall either establish a new flow measuring location in proximity to the Staley Outfall or, if the historic USGS gauge station is used, prorate measured flows to correspond to the river flow at the point of discharge. Prior to accepting data from a new flow sampling location, the installation, calibration, and maintenance of the new flow sampling location must be approved by the MEDEP. To determine flow measurements at the Staley Outfall from existing USGS gauge station data, the gauge data shall be multiplied by 0.5. Thus, 60 cfs at the gauge shall correspond to 30 cfs at the point of discharge.

   Three years following the effective date of this permit, the permittee is not authorized to discharge from Outfall #001A when the flow in the Meduxnekeag River at the Staley Outfall is less than 15 cubic feet per second (cfs) during the monitoring period, unless a different ambient flow restriction is established by the Department pursuant to Permit Section H and based on river monitoring and modeling.

2. The permittee shall monitor and record in-stream dissolved oxygen (DO) concentrations **daily** for the period from **June 1 through September 15** when Staley discharges or intends to discharge from Outfall #001A, at two monitoring sites on the Meduxnekeag River between the Staley and Houlton publicly owned wastewater treatment works (POTW) outfalls. The first D.O. monitoring site is located at the Cary's Mills Bridge upriver of the confluence of the main stem of the Meduxnekeag and its South Branch. The second D.O. monitoring site is located immediately upriver of the Houlton POTW discharge. **Dissolved oxygen shall be monitored within two hours of sunrise. Whenever DO concentrations fall below 7 ppm at the Cary's Mills Bridge site or below 7.3 ppm at the Houlton POTW monitoring site during the monitoring period, the permittee shall cease discharge of boiler blowdown and process wastewater to the river.** As has been demonstrated through past river monitoring, the

Department anticipates that D.O. concentrations will exhibit an increase between the Cary's Mills Bridge and Houlton POTW monitoring locations. If this condition is not maintained, the Department may reopen and modify the permit pursuant to Permit Section H.

3. Outfall #001A effluent samples for pH, biochemical oxygen demand (BOD_5), total suspended solids (TSS), and total phosphorus shall be taken at a point after the traveling bridge suction clarifier and prior to discharge from Outfall #001A. Any change in sampling location must be reviewed and approved in writing by the Department.

4. Definitive WET testing is a multi-concentration testing event (a minimum of five dilutions set at levels to bracket the critical acute and chronic thresholds of 2.3% and 2.0% 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.

   Beginning the effective date of this permit and continuing for at least four consecutive calendar quarters during which the permittee discharges effluent through Outfall #001A to the Meduxnekeag River, the permittee shall conduct screening level WET testing at a frequency of once per quarter using two species, the water flea (*Ceriodaphnia dubia*) and the brook trout (*Salvelinus fontinalis*). Results shall be reported as soon as they become available. After the results of the four WET tests are submitted, the Department will evaluate the results of the tests to determine appropriate monitoring frequencies and/or limitations in future testing requirements.

   Toxicity tests must be conducted by an experienced laboratory approved by the Department. The laboratory must follow procedures as described in the following U.S.E.P.A. methods manuals.

   a. Methods for Measuring Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 5th ed. Oct 2002, EPA-821-R-02-012.

   b. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, 4th ed. Oct 2002, EPA-821-R-02-013.

   The permittee is also required to analyze the effluent for the parameters specified in the analytic chemistry on the form in Attachment A of this permit each and every time a WET test is performed.

5. Priority Pollutants (chemical specific testing under Chapter 530.5) are those listed by the USEPA pursuant to Section 307(a) of the Clean Water Act and published a 40 CFR Part 122, Appendix D, Tables II and III.

   Beginning the effective date of this permit and continuing for at least four consecutive calendar quarters during which the permittee discharges effluent through Outfall #001A to the Meduxnekeag River, the permittee shall conduct screening level chemical specific (priority pollutant) testing at a frequency of once per quarter. Chemical specific testing shall be

conducted on samples collected at the same time as those collected for whole effluent toxicity tests, when applicable. Chemical specific 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. Results shall be reported as soon as they become available. For the purposes of DMR reporting, enter a "0" for no testing done this monitoring period or "1" for yes, testing done this monitoring period. After the results of the four chemical specific tests are submitted, the Department will evaluate the results of the tests to determine appropriate monitoring frequencies and/or limitations in future testing requirements.

All mercury sampling 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.

6. Outfall #002A effluent samples for pH and temperature shall be taken prior to discharge from Outfall #002A. Any change in sampling location must be reviewed and approved in writing by the Department.

7. Sampling shall be conducted monthly from May through November of each year. All 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 Human Services. The permittee is not required to test for these parameters during a month where no wastewater is disposed of via the spray irrigation system.

8. The sample shall consist of a composite of four grab samples collected two hours apart during an eight-hour period in which wastewater is discharged through Outfall #003A.

9. Weekly is defined as a calendar week (Sunday – Saturday).

10. The permittee shall calculate the application rate(s) on a daily basis and record the daily values on the "Annual Spray Application Log By Day" form attached as Attachment B of this permit. See Special Condition D(3)(d)(2) of this permit. For Discharge Monitoring Report (DMR) reporting purposes, the licensee shall report the highest weekly and daily application rate for the month in the applicable box on the form. In the "Comments" section located at the bottom of the DMR, the permittee shall record the alpha-numeric designation of the spray field(s) in which the highest application rates were calculated. The four spray fields are designated as upper and lower, east and west.

11. Prior to 2002, Staley had a total of eight monitoring wells, with two located in each of four quadrants of the spray irrigation field. In 2002, Staley installed eight new monitoring wells designated as MW-1, MW-2A, MW-2B, MW-3A, MW-3B, MW-4, MW-5A, and MW-5B.

During each monitoring event, Staley shall sample each of the above referenced monitoring wells as well as four of the previous monitoring wells located in the interior of the spray site, designated as TW-1, TW-5, TW-6, and TW-8 or replacement wells for all listed parameters to enable consistent and accurate monitoring of groundwater conditions on the spray irrigation site. See Fact Sheet Attachment B for monitoring well locations.

12. National Primary Drinking Water Standard – Maximum Contamination Level (MCL)

13. Once per month during the months of April, August and November of each year.

14. pH, temperature and specific conductance must be measured "in the field" and reported in the units specified.

15. Staley shall have an action level of 120 mg/L of total sodium (as Na) in groundwater, based on Department best professional judgement (BPJ) of the levels at which usage may be impaired, as detailed in the Fact Sheet, Section 5, *SPRAY IRRIGATION, Total Sodium, Sulfate*. If monitoring well groundwater samples indicate levels above the action level, Staley shall immediately cease the spray irrigation of wastewater on any areas upgradient of the monitoring well or wells demonstrating the elevated level(s), until such time that groundwater monitoring indicates that levels have fallen below the action level. In addition, within 60 days of the occurrence(s), Staley shall provide a report to the Department documenting the occurrence(s), addressing the cause(s) of the occurrence(s), and a course of action and implementation schedule for resolving the cause(s).

    For the existing spray irrigation site, the sodium action level shall become effective three years following the effective date of this permit, subject to the Compliance Schedule in Permit Section J. Any new areas used for spray irrigation are immediately subject to the action level.

16. Staley shall have an action level of 250 mg/L of sulfate (as SO_4) in groundwater, based on the secondary drinking water standard for sulfate (SO_4), Maine Rules Relating to Drinking Water, effective June 1994 as revised. (22 M.R.S.A., Chapter 601, based on 40 CFR, Part 143). If monitoring well groundwater samples indicate levels above of the action level, Staley shall immediately cease the spray irrigation of wastewater on any areas upgradient of the monitoring well or wells demonstrating the elevated level(s), until such time that groundwater monitoring indicates that levels have fallen below the action level. In addition, within 60 days of the occurrence(s), Staley shall provide a report to the Department documenting the occurrence(s), addressing the cause(s) of the occurrence(s), and a course of action and implementation schedule for resolving the cause(s).

    For the existing spray irrigation site, the sulfate action level shall become effective three years following the effective date of this permit, subject to the Compliance Schedule in Permit Section J. Any new areas used for spray irrigation are immediately subject to the action level.

17. Soil samples shall be collected and analyzed in the fourth calendar quarter of each year during the term of the Permit. Results shall be submitted to the Department pursuant to the provisions of Section D.3.c.

18. Soil sampling and reporting shall be conducted pursuant to Permit Section D.3.c, Soils Monitoring.

19. Staley shall have a soil pH action level range of 6.0-8.5 standard units. If soil pH samples indicate pH levels outside of the 6.0-8.5 standard unit range, Staley shall, within 60 days of the occurrence(s), provide a report to the Department documenting the occurrence(s), addressing the cause(s) of the occurrence(s), and a course of action and implementation schedule for resolving the cause(s).

    For the existing spray irrigation site, the soil pH action level shall become effective three years following the effective date of this permit, subject to the Compliance Schedule in Permit Section J. Any new areas used for spray irrigation are immediately subject to the action level.

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.

C. TREATMENT PLANT OPERATOR:

The treatment facility must be operated by a person holding a **Grade III** certificate pursuant to Title 32 M.R.S.A., Section 4171 et seq. 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.

D. SPRAY IRRIGATION SITE SPECIFIC LIMITATIONS:

During the period beginning the effective date of the permit and lasting through the permit expiration date, the permittee is authorized to operate a surface wastewater disposal system subject to the following conditions:

1. Pretreatment Requirements: All wastewaters shall receive pretreatment through a properly designed, operated and maintained treatment system prior to land irrigation.

2. Spray Irrigation Operational Constraints:

   a. The permittee shall be limited by and monitor the spray irrigation system for the parameters in the table titled "Effluent Limitations and Monitoring Requirements" Special Conditions A(7) and A(8) of this permit at the monitoring frequency specified.

   b. **Irrigation shall be limited to the time period between May 15 and November 15 each year provided all other operational constraints are met.**

   c. The permittee shall maximize use of the entire spray site as much as possible to minimize impacts to soil and groundwater in individual areas. The maximum wastewater application rate shall not exceed:

      Weekly - 40,728 gallons per acre (1.5 inch per week)
      Daily - 20,362 gallons per acre (0.75 inches per day)

   d. No wastewater shall be applied to the site following a rainfall accumulation exceeding 0.5 inches within the previous 8-hour period. **Within 30 days of the effective date of this permit,** the permittee shall install a rain gauge to record daily rainfall data in a representative location *[97899]*. Pursuant to Standard Condition D(1)(e) of this permit, **within 15 days of installing the rain gauge**, the permittee shall notify the Department in writing as to compliance or non-compliance with this condition *[030MS]*.

   e. No wastewater shall be applied when there is snow present on the ground at the spray site.

   f. No wastewater shall be applied when there is frost within the upper 18 inches of the soil profile.

   g. The permittee shall manage irrigation to prevent the elevation of the perched or permanent ground water table to a depth of 10 inches or less from the ground surface in land areas receiving direct irrigation. **Within 30 days of the effective date of this permit**, the permittee shall submit to the Department for review and approval a written proposal that specifically identifies a mechanism to be used to comply with this condition. If the proposal includes shallow observation wells, the permittee must submit a plan to the Department that includes a description of the observation well(s) including materials, depth and a description of the installation of the well(s) and a plan (to scale) indicating the location(s) of said well(s) *[030MS]*.

At the beginning of each calendar week between May 15 and November 15 of each year and prior to operating a spray irrigation area for the week, the permittee is required to measure the difference between the depth of the ground water table and the surface of the ground for each designated measurement location at a frequency of 1/Week. A record of the results for each observation well shall be maintained in a spreadsheet format and **submitted to the Department on a monthly basis as an attachment to the monthly Discharge Monitoring Reports (DMR's)** *[50008]*.

h. The permittee shall manage irrigation to prevent surface water runoff and shall not irrigate land areas where water is ponded on the land surface.

i. The vegetative buffer zones along the perimeter of the site shall be maintained to maximize vegetation and forest canopy density.

j. The permittee shall periodically mow grasses and or remove trees in the spray irrigation site(s) as necessary as not to impair the operation or maintenance of the spray distribution system. All mowed or cut vegetation shall be removed from the site and properly disposed of. Wastewater may not be applied to areas without established vegetation covering at least 75% of the surface of the ground.

k. **Within one hour after start-up of the spray irrigation system of each day**, the permittee shall walk the spray irrigation site to check the system for leakage in the piping system and determine if the individual sprayheads and pump(s) are functioning as designed. Should significant malfunctions or leaks be detected, the permittee must shut down the spray system and make the necessary repairs before resuming operation of the system. Observations and comments regarding each site walk and malfunctions and repairs shall be recorded in the daily operational logs required by Special Condition D(3)(d)(2) of this permit.

l. Before a replacement spray irrigation system can be utilized, Staley must submit system design and layout details to the Department for review and approval.

3. Monitoring Requirements.
The permittee shall maintain the following effluent, ground water, spray irrigation operational monitoring and maintenance programs.

a. Effluent Monitoring

1. The permittee shall be limited by and monitor effluent quality for the parameters in the table titled "Effluent Limitations and Monitoring Requirements" Special Condition A(7) of this permit at the monitoring frequencies specified. Testing of the effluent must be conducted by a laboratory approved by the Department.

b. Ground Water Monitoring

1. Ground water samples shall be obtained using low flow sampling techniques and monitored for the parameters and at the time frequencies established in Special Condition A(9) of this permit.

2. Ground water 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 Human Services. pH, temperature and specific conductance must be measured in the field and reported in the units specified.

3. All monitoring wells shall be equipped with a cap and lock to limit access and shall be maintained in a secured state at all times.

4. All monitoring wells shall be able to be sampled and provide accurate information on groundwater conditions during each required monitoring event. The Department reserves the right to require increasing the depth and or relocating any of the required ground water monitoring wells if the well is dry or is determined not to be representative of ground water conditions. The permittee shall submit installation logs to the Department for any reinstalled or relocated monitoring wells **within 30 days of the installation.**

5. The surface wastewater disposal system shall not be the cause of lowering the quality of the ground water, as measured in the ground water monitoring wells specified by this license (MW-1, MW-2A, MW-2B, MW-3A, MW-3B, MW-4, MW-5A, MW-5B, TW-1, TW-5, TW-6, and TW-8 or replacement wells) below the State Primary and Secondary Drinking Water Standards specified in the Maine State Drinking Water Regulations pursuant to 22 M.R.S.A., §2601 and action levels established in this permitting action. The permittee shall immediately notify the Department in the event any of the ground water monitoring wells specified by this permit indicate that the aforementioned drinking water standards and action levels have been exceeded. In such a case, the permittee shall take immediate remedial action(s), which may include but not be limited to, adjustment of the irrigation schedule or application rates, a reduction in the pollutant loading or ceasing operation of the system until the ground water meets applicable standards.

6. Due to intermittent dry conditions in Staley's monitoring wells impacting their ability to monitor ground water conditions at the spray site, Staley was requested to reinstall and/or relocate ground water monitoring wells to ensure that ground water conditions at the spray site are consistently monitored. In 2002, Staley installed eight new monitoring wells, designated as MW-1, MW-2A, MW-2B, MW-3A, MW-3B, MW-4, MW-5A, and MW-5B, documented in a Hydrogeologic Investigation report by Hillier & Associates dated January 2003. A Department

Hydrogeologist previously identified the need to ensure the viability of, and to continue to sample, several existing monitoring wells located in the interior of the spray site to ensure accurate monitoring of groundwater conditions on the site. During each monitoring event, Staley shall sample monitoring wells MW-1, MW-2A, MW-2B, MW-3A, MW-3B, MW-4, MW-5A, MW-5B, as well as TW-1, TW-5, TW-6, and TW-8 located in the interior of the site or replacement wells. Limitations and monitoring requirements established in Special Condition A(9) of the permit shall be effective as of the effective date of the permit. Action levels for sodium and sulfate shall be effective three years following the effective date of this permit, subject to the Compliance Schedule in Permit Section J. Any new areas used for spray irrigation shall be immediately subject to action levels.

c. Soils Monitoring

The licensee shall monitor the soils in the disposal area in the 4th calendar quarter of each year during the term of the permit to determine the impacts of spray irrigation. Soils shall be sampled within compartments of a site referred to as Landscape Units (LU) designed to define major differences within a site due to differences in soil and vegetation (or stand) characteristics. LU's should not be identified solely on the basis of similar soil series, but should include obvious differences that may exist among areas on site such as O-horizon thickness or scarification and rutting that may have resulted from land alterations.

1. Sampling Plan - **At least 60 days prior to the proposed sampling collection dates**, the licensee shall coordinate a pre-sampling meeting with the Department to develop a Sampling Plan prepared by a State of Maine Certified Soil Scientist (CSS) or other qualified professional approved in writing by the Department, including sampling locations/procedures. *[59499]*

2. Sampling – Soil samples shall be collected in approximately 15 different spots within each LU and the sub-samples shall be mixed together to make the composite sample for the LU. All samples shall be collected from the top eight inches of soil.

   The soils samples shall be analyzed for the parameters indicated in Special Condition A(10) of this permit. A control plot (or background plot) shall be delineated in an area that does not receive wastewater irrigation but has the same or similar characteristics as the treatment area. Control plots shall be a minimum of 0.10 acre and be located in a suitable location representative of the spray irrigation area approved by the Department.

3. Reporting: A CSS or other qualified professional approved by the Department in writing shall prepare a report that summarizes, evaluates, and provides recommendations on the soils and sampling analysis results after each soil analysis. The report shall include, but not be limited to, historical, as well as the most recent calendar year's monitoring data for each soil-sampling location, (presented in tabular, graphical and narrative format), an updated map showing the locations of the sampling sites, spray irrigation areas, control plots, LU or soils boundaries, natural or man-made drainage features, or any other relevant features or factors. The person preparing the

report shall endorse the report and attest to its completeness, validity, accuracy and concur with its recommendations. The report shall provide the copies of the soils analysis reports, a tabulation of historical soils data, a summary of soils recommendations for corrective amendments for each field and a summary of any activities taken to adjust soils to maintain healthy soils conditions. The report shall be submitted to the Department **annually by December 31**. *[030MS]*

d. Spray Irrigation Operational Procedures and Records

1. **Within 30 days of the effective date of this permit**, the permittee shall submit to the Department for review and approval, an operation and maintenance plan that describes step by step how the surface wastewater disposal system is operated and maintained and what measures or standard operating procedures must be adhered to that will ensure compliance with the terms and conditions of this permit *[007VA]*.

2. The permittee shall maintain a daily log of the operations of the spray irrigation disposal system which records dates, flows pumped to the spray irrigation site, areas irrigated, volume applied to each area, rainfall etc, in accordance with the format on the appropriate forms provided by the Department. See Attachment B of this permit for a copy of the appropriate forms. **The daily operational logs for each month shall be submitted to the Department as an attachment to the monthly Discharge Monitoring Reports (DMR's)** *[003MS]*. **By December 31, of each year, the permittee shall submit an annual report summarizing the overall performance of the spray system for that year and whether all the terms and conditions of this permit have been complied with** *[003MS]*.

4. Site Plan - **Within 90 days of the effective date of this permit**, the permittee shall submit to the Department, an 8.5" x 11" or 11" x 17" site plan(s) (to scale) of the spray irrigation areas *[53799]*. The plan shall include, but not be limited to the location and alpha-numeric designation of the ground water monitoring wells, pipe(s)/mechanism(s) to determine ground water elevation per Special Condition D(2)(g), and soil types.

E. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from Outfalls 001A, 002A, 003A, and the spray irrigation system. Discharges of wastewater from any other point source are not authorized under this permit, but shall be reported in accordance with Standard condition B.5 (Bypass) of this permit.

F. NOTIFICATION REQUIREMENT

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

1. Any substantial change in the volume or character of pollutants being introduced into the wastewater collection system.

2. For the purposes of this section, adequate notice shall include information on:

   (a) the quality and quantity of wastewater introduced to the wastewater collection and treatment system; and

   (b) any anticipated impact of the change in the quantity or quality of the wastewater to be discharged from the treatment system.

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. **The DMRs shall be postmarked on or before the thirteenth (13th) day of the month or hand-delivered to a Department Regional Office such that the DMRs are received by the Department on or before the fifteenth (15th) 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 following address:

Department of Environmental Protection
Bureau of Land and Water Quality
1235 Central Drive
Presque Isle, Maine 04769

H. RE-OPENER CLAUSE

Upon evaluation of test results required by any of the Special Conditions of this permitting action, additional site specific or any other information or test results 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 and or limitations based on new information.

The permit may be reopened for reconsideration of established BOD_5 and TSS concentration limits after sufficient data has been provided through monthly Discharge Monitoring Reports, demonstrating that the facility is being properly and consistently operated and maintained and that based on effluent data collected, other limits are more appropriate. The permit may also be

reopened for consideration of data obtained through investigations conducted pursuant to the Compliance Schedule, Permit Section J, and its applicability on effluent limitations, monitoring requirements, or other operational requirements.

I. OPERATION & 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 wastewater 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 wastewater treatment facility, the permittee shall submit the updated O&M Plan to their Department inspector for review and comment.

J. COMPLIANCE SCHEDULE

Beginning the effective date of this permit, the permittee is authorized to operate the existing surface wastewater disposal system under the following terms and conditions:

(a) The conditions in the Meduxnekeag River do not meet conditions for discharge from Outfall #001A specified in Footnotes 1 and 2 of Special Condition A of this Permit;

(b) The effluent storage capacity at the permittee's facility is exhausted;

(c) Requirements established in Special Condition Sections A(7-10), Section D, *SPRAY IRRIGATION SITE SPECIFIC LIMITATIONS*, and all other applicable sections of this permit shall be adhered to.

Beginning the effective date of this permit, any new areas used for spray irrigation shall be subject to sodium and sulfate action levels established in Special Condition Section A, Footnotes 15 and 16 and soil pH action levels established in Footnote 19 upon commencement of operations.

Beginning the effective date of the permit and lasting through three (3) years thereafter, the permittee shall adhere to the following schedule of compliance:

1. **On or before 6 months following the effective date of this permit,** the permittee shall submit to the Department for review, a report that assesses means of eliminating or minimizing sodium and sulfate in the facility's effluent with recommendations for implementation. *[030MS]* (Report by Pojasek & Associates submitted on February 21, 2003).

2. **On or before 12 months (one year) following the effective date of this permit,** the permittee shall submit to the Department for review and comment a facility wide plan (report) to address operational and physical modifications necessary to ensure compliance with this permit *[030MS]*. The plan shall encompass methods, technologies, and implementation schedules for attainment of TSS, phosphorous, and other effluent parameters, as well as spray irrigation related issues including effluent storage during low ambient river flow (restricted discharge) periods and mechanisms for disposal of stored effluent following restricted periods. The plan shall evaluate the technical feasibility as well as costs and benefits of available options to eliminate spray irrigation in its entirety and identify the preferred option(s), with primary focus given to storage lagoon construction and operation. See Attachment D of the Fact Sheet of this Permit for Department guidance on developing an Engineer's Facilities Planning Report.

3. **On or before 19 months following the effective date of this permit,** the permittee shall complete and provide the Department with results of pilot testing and site investigations for the operational and physical modifications necessary to ensure compliance with this permit. *[50008]*

4. **On or before 24 months (two years) following the effective date of this permit,** the permittee shall complete physical structure, equipment, and process design for the operational and physical modifications necessary to ensure compliance with this permit, obtain all permits or licenses necessary for construction, and provide the Department with a report of the results *[00803; 030MS]*.

5. Should the feasibility study required by condition J.2 above indicate there are no practical alternative(s) to eliminate the spray irrigation system, then **on or before 24 months (two years) following the effective date of this permit,** the permittee shall submit to the Department for review, a report that evaluates potential land acquisition for expansion of the spray irrigation site, spray irrigation equipment upgrades, and alternative spray irrigation management practices to mitigate the impacts to the spray site soils and groundwater. The report shall also include soil and hydrogeologic investigations undertaken to address the assimilative capacities of spray site soils and groundwater, incorporate results from monitoring well and soil sampling conducted pursuant to this permit, and identify application rates and practices that will allow for spray irrigation in full compliance with this permit *[030MS]*. For any alternatives involving design and construction, see Attachment D of the Fact Sheet of this Permit for Department guidance on developing an Engineer's Facilities Planning Report.

6. **On or before 34 months following the effective date of this permit,** the permittee shall complete construction and initiate startup of the operational and physical modifications necessary to ensure compliance with this permit *[050MS]*.

7. **On or before 36 months (three years) following the effective date of this permit,** the operational and physical modifications necessary to ensure compliance with this permit shall be fully operational *[01103]*.

Three years following the effective date of this permit, sodium and sulfate action levels established in Permit Special Condition Section A, Footnotes 15 and 16 and soil pH action levels established in Footnote 19 become effective on all spray irrigation areas *[85208]*.

Three years following the effective date of this permit, the 284 mg/L monthly average and 567 mg/L daily maximum TSS concentration limits, the 15 cfs minimum ambient river flow discharge restriction, and the 0.5 mg/L and 0.17 lb/day monthly average phosphorous limits specified in this permit become effective unless alternative limitations are established by the Department *[85208]*.

ATTACHMENT A

(Whole Effluent Toxicity, Analytical Chemistry Forms)

ANALYTICAL CHEMISTRY RESULTS
FRESHWATER TESTS

Date collected _____ mm/dd/yy

Date analyzed _____ mm/dd/yy

Lab ID No. _____

Analyte	Report Units	Results receiving water	Results effluent	Detection level	Method
Alkalinity	mg/L			mg/L	
Ammonia nitrogen	µg/L			µg/L	
Specific conductance	µmhos			µmhos	
Total residual chlorine	mg/L			mg/L	
Total organic carbon	mg/L			mg/L	
Total solids	mg/L			mg/L	
Total suspended solids	mg/L			mg/L	
Total aluminum	µg/L			µg/L	
Total cadmium	µg/L			µg/L	
Total calcium	mg/L			mg/L	
Total chromium	µg/L			µg/L	
Total copper	µg/L			µg/L	
Total hardness	mg/L			mg/L	
Total lead	µg/L			µg/L	
Total magnesium	µg/L			µg/L	
Total nickel	µg/L			µg/L	
Total zinc	µg/L			µg/L	
other (pH)	S.U.			S.U.	
other ( )					

Comments _____

Laboratory conducting test. **To the best of my knowledge this information is true, accurate, and complete**

signature _____ lab name _____

printed name _____ address _____

tel. no. _____

FRESHWATER WHOLE EFFLUENT TOXICITY (WET) TEST REPORT

Facility _____ DEP License No _____ NPDES permit No _____

Contact person _____ Telephone No _____

Date initially sampled _____ (mm/dd/yy) Date tested _____ (mm/dd/yy) Chlorinated? _____

Test type screening _____ surveillance _____ Dechlorinated? _____

Test required by: DEP/EPA

Results % effluent

	Water flea	Trout	Fathead
LC50			
A-NOEL			
C-NOEL			

Receiving Water Concentration

A-NOEL	
C-NOEL	

Data summary

	water flea			tro ut			fat head		
	% survival		no. young	% survival		final wt (mg)	% survival		final wt (mg)
QC standard	A>90	C>80	>15/female	A>90	C>80	>2% increase	A>89	C>79	>0.25
lab control									
river water control									
conc. 1 (%)									
conc. 2 (%)									
conc. 3 (%)									
conc. 4 (%)									
conc. 5 (%)									
conc. 6 (%)									
stat test used									

place * next to values statistically different from controls

for trout show final wt and % incr for both controls

Reference toxicant

	water flea		tro ut		fat head	
	LC50/A-NOEL	C-NOEL	LC50/A-NOEL	C-NOEL	LC50/A-NOEL	C-NOEL
toxicant / date						
limits (mg/l)						
results (mg/l)						

Comments _____

Laboratory Conducting Test. To the best of my knowledge this information is true, accurate, and complete

signature _____ company _____

printed name _____ address _____

tel. no. _____

Report analytical chemistry on reverse side.

WETRPFMF.XLS

Mar 98

ATTACHMENT B

(Spray Application Log)

AE Staley, Inc
W000940-5N-D-R; ME0002216

Annual Spray Application Log by Day

Page ___ of ___

Year: _____
Completed By: _____
Date: _____

License Limits:

Weekly - "X" gallons /acre ("X" inches/acre)

Daily - 20,362 gallons/acre (0.75 inches/acre)

Hourly - 6,788 gallons/acre (0.25 inches/acre)

	Date	°F Temp	Weather	(inches) Depth to GW	Rainfall	(feet) Lagoon Free-Board*	(acres) Areas Irrigated	Start Time	Stop Time	Hours Spray	Volume Gallons	Inches/ Hour	Meets License	Oper	Comments/Observations
Ex	6/26	80	Sunny	20"	2"	7	2.16	7:30	9:00	1.5	10280	0.12	yes	AMG	Pumped Serviced by AG-Eng
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Rev 12/06/00

* Lagoon "Freeboard" is measured from the top of the berm to the water surface