STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAWN R. GALLAGHER
COMMISSIONER

Mr. Benjamin F. Taylor
Environmental/Safety Supervisor
First Technology
228 Northeast Road
Standish, ME. 04084

November 22, 2005

RE: Maine Waste Discharge License #W000643-5N-E-R
Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0002399
Final Permit/License

Dear Mr. Taylor:

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 of the fact that your monthly Discharge Monitoring Reports (DMR) may not reflect the revisions in this permitting action for several months. However, you are required to report applicable test results for parameters required by this permitting action that do not appear on the DMR. Please see the attached April 2003 O&M Newsletter article regarding this matter.

If you have any questions, please feel free to call me at 287-7693.

Sincerely,

Gregg Wood
Division of Water Resource Regulation
Bureau of Land and Water Quality

Enc.
cc: Fred Gallant, DEP/SMRO
David Webster, USEPA

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688
RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769-2094
(207) 764-0477 FAX: 764-1507

web site: www.maine.gov/dep

DMR Lag

(reprinted from April 2003 O&M Newsletter)

When the Department renews discharge permits, the parameter limits may change or parameters may be added or deleted. In some cases, it is merely the replacement of the federally issued NPDES permit with a state-issued MEPDES permit that results in different limits. When the new permit is finalized, a copy of the permit is passed to our data entry staff for coding into EPA's Permits Compliance System (PCS) database. PCS was developed in the 1970's and is not user-friendly. Entering or changing parameters can take weeks or even months. This can create a lag between the time your new permit becomes effective and the new permit limits appearing on your DMRs. If you are faced with this, it can create three different situations that have to be dealt with in different ways.

1. If the parameter was included on previous DMRs, but only the limit was changed, there will be a space for the data. Please go ahead and enter it. When the changes are made to PCS, the program will have the data and compare it to the new limit.

2. When a parameter is eliminated from monitoring in your new permit, but there is a delay in changing the DMR, you will have a space on the DMR that needs to be filled. For a parameter that has been eliminated, please enter the space on the DMR for that parameter only with "NODI-9" (No Discharge Indicator Code #9). This code means monitoring is conditional or not required this monitoring period.

3. When your new permit includes parameters for which monitoring was not previously required, and coding has not caught up on the DMRs, there will not be any space on the DMR identified for those parameters. In that case, please fill out an extra sheet of paper with the facility name and permit number, along with all of the information normally required for each parameter (parameter code, data, frequency of analysis, sample type, and number of exceedances). Each data point should be identified as monthly average, weekly average, daily max, etc. and the units of measurement such as mg/L or lb/day. Staple the extra sheet to the DMR so that the extra data stays with the DMR form. Our data entry staff cannot enter the data for the new parameters until the PCS coding catches up. When the PCS coding does catch up, our data entry staff will have the data right at hand to do the entry without having to take the extra time to seek it from your inspector or from you.

   EPA is planning significant improvements for the PCS system that will be implemented in the next few years. These improvements should allow us to issue modified permits and DMRs concurrently. Until then we appreciate your assistance and patience in this effort.

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE HOUSE STATION 17 AUGUSTA, MAINE 04333

DEPARTMENT ORDER

IN THE MATTER OF

FIRST TECHNOLOGY/	)	MAINE POLLUTANT DISCHARGE
CONTROL DEVICES INC.	)	ELIMINATION SYSTEM PERMIT
STANDISH, CUMBERLAND COUNTY, MAINE	)	
INDUSTRIAL PROCESS WASTE WATERS	)	AND
NON-CONTACT COOLING WATERS	)	
#W000643-5N-E-R	)	WASTE DISCHARGE LICENSE
ME0002399 **APPROVAL**	)	**MODIFICATION AND 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 (the Department) has considered the application of FIRST TECHNOLOGY/CONTROL DEVICES INC. (FTCD) with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. APPLICATION SUMMARY

The permittee has applied for modification and renewal of combination Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0002399/Waste Discharge License (WDL) #W000643-44-C-R, (permit hereinafter) which was issued on July 17, 2001, and is due to expire on July 17, 2006. The MEPDES permit authorized the discharge of up to a total of 20,000 gallons per day (gpd) of treated process waste waters and non-contact cooling waters from an industrial facility that manufactures thermoprotectors, ceramic thermresistors and resonators, and optical sensors at it's Standish facility. All waste waters generated by the facility are discharged to an unnamed tributary of the North Branch of the Little River, Class B in Standish, Maine.

In a letter dated May 13, 2005, to the Department, the permittee indicated it had completed the installation of infrastructure such that all industrial process waste waters and non-contact cooling waters are now part of closed loop systems. The permittee has indicated it wishes to maintain the MEPDES permit in the unlikely event of a malfunction in the closed loop systems or a discharge of non-contact cooling water from the trim cooler in the event the cooling capacity is insufficient during the hottest summer days.

2. MODIFICATIONS REQUESTED

a. Eliminate the requirement for whole effluent toxicity (WET) testing from the permit.

b. Authorize the discharge of up 20,000 gpd of non-contact cooling waters from the trim cooler and emergency generator through a separate outfall pipe. It is noted the previous permit authorized the discharge of up to 20,000 gpd of treated process waters and non-contact cooling waters (combined) via Outfall #002.

c. Reduce the daily maximum flow limitation for Outfall #001 from 15,000 gpd to 3,500 gpd.

d. Remove the requirement for the treatment facility to be operated by a person holding physical/chemical certification issued by the Department.

3. PERMIT SUMMARY

This permitting action:

a. Modifying the whole effluent toxicity (WET) testing due to the infrequent nature of the discharge of industrial process waste waters.

b. Eliminating the chemical specific (priority pollutant) testing from the permit due to the infrequent nature of the discharge of industrial process waste waters.

c. Consolidating limitations and monitoring requirements for the discharge of industrial process waste waters previously regulated as separate internal waste streams, Outfall #001 and Outfall #003. Outfall #002 will remain as the final outfall for treated process water discharges.

d. Establishes a new outfall (Outfall #004) for the discharge of solely non-contact cooling waters. It is noted this is not a new waste stream as these waters were previously discharged via Outfall #002 after combining with industrial process waste waters associated with Outfall #001 and Outfall #003.

e. Removing the requirement for the treatment facility to be operated by a person holding physical/chemical certification issued by the Department.

f. Establishes applicable water quality based limitations based on new acute and chronic dilution factors as a result of a reduction in the permitted flows.

CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated October 21, 2005, (revised November 18, 2005) 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, 38 MRSA Section 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 of 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 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 FIRST TECHNOLOGY/CONTROL DEVICES INC. to discharge up to 25,000 gpd of treated process waste waters and non-contact cooling waters to an unnamed tributary of the North Branch of the Little River, Class B, in Standish, 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 term of this permit is five (5) years from the date of signature.

DONE AND DATED AT AUGUSTA, MAINE, THIS 21st DAY OF November, 2005.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
Dawn Gallagher, Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application September 7, 2005.

Date of application acceptance September 17, 2005.

FILED
NOV 28 2005
BOARD OF ENVIRONMENTAL PROT.
STATE OF MAINE

Date filed with Board of Environmental Protection _____

This order prepared by Gregg Wood, Bureau of Land and Water Quality.

W06435NE 11/18/05

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

OUTFALL #002 – Industrial Process Waste Waters

1. During the period beginning with the effective date of this permit and lasting through permit expiration, the permittee is authorized to periodically(5) discharge treated **industrial process waste waters** from **Outfall #002** to an unnamed tributary of the North Branch of the Little River. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations				Minimum 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(MGD) *[50050]*	---	---	---	5,000 gpd *[07]*	1/Discharge *[01/DD]*	Measure *[MS]*
Total Suspended Solids *[00530]*	---	0.067 #/day *[26]*	---	6.2 mg/L *[19]*	1/Discharge *[01/DD]*	Grab *[GR]*
Temperature *[00011]* *June 1 – Sept. 30* *Oct. 1 – May 31*	 --- ---	 --- ---	 --- ---	 83°F 83°F *[15]*	 1/Discharge *[01/DD]* ---	 Measure *[MS]* ---
Copper (Total) *[01042]*	0.0015 #/Day *[26]*	0.0017 #/Day *[26]*	52 ug/L *[28]*	62 ug/L *[28]*	1/Discharge(1) *[01/DD]*	Grab *[GR]*
Lead (Total) *[01051]*	0.0003 #/Day *[26]*		9.3 ug/L *[28]*	---	1/Discharge(2) *[01/DD]*	Grab *[GR]*
Total Toxic Organics(3) (TTO) *[78232]*	---	---	---	1.37 mg/L *[19]*	1/Year *[01/YR]*	Composite *[24]*
pH (Std. Unit) *[00400]*	---	---	---	6.0 – 9.0 SU *[12]*	1/Discharge *[01/DD]*	Grab *[GR]*
Whole Effluent Toxicity(4) C-NOEL *Ceriodaphnia dubia [TBP3B]* (water flea)	---	---	---	5.0% *[23]*	1/Discharge(2) *[01/DD]*	Grab *[GR]*

SPECIAL CONDITIONS

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

OUTFALL #002 – Industrial Process Waste Waters
Footnotes:

(1) **Copper** – Monitoring for copper is required 1/Discharge event. However, reporting for compliance with the monthly average limit is only required when the discharge occurs for at least five (5) consecutive days.

(2) **Lead and Whole Effluent Toxicity (WET) testing** - Monitoring and reporting requirements for lead and WET testing of the water flea are only required if the discharge from Outfall 002 occurs for at least five (5) consecutive days.

(3) **TTO** - The term TTO means the sum of the concentrations for the fourteen toxic organic compounds listed in 40 CFR §469.12(a) which is found in the discharge at a concentration greater than ten (10) micrograms per liter (ug/L). Pursuant to 40 CFR §469.13(a), in lieu of monitoring, the permittee may certify as to the non-release of concentrated toxic organics into the waste water in conjunction with implementation of a Solvent Management Plan.

(4) **Whole Effluent Toxicity (WET) Testing** – Definitive WET testing is a multi-concentration testing event (a minimum of five dilutions bracketing the critical chronic water quality threshold of 5.0%, the mathematical inverse of the chronic dilution factor of 20:1), which provides a point estimate of toxicity in terms of No Observed Effect Level, commonly referred to as NOEL or NOEC. C-NOEL is defined as the chronic no observed effect level with survival, reproduction and growth as the end points.

If the discharge from Outfall 002 occurs for at least five (5) consecutive days, the permittee shall conduct WET testing on the discharge. Chronic tests shall be conducted on the water flea (*Ceriodaphnia dubia*). Results shall be submitted to the Department within ten (10) business days after receiving the data report from the laboratory conducting the testing. The permittee shall evaluate test results being submitted and identify to the Department possible exceedences of the critical chronic water quality thresholds of 5.0%.

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 manual - 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)

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

TIONS

1' LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

.'ALL #004 – Non-contact cooling waters

2. During the period beginning with the effective date of this permit and lasting through permit expiration, the permittee is authorized to periodically(5) discharge **non-contact cooling waters** from **Outfall #004** to an unnamed tributary of the North Branch of the Little River. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations				Minimum 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(MGD) *[50050]*	---	---	---	20,000 gpd *[07]*	1/Discharge *[01/DD]*	Measure *[MS]*
Temperature *June 1 – Sept. 30* *Oct. 1 – May 31* *[00011]*	 --- ---	 --- ---	 --- ---	 76°F 84°F*[15]*	 1/Discharge *[01/DD]* ---	 Measure *[MS]* ---
pH (Std. Unit) *[00400]*	---	---	---	6.0 – 9.0 SU *[12]*	---	---

SPECIAL CONDITIONS

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

For All Outfalls

(5) This permit only authorizes the permittee to discharge from Outfall #002 and Outfall #004 as a result of extraordinary operational circumstances or in response to equipment malfunctions, emergencies or regularly scheduled maintenance activities necessitating a discharge. This permit is not intended to authorize discharges on a routine basis. The permittee shall notify the Department's compliance inspector as far in advance as possible of any pre-planned discharges.

All sampling and analysis of parameters to determine compliance with this permit 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.

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 Flourescence 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 usage's 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 usage's 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. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge to an unnamed tributary of the North Branch of the Little River in accordance with the terms and conditions of this permit. The permittee is also authorized to operate a lawn irrigation system in accordance with the terms and conditions of Special Condition E, *Lawn Irrigation*, of this permit. Discharges of waste water 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.

D. 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 waste water treatment system and or discharged.

2. 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 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.

E. LAWN IRRIGATION

The permittee is authorized to utilize industrial process waste waters and non-contact cooling waters to irrigate the facility's lawn areas provided the following operational constraints are adhered to:

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

2. No waste water shall be applied when there is a snow present on the ground.

3. No waste water shall be applied when there is frost within the upper 18 inches of the soil profile.

4. 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.

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

SPECIAL CONDITIONS

E. LAWN IRRIGATION (cont'd)

6. The permittee shall maintain their *Irrigation Schedule Programming Matrix* operational log which records the on and off times for the sixteen (16) spray zones. The operational log and zone maps shall be kept current at all times and made available to Department personnel upon request during normal business hours.

7. Notwithstanding condition E(1-6) above, the surface application of waste water shall not be the cause of lowering the quality of ground water below the State Primary and Secondary Drinking Water Standards specified in the Maine State Drinking Water Regulation, pursuant to 22 M.R.S.A., §2601. If the Department or any other regulatory entity determines that the aforementioned standards are exceeded, the operator must take immediate remedial action including but not limited to adjustment of the irrigation schedule or reduction of pollutant loading.

F. MONITORING AND REPORTING

Monitoring results shall be summarized and reported on separate Discharge Monitoring Report Forms provided by the Department at a frequency of 1/Quarter and **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 Discharge Monitoring Report and all other reports required herein shall be submitted to the following address:

Department of Environmental Protection
Southern Maine Regional Office
Bureau of Land and Water Quality
Division of Engineering, Compliance & Technical Assistance
312 Canco Road
Portland, Maine 04103

G. REOPENING OF PERMIT FOR MODIFICATIONS

Upon evaluation of test results required by this permit, new site specific information or any other pertinent information gathered 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

H. 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.

ATTACHMENT A

WHOLE EFFLUENT TOXICITY (WET) REPORT
FRESH WATERS

Facility Name _____ DEP License # _____ NPDES or MEPDES Permit # _____

Contact person _____ Telephone # _____

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

Test type screening _____ surveillance _____ Dechlorinated? _____

Results % effluent DEP/EPA Test required by: _____

	water flea	trout
A-NOEL		
C-NOEL		

Receiving Water Concentration

A-NOEL	
C-NOEL	

Data summary

	water flea			trout		
	% survival		no. young	% survival		final weight (mg)
QC standard	A>90	C>80	>15/female	A>90	C>80	> 2% increase
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		trout	
	A-NOEL	C-NOEL	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 _____ Mailing Address _____

Telephone # _____ City, State, ZIP _____

Report WET chemistry on DEP Form "WET and Analytical Chemistry Results - Fresh Waters, November 2005."

WET AND ANALYTICAL CHEMISTRY RESULTS
FRESH WATERS

Facility Name _____ DEP License # _____ NPDES or MEPDES Permit # _____

Date Collected _____ mm/dd/yy Date Analyzed _____ mm/dd/yy

Lab ID No. _____ Actual Daily Discharge Flow _____ MGD Monthly Average Discharge Flow _____ MGD

	Analyte	Report Units	Receiving Water Results*	Effluent Results	Detection level	Method
Analytes Required fo Analytical Chemistry	Ammonia nitrogen	µg/L			µg/L	
	Total aluminum	µg/L			µg/L	
	Total arsenic	µg/L			µg/L	
	Total cadmium	µg/L			µg/L	
	Total chromium	µg/L			µg/L	
	Total copper	µg/L			µg/L	
	Total cyanide	µg/L			µg/L	
	Total lead	µg/L			µg/L	
	Total nickel	µg/L			µg/L	
	Total silver	µg/L			µg/L	
	Total zinc	µg/L			µg/L	
	Total hardness	mg/L			mg/L	
	Total residual chlorine	mg/L			mg/L	
	other ( )					
Additional Analytes Required For WET Chemistry	Alkalinity	mg/L			mg/L	
	Total magnesium	µg/L			µg/L	
	Specific conductivity	µmhos			µmhos	
	Total organic carbon	mg/L			mg/L	
	Total solids	mg/L			mg/L	
	Total suspended solids	mg/L			mg/L	
	pH	S.U.			S.U.	
	other ( )					

*** Receiving water chemistry need only be performed at the discretion of the permittee.**

Comments

_____

_____

_____

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

Signature _____ Company _____

Printed Name _____ Mailing Address _____

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

AND

MAINE WASTE DISCHARGE LICENSE

FACT SHEET

Date: **October 21, 2005**
Revised: **November 18, 2005**

PERMIT NUMBER: **ME0002399**
LICENSE NUMBER: **W000643-5N-E-R**

NAME AND ADDRESS OF APPLICANT:

First Technology
228 Northeast Road
Standish, ME 04084

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

228 Northeast Road
Standish, ME. 04084

RECEIVING WATER/CLASSIFICATION: **Unnamed tributary of the North Branch of the Little River/Class B**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **Mr. Benjamin Taylor**
Env. Safety Supervisor
(207) 642-0360
Email: btaylor@1firsttech.com

1. APPLICATION SUMMARY

The permittee has applied for modification and renewal of combination Maine Pollutant Discharge Elimination system (MEPDES) permit #ME0002399/Waste Discharge License (WDL) #W000643-44-C-R, (permit hereinafter) which was issued on July 17, 2001, and is due to expire on July 17, 2006. The MEPDES permit authorized the discharge of up to a total of 20,000 gallons per day (gpd) of treated process waste waters and non-contact cooling waters from an industrial facility that manufactures thermoprotectors, ceramic thermresistors and resonators, and optical sensors at it's Standish facility. All waste waters generated by the facility are discharged to an unnamed tributary of the North Branch of the Little River, Class B in Standish, Maine.

1. APPLICATION SUMMARY

In a letter dated May 13, 2005, to the Department, the permittee indicated it completed the installation of infrastructure such that all industrial process waste waters and non-contact cooling waters are now part of closed loop systems. The permittee indicated it wishes to maintain the MEPDES permit in the unlikely event of a discharge of treated process waste waters due to a malfunction in the closed loop system or a discharge of non-contact cooling water from the trim cooler during times when the cooling capacity is insufficient during the hottest summer days.

2. MODIFICATIONS REQUESTED

a. Eliminate the requirement for whole effluent toxicity (WET) testing from the permit.

b. Authorize the discharge of up 20,000 gpd of non-contact cooling waters from the trim cooler and emergency generator through a separate outfall pipe. It is noted the previous permit authorized the discharge of up to 20,000 gpd of these same waters via Outfall #002.

c. Reduce the daily maximum flow limitation for Outfall #001 from 15,000 gpd to 3,500 gpd.

d. Remove the requirement for the treatment facility to be operated by a person holding physical/chemical certification issued by the Department.

3. PERMIT SUMMARY

a. Terms and conditions - This permitting action:

1. Modifying the whole effluent toxicity (WET) testing due to the infrequent nature of the discharge of industrial process waste waters.

2. Eliminating the chemical specific (priority pollutant) testing from the permit due to the infrequent nature of the discharge of industrial process waste waters.

3. Consolidating limitations and monitoring requirements for the discharge of industrial process waste waters previously regulated as separate internal waste streams, Outfall #001 and Outfall #003. Outfall #002 will remain as the final outfall for treated process water discharges.

4. Establishes a new outfall (Outfall #004) for the discharge of solely non-contact cooling waters. It is noted this is not a new waste stream as these waters were previously discharged via Outfall #002 after combining with industrial process waste waters associated with Outfall #001 and Outfall #003.

3. PERMIT SUMMARY (cont'd)

5. Removing the requirement for the treatment facility to be operated by a person holding physical/chemical certification issued by the Department.

6. Establishes applicable water quality based limitations based on new acute and chronic dilution factors as a result of a reduction in the permitted flows.

b. History: The most recent licensing/permiting actions include the following:

September 14, 1994 – The Department issued WDL renewal #W000643-44-C-R for a five-year term. On the same date, the Department issued a WDL transfer #W000643-44-D-T which transferred the WDL from GTE Control Devices Inc. to Control Devices Inc.

February 1, 1995 – The Department administratively modified WDL #W000643-44-C-R by issuing a letter to Control Devices Inc. that outlined their toxicity testing requirement pursuant to a new Department regulation, Chapter 530.5, *Surface Water Toxics Control Program*, adopted on October 12, 1994.

September 30, 1996 – The U.S. Environmental Protection Agency (EPA) issued National Pollutant Discharge Elimination System (NPDES) permit #ME0002339 for the discharge from the Control Devices Inc. industrial manufacturing facility. The permit was issued for a five-year term.

January 19, 1999 – The EPA issued a modification of NPDES permit #ME0002339. The modification removed the limitation and monitoring requirement for ammonia for Outfall #002 from the permit.

September 13, 1999 – FTCD submitted a timely application with the Department to renew the WDL for the discharge from the industrial manufacturing facility.

June 20, 2000 – Pursuant to Maine law, 38 M.R.S.A. §420 and Department rule, 06-096 CMR Chapter 519, *Interim Effluent Limitations and Controls for the Discharge of Mercury*, the Department issued a *Notice of Interim Limits for the Discharge of Mercury* to the permittee. This action administratively modified WDL # W000643-44-C-R by establishing interim monthly average and daily maximum effluent concentration limits of 4.5 parts per trillion (ppt) and 6.8 ppt, respectively for mercury, and a minimum monitoring frequency requirement of four tests per year.

January 12, 2001 – The State of Maine received authorization from the EPA to administer the NPDES permitting program. From that date forward, the State permitting program has been referred to as the MEPDES program.

July 17, 2001 – The Department issued combination MEPDES/WDL permit #ME0002339/W000643-5N-D-R for a five-year term.

3. PERMIT SUMMARY (cont'd)

May 13, 2005 – The Department received a letter from FTCD indicating it had completed installation of closed loop systems for both of it's industrial process waste streams and non-contact cooling water. Discharges of treated process waste waters stream and/or non-contact cooling waters will only occur under extraordinary circumstances.

September 7, 2005 – FTCD submitted an application to the Department to modify and renew the MEPDES permit/WDL for the discharge from the facility.

c. Source Description: FTCD manufactures thermoprotectors, ceramic thermistors and resonators, and optical sensors at the Standish facility.

The thermoprotectors consist of bimetal blades with silver contacts encased in glass with or without tin plated copper lead wires. The thermoprotectors are used in pump motors, compressors, and washing machine motors. The manufacturing process includes glass cutting and forming, bimetal stamping, resistance welding, part wire cleaning, possible plating, and temperature calibration.

The ceramic positive temperature coefficient (PTC) thermistors may be used as self-regulating heaters, temperature sensors, or control elements. Applications of dielectric resonators include RF (radio frequency) filters, MV (microwave) filters and oscillators. The thermistors and dielectric resonators are manufactured by mixing various oxides of lead, barium, titanium, yttrium, calcium, tantalum, zinc, and manganese and then processing the blends in ball mills. The slurries are then either filter pressed and oven dried or simply oven dried depending on the product type. The caked material is then remilled with binding agents and conveyed to a spray drier. The powder is then dry pressed into parts and sent through sintering furnaces. The thermistors are subject to either arc spraying with aluminum, copper or screen printing for the addition of electrodes. The dielectric resonators undergo machining for final shaping of the product. Wastewater is generated from pressing operations or equipment washdown and is conveyed to the ceramic wastewater treatment system via floor troughs.

The manufacturing of optical sensors does not generate waste water and therefore is not regulated by the MEPDES permit. Optical sensors manufactured at this facility are used in automotive climate control and headlamp control.

d. Waste Water Treatment: Production at the facility results in three independent waste streams that were previously conveyed to one common outfall that discharged to the unnamed tributary of the North Branch of the Little River (see Attachment A of this Fact Sheet for applicable water use schematics). All make-up water utilized in the facility is purchased from the Portland Water District. Since issuance of the July 2001 MEPDES permit, the permittee has implemented a closed loop system on both the industrial waste water discharges (formerly internal waste streams Outfall #001 and Outfall #003 in the MEPDES permit) and non-contact cooling waters, a component of Outfall #002 in the previous MEPDES permit.

3. PERMIT SUMMARY (cont'd)

Former *Outfall #001* conveys waste waters associated with the production of the thermoprotectors. Wires are cleaned in an acid solution of muriatic and nitric acids. The acids baths are periodically replaced with fresh solutions. The spent solutions are barreled and properly disposed of in accordance with state and federal regulations.

System rinse water makes up Outfall 001 waste water which receives best practicable treatment via equalization, neutralization, filtration, and sludge dewatering. Outfall 001 treatment waste water process generates approximately 500 to 1,700 gallons per day. This pre-treated waste water receives chelating/mixed bed ion exchange treatment and is returned to the rinses for re-use. Discharge(s) to surface water would be through Outfall 002 and only in the event of a closed loop system failure.

Former *Outfall 003* conveys waste waters associated with the ceramic manufacturing operations. The waste water, consisting primarily of barium and lead, is treated in batches through chemical precipitation, flocculation, clarification, and sludge dewatering. Chemical additions include alum, ferrous sulfate, sulfuric acid and caustic soda for pH adjustment. The wastewater is sampled for compliance with permit limitations before being metered into the facility's combined waste stream. The maximum daily flow for the Outfall 003 waste treatment plant is 1,300 GPD. A closed loop evaporative system is used for recycle of Outfall 003 waste water(without chemical pretreatment) to the ceramics production area for re-use. Discharge to surface water would be through Outfall 002 and only in the event of a closed loop system failure.

Outfall 002 is now comprised of treated waste water from Outfall 001 and Outfall 003 only, since completion of in-plant piping modifications to the collection system during the spring of calendar year 2005. Non-contact cooling water is monitored and discharged separately through Outfall 004. In the event Outfall #001 or Outfall 003 closed loop system failure, the waste water would be pre-treated via its respective treatment system, then be equalized and further treated through the chelating bed/mixed bed ion exchange system that comprises Outfall 002 The water from the ion exchange system is then neutralized with caustic soda or sulfuric acid prior to discharge. Unauthorized discharge(s) to surface water through Outfall 002 is prevented by the use of a key-locked valve on the discharge pipe. The key is under the control of the facility's Environmental Manager.

FTCD has indicated in their permit renewal application that they are continually pursuing process changes and modifications to reduce water usage and/or reduce the consumption of raw materials and the generation of waste waters. Some of the pollution prevention efforts taken to date include the following:

1. In 1989-90, the installation of two glycol cooling systems to reduce the non-contact cooling water utilized from 0.17 MGD to 0.035 MGD.

2. Replacement of 1,1,1 TCA with a biodegradable detergent for all degreasing operations at the facility.

3. PERMIT SUMMARY (cont'd)

3. Reconfiguration of the pipe network and monitoring point for Outfall #002. In the past, the process waste waters and non-contact cooling waters from the three individual waste streams were discharged to a catch basin on the premises.

   Monitoring of the outfall included storm water runoff from the surrounding grounds. The rerouting of the piping for Outfall #002 included isolating the production facility's waste waters from the storm water runoff and establishing a new monitoring station inside the existing building. This is more representative of flow rates and samples of the waste stream for compliance with the permit.

4. Installation of an ion exchange unit to reduce elevated zinc levels. The permittee has indicated the source of the high zinc concentrations is the zinc-orthophosphate corrosion inhibitor used in the public water supply by the Portland Water District.

5. An evaporative water recovery system was installed in early 2001 to serve the entire ceramics production area. All waste water generated is processed and returned to the production floor for re-use, eliminating the need for discharge.

6. During the spring of 2005, FTCD tied all equipment requiring the use of cooling water into the facility's closed loop glycol cooling system. The only potential for cooling water discharge would result from water used for trim cooling of the glycol system during the hottest summer days, or cooling water used for the facility's emergency generator.

7. During the spring of 2005, FTCD re-piped Outfall 001 and Outfall 003 in order to segregate industrial process water from non-contact cooling water. Non-contact cooling water is now monitored and discharged separately from industrial process water.

8. During the spring of 2005, FTCD installed the necessary equipment and distribution piping from the ion exchange treatment system at Outfall 002 to the flowing rinse tanks in the etching and plating lines in the Oil Room. This allows all water generated by these operations to undergo ion exchange treatment and be recycled to the production floor eliminating the need for discharge.

4. CONDITIONS OF PERMITS

Maine law, 38 M.R.S.A. Section 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., Section 420 and Department rule 06-096 CMR Chapter 530, *Surface Water Toxics Control Program,* require the regulation of toxic substances not to exceed levels set forth in Department rule 06-096 CMR Chapter 584, *Surface Water Quality Criteria for Toxic Pollutants*, and that ensure safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected.

5. RECEIVING WATER QUALITY STANDARDS

Maine law, 38 M.R.S.A., Section 467(9)(B)(1) classifies the unnamed tributary of the North Branch of the Little River at the point of discharge as a Class B waterway. Maine law, 38 M.R.S.A., Section 465(3) describes the classification standards for Class B waterways.

6. RECEIVING WATER QUALITY CONDITIONS

A document entitled *The State of Maine 2004 Integrated Water Quality Monitoring and Assessment Report*, prepared pursuant to Sections 303(d) and 305(b) of the Federal Water Pollution Control Act, does not contain any information indicating that the unnamed tributary of the North Branch of the Little River is not attaining the standards of its assigned classification.

7. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Based on information in the letters dated February 14, 2005, and May 13, 2005, and an application submitted to the Department on September 7, 2005, the permittee is requesting to modify the permit limitations and monitoring requirements due to a number of water reuse projects at the manufacturing facility since issuance of the previous permitting action. If a discharge is necessary, flows associated with former Outfall #001 have been reduced from 15,000 gpd to 3,500 gpd while flows associated with former Outfall #003 remain at 1,300 gpd. For the purposes of this permitting action, the limitations and monitoring requirements for these two waste streams are being combined with a daily maximum flow limitation of 5,000 gpd. Discharge Monitoring Report (DMR) data for industrial process waste waters being discharged will continue to be tracked via Outfall #002.

In the event of a discharge of non-contact cooling water, the permittee has indicated the daily maximum flow limit of 20,000 gpd in the previous permitting remains representative. The permittee is requesting the monitoring data for this discharge be tracked separately as the industrial waste waters and non-contact cooling water will be discharged independently and no longer co-mingled as a result of the configuration of the closed loop system. Therefore, this permitting action is establishing a new Outfall #004 to track DMR data for non-contact cooling water.

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

Former **OUTFALL #001** - Snap Blade Production/Thermoprotectors

Snap blade production at the FTCD facility is subject to EPA's National Effluent Guidelines and Standards for the *Metal Finishing Point Source Category* in 40 CFR Part 433, Subpart A – *Metal Finishing Subcategory*. The effluent guidelines establish monthly average and daily maximum best practicable control technology (BPT) and best available control technology economically achievable (BAT) concentration limits. Applicable parameters cited in 40 CFR Part 433, Subpart A for this production activity include copper, total toxic organics (TTO), total suspended solids, oil & grease and pH.

Former **OUTFALL #003** – Ceramic Resistor and Resonator Production

Ceramic Resistor and Resonator Production at the FTCD facility is subject to EPA's National Effluent Guidelines and Standards for the *Metal Finishing Point Source Category* in 40 CFR Part 469, Subpart B – *Electronic Crystals Sub-category*. The effluent guidelines establish monthly average and daily maximum best practicable control technology (BPT) and best available control technology economically achievable (BAT) concentration limits. Applicable parameters for the FTCD facility include, total suspended solids, total toxic organics (TTO), and pH.

Being that the NEG's establish BPT and or BAT limitations for similar parameters and the fact the discharge from the facility will only be as a result of equipment malfunctions, this permitting action is consolidating the limitations and monitoring requirements for these two waste streams. This permitting approach is somewhat conservative in that it limits discharges to levels assuming equipment associated with both independent waste streams fail simultaneously and discharge at full permitted flows.

Outfall #002 – Industrial Process Waste Waters

a. Flow: The previous permitting action (7/17/01) established a daily maximum flow limit of 15,000 gpd for Outfall #001 (thermoprotectors) and 1,300 gpd for Outfall #003 (ceramics). The limits were originally established as a condition in an 8/22/89 Section 401 water quality certification issued by the Department for a draft NPDES permit. In their August 2005 application, the permittee indicated that the potential discharge volume associated with the thermoprotectors manufacturing process has been reduced dramatically from 15,000 gpd down to 3,500 gpd while the potential discharge from the ceramics area remains at 1,300 gpd. Therefore, this permitting action is establishing a new daily maximum flow limitation of 5,000 gpd based on a best professional judgment of a flow that is representative of a discharge from both production processes simultaneously.

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

Outfall #002 – Industrial Process Waste Waters

b. Dilution Factors: Dilution factors associated with the discharge of treated industrial waste waters from the FTCD facility were derived in accordance with freshwater protocols established in Department Rule Chapter 530.5, *Surface Water Toxics Control Program*, October 1994. With a new daily maximum permit flow of 5,000 gpd (0.005 MGD), new dilution calculations are as follows:

Acute: 1Q10 = 0.13 cfs $\Rightarrow$ $\frac{(0.13 \text{ cfs})(0.6464) + 0.005 \text{ MGD}}{0.005 \text{ MGD}} = 18:1$

Chronic: 7Q10 = 0.15 cfs $\Rightarrow$ $\frac{(0.15 \text{ cfs})(0.6464) + 0.005 \text{ MGD}}{0.005 \text{ MGD}} = 20:1$

Harmonic Mean: 0.45 cfs[(1)] $\Rightarrow$ $\frac{(0.45 \text{ cfs})(0.6464) + 0.005 \text{ MGD}}{0.005 \text{ MGD}} = 59:1$

Footnote:

(1) The harmonic mean dilution factor is approximated by multiplying the chronic dilution factor by three (3). This multiplying factor is based on guidelines for estimation of human health dilution presented in the USEPA publication *"Technical Support Document for Water Quality-based Toxics Control"* (Office of Water; EPA/505/2-90-001, page 88), and represents an estimation of harmonic mean flow on which human health dilutions are based in a riverine 7Q10 flow situation.

c. Temperature: Department Rule Chapter 582, states that no discharge shall cause the ambient temperature of any freshwater body such as a stream or river, as measured outside a mixing zone, to be raised more than 5°F. The regulation also limits a discharger to an in-stream temperature increase (ΔT) of 0.5° F above the ambient receiving water temperature when the weekly average temperature of the receiving water is greater than or equal to 66° F or when the daily maximum temperature is greater than or equal to 73° F. The temperature thresholds are based on EPA water quality criterion for the protection of brook trout and Atlantic salmon. The weekly average temperature of 66° F was derived to protect for normal growth of the brook trout and the daily maximum threshold temperature of 73° F protects for the survival of juveniles and adult Atlantic salmon during the summer months. As a point of clarification, the Department interprets the term "weekly average temperature" to mean a seven (7) day rolling average. To promote consistency, the Department also interprets the ΔT of 0.5° F as a weekly rolling average criterion when the receiving water temperature is $\geq$66° F and <73° F and a daily maximum criterion when the receiving water is $\geq$73° F.

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

Outfall #002 – Industrial Process Waste Waters

In 1999, the Department adopted a new policy regarding the regulation of temperature based on Chapter 582. The policy determined what the applicable receiving water flows were to be used in calculations to evaluate and or establish limitations to comply with Chapter 582. The policy made the determination that when a freshwater receiving water temperature is between ≥66°F and <73°F as a weekly average, the weekly average ΔT of 0.5°F will be evaluated based on actual receiving water flows for the week. When the receiving water temperature is ≥73°F, the daily maximum ΔT of 0.5°F will be evaluated based on the 7Q10 receiving water flow.

The previous permitting action established seasonal (October 1 – May 31 and June 1 – September 30) daily maximum temperature limits. The non-summer limit of 84°F was a technology based limitation based on a review of the historical seasonal discharge data dating back to 1987. Text in the 9/14/94 license indicates the limit was carried forward from the 9/11/89 NPDES permit and 9/28/87 license and was based on Department Rule, Chapter 582, *Regulations Relating to Temperature*. The previous permitting action established a summertime water quality based daily maximum limit of 76°F based on a 7Q10 flow of 0.15 cfs and a permitted flow of 20,000 gpd for Outfall #002.

Being that this permitting action has established a daily maximum flow limit of 0.005 MGD, the daily maximum temperature limit established in the permit is based on the daily maximum ΔT of 0.5°F, a 7Q10 receiving water flow and a receiving water temperature of ≥73°F. Therefore, the daily maximum temperature limit is calculated as follows:

Given(s):

7Q10 = 0.15 cfs ⇒ 0.09696 MGD or 96,960 gallons/day
Daily maximum instream ΔT = 0.5°F
Plant flow = 0.005 MGD or 5,000 gallons/day. It is noted, the water source for production activities at the FTCD facility is the Portland Water District.

Assumption(s):

Receiving water is ≥73°F.

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

Outfall #002 – Industrial Process Waste Waters

Calculations:

1. What thermal load (expressed in BTU's/day) will change the receiving water by 0.5°F?

   (96,960 gpd + 5,000 gpd)(0.5°F)(8.34) = 425,173 BTU's/Day

2. Based on a receiving water temperature of 73°F, what temperature limitation is required for a 5,000 gpd discharge?

   $\frac{425{,}173 \text{ BTU's/day}}{(5{,}000 \text{ gpd})(8.34)} = 10.2°F \Rightarrow 73°F + 10.2°F = 83°F$

The calculations above indicate that a year-round temperature limit of 83°F is achievable and complies with ambient water quality criteria. Therefore, this permitting action is eliminating the seasonal temperature limitations and establishing a year-round daily maximum limitation of 83°F. It is noted the previous permitting action authorization the permittee to utilize the effluent from Outfall #002 to irrigation the lawn area on the facility grounds. Special Condition E of this permitting action carries forward the authorization to do so which will in turn minimize the risk of violating the daily maximum instream standard of $\Delta T = 0.5°F$ during the summer months.

d. Total Suspended Solids – A 7/17/01 permitting action established a daily maximum concentration and mass limit of 6.2 mg/L and 0.067 lbs/day. Text in that permitting action indicates the limits were based on a 1989 best professional judgment by the EPA. The EPA reconsidered their position on limiting TSS in the 9/30/96 NPDES permit renewal by eliminating the mass limits and established concentration limits as follows: 1) monthly average – 23 mg/L and 2) daily maximum 61 mg/L. These limits are equivalent to the BPT limits established in 40 CFR, Part 469, Subpart B.

   A review of the DMR data from 1/95 to 7/01 indicates the discharge had on average, been in the range of 2.0 mg/L to 4.0 mg/L as both a monthly average and daily maximum. The data indicated the more stringent limitations in the 9/14/94 State license were attainable and anti-backsliding provisions required the permitting authority to carry forward the 9/14/94 license limits in the 7/17/01 permitting action. The concentration and mass limits (6.2 mg/L and 0.067 lbs/day) for TSS limits were carried forward in the 7/17/01 permitting action and are being carried forward in this permitting action pursuant to anti-backsliding provisions.

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

Outfall #002 – Industrial Process Waste Waters

e. Total Toxic Organics (TTO) – The EPA's National Effluent Guidelines and Standards for the *Metal Finishing Point Source Category* in 40 CFR Part 433, Subpart A – *Metal Finishing Sub-category* and *Metal Finishing Point Source Category* in 40 CFR Part 469, Subpart B – *Electronic Crystals Sub-category* establishes a BAT effluent guideline (daily maximum) concentration limits of 1.37 mg/L for TTO. This limitation was established for both Outfalls #001 and #003 in the previous licensing action and is being carried forward in this permitting action. The guidelines do contain a provision that in lieu of monitoring for TTO, the permittee may in accordance with 40 CFR, §469.13(a), certify as to the non-release of concentrated toxic organics into the waste stream in conjunction with implementation of a Solvent management Plan.

It is noted that in lieu of monitoring for TTO, FTCD has been providing the permitting authorities with the proper monthly certification cited above and has developed *a Toxic Organic Management Plan* which is kept on site and periodically updated. The plan was lasted updated on February 1, 2001. The plan has and will continue to be made available to the permitting authorities upon request.

f. pH – The previous licensing action established a pH range limit of 6.0 – 9.0 standard units that is being carried forward in this permitting action. The limits were based on to EPA's National Effluent Guidelines and Standards for the *Metal Finishing Point Source Category* in 40 CFR Part 433, Subpart A – Metal Finishing Subcategory *Category* and *Metal Finishing Point Source Category* in 40 CFR Part 469, Subpart B – *Electronic Crystals Sub-category*.

A review of the DMR data from 1/95 to the present indicates the discharge has on average, ranged from 6.7 to 7.5 standard units and has never been violated.

g. Chemical specific and whole effluent toxicity (WET) testing - Maine law, 38 M.R.S.A., Sections 414-A and 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. Department Rules, 06-096 CMR Chapter 530, *Surface Water Toxics Control Program*, and Chapter 584, *Surface Water Quality Criteria for Toxic Pollutants* (both effective October 9, 2005) set forth ambient water quality criteria (AWQC) for toxic pollutants and procedures necessary to control levels of toxic pollutants in surface waters.

WET and chemical specific (priority pollutant) testing, as required by Chapter 530.5 (former *Surface Water Toxics Control Program* rule effective date 10/12/94) was included in the previous permitting action in order to fully characterize the effluent. The permit also provided for reconsideration of effluent limits and monitoring schedules after evaluation of toxicity testing results. The monitoring schedule included consideration of results currently on file, the nature of the waste water, existing treatment and receiving water characteristics.

7. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

Outfall #002 – Industrial Process Waste Waters

WET monitoring was 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 were performed on invertebrate and vertebrate species. Chemical specific, or "priority pollutant (PP)," testing was required to assess the levels of individual toxic pollutants in the discharge, comparing each pollutant to acute, chronic, and human health water quality criteria.

FTCD has been conducting toxicity monitoring as required by Department Rule Chapter 530.5, *Surface Water Toxics Control Program*. The Department's 2/1/95 Fact Sheet outlined FTCD's chemical specific testing requirements under the regulation. The regulation placed the FTCD facility in the high frequency testing category for chemical specific testing as the facility discharged industrial process waste waters and had extremely low dilution factors associated with the discharge. A review of the Department's database indicates that the FTCD has fulfilled it's chemical specific testing requirements to date. See Attachment B of this Fact Sheet for a summary of the chemical specific testing conducted to date.

The previous permitting action established monthly average and/or daily maximum concentration and mass limits for copper, lead and zinc. Text in the previous licensing action indicates the limits were derived as follows:

Copper - Carried forward from the 9/11/89 NPDES permit per anti-backsliding provisions. Originally established in the State's 8/22/89 Section 401 water quality certification of a draft NPDES permit.

Lead - Carried forward from the 9/11/89 NPDES permit per anti-backsliding provisions.

Zinc – Proposed by the licensee based on a past demonstrated performance of the treatment system after a change in the production process.

Chemical Specific

In accordance with the Department newly promulgated (October 12, 2005) Chapter 530 §3(E), the Department conducted a statistical evaluation on October 21, 2005, on the WET and chemical-specific tests results in accordance with the statistical approach outlined in the 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.).

7. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

Outfall #002 – Industrial Process Waste Waters

Chapter 530 §3 states, "*In determining if effluent limits are required, the Department shall consider all information on file and effluent testing conducted during the preceding 60 months. However, testing done in the performance of a Toxicity Reduction Evaluation (TRE) approved by the Department may be excluded from such evaluations.*"

Chapter 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 unnamed tributary of the North Branch of the Little River. Therefore, a background concentration of 10% of the applicable water quality criteria is being used in the calculations of this permitting action.

Chapter 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 the applicable water quality criteria is being used in the calculations of this permitting action.

Chapter 530 §(3)(E) states "*... 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.*

Chapter 530 §(3)(C) states that if data indicates that a discharge is causing an exceedence of applicable AWQC, "*then (1) the licensee must, within 45 days of becoming aware of an exceedence, submit a TRE plan for review and approval and implement the TRE after Department approval; and (2) the Department must, within 180 days of the Department's written approval of the TRE plan, modify the waste discharge license to specify effluent limits and monitoring requirements necessary to control the level of pollutants and meet receiving water classification standards. Evaluations of the reasonable potential for exceedence of criteria must be conducted upon any license action, following the provisions of section 3(E). The Department shall utilize mass discharge criteria for evaluating individual exceedences of specific chemical pollutants.*"

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

Outfall #002 – Industrial Process Waste Waters

The 10/21/05 statistical evaluation indicates the discharge exceeds or has a reasonable potential to exceed the acute and chronic AWQC for copper and exceeds or has a reasonable potential to exceed the chronic AWQC for lead. Given the discharge of industrial process waste waters will only occur for short periods of time (1-3 days) as a result of equipment malfunctions in the closed loop systems, this permitting action is placing more emphasis on evaluating and establishing limitations based on an acute basis. Acute AWQC is based on short term exposures of 48 hours while chronic AWQC is based on exposures of 7-10 days. For the purposes of this permitting action, monitoring and reporting for lead is only applicable when the permittee consistently discharges for at least five (5) consecutive days. Monitoring for copper is required 1/Discharge event. However, reporting for compliance with the monthly average limit is only required when the discharge occurs for at least five (5) consecutive days.

This permit establishes daily maximum (acute) end-of-pipe (EOP) mass and concentrations limits for copper. The derivation for these limits is as follows:

Acute:

Copper AWQC = 3.07 ug/L -15% (for reserve) – 10% (background) = 2.30 ug/L

Parameter	Acute Criterion	Acute Dilution Factor	Calculated EOP Concentrations
Copper	2.30 ug/L	18:1	41 ug/L

Example Calculation: Copper - (2.30 ug/L)(18) = 41 ug/L

Based on a permitted flow of 0.005 MGD, EOP mass limits are as follows:

Parameter	Calculated EOP Concentrations Acute	Daily Max. Mass Limit
Copper	41 ug/L	0.0017 #/day

Example Calculation: Copper - $\frac{(41\ ug/L)(8.34)(0.005\ MGD)}{1000\ ug/mg} = 0.0017\ \#/day$

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

Outfall #002 – Industrial Process Waste Waters

This permit establishes monthly average (chronic) EOP mass and concentrations limits for copper and lead. The derivation for these limits is as follows:

Chronic:

Copper AWQC = 2.36 ug/L - 15% (for reserve) – 10% (background) = 1.77 ug/L
Lead AWQC = 0.41 ug/L - 15% (for reserve) – 10% (background) = 0.31 ug/L

Parameter	Acute Criterion	Acute Dilution Factor	Calculated EOP Concentrations
Copper	1.77 ug/L	20:1	35 ug/L
Lead	0.31 ug/L	20:1	6.2 ug/L

Example Calculation: Copper - (1.77 ug/L)(20) = 35 ug/L

Based on a permitted flow of 0.005 MGD, EOP mass limits are as follows:

Parameter	Calculated EOP Concentrations Chronic	Monthly Avg. Mass Limit
Copper	35 ug/L	0.0015 #/day
Lead	6.2 ug/L	0.0003 #/day

Example Calculation: Copper - $\frac{(35\ ug/L)(8.34)(0.005\ MGD)}{1000\ ug/mg} = 0.0015\ \#/day$

In addition, EPA's Technical Support Document For Water Quality Based Toxics Control, March 1991, Chapter 5, Section 5.7, recommends that permit limits for both mass and concentration be specified for effluents discharging into waters with less than 100 fold dilution to ensure attainment of water quality standards. As not to penalize the permittee for operating at flow less than the permitted flows, the Department is establishing concentration limits based on a factor of 1.5. Therefore, concentration limits for the parameters of concern in this permit are as follows:

Parameter	Allowable EOP Concentrations Acute	Chronic	EOP Daily Max. Conc. Limit	EOP Monthly Avg. Conc. Limit
Copper	41 ug/L	35 ug/L	62 ug/L	52 ug/L
Lead	---	6.2 ug/L	---	9.3 ug/L

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

Outfall #002 – Industrial Process Waste Waters

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 requirement frequencies for copper that exceed or have a reasonable to exceed AWQC based on a best professional judgment given the timing, frequency and severity of the exceedence or reasonable to exceed AWQC. In addition, given the infrequent nature of the discharge(s) due to the implementation of closed loop systems, the Department has made a best professional judgment that the following testing frequencies are appropriate for these elements for the term of this permit.

Parameter	Frequency
Copper	1/Discharge
Lead	1/Discharge[(1)]

Footnotes:

(1) Monitoring and reporting requirements are only applicable if discharges are greater than five consecutive days.

It is noted that should future test results mathematically eliminate the reasonable potential to exceed AWQC thresholds, this permit may be modified pursuant to Special Condition G to remove the limit(s) and/or modify monitoring requirements.

The Department is not requiring the permittee to conduct a TRE for copper due to the fact the permittee has installed closed loop systems to eliminate the day-to-day discharge of industrial process waters containing copper. Discharges from these closed systems are only going to occur as a result of equipment malfunctions.

Maine Rules Chapter 523(5)(l) and federal regulation 40 CFR 122.44(l)(2)(i)(B)(1) authorizes backsliding of permit limits based on new information that was not available at the time of the permitting action. The Department has determined that new information is available since issuance of the July 17, 2001 MEPDES permit in that the daily maximum discharge limitation is being reduced from 20,000 gpd to 5,000 gpd resulting in different dilution factors than the dilution factors established in the previous permit. Therefore, anti-backsliding provisions of Maine Rules and federal regulations have been sufficiently satisfied.

Maine's anti-degradation policy is included in 38 M.R.S.A., Section 464(4)(F). Pursuant to the policy, where a new or increased discharge is proposed, the Department shall determine whether the discharge will result in a significant lowering of existing water quality. Increased discharge means a discharge that would add one or more new pollutants to an existing effluent, increase existing levels of pollutants in an effluent, or cause an effluent to exceed one or more of its current licensed discharge flow or effluent limits, after the application of applicable best practicable treatment technology.

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

Outfall #002 – Industrial Process Waste Waters

It is noted, though the concentration limits for copper and lead in this permitting action are less stringent than the previous permitting action, but mass limitations for both parameters are more stringent than the previous permitting action. Therefore, the anti-degradation policy has been satisfied.

Whole Effluent Toxicity (WET)

The FTCD facility has also been conducting WET testing as required by the Department's former Rule Chapter 530.5. The Department's 2/1/95 Fact Sheet outlined the FTCD's WET testing requirements under the new regulation. The regulation placed the FTCD facility in the high frequency testing category for WET testing as the facility discharged industrial process waste waters. A review of the Department's data base indicates that the FTCD has fulfilled it's WET testing requirements under the regulation.

The previous permitting action established chronic – no observed effect level (C-NOEL) limitations for the water flea *Ceriodaphnia dubia* and brook trout *Salvelinus fontinalis* as a statistical evaluation conducted for the previous permitting action indicated the discharge exceeded and had a reasonable potential to exceed the chronic ambient water quality threshold of 17.2% for the water flea and exceeded and had a reasonable potential to exceed chronic ambient water quality threshold of 17.2% for the brook trout.

As with chemical specific testing, on October 21, 2005, the Department performed an updated statistical evaluation on the WET test results on file for the most recent 60 month period. See Attachment C of this Fact Sheet for the test results evaluated. Reasonable potential calculations were performed in accordance with the statistical approach outlined in the 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.). The results indicate that the permittee has one test result (6.25% on 10/8/03) that has a reasonable potential to exceed the chronic ambient water quality threshold of 5.0% for the *Ceriodaphnia dubia* (water flea). It is noted the chronic ambient water quality threshold of 5% is less stringent than the 17.2% in the previous permitting action as a result of the increase in the chronic dilution factor from 5.8:1 to 20:1 based on a reduction in the permitted flow for the discharge. Applicable water quality thresholds are calculated as the mathematical inverse of the applicable dilution factor.

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

Outfall #002 – Industrial Process Waste Waters

Chapter 530 §(3)(E) states when a discharge *"... 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.* However, as with chemical specific testing, exceedences and or reasonable potential to exceed chronic critical water quality thresholds are only applicable when discharges continue for a longer than 7-10 consecutive days. For the purposes of this permitting action, a C-NOEL limitation of 5.0% for the *Ceriodaphnia dubia* (water flea) is being established in this permitting action and monitoring and reporting requirements are only applicable when the permittee consistently discharges for at least five (5) consecutive days.

h. Spray Irrigation – The previous permitting action authorized the permittee to utilize treated industrial process waste waters and non-contact cooling waters to irrigate the facility's lawn areas. The facility has an underground irrigation system in place that consists of 16 different spray zones with five to seven spray heads per zone. The pump for the irrigation system has a maximum output of 18 gallons per minute. The system has sensors in the ground to determine the moisture content of the soil to avoid over spraying and generating runoff from the site. The system is programmed to automatically shutoff if the soil moisture is excessive. The permittee maintains an *Irrigation Schedule Programming Matrix* operational log which records the on and off times for the sixteen (16) spray zones. The use of the spray irrigation system during the term of the previous permitting action has been successful and been in compliance with the terms and conditions established in Special Condition F, *Spray Irrigation*, of the permit. Authorization to utilize the spray irrigation system is being carried forward in this permitting action. See Special Condition E, *Spray Irrigation*, of this permitting action.

Outfall #004 – Non-contact cooling waters

i. Flow: The application for permit modification and renewal submitted to the Department, the permittee requests the treated industrial process waste waters and non-contact cooling waters be regulated separately as they will be discharged and monitored separately. The permittee has requested the Department establish a daily maximum flow limit of 20,000 gpd or (0.020 MGD) for non-contact cooling waters.

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

Outfall #004 – Non-contact cooling waters

j. Dilution Factors: Dilution factors associated with the discharge from the FTCD waste water treatment facility were derived in accordance with freshwater protocols established in Department Rule Chapter 530.5, *Surface Water Toxics Control Program*, October 1994. With a daily maximum permit flow of 0.020 MGD, dilution calculations are as follows:

Acute: 1Q10 = 0.13 cfs $\Rightarrow$ $\frac{(0.13 \text{ cfs})(0.6464) + 0.020 \text{ MGD}}{0.020 \text{ MGD}} = 5.2{:}1$

Chronic: 7Q10 = 0.15 cfs $\Rightarrow$ $\frac{(0.15 \text{ cfs})(0.6464) + 0.020 \text{ MGD}}{0.020 \text{ MGD}} = 5.8{:}1$

Harmonic Mean: 0.45[(1)] cfs $\Rightarrow$ $\frac{(0.45 \text{ cfs})(0.6464) + 0.020 \text{ MGD}}{0.020 \text{ MGD}} = 14{:}1$

Footnote:

(1) The harmonic mean dilution factor is approximated by multiplying the chronic dilution factor by three (3). This multiplying factor is based on guidelines for estimation of human health dilution presented in the USEPA publication *"Technical Support Document for Water Quality-based Toxics Control"* (Office of Water; EPA/505/2-90-001, page 88), and represents an estimation of harmonic mean flow on which human health dilutions are based in a riverine 7Q10 flow situation.

k. Temperature: The previous permitting action established seasonal (October 1 – May 31 and June 1 – September 30) daily maximum temperature limits. The non-summer limit of 84°F was a technology based limitation based on a review of the historical seasonal discharge data dating back to 1987. Text in the 9/14/94 license indicates the limit was carried forward from the 9/11/89 NPDES permit and 9/28/87 license and was based on Department Rule, Chapter 582, *Regulations Relating to Temperature*. The previous permitting action (7/17/01) established a summertime water quality based daily maximum limit of 76°F based on a 7Q10 flow of 0.15 cfs and a permitted flow of 20,000 gpd for Outfall #002.

See the discussion in section 7(c) of this Fact Sheet for an explanation of Department rules pertaining to temperature. Being that this permitting action has established a daily maximum flow limit of 0.02 MGD (same as previous permitting action), the daily maximum temperature limit established in this and the previous permit were based on the

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

Outfall #004 – Non-contact cooling waters

daily maximum ΔT of 0.5°F, a 7Q10 receiving water flow and a receiving water temperature of ≥73°F. The daily maximum temperature limit is calculated as follows:

Given(s):

7Q10 = 0.15 cfs ⇒ 0.09696 MGD or 96,960 gallons/day
Daily maximum instream ΔT = 0.5°F
Plant flow = 0.020 MGD or 20,000 gallons/day. It is noted, the water source for production activities at the FTCD facility is the Portland Water District.

Assumption(s):

Receiving water is ≥73°F.

Calculations:

1. What thermal load (expressed in BTU's/day) will change the receiving water by 0.5°F?

   (96,960 gpd + 20,000 gpd)(0.5°F)(8.34) = 487,723 BTU's/Day

2. Based on a receiving water temperature of 73°F, what temperature limitation is required for a 20,000 gpd discharge?

   $\frac{487{,}723 \text{ BTU's/day}}{(20{,}000 \text{ gpd})(8.34)} = 2.9°F \Rightarrow 73°F + 2.9°F = 76°F$

l. pH – The previous permitting action established a pH range limit of 6.0 – 9.0 standard units that is being carried forward in this permitting action.

8. 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 waterbody to meet standards for Class B classification.

9. PUBLIC COMMENTS

Public notice of this application was made in the Shopping Guide newspaper on or about August 26, 2005. The Department receives public comments on an application until the date a final agency action is taken on that 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.

10. DEPARTMENT CONTACTS:

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

Gregg Wood
Division of Water Resource Regulation
Bureau of Land and Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017
Email: gregg.wood@maine.gov
Telephone (207) 287-3901

11. RESPONSE TO COMMENTS

During the period October 21, 2005, through the issuance date of the permit, the Department solicited comments on the proposed draft permit to be issued for the discharge(s) from the First Technology (FT) facility in Standish. The Department did not receive any comments from state or federal agencies or interested parties that resulted in any substantive change(s) in the terms and conditions of the permit. The Department did received written comments from the permittee in a letter dated November 1, 2005. Therefore, the Department has prepared a Response to those comments as follows:

Comment #1

The permittee has requested the Department remove the limitation for pH for Outfall #004 as the discharge is non-contact cooling and *"...FT employs no physical or chemical treatment of the city water used for trim cooling or the emergency generator operation."*

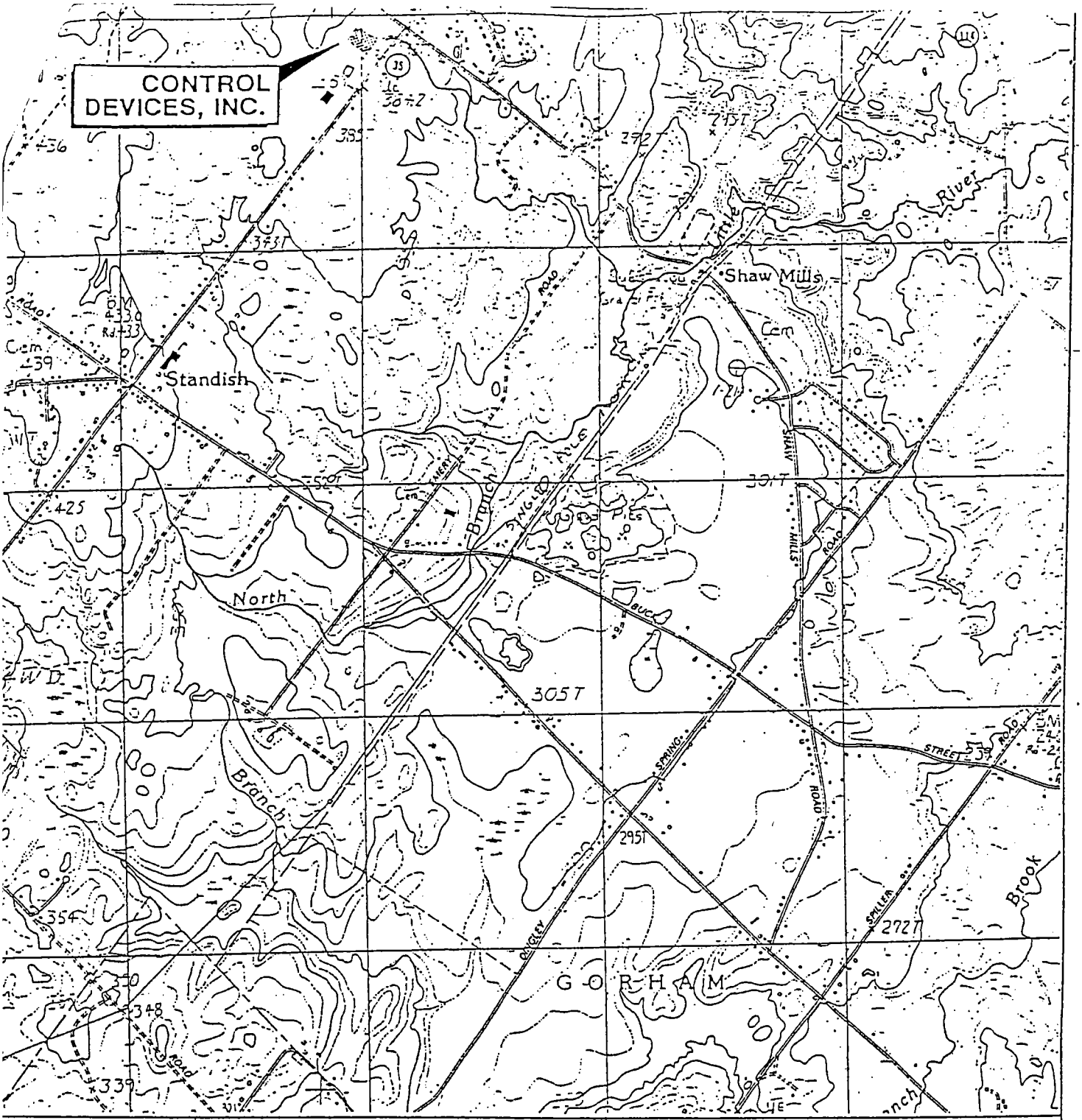
Response #1

The Department acknowledges the nature of the discharge and lack of treatment. However, Maine law 38 M.R.S.A. 464(4)(A)(5) states in part that the Department may not issue a WDL for a discharge that *"... causes the pH of fresh waters to fall outside the range of 6.0 – 8.5..."* The previous licensing action established a like pH range limitation that is subject to antibacksliding provisions found at Department rule Chapter 523(5)(l)(2) that state, *"in the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued or modified on the basis of effluent guidelines promulgated under section 304(b) of the CWA subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit."*

11. RESPONSE TO COMMENTS

The Department has made a best professional judgment that due to the nature and source of the non-contact cooling water, the discharge will be in compliance with the pH range limitation and therefore does require routine monitoring. However, if the Department or EPA personnel were to sample the discharge at any time, the limit provides a known boundary or range in which the discharge must be in to be in compliance with the permit and State law. Therefore, this permit is carrying forward the pH range limitation but is providing relief to the permittee by not requiring routine monitoring for pH.

ATTACHMENT A



FACILITY LOCATION MAP
CONTROL DEVICES, INC.
STANDISH, MAINE

ATTACHMENT B

RCH LITTLE RIVER

Sample Date: 03/02/1999
Only acute flow provided

Total Tests:	132	day(MGD) = 0.005
Missing Compounds:	0	
Tests With High DL:	7	
M = 3	V = 0	A = 0
BN = 4	P = 0	other = 0

Sample Date: 06/22/1999
Only acute flow provided

Total Tests:	130	day(MGD) = 0.003
Missing Compounds:	0	
Tests With High DL:	6	
M = 2	V = 0	A = 0
BN = 4	P = 0	other = 0

Sample Date: 02/08/2000
Plant flows not provided

Total Tests:	132	
Missing Compounds:	0	
Tests With High DL:	0	
M = 0	V = 0	A = 0
BN = 0	P = 0	other = 0

Sample Date: 06/07/2000
Plant flows not provided

Total Tests:	134	
Missing Compounds:	0	
Tests With High DL:	2	
M = 2	V = 0	A = 0
BN = 0	P = 0	other = 0

Sample Date: 09/25/2000
Plant flows provided

Total Tests:	141	mon.(MGD) = 0.006
Missing Compounds:	0	day(MGD) = 0.007
Tests With High DL:	3	
M = 3	V = 0	A = 0
BN = 0	P = 0	other = 0

Sample Date: 03/16/2001
Plant flows provided

Total Tests:	142	mon.(MGD) = 0.008
Missing Compounds:	0	day(MGD) = 0.008
Tests With High DL:	18	
M = 3	V = 5	A = 1
BN = 6	P = 3	other = 0

Sample Date: 10/08/2003
Plant flows not provided

Total Tests:	102	
Missing Compounds:	35	
Tests With High DL:	15	
M = 0	V = 0	A = 0
BN = 1	P = 14	other = 0

Sample Date: 10/15/2003
Plant flows not provided

Total Tests:	28	
Missing Compounds:	96	
Tests With High DL:	0	
M = 0	V = 0	A = 0
BN = 0	P = 0	other = 0

Sample Date: 04/06/2004
Plant flows provided

Total Tests:	138	mon.(MGD) = 0.006
Missing Compounds:	0	day(MGD) = 0.006
Tests With High DL:	0	
M = 0	V = 0	A = 0
BN = 0	P = 0	other = 0

PP Data for "Hits" Only

TECHNOLOGY/CONTROL DEVICES
BRCH LITTLE RIVER

NIC
= 5 ug/l

	Conc, ug/l	MDL	Sample Date	Date Entered
	2.000000	OK	04/06/2004	06/28/2004
	4.000000	OK	10/21/2003	03/01/2004
<	1.200000	OK	02/08/2000	04/24/2000
<	1.700000	OK	06/22/1999	01/21/2000
<	5.000000	OK	03/16/2001	10/16/2001
<	5.000000	OK	03/02/1999	01/21/2000
<	5.000000	OK	09/25/2000	01/11/2001
<	5.000000	OK	06/07/2000	09/21/2000

CHLORINE
No MDL

	Conc, ug/l	MDL	Sample Date	Date Entered
	350.000000	NS	02/06/2002	06/11/2002
<	10.000000	NS	02/08/2000	04/24/2000
<	10.000000	NS	06/22/1999	01/21/2000
<	10.000000	NS	03/02/1999	09/29/1999
<	10.000000	NS	06/24/1999	09/29/1999
<	20.000000	NS	04/06/2004	07/21/2004
<	50.000000	NS	11/26/2001	09/11/2002
<	50.000000	NS	09/24/2001	09/11/2002
<	50.000000	NS	10/08/2003	03/02/2004
<	50.000000	NS	03/16/2001	10/10/2001
<	50.000000	NS	05/31/2000	09/27/2000
<	50.000000	NS	06/07/2000	09/21/2000
<	50.000000	NS	09/25/2000	01/11/2001
<	50.000000	NS	06/13/2001	10/10/2001

OPPER
DL = 3 ug/l

Conc, ug/l	MDL	Sample Date	Date Entered
2.000000	OK	06/24/1999	09/29/1999
5.000000	OK	09/25/2000	02/28/2001
5.300000	OK	06/22/1999	01/21/2000
6.400000	OK	09/25/2000	01/11/2001
8.000000	OK	09/24/2001	09/11/2002
8.000000	OK	11/26/2001	09/11/2002
8.800000	OK	03/16/2001	10/10/2001
9.600000	OK	03/02/1999	09/29/1999
12.000000	OK	05/31/2000	09/27/2000
16.000000	OK	03/16/2001	10/16/2001
17.400000	OK	06/13/2001	10/10/2001
19.200000	OK	02/06/2002	06/11/2002
21.500000	OK	02/08/2000	04/24/2000
27.000000	OK	06/07/2000	09/21/2000
45.000000	OK	04/06/2004	06/28/2004
100.000000	OK	10/21/2003	03/01/2004
160.000000	OK	10/08/2003	03/02/2004
45000.0000	OK	04/06/2004	07/21/2004

PP Data for "Hits" Only

TECHNOLOGY/CONTROL DEVICES

BRCH LITTLE RIVER

DL = 3 ug/l

	Conc, ug/l	MDL	Sample Date	Date Entered
	2.000000	OK	06/24/1999	09/29/1999
	3.900000	OK	06/22/1999	01/21/2000
	5.000000	OK	10/21/2003	03/01/2004
	5.400000	OK	03/16/2001	10/10/2001
	11.000000	OK	10/08/2003	03/02/2004
	12.200000	OK	06/13/2001	10/10/2001
<	1.000000	OK	02/08/2000	04/24/2000
<	2.000000	OK	03/16/2001	10/16/2001
<	2.000000	OK	09/25/2000	01/11/2001
<	2.000000	OK	06/07/2000	09/21/2000
<	2.600000	OK	11/26/2001	09/11/2002
<	2.600000	OK	02/06/2002	06/11/2002
<	2.600000	OK	09/24/2001	09/11/2002
<	3.000000	OK	03/02/1999	09/29/1999
<	3.000000	OK	04/06/2004	06/28/2004
<	5.000000	HI	09/25/2000	02/28/2001
<	5.000000	HI	05/31/2000	09/27/2000

ATTACHMENT C

Species	Test	Test Result %	Sample Date
WATER FLEA	A_NOEL	25	02/26/1988
WATER FLEA	LC50	55.7	02/26/1988
WATER FLEA	A_NOEL	1	02/27/1988
WATER FLEA	LC50	2.8	02/27/1988
WATER FLEA	A_NOEL	25.00	03/24/1988
WATER FLEA	LC50	54.4	03/24/1988
WATER FLEA	A_NOEL	70.00	06/01/1988
WATER FLEA	C_NOEL	70	06/01/1988
WATER FLEA	LC50	82	06/01/1988
WATER FLEA	A_NOEL	50.00	06/15/1988
WATER FLEA	A_NOEL	60.00	08/23/1988
WATER FLEA	LC50	70.5	08/23/1988
WATER FLEA	A_NOEL	40	08/24/1988
WATER FLEA	LC50	47.9	08/24/1988
WATER FLEA	A_NOEL	100.00	05/02/1991
WATER FLEA	LC50	>100	05/02/1991
WATER FLEA	A_NOEL	100	10/08/1991
WATER FLEA	A_NOEL	100	11/05/1991
WATER FLEA	C_NOEL	70	11/05/1991
WATER FLEA	A_NOEL	70	12/10/1991
WATER FLEA	A_NOEL	70	12/13/1991
WATER FLEA	C_NOEL	70	12/13/1991
WATER FLEA	A_NOEL	100	01/07/1992
WATER FLEA	A_NOEL	100	02/05/1992
WATER FLEA	C_NOEL	18	02/05/1992
WATER FLEA	C_NOEL	100	02/19/1992
WATER FLEA	A_NOEL	100	03/03/1992
WATER FLEA	A_NOEL	70	04/07/1992
WATER FLEA	A_NOEL	100	05/06/1992
WATER FLEA	C_NOEL	70	05/06/1992
WATER FLEA	A_NOEL	100	06/03/1992
WATER FLEA	A_NOEL	100	07/08/1992
WATER FLEA	C_NOEL	70	07/08/1992
WATER FLEA	A_NOEL	100	08/04/1992
WATER FLEA	C_NOEL	70	08/20/1992
WATER FLEA	A_NOEL	49	09/16/1992
WATER FLEA	C_NOEL	<18	09/16/1992
WATER FLEA	A_NOEL	49	10/21/1992
WATER FLEA	A_NOEL	49	11/10/1992
WATER FLEA	C_NOEL	40	11/10/1992
WATER FLEA	A_NOEL	49	12/09/1992

Species	Test	Test Result %	Sample Date
WATER FLEA	A_NOEL	49	01/12/1993
WATER FLEA	A_NOEL	70	02/03/1993
WATER FLEA	C_NOEL	70	02/03/1993
WATER FLEA	A_NOEL	<24	03/02/1993
WATER FLEA	A_NOEL	70	03/17/1993
WATER FLEA	A_NOEL	100	04/20/1993
WATER FLEA	A_NOEL	70	05/12/1993
WATER FLEA	C_NOEL	70	05/12/1993
WATER FLEA	A_NOEL	100	06/08/1993
WATER FLEA	A_NOEL	100	07/14/1993
WATER FLEA	C_NOEL	70	07/14/1993
WATER FLEA	A_NOEL	100	08/03/1993
WATER FLEA	C_NOEL	70	08/03/1993
WATER FLEA	A_NOEL	70	09/15/1993
WATER FLEA	C_NOEL	40	09/15/1993
WATER FLEA	A_NOEL	49	10/19/1993
FATHEAD	A_NOEL	70	11/02/1993
FATHEAD	C_NOEL	70	11/02/1993
WATER FLEA	A_NOEL	70	11/02/1993
WATER FLEA	C_NOEL	40	11/02/1993
WATER FLEA	A_NOEL	49	12/13/1993
WATER FLEA	A_NOEL	70	01/11/1994
WATER FLEA	A_NOEL	70	02/08/1994
WATER FLEA	C_NOEL	40	02/11/1994
WATER FLEA	A_NOEL	24	03/08/1994
WATER FLEA	A_NOEL	24	04/05/1994
WATER FLEA	A_NOEL	24	04/14/1994
WATER FLEA	A_NOEL	37	06/08/1994
WATER FLEA	LC50	54.7	06/08/1994
WATER FLEA	A_NOEL	<24	07/13/1994
WATER FLEA	C_NOEL	18	07/13/1994
WATER FLEA	LC50	28.8	07/13/1994
WATER FLEA	A_NOEL	49	08/03/1994
WATER FLEA	C_NOEL	27	08/03/1994
WATER FLEA	LC50	>100	08/03/1994
WATER FLEA	A_NOEL	37	09/14/1994
WATER FLEA	C_NOEL	18	09/14/1994
WATER FLEA	LC50	47.1	09/14/1994
WATER FLEA	A_NOEL	100	10/05/1994
WATER FLEA	LC50	>100	10/05/1994
FATHEAD	A_NOEL	100	11/07/1994

Species	Test	Test Result %	Sample Date
FATHEAD	C_NOEL	100	11/07/1994
FATHEAD	LC50	>100	11/07/1994
WATER FLEA	A_NOEL	100	11/07/1994
WATER FLEA	C_NOEL	40	11/07/1994
WATER FLEA	LC50	>100	11/07/1994
WATER FLEA	A_NOEL	100	12/06/1994
WATER FLEA	LC50	>100	12/06/1994
TROUT	A_NOEL	100	02/07/1995
TROUT	C_NOEL	100	02/07/1995
TROUT	LC50	>100	02/07/1995
WATER FLEA	A_NOEL	100	02/07/1995
WATER FLEA	C_NOEL	100	02/07/1995
WATER FLEA	LC50	>100	02/07/1995
WATER FLEA	A_NOEL	100	04/04/1995
WATER FLEA	LC50	>100	04/04/1995
WATER FLEA	C_NOEL	100	05/02/1995
WATER FLEA	LC50	>100	05/02/1995
WATER FLEA	A_NOEL	100	06/06/1995
WATER FLEA	LC50	>100	06/06/1995
WATER FLEA	A_NOEL	100	07/12/1995
WATER FLEA	LC50	>100	07/12/1995
WATER FLEA	A_NOEL	100	08/08/1995
WATER FLEA	C_NOEL	100	08/08/1995
WATER FLEA	LC50	>100	08/08/1995
WATER FLEA	A_NOEL	100	09/12/1995
WATER FLEA	C_NOEL	100	09/12/1995
WATER FLEA	LC50	>100	09/12/1995
WATER FLEA	A_NOEL	100	10/03/1995
WATER FLEA	LC50	>100	10/03/1995
WATER FLEA	A_NOEL	100	11/07/1995
WATER FLEA	C_NOEL	70	11/07/1995
WATER FLEA	LC50	>100	11/07/1995
WATER FLEA	A_NOEL	100	12/05/1995
WATER FLEA	LC50	>100	12/05/1995
WATER FLEA	A_NOEL	100	01/16/1996
WATER FLEA	LC50	>100	01/16/1996
TROUT	A_NOEL	100	02/13/1996
TROUT	LC50	>100	02/13/1996
WATER FLEA	A_NOEL	100	02/13/1996
WATER FLEA	C_NOEL	70	02/13/1996
WATER FLEA	LC50	>100	02/13/1996

Species	Test	Test Result %	Sample Date
TROUT	C_NOEL	18	03/12/1996
WATER FLEA	A_NOEL	100	03/12/1996
WATER FLEA	LC50	>100	03/12/1996
WATER FLEA	A_NOEL	100	04/09/1996
WATER FLEA	LC50	>100	04/09/1996
WATER FLEA	A_NOEL	100	05/07/1996
WATER FLEA	C_NOEL	100	05/07/1996
WATER FLEA	LC50	>100	05/07/1996
WATER FLEA	A_NOEL	100	06/04/1996
WATER FLEA	LC50	>100	06/04/1996
WATER FLEA	A_NOEL	100	07/09/1996
WATER FLEA	C_NOEL	100	07/09/1996
WATER FLEA	LC50	>100	07/09/1996
WATER FLEA	A_NOEL	100	08/06/1996
WATER FLEA	C_NOEL	100	08/06/1996
WATER FLEA	LC50	>100	08/06/1996
WATER FLEA	A_NOEL	100	09/10/1996
WATER FLEA	LC50	>100	09/10/1996
WATER FLEA	C_NOEL	<9.0	09/24/1996
WATER FLEA	A_NOEL	100	10/24/1996
WATER FLEA	LC50	>100	10/24/1996
FATHEAD	A_NOEL	100	11/05/1996
FATHEAD	LC50	>100	11/05/1996
WATER FLEA	A_NOEL	100	11/05/1996
WATER FLEA	C_NOEL	70	11/05/1996
WATER FLEA	LC50	>100	11/05/1996
TROUT	A_NOEL	100	02/18/1997
TROUT	C_NOEL	100	02/18/1997
TROUT	LC50	>100	02/18/1997
WATER FLEA	A_NOEL	100	02/18/1997
WATER FLEA	C_NOEL	70	02/18/1997
WATER FLEA	LC50	>100	02/18/1997
FATHEAD	A_NOEL	70	10/07/1997
FATHEAD	LC50	100	10/07/1997
WATER FLEA	A_NOEL	70	10/07/1997
WATER FLEA	C_NOEL	40	10/07/1997
WATER FLEA	LC50	100	10/07/1997
TROUT	A_NOEL	>100	02/17/1998
TROUT	C_NOEL	40	02/17/1998
TROUT	LC50	>100	02/17/1998
WATER FLEA	A_NOEL	>100	02/17/1998

Species	Test	Test Result %	Sample Date
WATER FLEA	LC50	>100	02/17/1998
WATER FLEA	C_NOEL	70	02/24/1998
FATHEAD	A_NOEL	100	09/29/1998
FATHEAD	C_NOEL	100	09/29/1998
FATHEAD	LC50	>100	09/29/1998
WATER FLEA	A_NOEL	100	09/29/1998
WATER FLEA	LC50	>100	09/29/1998
TROUT	A_NOEL	80	12/08/1998
TROUT	C_NOEL	100	12/08/1998
TROUT	LC50	>100	12/08/1998
WATER FLEA	A_NOEL	100	12/08/1998
WATER FLEA	C_NOEL	18	12/08/1998
WATER FLEA	LC50	>100	12/08/1998
TROUT	A_NOEL	100	03/02/1999
TROUT	C_NOEL	100	03/02/1999
TROUT	LC50	>100	03/02/1999
WATER FLEA	A_NOEL	100	03/02/1999
WATER FLEA	C_NOEL	40	03/02/1999
WATER FLEA	LC50	>100	03/02/1999
FATHEAD	A_NOEL	100	06/22/1999
FATHEAD	C_NOEL	100	06/22/1999
FATHEAD	LC50	>100	06/22/1999
WATER FLEA	A_NOEL	100	06/22/1999
WATER FLEA	C_NOEL	27	06/22/1999
WATER FLEA	LC50	>100	06/22/1999
TROUT	A_NOEL	100	02/08/2000
TROUT	C_NOEL	9	02/08/2000
TROUT	LC50	>100	02/08/2000
WATER FLEA	A_NOEL	49	02/08/2000
WATER FLEA	C_NOEL	27	02/08/2000
WATER FLEA	LC50	62.9	02/08/2000
TROUT	A_NOEL	100	05/31/2000
TROUT	C_NOEL	100	05/31/2000
TROUT	LC50	>100	05/31/2000
FATHEAD	A_NOEL	100.0	09/25/2000
FATHEAD	C_NOEL	100.0	09/25/2000
FATHEAD	LC50	>100.0	09/25/2000
WATER FLEA	A_NOEL	100.0	09/25/2000
WATER FLEA	C_NOEL	100.0	09/25/2000
WATER FLEA	LC50	>100.0	09/25/2000
TROUT	A_NOEL	>100	03/16/2001

Species	Test	Test Result %	Sample Date
TROUT	C_NOEL	>100	03/16/2001
TROUT	LC50	>100	03/16/2001
WATER FLEA	A_NOEL	>100	03/16/2001
WATER FLEA	C_NOEL	27	03/16/2001
WATER FLEA	LC50	>100	03/16/2001
WATER FLEA	LC50	>100100	06/13/2001
FATHEAD	A_NOEL	100	09/24/2001
FATHEAD	C_NOEL	100	09/24/2001
FATHEAD	LC50	>100	09/24/2001
WATER FLEA	A_NOEL	100	09/24/2001
WATER FLEA	C_NOEL	100	09/24/2001
WATER FLEA	LC50	>100	09/24/2001
TROUT	A_NOEL	>100	02/06/2002
TROUT	C_NOEL	100	02/06/2002
TROUT	LC50	>100	02/06/2002
WATER FLEA	A_NOEL	51.7	02/06/2002
WATER FLEA	C_NOEL	50.0	02/06/2002
WATER FLEA	LC50	>100	02/06/2002
TROUT	A_NOEL	19.4	10/08/2003
TROUT	C_NOEL	25	10/08/2003
TROUT	LC50	61.7	10/08/2003
WATER FLEA	A_NOEL	18.8	10/08/2003
WATER FLEA	C_NOEL	6.25	10/08/2003
WATER FLEA	LC50	21.9	10/08/2003
WATER FLEA	A_NOEL	50	04/06/2004
WATER FLEA	C_NOEL	19.2	04/06/2004