

# **Section 1**

## **Introduction**

We are submitting this amended Notice of Intent (NOI) to address requested changes to Lewcott's maximum and average daily discharges. The original NOI was submitted October 3, 2008. Calculations have been updated to reflect the discharge's impact to the receiving stream.

### **1.1 Background**

Lewcott Corporation is located at 86 Providence Road in Millbury, Massachusetts. The Lewcott facility manufactures phenolic resins. The facility operates under Standard Industrial Classification (SIC) codes 2295, 2821 and 3295. Lewcott has an existing Non-Contact Cooling Water (NCCW) Discharge Permit, MAG250969 allowing a discharge of up to 1 million gallons/day.

### **1.2 Scope of the Application**

This Notice of Intent (NOI) is being submitted to amend the October 3, 2008 application for coverage under the new General Permit for Non-Contact Cooling Water (NCCW) discharges issued by the Massachusetts Department of Environmental Protection (MADEP) and the United States Environmental protection Agency (USEPA) for the Lewcott facility. Lewcott discharges their NCCW to the Blackstone River in Millbury, MA.

### **1.3 NOI Supplemental Information**

Lewcott operates resin reactors to facilitate the chemical reactions required to produce phenolic resins. The heat produced by the chemical reactions requires Lewcott to cool the reactor vessels using a NCCW closed loop system. In November/December 2008 Lewcott installed a new cooling tower and chiller to provide cooling water via a closed loop cooling system.

Prior to the installation of the new cooling tower and chiller, Lewcott utilized an older system that did not adequately cool the NCCW. Use of the older cooling system required water to be added to the non-contact cooling loop resulting in batch discharges of cooling water to the Blackstone River. Batches were discharged approximately once per month. Due to the installation of the new cooling tower and chiller Lewcott does not expect to discharge NCCW under normal operating conditions.

This NOI is being filed to allow Lewcott to discharge during periods when the cooling system is not available due to maintenance or mechanical failure and to provide backup cooling water for the reactors.

The analysis of the samples is included in Section 4 of this application package. The pH analysis and temperature measurements of the effluent NCCW was performed by Lewcott personnel whereas all other parameters were analyzed by Netlab.

## 1.4 Calculations

Lewcott discharges NCCW to the Blackstone River. Therefore, the surface water temperature change due to the discharge of the NCCW must be calculated. The temperature rise of the surface water was determined using the following formula:

$$\Delta Tr = \frac{mp}{mr} \times \Delta Tp$$

**Where:**

$\Delta Tr$  = change in river temperature in °F

$mp$  = flow rate of effluent, MGD

$mr$  = flow rate of river, MGD (7Q10 value)

$\Delta Tp$  = difference between temperature of receiving stream and NCCW in °F

**Variables:**

1 Summer temperature 70°F  
Winter temperature 40°F

0.025 MGD

63 MGD

2 Summer discharge temp 67°F  
Winter discharge temp 55°F

Using the variables above, the increase in temperature of the receiving water body due to the NCCW discharged from the facility is approximately 0.006°F during winter months. During summer months the receiving water body temperature decreases by approximately 0.001°F.

The handwritten calculations, provided by Kathleen Keohane of MADEP, are provided in Section 7.

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<sup>1</sup> Summer and winter temperatures provided by Kathleen Keohane.

<sup>2</sup> Maximum and minimum summer and winter temperatures reported on discharge monitoring reports.

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### APPENDIX 5

#### Suggested Form for Notice of Intent (NOI) for the Noncontact Cooling Water General Permit

1. General facility information. Please provide the following information about the facility.

|                                                                                                                                                                                                                            |                                                |                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>a) Name of facility:</b> Lewcott Corporation                                                                                                                                                                            |                                                | <b>Type of Business:</b> Manufacturer of phenolic resins                                                                                                 |
| <b>Facility Location Address :</b><br>86 Providence Road<br>Millbury, MA 01427<br><b>longitude:</b> -71.7474<br><b>latitude:</b> 42.1881                                                                                   | <b>Facility SIC codes:</b><br>2295, 2821, 3295 | <b>Facility Mailing Address (if not location address)</b>                                                                                                |
| <b>b) Name of facility owner:</b> Lewcott Corporation                                                                                                                                                                      |                                                | <b>Email address of owner:</b>                                                                                                                           |
| <b>Owner's Tel #:</b> (508) 581-2139<br><b>Owner's Fax #</b> (508) 581-5461                                                                                                                                                |                                                | <b>Owner is (check one):</b> 1. Federal _____ 2. State _____ 3. Tribal _____<br>4. Private <input checked="" type="checkbox"/> 4. Other _____ (Describe) |
| <b>Address of owner (if different from facility address)</b>                                                                                                                                                               |                                                |                                                                                                                                                          |
| <b>Legal name of Operator, if not owner:</b> _____                                                                                                                                                                         |                                                |                                                                                                                                                          |
| <b>Operator Contact Name:</b> Herb Wing                                                                                                                                                                                    |                                                |                                                                                                                                                          |
| <b>Operator Tel Number:</b> 508-581-2108 <b>Fax Number:</b> 508-865-5461                                                                                                                                                   |                                                |                                                                                                                                                          |
| <b>Operator's email:</b> hwing@lewcott.com                                                                                                                                                                                 |                                                |                                                                                                                                                          |
| <b>Operator Address (if different from owner)</b>                                                                                                                                                                          |                                                |                                                                                                                                                          |
| <b>d) Attach topographic map indicating the locations of the facility and the receiving water; all NCCW discharge points; upstream and downstream monitoring points. Map attached?</b> <input checked="" type="checkbox"/> |                                                |                                                                                                                                                          |
| <b>e) Check Yes or No for the following:</b>                                                                                                                                                                               |                                                |                                                                                                                                                          |
| 1. Has a prior NPDES permit been granted for the discharge? Yes <input checked="" type="checkbox"/> No _____ If Yes, Permit Number: MAG250969                                                                              |                                                |                                                                                                                                                          |
| 2. Is the discharge a "new discharge" as defined by 40 CFR Section 122.22? Yes _____ No <input checked="" type="checkbox"/>                                                                                                |                                                |                                                                                                                                                          |
| 3. Is the facility covered by an individual NPDES permit? Yes _____ No <input checked="" type="checkbox"/> If Yes, Permit Number _____                                                                                     |                                                |                                                                                                                                                          |
| 4. Is there a pending application on file with EPA for this discharge? Yes <input checked="" type="checkbox"/> No _____ If Yes, date of submittal: October 3, 2008                                                         |                                                |                                                                                                                                                          |

**2. Discharge information. Please provide information about the discharge, (attaching additional sheets as needed)**

a) Name of receiving water into which discharge will occur: Blackstone River

State Water Quality Classification: B Freshwater: ☒ Marine Water: ☐

b) Describe the discharge activities for which the owner/applicant is seeking coverage: NCCW is used for cooling resin reactors

c) **FOR MASSACHUSETTS FACILITIES ONLY: Engineering Calculations:** Submit the completed engineering calculation of the surface water temperature rise as shown in Attachment A of the General Permit. Check if attached: ☒

d) Number of outfalls 1

For each outfall:

e) What is the maximum daily and average monthly flow of the discharge? Note that EPA will use the flow reported here as the facility's permitted effluent flow limit. Max Daily Flow 25,000 GPD Average Flow 25,000 GPD

f) What is the maximum daily and average monthly temperature of the discharge (in degrees F)? Max Temp. 67 Average Temp. 55

g) What is the maximum and minimum monthly pH of the discharge (in s.u.)? Max pH 7.9 Min pH 6.8

h) **FOR MASSACHUSETTS FACILITIES ONLY:** Is the source water of the NCCW potable water? Yes ☒ No ☐ If Yes, EPA will calculate the Total Residual Chlorine limit for facilities located in Massachusetts.

i) Is the discharge continuous? Yes ☐ No ☒ If no, is the discharge periodic (P) (occurs regularly, i.e., monthly or seasonally, but is not continuous all year) or intermittent (I) (occurs sometimes but not regularly) or both (B) I  
If (P), number of days or months per year of the discharge \_\_\_\_\_ and the specific months of discharge \_\_\_\_\_;  
If (I), number of days/year there is a discharge 7

j) Latitude and longitude of each discharge within 100 feet: outfall 1: long. -71.7474 lat. 42.1881; outfall 2: long. \_\_\_\_\_ lat. \_\_\_\_\_;  
outfall 3: long. \_\_\_\_\_ lat. \_\_\_\_\_ (See [http://www.epa.gov/tri/report/siting\\_tool](http://www.epa.gov/tri/report/siting_tool))

k) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water 97.5 cfs  
Please attach any calculation sheets used to support stream flow and dilution calculations. See General Permit Attachment B for equations and additional information.

**MASSACHUSETTS FACILITIES:** See Part 3.4 and Appendix 1 of the General Permit for more information on ACEC.

Areas of Critical Environmental Concern (ACEC): Does the discharge occur in an ACEC? Yes ☐ No ☒

If yes, provide the name of the ACEC: \_\_\_\_\_

#### 4. BTA FOR CWIS CONTINUED:

Provide the following information for each CWIS to support your attached facility-specific BTA description.

Design capacity of the of the CWIS \_\_\_\_\_ MGD

Maximum monthly average intake of the CWIS during the previous five years \_\_\_\_\_ MGD Month in which this flow occurred \_\_\_\_\_

Maximum through-screen design intake velocity \_\_\_\_\_ feet/second (fps)

For facilities where the CWIS is located on a freshwater river or stream, provide the following information:

The source water's annual mean flow \_\_\_\_\_ cubic feet/second (cfs) as available from USGS or other appropriate source

The design intake flow as a % of the source water's annual mean flow \_\_\_\_\_ Attach calculations if equal to or less than 5% of annual mean flow.

The source water's 7Q10 \_\_\_\_\_ cfs. See Attachment B of the General Permit for more information on 7Q10 determinations.

The design intake flow as a percent of the source water's 7Q10 \_\_\_\_\_

#### 5. Contaminant Information

If applicable, attach a listing of all non-toxic pH neutralization and/or dechlorination chemicals used, including chemical name and manufacturer; maximum and average daily quantity used as well as the maximum and average daily expected concentrations (mg/l) in the NCCW discharge, and the vendor's reported aquatic toxicity (NOAEL and/or LC<sub>50</sub> in percent for aquatic organism(s)).

6. Determination of Endangered Species Act Eligibility: Provide documentation of ESA eligibility as required at Part 3.4 and Appendix 2, Part C, Step 4, of the General Permit. In addition, respond to the following questions.

- a) Are any listed threatened or endangered species, or designated critical habitat, in proximity to the discharge? Yes \_\_\_\_\_ No ☒
- b) Has any consultation with the federal services been completed? Yes ☒ No \_\_\_\_\_
- c) Is consultation underway? Yes \_\_\_\_\_ No \_\_\_\_\_
- d) What were the results of the consultation with the U.S. Fish and Wildlife Service and/or NOAA Fisheries Service (check one):  
a "no jeopardy" opinion ☒ or written concurrence \_\_\_\_\_ on a finding that the discharges are not likely to adversely affect any endangered species or
- e) Which of the five eligibility criteria listed in Appendix 2, Section B (A,B,C,D or E) have you met? A
- f) Attach a copy of the most current federal listing of endangered and threatened species from the USF&W web site listed in Appendices 2, 2.1 and 4

7. Documentation of National Historic Preservation Act requirements: Please respond to the following questions:

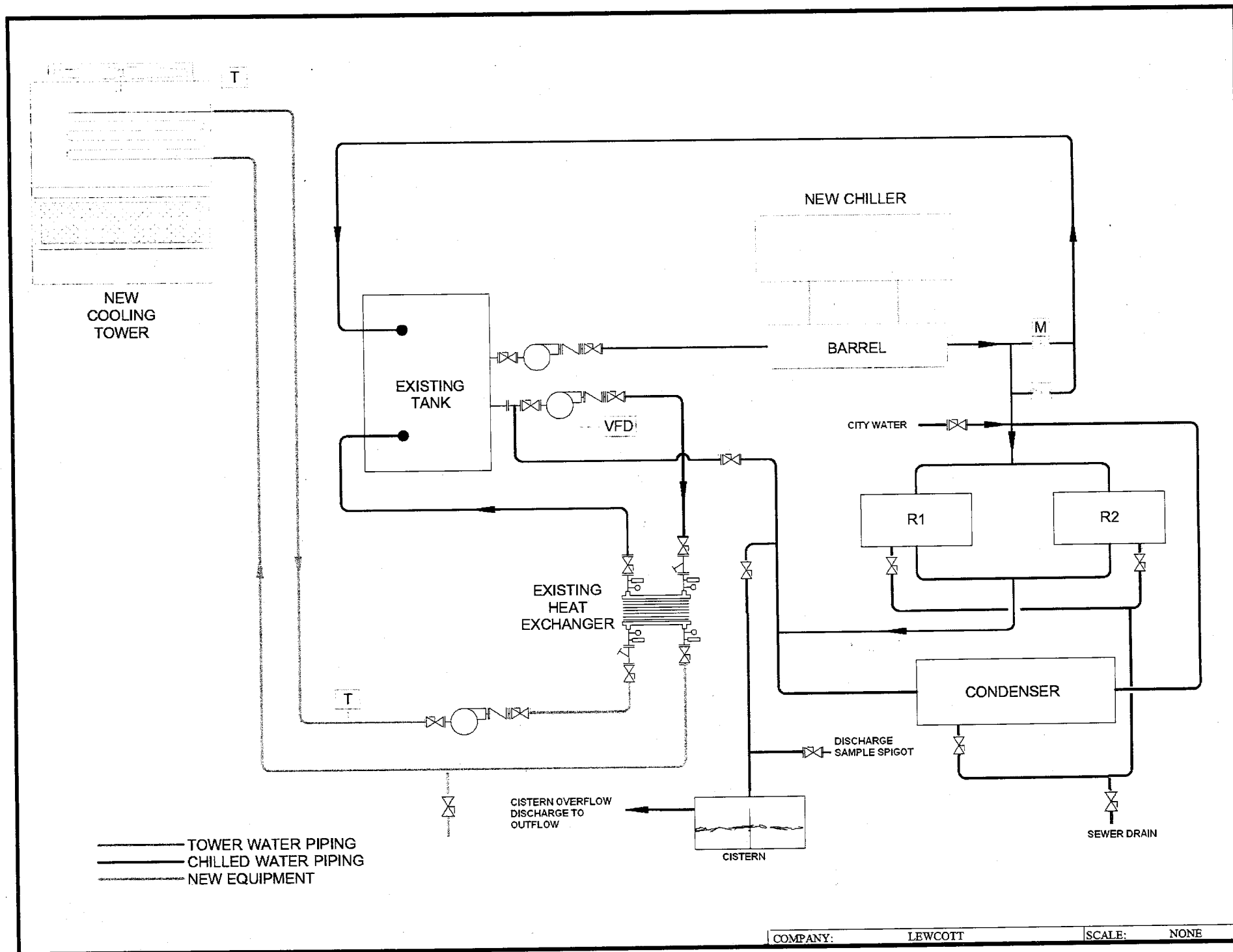
- a) Are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility site or in proximity to the discharge? Yes \_\_\_\_\_ No ☒
- b) Have any State or Tribal historic preservation officers been consulted in this determination? Yes \_\_\_\_\_ or No ☒ If yes, attach the results of the consultation(s).
- c) Which of the three National Historic Preservation Act requirements listed in Appendix 3, Section C (1,2 o3) have you met? 1

## APPENDIX 8

### MINIMUM LEVELS AND TEST METHODS FOR GROUNDWATER SOURCES OF NONCONTACT COOLING WATER

| Inorganic Parameters | Minimum Levels (ug/l) and Test Methods |                                               |                                              |                           |                                           |
|----------------------|----------------------------------------|-----------------------------------------------|----------------------------------------------|---------------------------|-------------------------------------------|
|                      | Flame Atomic Absorption                | Inductively Coupled Plasma                    | Inductively Coupled Plasma Mass Spectrometry | Furnace Atomic Absorption | Other                                     |
| 1. Antimony          | 200 ug/l                               | 50 ug/l                                       | 2 ug/l                                       | 5 ug/l                    |                                           |
| 2. Arsenic           |                                        | 5 ug/l                                        | 2 ug/l                                       | 2 ug/l                    |                                           |
| 3. Cadmium           | 10ug/l                                 | 5 ug/l                                        | 0.5 ug/l                                     | 0.5 ug/l                  |                                           |
| 4. Chromium Total    | 50 ug/l                                | 10ug/l                                        | 0.5 ug/l                                     | 5 ug/l                    |                                           |
| 5. Chromium VI       |                                        |                                               |                                              |                           | 10 ug/l<br>Method 218.4                   |
| 6. Copper            | 20 ug/l                                | 5 ug/l                                        | 0.5 ug/l                                     | 3 ug/l                    |                                           |
| 7. Lead              | 100 ug/l                               | 40 ug/l                                       | 0.5 ug/l                                     | 3 ug/l                    |                                           |
| 8. Mercury           |                                        |                                               |                                              |                           | 0.2 ug/l<br>Method 245.1                  |
| 9. Nickel            | 30 ug/l                                | 10 ug/l                                       | 0.5 ug/l                                     | 5 ug/l                    |                                           |
| 10. Selenium         |                                        | 50 ug/l                                       | 2.5 ug/l.                                    | 5 ug/l                    |                                           |
| 11. Silver           | 50 ug/l                                | 10 ug/l                                       | 1 ug/l                                       | 2 ug/l                    |                                           |
| 12. Zinc             | 30 ug/l                                | 10 ug/l                                       | 5 ug/l                                       |                           |                                           |
| 13. Iron             |                                        | Method 6010b and<br>Method 200.7 <sup>1</sup> |                                              |                           |                                           |
| 14. Hardness         |                                        |                                               |                                              |                           | Approved Part<br>136 Methods <sup>2</sup> |
| 15. Chloride         |                                        |                                               |                                              |                           | Approved Part<br>136 Methods <sup>2</sup> |
| 16. pH               |                                        |                                               |                                              |                           | Approved Part<br>136 Methods <sup>2</sup> |

1. Methods 6010b and 200.7 for metals may only be used when sample prepared with SW-846 digestion method, Method 3010
2. Approved 40 CFR Part 136 test methods that will achieve the lowest available ML





## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
New England Field Office  
70 Commercial Street, Suite 300  
Concord, New Hampshire 03301-5087  
<http://www.fws.gov/northeast/newenglandfieldoffice>

January 2, 2009

To Whom It May Concern:

This project was reviewed for the presence of federally-listed or proposed, threatened or endangered species or critical habitat per instructions provided on the U.S. Fish and Wildlife Service's New England Field Office website:

(<http://www.fws.gov/northeast/newenglandfieldoffice/EndangeredSpec-Consultation.htm>)

Based on the information currently available, no federally-listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service (Service) are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under Section 7 of the Endangered Species Act is not required.

This concludes the review of listed species and critical habitat in the project location(s) and environs referenced above. No further Endangered Species Act coordination of this type is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

Thank you for your cooperation. Please contact Mr. Anthony Tur at 603-223-2541 if we can be of further assistance.

Sincerely yours,

Thomas R. Chapman  
Supervisor  
New England Field Office



Lewcott Corp  
millburg

MAG 250969

1/7/09

"Attachment A"  $\Delta T$  calculations:

$$Q_e = 0.025 \text{ MGD}$$

$$Q_r = 63 \text{ MGD}$$

winter  $\Delta T_p = 55 - 40 = 15^\circ\text{F}$

55°F 2/08 DMR

40°F temp. est.

$$\Delta T_r = \frac{0.025}{63} \times 15^\circ\text{F} = \boxed{0.006^\circ\text{F}}$$

summer  $\Delta T_p = 70 - 67 = 3^\circ\text{F}$

70°F Station BK02  
7/98

$$\Delta T_r = \frac{0.025}{63} \times 3 = \boxed{0.001^\circ\text{F}}$$

67°F 8/08 DMR  
(2nd highest)

DF at 25,000 gpd:

$$\frac{0.025 + 63}{0.025} = 2521$$

(ave + max should be  
the same)

TRC  $11 \text{ ug/l} \times 2521 = 27731 \text{ ug/l}$

$$19 \text{ ug/l} \times 2521 = 47899 \text{ ug/l}$$

but toxics policy limits to 1 mg/l