

MAG250969

10/6/08
revised
Scanned -
10/8/08



M-068126-01-8100
October 2, 2008

US EPA, Region 1
NCCW GP Processing
Municipal Assistance Unit (CMU)
1 Congress Street, Suite 1100
Boston, MA 02114-2023

Re: **Noncontact Cooling Water General Permit Notice of Intent**
Permit Number MAG250969

To Whom It May Concern:

On behalf of our client, Lewcott Corporation located at 86 Providence Road in Millbury, Massachusetts, we are providing you with this permit renewal application for non-contact cooling water discharges. The facility is proposing to continue non-contact cooling water discharges to the Blackstone River via Outfall No. 001 as previously permitted under the permit number MAG250969.

Please find enclosed a topographic map and a copy of the United States Environmental Protection Agency's Notice of Intent form. If you have any questions or require additional information, please contact me at 413-572-3242.

Very truly yours,

TIGHE & BOND, INC.

Adam Lomartire
Environmental Compliance Specialist

Enclosures

Copy: Massachusetts Department of Environmental Protection (w/encl)
Rod Finne - Lewcott Corporation (w/ encl)

J:\M\0681Non-Contact Cooling Water NOI\EPA letter.doc

M-068126-01-8100
October 2, 2008



Mass DEP, Division of Watershed Management
627 Main Street, 2nd Floor
Worcester, MA 01608

Re: **Noncontact Cooling Water General Permit Notice of Intent
Permit Number MAG250969**

To Whom It May Concern:

On behalf of our client, Lewcott Corporation located at 86 Providence Road in Millbury, Massachusetts, we are providing you with this permit renewal application for non-contact cooling water discharges. The facility is proposing to continue non-contact cooling water discharges to the Blackstone River via Outfall No. 001 as previously permitted under the permit number MAG250969.

Please find enclosed a topographic map and a copy of the United States Environmental Protection Agency's Notice of Intent form. If you have any questions or require additional information, please contact me at 413-572-3242.

Very truly yours,

TIGHE & BOND, INC.

A handwritten signature in black ink, appearing to read "Adam Lomartire", is written over a horizontal line.

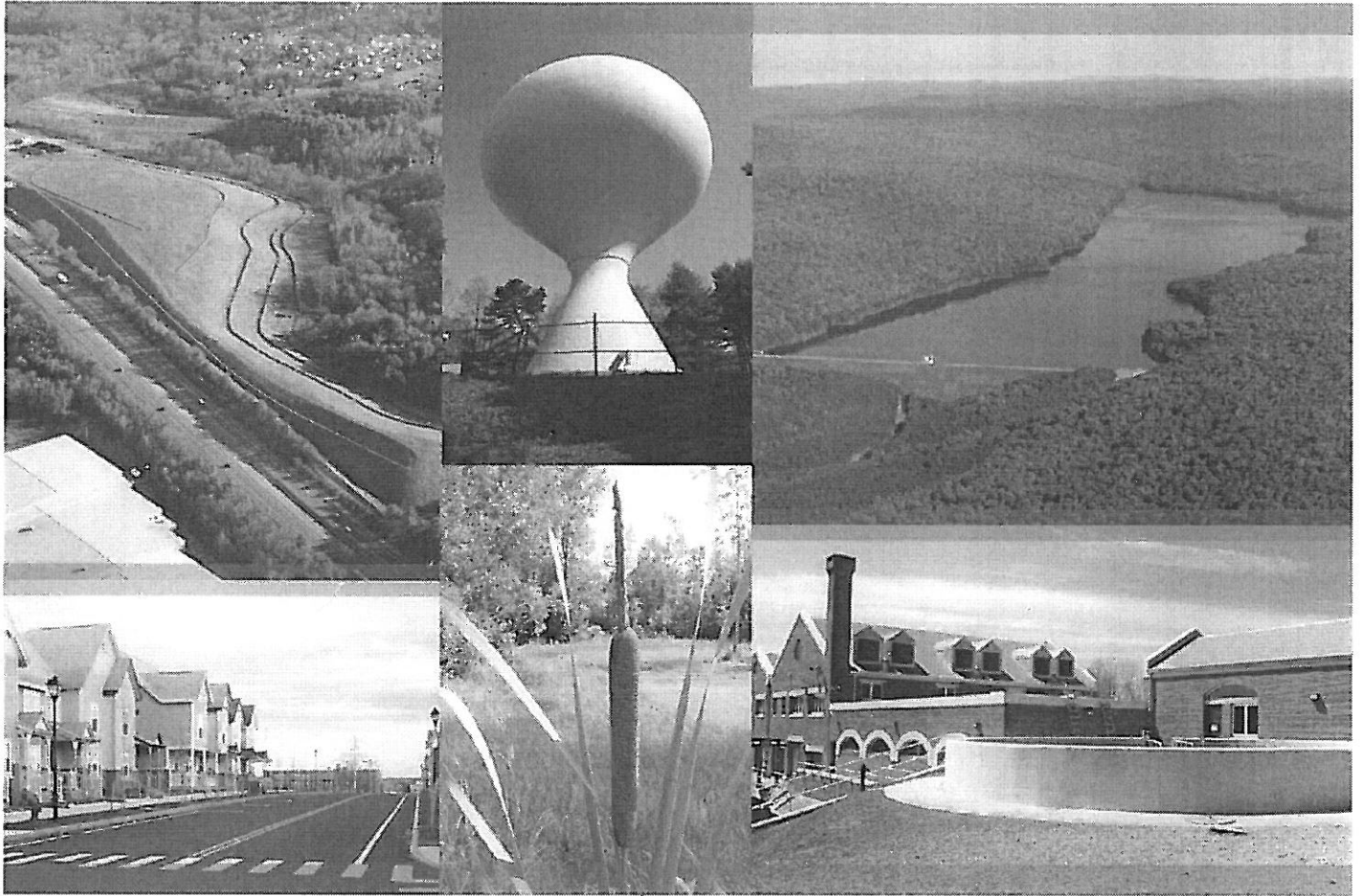
Adam Lomartire
Environmental Compliance Specialist

Enclosures

Copy: United States Environmental Protection Agency (w/encl)
Rod Finne - Lewcott Corporation (w/ encl)

J:\M\0681\Non-Contact Cooling Water NOI\DEP letter.doc





Tighe&Bond

Noncontact Cooling Water General Permit Notice of Intent

Prepared For:

**Lewcott Corporation
Millbury, MA**

October, 2008

Transmittal Form

Section 1 Introduction

1.1 Background 1-1

1.2 Scope of the Application 1-1

1.3 NOI Supplemental Information 1-1

1.4 Calculations 1-1

Section 2 NOI

Section 3 Topographic Map

Section 4 Sample Analysis

Section 5 Endangered Species

Section 6 Historic Places

J:\M\M0681\Non-Contact Cooling Water NOI\NOI Text.doc

Section 1 Introduction

1.1 Background

Lewcott Corporation, is located at 86 Providence Road in Millbury, Massachusetts. The Lewcott facility manufactures phenol 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.

1.2 Scope of the Application

This Notice of Intent (NOI) is intended to obtain coverage under the new General Permit for NCCW Discharges from 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.

1.3 NOI Supplemental Information

Lewcott's primary source of NCCW is the municipal water supply for the Town of Millbury. Lewcott does have a water withdrawal permit, No. 21218603, allowing the facility to use surface water as a primary cooling water source. However, based on interviews with facility personnel, the suction line from this source has been disabled for approximately 10 years. Currently Lewcott does not intend to re-establish the connection. This NOI has been prepared with the municipal water source as the sole NCCW source. The analysis of the samples is included in Section 4 of this application package. The pH testing of the effluent NCCW was performed by Lewcott personnel whereas all other parameters were analyzed by Netlabs.

1.4 Calculations

Lewcott discharges its NCCW to the Blackstone River. Therefore, engineering calculations for the surface water temperature rise due to the discharge of the NCCW is required. The temperature rise of the surface water was calculated using the following formula:

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

Where

ΔTr = change in river temperature, °F

mp = flow rate of effluent, MGD

mr = flow rate of river, MGD

ΔTp = change in temperature of NCCW, effluent – influent, °F

The flow rate of the Blackstone River (7Q10 value) is 63 million gallons per day (MGD). The maximum recorded flow rate of the NCCW from the Lewcott facility is 1 MGD. The change in temperature of the NCCW at the facility is approximately 11 °F. The input of these values into the above equation results in a ΔT_r value of 1.75×10^{-1} °F. The 7Q10 value of the Blackstone River was confirmed by Kathleen Keohane of the MADEP.

Section 2

NOI

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.

a) Name of facility: Lewcott Corporation		Type of Business: Manufacturer of phenolic resins
Facility Location Address : 86 Providence Road Millbury, MA 01427 longitude: -71.7474 latitude: 42.1881	Facility SIC codes: 2295, 2821, 3295	Facility Mailing Address (if not location address)
b) Name of facility owner: Lewcott Corporation		Email address of owner: rfinne@lewcott.com
Owner's Tel #: (508) 581-2139 Owner's Fax #: (508) 581-5461		Owner is (check one): 1. Federal _____ 2. State _____ 3. Tribal _____ 4. Private ☒ 4. Other _____ (Describe)
Address of owner (if different from facility address)		
Legal name of Operator, if not owner: <u>DENNIS RAYMOND KAMFONIK</u> Operator Contact Name: <u>DENNIS KAMFONIK</u> Operator Tel Number: <u>508-581-2152</u> Fax Number: <u>508-365-5461</u> Operator's email: <u>dkamfonik@lewcott.com</u> Operator Address (if different from owner)		
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? ☒		
e) Check Yes or No for the following: 1. Has a prior NPDES permit been granted for the discharge? Yes ☒ No _____ If Yes, Permit Number: <u>MAG250969</u> 2. Is the discharge a "new discharge" as defined by 40 CFR Section 122.22? Yes _____ No ☒ 3. Is the facility covered by an individual NPDES permit? Yes _____ No ☒ If Yes, Permit Number _____ 4. Is there a pending application on file with EPA for this discharge? Yes _____ No ☒ If Yes, date of submittal:		

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 1,000,000 GPD Average Flow 2,500,000 GPD
- f) What is the maximum daily and average monthly temperature of the discharge (in degrees F)? Max Temp. 62 Average Temp. 57
- g) What is the maximum and minimum monthly pH of the discharge (in s.u.)? Max pH 6.8 Min pH 7.9
- 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) P
If (P), number of days or months per year of the discharge 1 day/mo and the specific months of discharge January - December;
If (I), number of days/year there is a discharge _____
- 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)
- 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: _____

3. NCCW Source Water Information. Please provide information about the NCCW source water, using separate sheets as necessary:

a) Indicate source of the NCCW (i.e., municipal water supply, private well, surface water withdrawal, groundwater): Source: <u>Municipal water</u> Name of Source Water: _____ _____ Is the source registered/permitted under MA Water Management Act or NHDES Water User Registration Rule (Env Wq 2202)? Yes _____ No _____ If yes, registration number: _____	b) If source water is surface water: i) Is it a freshwater river or stream Yes _____ No _____ ii) Is it a lake? _____ reservoir? _____ iii) Is it tidal river? _____ estuary? _____ ocean? _____ c) Is the source water groundwater? Yes _____ No _____ If yes, see Appendix 8 and submit effluent and surface water test results, as required in Part 5.4 of the General Permit. d) Does the facility use both a primary and backup source of noncontact cooling water? Yes _____ No _____ If yes, attach information that identifies and explains the primary and backup sources of noncontact cooling water for and how often the backup supply was used in last three years.
--	---

4. Best Technology Available for CWIS

Are you subject to BTA requirements at Part 4.2 of the General Permit? (Facility's discharge is covered by this General Permit and the facility withdraws noncontact cooling water from surface source water). Yes _____ No ☒ If No, explain:

If YES, attach the facility-specific BTA description as required in Part 4.3 of the General Permit. For additional information and guidance, see Questions 13-23 of the NCCW Fact Sheet, posted at <http://www.epa.gov/region1/npdes/nccwgp.html>. Provide a map showing the location of each CWIS intake structure; NCCW outfall(s) and any CWIS feature referred to in the BTA description.

Include in your description:

- _____ Measures to meet the General Permit Part 4.3.a general BTA requirements, including documentation that describes the facility's monitoring program for impinged fish and/or invertebrate; or the required alternative monitoring plan frequency and/or protocol
- _____ A characterization of the source water body's aquatic life habitat in the vicinity of each CWIS during the seasons when the CWIS may be in use
- _____ The attributes of the current CWIS
- _____ Design measures of the CWIS
- _____ Operation measures of the CWIS
- _____ Historical occurrence of impinged fish for the past five years
- _____ If applicable, a demonstration that the facility's intake rate is commensurate with a closed-cycle recirculation system
- _____ Other components to reduce impingement and/or entrainment of aquatic life

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 LC₅₀ 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? _____
- 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

8. Supplemental Information: Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit

9. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22 (see below) including the following certification:

I certify under penalty of law that (1) no biocides or other chemical additives except for those used for pH adjustment and/or dechlorination are used in the noncontact cooling water (NCCW) system; (2) the discharge consists solely of NCCW (to reduce temperature) and authorized pH adjustment and/or dechlorination chemicals; (3) the discharge does not come in contact with any raw materials, intermediate product, water product (other than heat) or finished product; (4) if the discharge of noncontact cooling water subsequently mixes with other wastewater (i.e. stormwater) prior to discharging to the receiving water, any monitoring provided under this permit will be only for noncontact cooling water; (5) where applicable, the facility has complied with the requirements of this permit specific to the Endangered Species Act and National Historic Preservation Act; and (6) this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility Name: Lewcott Corporation

Operator signature:



Title: Director of Operations

Date:

10-3-08

Federal regulations require this application to be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of vice president;
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively, or,
3. For a municipality, State, Federal or other public facility, by either a principal executive officer or ranking elected official.

Section 3

Topographic Map

SAMPLES SUBMITTED and REQUEST FOR ANALYSIS:

The samples listed in Table I were submitted to New England Testing Laboratory on July 24, 2008. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. The case number for this sample submission is T0724-14.

Custody records are included in this report.

TABLE I, Samples Submitted

Sample ID	Date Sampled	Matrix	Analysis Requested
WWT	7/24/08	Wastewater	Table II
GW001	7/24/08	Wastewater	Table III

TABLE II, Analysis and Methods

ANALYSIS	DETERMINATIVE METHOD
BOD ₅	5210B
Total Suspended Solids	2540D
Phenols	420.1
Total Oil and Grease	1664A
Total Cyanide	4500 CN-C,E
Total Metals	
Cadmium	200.7
Chromium	200.7
Copper	200.7
Lead	200.7
Nickel	200.7
Silver	200.7
Zinc	200.7

TABLE III, Analysis and Methods

ANALYSIS	DETERMINATIVE METHOD
Total Oil and Grease	1664A
Residual Chlorine	4500 Cl-G

These methods are documented in:

40 CFR 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act*, Office of Federal Register National Archives and Records Administration.

EPA-821-B-94-004

Section 4

Sample Analysis



REPORT OF ANALYTICAL RESULTS

NETLAB Case Number T0724-14

Prepared for:

Attn: Bob Hamilton
Lewcott Corporation
86 Providence Rd.
Millbury, MA 01527

Report Date: July 31, 2008

Reviewed by:

Richard Warila
Laboratory Director

Lab # RI010

NEW ENGLAND TESTING LABORATORY, INC.

1254 Douglas Avenue, North Providence, RI 02904

(401) 353-3420

**STATEMENTS/CERTIFICATIONS REQUIRED BY THE NATIONAL
ENVIRONMENTAL LABORATORY APPROVAL CONFERENCE (NELAC)**

New England Testing Laboratory is certified under the National Environmental Laboratory Approval Program (NELAP). This certification requires the following statements and certifications be included in our report.

This report shall not be reproduced, except in full, without written approval of the laboratory.

New England Testing certifies that the test results contained within this report meet all NELAC requirements except as detailed in the Case Narrative section of this report.

Custody Records

CHAIN OF CUSTODY RECORD

10724-14

Page 8 of 8

Section 5

Endangered Species



U.S. Fish & Wildlife Service

Threatened & Endangered Species System

Massachusetts

Notes:

- This report shows the species listed in this state according to the Federal Register listing description.
- This list does not include experimental populations and similarity of appearance listings.
- This list includes species or populations under the sole jurisdiction of the National Marine Fisheries Service.
- Click on the highlighted scientific names below to view a Species Profile for each listing.

Listed species (based on published population data) -- 27 listings

Animals -- 22

Status	Species/Listing Name
E	Beetle, American burying (<i>Nicrophorus americanus</i>)
E	Butterfly, Karner blue (<i>Lycaeides melissa samuelis</i>)
E	Curlew, Eskimo (<i>Numenius borealis</i>)
T	Plover, piping except Great Lakes watershed (<i>Charadrius melodus</i>)
E	Plymouth Red-Bellied Turtle (<i>Pseudemys rubriventris bangsi</i>)
E	Puma (=cougar), eastern (<i>Puma (=Felis) concolor cougar</i>)
E	Sea turtle, hawksbill (<i>Eretmochelys imbricata</i>)
E	Sea turtle, Kemp's ridley (<i>Lepidochelys kempii</i>)
E	Sea turtle, leatherback (<i>Dermochelys coriacea</i>)
T	Sea turtle, loggerhead (<i>Caretta caretta</i>)
E	Sturgeon, shortnose (<i>Acipenser brevirostrum</i>)
E	Tern, roseate northeast U.S. nesting pop. (<i>Sterna dougallii dougallii</i>)
T	Tiger beetle, northeastern beach (<i>Cicindela dorsalis dorsalis</i>)
T	Tiger beetle, Puritan (<i>Cicindela puritana</i>)
T	Turtle, bog (=Muhlenberg) northern (<i>Clemmys muhlenbergii</i>)
E	Wedgemussel, dwarf (<i>Alasmidonta heterodon</i>)
E	Whale, blue (<i>Balaenoptera musculus</i>)
E	Whale, finback (<i>Balaenoptera physalus</i>)
E	Whale, humpback (<i>Megaptera novaeangliae</i>)
E	Whale, right (<i>Balaena glacialis (incl. australis)</i>)

- E Whale, Sei (*Balaenoptera borealis*)
- E Wolf, gray Lower 48 States, except where delisted and where EXPN. Mexico. (*Canis lupus*)

Plants -- 5

Status	Species/Listing Name
T	Amaranth, seabeach (<i>Amaranthus pumilus</i>)
E	Bulrush, Northeastern (<i>Scirpus ancistrochaetus</i>)
E	Chaffseed, American (<i>Schwalbea americana</i>)
E	Gerardia, sandplain (<i>Agalinis acuta</i>)
T	Pogonia, small whorled (<i>Isotria medeoloides</i>)

CASE NARRATIVE

All samples were found to be properly preserved/cooled upon receipt. All analyses were performed within EPA designated holding-times. Procedure/calibration checks required by the designated protocols were within control limits.

Sample Results

WWT

Parameter	Result, mg/L	Reporting Limit	Date Analyzed
BOD ₅	478	4	7/25/08 @ 10:00
Total Suspended Solids	5490	40	7/28/08
Phenols	37	5	7/31/08
Total Oil and Grease	15.0	2.0	7/28/08
Total Cyanide	N.D.	0.01	7/28/08
Total Metals			
Cadmium	N.D.	0.005	7/29/08
Chromium	0.580	0.005	7/29/08
Copper	1.06	0.02	7/29/08
Lead	0.192	0.005	7/29/08
Nickel	0.202	0.005	7/29/08
Silver	0.049	0.005	7/29/08
Zinc	1.75	0.02	7/29/08

GW001

Parameter	Result, mg/L	Reporting Limit	Date Analyzed
Total Oil and Grease	N.D.	2.0	7/28/08
Residual Chlorine	0.19	0.01	7/24/08 @ 16:30

N.D. = Not Detected

Section 6

Historic Places

A review of the National Register of Historic Places information listed on the United States National Park Service's web site indicated that no historic properties are on-site or in the proximity of the facility's discharge of NCCW. The current list of historic properties in Millbury was exported from the National Register of Historic Places website and has been included in this section.

Index by State and City Report from the National Register of Historic Places.

Row	State	County	Resource Name	Address	City	Listed	Multiple
1	Ma	Worcester	Blackstone Canal historic District	Address Restricted	Millbury	1995-08-15	-
2	MA	Worcester	US Post Office Millbury Main	119 Elm St.	Millbury	1987-10-15	-
3	MA	Worcester	Waters, Asa, Mansion	123 Elm St.	Millbury	1978-02-14	-

REPORT: PD105R
DATE: 9/09/08

PRODUCTION ROUTINGS
Curr Plnt: 100 LEWCOTT CORPORATION

PAGE: 5

9-12-08

JOB/WORK ORDER #: J44008
PART #: C0010308
DESCRIPTION: PSR133 RESIN 72.0
QUANTITY REQUIRED: 13075
QUANTITY ON HAND: 20400 UNIT OF MEASURE: LB

CUSTOMER ORDER: 000000000
CUSTOMER:
CUSTOMER P.O. #:
CUSTOMER PART #:
DESCRIPTION:
DATE REQ'D: 9/10/08 TIME REQ'D: 23:59:00

SEQ	DEPT.	WKCTR	DESCRIPTION	START-END DATE	RUN QTY	GOOD QTY
** 10	13	MXRR	MIXING	9/10/08	13075	13075

MATERIAL REQUIRED

FOR SEQ 10

0001 I0000650
RE PHENOL

QUANTITY 8454.29 LB

25491.00

8577

LOT#

-

0002 I0000635
RE PARAFORMALDEHYDE SUP SAK

3382.50 LB

8800.00

2200

06461

0003 I0000135
CT AMMONIA 29%

197.43 LB

1276.00

200

RP068823217

0004 I0000565
SO METHANOL MEOH

1040.77 LB

29716.00

924

-

634
C0010308
PARA BAG
PSR-133

ENTERED
9/16/08
[Signature]

1230

04819

7857

J44007

YIELD 13200
7857

21057

CONTINUED ON NEXT PAGE.....

REPORT: PD105R
DATE: 9/09/08

PRODUCTION ROUTINGS
Curr Plnt: 100 LEWCOTT CORPORATION

PAGE: 6

JOB/WORK ORDER #: J44008
PART #: C0010308
DESCRIPTION: PSR133 RESIN 72.0
QUANTITY REQUIRED: 13075
QUANTITY ON HAND: 20400 UNIT OF MEASURE: LB

CUSTOMER ORDER: 000000000
CUSTOMER:
CUSTOMER P.O. #:
CUSTOMER PART #:
DESCRIPTION:
DATE REQ'D: 9/10/08 TIME REQ'D: 23:59:00

SEQ	DEPT.	WKCTR	DESCRIPTION	START-END DATE	RUN QTY	GOOD QTY
-----	-------	-------	-------------	----------------	---------	----------

METHOD PRODUCTION NOTES

Specification Targets

	QCP	Requirements	Actuals
Solids.....	QCP-S-3	72.0%	72.4
Viscosity@77F (25C)...	QCP-V-7	1000-2000	1120
Zahn Cup Viscosity....	QCP-V-8		
Specific Gravity.....	QCP-S-1	1.11	
Refractive Index.....	QCP-R-12		1.5885
Color.....	QCP-C-2		
PH.....	QCP-P-1		7.57
Hegman.....	QCP-H-1		
Gel Time @ 150C.....	QCP-G-1		
Gel Time @ 135C.....	QCP-G-1		
Gel Time @ 121C.....	QCP-G-1		
Gel Time @ 107C.....	QCP-G-1		
Gel Time(other temp)...	QCP-G-1		
Stroke Cure @ 305C....	QCP-S-4	160-190 SEC	168
DSC Analysis.....			
Water Tolerance.....	QCP-S-2		
Methanol Tolerance....	QCP-S-2		
Cloud Point.....	QCP-C-3		
Free Formaldehyde.....	QCP-A-1		0.75
Free Phenol.....	QCP-		
Other			
Other			
Other			

Storage Conditions: Cold Storage (<40F)

Mixing Instructions:

- 1) Add #1, #2 and #3 to reactor and heat to 150F.
- 2) Allow batch to exotherm to 180-190F and hold. Hold for stroke cure of 200-210 sec (~2 hours).
- 3) Full cool and then add #4 at or below 140F.
- 4) Test solids, brookfield viscosity, stroke cure, pH and free formaldehyde
- 5) Adjust solids and viscosity with additional #4 if needed.



Reactor Record	F-7.5-8	Rev. C
	ECO: 07-1844	Date: 5/10/07
	Page 1 of 1	

Lot #	This form is to be attached to the batch record.
-------	--

Time	Temp	Remarks
5 ⁰⁰	90	ADDING #1 #2 #5
6 ⁰⁵	102	#1 #2 #5 in, ADDING #3
6 ²⁵	109	#3 in, Δ TO 150 °F
7 ¹⁰	150	Δ off, let x0 TO 180-190 °F
7 ²⁰	170	cooling on Temp check
7 ³⁵	184	cooling on, level 180-190 °F, Hold for stroke
9 ⁵⁰	188	Check stroke: 195 secs
10 ⁰⁰	188	Cooling
10 ³⁰	147	ADDING #4
10 ⁴⁰	130	#4 in continue cooling
12 ⁴⁵	85	SHUTDOWN

Physical Constants (Report Test Conditions)

Solids	%	Water Tolerance	%
Viscosity @ 77F	cps	Methanol Tolerance	%
Specific Gravity		Free Formaldehyde	%
Refractive Index		Free Phenol	%
pH		Other ()	
Gel Time @ 135C	min	Other ()	
Gel Time @ 121C	min	Other ()	
Stroke Cure	sec		
DSC File Number			

