

AUTHORIZATION TO DISCHARGE UNDER THE
RHODE ISLAND POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of Chapter 46-12 of the Rhode Island General Laws, as amended, the

**Ashaway Line and Twine Manufacturing Company
24 Laurel Street
Ashaway, Rhode Island 02804**

is authorized to discharge from a facility located at

**Ashaway Line and Twine Manufacturing Company
Upper and Lower Mill Building Boilers
Laurel Street
Ashaway, Rhode Island 02804**

to receiving waters named

Ashaway River (also known as the Ashawog River)

in accordance with the effluent limitations, monitoring requirements and other conditions set forth herein.

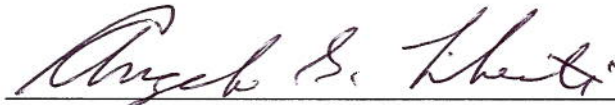
This permit shall become effective on November 1, 2010.

This permit and the authorization to discharge expire at midnight, five (5) years from the effective date.

This permit supersedes the permit issued on May 18, 2005.

This permit consists of 5 pages in Part I including effluent limitations, monitoring requirements, etc. and 10 pages in Part II including General Conditions.

Signed this *29th* day of *September*, 2010.



Angelo S. Liberti, P.E., Chief of Surface Water Protection
Office of Water Resources
Rhode Island Department of Environmental Management
Providence, Rhode Island

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date and lasting through permit expiration, the permittee is authorized to discharge from outfall serial number(s) 001 (lower mill boiler blowdown) and 002 (upper mill boiler blowdown). Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations				Monitoring Requirement		
	Quantity - lbs./day <u>Average</u> <u>Monthly</u>	Maximum <u>Daily</u>	Average Concentration <u>Monthly</u> *(Minimum)	Average specify units <u>Weekly</u> *(Average)	Maximum <u>Daily</u> (Maximum)	Measurement Frequency	Sample Type
Flow		60GPD					Estimate
Temperature						1/Month	Grab
pH			(6.0 s.u.)		(11.9 s.u.)	1/Month	Grab
Oil and Grease					15.0 mg/l	1/Quarter	Grab
Total Cadmium				(212°F)	--- ug/l	1/Quarter	Grab
Total Copper					--- ug/l	1/Quarter	Grab
Total Lead				1/Quarter	--- ug/l	1/Quarter	Grab

--- Signifies a parameter which must be monitored and data must be reported. However, limits have not been assigned at this time.

*Values in parentheses () are to be reported as Minimum/Maximum for the reporting period rather than Average Monthly/Maximum Daily.

Samples taken in compliance with the monitoring requirements specified above shall be taken on a normal operating day at the following location: Outfalls 001 (directly from the lower mill boiler blowdown discharge line) and 002 (directly from the upper mill boiler blowdown discharge line).

2.
 - a. The pH of the effluent shall not be less than 6.0 nor greater than 11.9 standard units at any time.
 - b. The discharge shall not cause visible discoloration or objectionable odor to the receiving waters.
 - c. The effluent shall contain neither a visible oil sheen, foam, nor floating solids at any time.
3. The permittee shall evaluate the use of non-intrusive methods for boiler system maintenance in order to minimize chemical use at the facility and subsequent discharge to state surface waters. If chemical addition is the only alternative the permittee must comply with all of the requirements of this permit with regard to chemical additives.
4. Unless authorized elsewhere in this Permit, the permittee must meet the following requirements concerning maintenance chemicals for boiler blowdown water. This permit prohibits the use of additives expected to pose significant risks to wildlife or human health. The permittee is required to demonstrate that the expected discharge concentration of the additive(s) to be used will not be harmful to aquatic life. This requirement is imposed in lieu of a continuing monitoring program for the additives in the discharge.
5. The permittee is prohibited from using the following chemicals:
 - a. Maintenance chemicals that contain any compounds for which the receiving water body is listed as impaired for in the State of Rhode Island 303(d) List of Impaired Waters
 - b. Any maintenance chemicals or biocides that contain tributyl tin, bis (tributyltin) oxide, or chlorinated phenols are strictly prohibited by this permit.
6. Any Algicides and biocides are to be used in accordance with the registration requirements of the Federal Insecticide, Fungicide and Rodenticide Act.
7. The permittee must keep sufficient documentation on-site to show that the above requirements are being met. The following information shall be made available for on-site review by Department personnel:
 - a. Material Safety Data Sheets (MSDS) for each additive.
 - b. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)/ U.S. EPA registration number.
 - c. A bound logbook that documents the quantity of additives added to the discharge, the frequency of additive applications, and the duration of additive applications.
8. All chemicals stored at the site shall be (1) within a diked area or other form of secondary containment, (2) supported by a base impervious to the material being contained, (3) covered by a permanent structure which prevents entry of precipitation, and (4) within a secondary containment area capable of holding without leakage or structural failure, 110 percent of the entire volume of the largest container within the area of the dike or barrier.
9. Discharge of boil out and boiler acid waste waters are not authorized by this permit. The discharge of these waste waters must be permitted separately, or these waste waters must be disposed of off-site in accordance with applicable regulations.

10. This permit authorizes the use of the chemical additives Clarity BW46 and Clarity BW94, manufactured by Clarity Water Technologies, LLC to prevent corrosion in the boiler systems at concentrations not to exceed 1600 mg/l and 2000 mg/l, in the boilers, respectively.
11. The permittee shall obtain Department approval before increasing the amount of any of the treatment chemicals listed in Part I.A.10 or prior to using any other additive(s) in conjunction with or in place of the treatment chemicals listed in Part I.A.10 of this permit. Prior to using any other chemical additives the permittee shall submit for DEM approval a complete list of all chemicals additives, including Material Safety Data Sheets. The permittee shall not begin to use any additional chemical additives other than those specified in Part I.A.10 of this permit without prior written approval from the Office of Water Resources.
12. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:
 - a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - (1) One hundred micrograms per liter (100 ug/l);
 - (2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitro-phenol; and one milligram per liter (1 mg/l) for antimony;
 - (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. s122.21(g)(7); or
 - (4) Any other notification level established by the Director in accordance with 40 C.F.R. s122.44(f) and Rhode Island Regulations.
 - b. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - (1) Five hundred micrograms per liter (500 ug/l);
 - (2) One milligram per liter (1 mg/l) for antimony;
 - (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. s122.21(g)(7); or
 - (4) Any other notification level established by the Director in accordance with 40 C.F.R. s122.44(f) and Rhode Island Regulations.
 - c. That they have begun or expect to begin to use or manufacture as an intermediate or final product or by-product any toxic pollutant which was not reported in the permit application.

B. MONITORING AND REPORTING

1. Monitoring

All monitoring required by this permit shall be done in accordance with sampling and analytical testing procedures specified in the Federal Regulations at 40 CFR Part 136.

2. Reporting

Monitoring results obtained during the previous quarter shall be summarized and reported on Discharge Monitoring Report (DMR) Forms, postmarked no later than the 15th day of the month following the completed quarter as follows:

<u>Quarter Testing To Be Performed</u>	<u>Report Due No Later Than</u>	<u>Results Submitted On DMR For</u>
January 1 – March 31	April 15	January - March
April 1 – June 30	July 15	April - June
July 1 – September 30	October 15	July - September
October 1 – December 31	January 15	October - December

DMR testing following the protocol described herein shall commence during the fourth quarter of 2010, and the first report shall be submitted to RIDEM no later than January 15, 2011.

Signed copies of these, and all other reports required herein, shall be submitted to:

Office of Water Resources
RIPDES Program
Rhode Island Department of Environmental Management
235 Promenade Street
Providence, Rhode Island 02908

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
235 PROMENADE STREET
PROVIDENCE, RHODE ISLAND 02908

STATEMENT OF BASIS

RHODE ISLAND POLLUTANT DISCHARGE ELIMINATION SYSTEM (RIPDES) PERMIT TO DISCHARGE TO WATERS OF THE STATE

RIPDES PERMIT NO. **RI0021814**

NAME AND ADDRESS OF APPLICANT:

**Ashaway Line and Twine Manufacturing Company
24 Laurel Street
Ashaway, Rhode Island**

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

**Ashaway Line and Twine Manufacturing Company
Upper and Lower Mill Building Boilers
Laurel Street
Ashaway, Rhode Island**

RECEIVING WATER: **Ashaway River (also known as the Ashawog River)**

CLASSIFICATION: **B**

I. Proposed Action, Type of Facility, and Discharge Location

The above named applicant has applied to the Rhode Island Department of Environmental Management for reissuance of a RIPDES Permit to discharge into the designated receiving water. A summary of DMR data submitted from 2005 to 2009 is provided in Attachment A.

II. Limitations and Conditions

The effluent limitations, monitoring requirements, and any implementation schedule (if required) may be found in the draft permit.

III. Permit Basis and Explanation of Effluent Limitation Derivation

Ashaway Line and Twine Manufacturing Company manufactures various types of cord and twine. The company has two (2) mills, each of which has a steam boiler (Lower Mill = Outfall 001, Upper Mill = Outfall 002). The boiler blowdowns from both mills are discharged to the Ashaway River (also known as the Ashawog River). The maximum daily discharge from each outfall is 60 gallons. The source water for the boilers is from an on-site well.

The requirements set forth in the draft permit are from the State's Water Quality Regulations and

the State's Regulations for the Rhode Island Pollutant Discharge Elimination System, both filed pursuant to Chapter 46-12, as amended. DEM's primary authority over this permit comes from EPA's delegation of the program in September 1984 under the Federal Clean Water Act.

The temperature limit and pH limits are based on the relatively small volume of discharge and high dilution of the Ashaway River. The calculated increases in temperature and pH of the Ashaway River after mixing of the discharge is negligible. These limits have been carried forward from the previous permit. The 212 degree F effluent limitation for temperature has been established in accordance with Rhode Island Water Quality Regulations Table 1.8.D.(2) Class Specific Criteria – Class B Fresh Waters (See Attachment B). A pH analysis has been conducted showing that the pH limits in the permit will not cause an exceedance of the pH criteria in Table 1.8.D(2). This report is on file at DEM and may be reviewed upon request.

Appendix B of the Water Quality Regulations describes the flows used to determine compliance with the aquatic life criteria, specifying that the design flow to be utilized for aquatic life criteria shall not be exceeded at or above the lowest average 7 consecutive day low flow with an average recurrence frequency of once in 10 years (7Q10). The dilution was calculated from United States Geologic Survey (USGS) historical data collected between 1960 and 1990 at the gauging station #01118360 on the Ashaway River in Ashaway, RI. Using this gauging station, the 7Q10 flow for the point of discharge was determined to be 2.5 ft³/s. The dilution factor (DF) used to establish the allowable water quality based discharge concentrations was then determined using the following equation:

$$DF = \frac{Q_D + Q_{dis.}}{Q_{dis.}}$$

Where: DF = Dilution Factor
Q_D = Design Flow (Receiving Water 7Q10 Flow)
Q_{dis.} = Discharge Flow

The dilution factor using this equation was determined to be 13,465. Based on a design flow of 2.5 ft³/s and a discharge flow of 0.0001854 ft³/s (equivalent to 120 gallons/day).

In accordance with 40 CFR 122.4(d)(1)(iii), water quality based effluent limitations are only required for those pollutants in the discharge that have the reasonable potential to cause or contribute to the exceedance of instream criteria. Because the volume of the discharge is small in comparison to the flow in the receiving water, yielding a dilution factor of over 13,000, it has been determined that there is no reasonable potential for the boiler blow-down contaminants to cause or contribute to the exceedance of instream criteria.

Oil and Grease effluent limitations, are based on Best Professional Judgement (BPJ). The 15 mg/l daily maximum Oil and Grease limit is equivalent to the new source performance standard that the Environmental Protection Agency (EPA) has established for most industry groups. This standard represents the level of control achievable by the best available demonstrated control technology, process, operating method, or other alternative for the removal of oil and grease.

Since the Ashaway River is listed as impaired for Cadmium, Copper, and Lead in the DEM's 2008 303d list of impaired water, monitoring for Cadmium, Copper, and Lead was added to the 2010 permit in accordance with RIPDES guidance for boiler blowdown discharges. If this monitoring shows that the facility is a significant source of these pollutants, the permit will be modified to include permit limits. In addition, Part I.A.10. of the permit was updated to account for changes in the boiler water treatment chemicals currently being used at the facility.

The Office has determined that all permit limitations are consistent with the Rhode Island Antidegradation/Antibacksliding policy. The remaining general and specific conditions of the permit are based on the RIPDES regulations as well as 40 CFR Parts 122 through 125 and consisting primarily of management requirements common to all permits.

IV. Comment Period, Hearing Requests, and Procedures for Final Decisions

All persons, including applicants, who believe any condition of the draft permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by close of the public comment period, to the Rhode Island Department of Environmental Management, Office of Water Resources, 235 Promenade Street, Providence, Rhode Island, 02908-5767. Any person, prior to such date, may submit a request in writing for a public hearing to consider the draft permit to the Rhode Island Department of Environmental Management. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty (30) days public notice whenever the Director finds that the response to this notice indicates significant public interest. In reaching a final decision on the draft permit the Director will respond to all significant comments and make these responses available to the public at DEM's Providence Office.

Following the close of the comment period, and after a public hearing, if such hearing is held, the Director will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice. Within thirty (30) days following the notice of the final permit decision any interested person may submit a request for a formal hearing to reconsider or contest the final decision. Requests for formal hearings must satisfy the requirements of Rule 49 of the Regulations for the Rhode Island Pollutant Discharge Elimination System.

V. DEM Contact

Additional information concerning the permit may be obtained between the hours of 8:30 a.m. and 4:00 p.m., Monday through Friday, excluding holidays, from:

Samuel Kaplan, P.E.
RIPDES Program
Office of Water Resources
Department of Environmental Management
235 Promenade Street
Providence, Rhode Island 02908
Telephone: (401) 222-4700 ext: 7046

9/20/10
Date


Eric A. Beck, P.E.
Supervising Sanitary Engineer
Office of Water Resources
Department of Environmental Management

ATTACHMENT A

EFFLUENT CHARACTERISTICS AT POINT OF DISCHARGE OF SELECTED POLLUTANTS:

DESCRIPTION OF DISCHARGE: Boiler Blowdown, Outfall 001

<u>PARAMETER</u>	<u>AVERAGE</u>
FLOW (GPD)	60
TEMPERATURE (DEG. F)	203.9
MINIMUM pH (SU)	10.2
MAXIMUM pH (SU)	10.5
OIL AND GREASE (mg/L)	3.61

DESCRIPTION OF DISCHARGE: Boiler Blowdown, Outfall 002

<u>PARAMETER</u>	<u>AVERAGE</u>
FLOW (GPD)	60
TEMPERATURE (DEG. F)	202.4
MINIMUM pH (SU)	10.2
MAXIMUM pH (SU)	10.5
OIL AND GREASE (mg/L)	3.05

Average of the data reported on DMRs from July 1, 2005 to December 31, 2009.

ATTACHMENT B

RI0021814 – STATEMENT OF BASIS

In order to determine the discharge temperature limit, it is necessary to evaluate the impact of the discharge on the receiving water (Ashaway River). In accordance with the RI Water Quality Regulations for Water Pollution Control, the maximum instream thermal impact (4°F) and the maximum instream temperature (83°F) must be met at the lowest seven (7) consecutive day average flow which re-occurs once every ten (10) years (7Q10 flow).

The proposed temperature limit (212°F) is the same as the temperature limit of the previous permit. The average instream Summer and Winter ambient Ashaway River temperatures (68°F and 36°F, respectively), were assumed based upon best professional judgment (BPJ).

FLOW:

Ashaway River 7Q10 2.5 cfs = 1,615,680 GPD
Outfall 001 and 002 - Daily Maximum Limit = 60 GPD each (Total = 120 GPD)

TEMPERATURE:

Outfall 001 and 002 Temperature Limit = 212°F (Same as Previous Permit)
Instream Temperature - Summer = 68°F (Assumed)
Instream Temperature - Winter = 36°F (Assumed)

WATER QUALITY TEMPERATURE REGULATIONS FOR CLASS B RECEIVING WATERS:

Net Instream Temperature Change - Winter = 4.0°F (Maximum)
Net Instream Temperature Change - Summer = 4.0°F (Maximum)

ENERGY BALANCE:

$$Q_{\max}(T_{\text{limit}}) + Q_{7Q10}(T_{\text{instream}}) = (Q_{\max} + Q_{7Q10})(T_{\text{instream}} + \Delta T)$$

Where: Q_{\max} = Daily Maximum Limit @ Outfall 001 + 002
 Q_{7Q10} = Low Flow for Ashaway River
 T_{limit} = Proposed Permit Limit for Temperature
 T_{instream} = Instream Ambient Temperature (Assumed Values)
 ΔT = Net Change in Temperature (Must be $\leq 4^\circ\text{F}$)

SOLVE FOR Δt :

Case 1 - Summer Months

$$(120 \text{ GPD})(212^\circ\text{F}) + (1,615,680 \text{ GPD})(68^\circ\text{F}) = (120 \text{ GPD} + 1,615,680 \text{ GPD})(68^\circ\text{F} + \Delta T)$$

$$\Delta T = 0.01^\circ\text{F} \leq 4.0^\circ\text{F} - \text{Proposed limit meets RI Water Quality Regulations.}$$

$$\text{Resulting instream temperature} = 68^\circ\text{F} + 0.01^\circ\text{F} = 68.01^\circ\text{F} \leq 83^\circ\text{F}.$$

Case 2 - Winter Months

$$(120 \text{ GPD})(212^\circ\text{F}) + (1,615,680 \text{ GPD})(36^\circ\text{F}) = (120 \text{ GPD} + 1,615,680 \text{ GPD})(36^\circ\text{F} + \Delta T)$$

$$\Delta T = 0.01^\circ\text{F} \leq 4.0^\circ\text{F} - \text{Proposed limit meets RI Water Quality Regulations.}$$

$$\text{Resulting instream temperature} = 36^\circ\text{F} + 0.01^\circ\text{F} = 36.01^\circ\text{F} \leq 83^\circ\text{F}.$$

In both Case 1 and Case 2, the resulting instream ambient temperature of the Ashaway River will be less than 83°F and the temperature change will be less than 4°F in accordance with RI Water Quality Regulations.