NPDES PERMIT

issued to

Rea Magnet Wire Company, Inc.
DBA Algonquin Industries
129 Soundview Road
Guilford, CT 06437

Location Address
129 Soundview Road
Guilford, CT 06437

Facility ID: 060-082 **Permit ID:** CT0028100

Receiving Stream:	**Stream Segment I.D. No.:**	**Permit Expires: March 8, 2016**
East Creek	CT5109-01	

SECTION 1: GENERAL PROVISIONS

(A) This permit is reissued in accordance with section 22a-430 of Chapter 446k, Connecticut General Statutes ("CGS"), and Regulations of Connecticut State Agencies ("RCSA") adopted thereunder, as amended, and section 402(b) of the Clean Water Act, as amended, 33 USC 1251, et. seq., and pursuant to an approval dated September 26, 1973, by the Administrator of the United States Environmental Protection Agency for the State of Connecticut to administer an N.P.D.E.S. permit program.

(B) **Rea Magnet Wire Company, Inc., DBA Algonquin Industries** , ("Permittee"), shall comply with all conditions of this permit including the following sections of the RCSA which have been adopted pursuant to section 22a-430 of the CGS and are hereby incorporated into this permit. Your attention is especially drawn to the notification requirements of subsection (i)(2), (i)(3), (j)(1), (j)(6), (j)(8), (j)(9)(C), (j)(10)(C), (j)(11)(C), (D), (E), and (F), (k)(3) and (4) and (l)(2) of section 22a-430-3.

Section 22a-430-3 General Conditions

(a) Definitions
(b) General
(c) Inspection and Entry
(d) Effect of a Permit
(e) Duty
(f) Proper Operation and Maintenance
(g) Sludge Disposal
(h) Duty to Mitigate
(i) Facility Modifications; Notification
(j) Monitoring, Records and Reporting Requirements
(k) Bypass
(l) Conditions Applicable to POTWs
(m) Effluent Limitation Violations (Upsets)
(n) Enforcement

(o) Resource Conservation
(p) Spill Prevention and Control
(q) Instrumentation, Alarms, Flow Recorders
(r) Equalization

Section 22a-430-4 Procedures and Criteria

(a) Duty to Apply
(b) Duty to Reapply
(c) Application Requirements
(d) Preliminary Review
(e) Tentative Determination
(f) Draft Permits, Fact Sheets
(g) Public Notice, Notice of Hearing
(h) Public Comments
(i) Final Determination
(j) Public Hearings
(k) Submission of Plans and Specifications. Approval.
(l) Establishing Effluent Limitations and Conditions
(m) Case by Case Determinations
(n) Permit issuance or renewal
(o) Permit Transfer
(p) Permit revocation, denial or modification
(q) Variances
(r) Secondary Treatment Requirements
(s) Treatment Requirements for Metals and Cyanide
(t) Discharges to POTWs - Prohibitions

(C) Violations of any of the terms, conditions, or limitations contained in this permit may subject the Permittee to enforcement action including, but not limited to, seeking penalties, injunctions and/or forfeitures pursuant to applicable sections of the CGS and RCSA.

(D) Any false statement in any information submitted pursuant to this permit may be punishable as a criminal offense under section 22a-438 or 22a-131a of the CGS or in accordance with section 22a-6, under section 53a-157b of the CGS.

(E) The authorization to discharge under this permit may not be transferred without prior written approval of the Commissioner of Environmental Protection ("Commissioner"). To request such approval, the Permittee and proposed transferee shall register such proposed transfer with the Commissioner, at least 30 days prior to the transferee becoming legally responsible for creating or maintaining any discharge which is the subject of the permit transfer. Failure, by the transferee, to obtain the Commissioner's approval prior to commencing such discharge(s) may subject the transferee to enforcement action for discharging without a permit pursuant to applicable sections of the CGS and RCSA.

(F) No provision of this permit and no action or inaction by the Commissioner shall be construed to constitute an assurance by the Commissioner that the actions taken by the Permittee pursuant to this permit will result in compliance or prevent or abate pollution.

(G) Nothing in this permit shall relieve the Permittee of other obligations under applicable federal, state and local law.

(H) An annual fee shall be paid for each year this permit is in effect as set forth in section 22a-430-7 of the

Regulations of Connecticut State Agencies.

(I) This permitted discharge is consistent with the applicable goals and policies of the Connecticut Coastal Management Act (section 22a-92 of the Connecticut General Statutes).

SECTION 2: DEFINITIONS

(A) The definitions of the terms used in this permit shall be the same as the definitions contained in section 22a-423 of the CGS and section 22a-430-3(a) and 22a-430-6 of the RCSA, except for "No Observable Acute Effect Level (NOAEL)" which is redefined below.

(B) In addition to the above, the following definitions shall apply to this permit:

"-----" in the limits column on the monitoring table means a limit is not specified but a value must be reported on the DMR.

"Average Monthly Limit"; means the maximum allowable "Average Monthly Concentration" as defined in section 22a-430-3(a) of the RCSA when expressed as a concentration (e.g. mg/l); otherwise, it means "Average Monthly Discharge Limitation" as defined in section 22a-430-3(a) of the RCSA.

"Critical Test Concentration (CTC)" means the specified effluent dilution at which the Permittee is to conduct a single-concentration Aquatic Toxicity test.

"Daily Concentration" means the concentration of a substance as measured in a daily composite sample, or, the arithmetic average of all grab sample results defining a grab sample average.

"Daily Quantity" means the quantity of waste discharged during an operating day.

"Instantaneous Limit" means the highest allowable concentration of a substance as measured by a grab sample, or the highest allowable measurement of a parameter as obtained through instantaneous monitoring.

"In stream Waste Concentration (IWC)" means the concentration of a discharge in the receiving water after mixing has occurred in the allocated zone of influence.

"Maximum Daily Limit", means the maximum allowable "Daily Concentration" (defined above) when expressed as a concentration (e.g. mg/l); otherwise, it means the maximum allowable "Daily Quantity" as defined above, unless it is expressed as a flow quantity. If expressed as a flow quantity it means “Maximum Daily Flow” as defined in section 22a-430-3(a) of the RCSA.

"NA" as a Monitoring Table abbreviation means “not applicable”.

"NR" as a Monitoring Table abbreviation means “not required”.

"No Observable Acute Effect Level (NOAEL)" means any concentration equal to the critical test concentration in a single concentration (pass/fail) toxicity test conducted pursuant to section 22a - 430 3(j)(7)(A)(i) RCSA demonstrating 90% or greater survival of test organisms at the CTC and if the specified CTC is less than 100% effluent then the discharge will also exhibit greater than 50% survival of test organisms in 100% (undiluted) effluent.

"Quarterly", in the context of a sampling frequency, means sampling is required in the months of

January, April, July and October. In the event that the discharge does not occur in any of these sampling months, the Permittee shall sample during the next discharge event.

"Semi-Annual" means that a representative sample of the discharge shall be collected in April and October.

"µg/l" means micrograms per liter.

SECTION 3: COMMISSIONER'S DECISION

(A) The Commissioner has issued a final determination and found that continuance of the existing system to treat the discharge will protect the waters of the state from pollution. The Commissioner's decision is based on Application No. 201005937 for permit reissuance received on October 12, 2010 and the administrative record established in the processing of that application.

(B) The Commissioner hereby authorizes the Permittee to discharge in accordance with the provisions of this permit, the above referenced application, and all approvals issued by the Commissioner or the Commissioner's authorized agent for the discharges and/or activities authorized by, or associated with, this permit.

(C) The Commissioner reserves the right to make appropriate revisions to the permit in order to establish any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the Federal Clean Water Act or the CGS or regulations adopted thereunder, as amended. The permit as modified or renewed under this paragraph may also contain any other requirements of the Federal Clean Water Act or CGS or regulations adopted thereunder which are then applicable.

SECTION 4: GENERAL EFFLUENT LIMITATIONS

(A) No discharge shall contain, or cause in the receiving stream, a visible oil sheen or floating solids; or, cause visible discoloration or foaming in the receiving stream.

(B) No discharge shall cause acute or chronic toxicity in the receiving water body beyond any zone of influence specifically allocated to that discharge in this permit.

(C) The temperature of any discharge shall not increase the temperature of the receiving stream above 83 ^{o}F, or, in any case, raise the temperature of the receiving stream by more than 4^{o}F. The incremental temperature increase in coastal and marine waters is limited to 1.5 ^{o}F during the period including July, August, and September.

SECTION 5: SPECIFIC EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

(A) The discharge shall not exceed and shall otherwise conform to the specific terms and conditions listed below. The discharge is restricted by, and shall be monitored in accordance with, the table below:

Table A

Discharge Serial Number (DSN): 001 | Monitoring Location: 1

Wastewater Description: Treated contaminated groundwater

Monitoring Location Description: At the sample port after carbon filtration

Allocated Zone of Influence (ZOI): 5,385 gph | In stream Waste Concentration (IWC): 25.0 %

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test[3]
		Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample/ Reporting Frequency[2]	Sample Type or measurement to be reported	
NOAEL Static 48Hr Acute M. Bahia[4]	%	NA	NA	NR	NA	≥ 90%	Semi-Annual	Grab	
NOAEL Static 48Hr Acute Menidia[4]	%	NA	NA	NR	NA	≥ 90%	Semi-Annual	Grab	
Benzene	ug/l	NA	NA	NR	NA	1.0	Monthly	Grab	*
Copper	ug/l	NA	NA	NR	NA	---	Quarterly	Grab	*
Flow Total (Day of Sampling)	gpd	NA	43,200	Monthly	Total Flow	NA	NR	NA	
Flow, Maximum During 24 hr Period[1]	gpd	NA	43,200	Continuous	Total Flow	NA	NR	NA	
Flow Rate, (Average Daily)[1]	gpd	33,230	NA	Continuous	Total Flow	NA	NR	NA	
1,1 Dichloroethylene	ug/l	NA	NA	NR	NA	2.0	Monthly	Grab	*
Methylene Chloride	ug/l	NA	NA	NR	NA	5.0	Monthly	Grab	*
pH, (Day of Sampling)	S.U.	NA	NA	NR	NA	6.0-9.0	Monthly	Grab	
Temperature	(^{o}F)	NA	NA	NR	NA	See Section 4: (C)	Monthly	Grab	
Tetrachloroethylene	ug/l	NA	NA	NR	NA	5.0	Monthly	Grab	*
1,1,1- Trichloroethane	ug/l	NA	NA	NR	NA	36.0	Monthly	Grab	*
Trichloroethylene	ug/l	NA	NA	NR	NA	5.0	Monthly	Grab	*

Table A Footnotes and Remarks:

Footnotes:

[1] For this parameter, the Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Average Daily Flow and Maximum Daily Flow for each sample month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6:(A)(3) of this permit.

[4] All analysis shall be on the same sample. The results of the Toxicity Tests are recorded in % survival on the DMR based on criteria in Section 6(B) of this permit..

(1) All samples shall be comprised of only the wastewater described in this table. Samples shall be collected prior to combination with receiving waters or wastewater of any other type, and after all approved treatment units, if applicable. All samples collected shall be representative of the discharge during standard operating conditions.

(2) In cases where limits and sample type are specified but sampling is not required by this permit, the limits specified shall apply to all samples, which may be collected and analyzed by the Department of Environmental Protection personnel, the Permittee, or other parties.

(3) The limits imposed on the discharges listed in this permit take effect on the issuance date of this permit, hence any sample taken after this date which, upon analysis, shows an exceedance of permit limits will be considered non-compliance.

The monitoring requirements begin on the date of issuance of this permit if the issuance date is on or before the 12th day of a month. For permits issued on or after the 13th day of a month, monitoring requirements begin the 1st day of the following month.

SECTION 6: SAMPLE COLLECTION, HANDLING AND ANALYTICAL TECHNIQUES

(A) Chemical Analysis

(1) Chemical analyses to determine compliance with effluent limits and conditions established in this permit shall be performed using the methods approved pursuant to the 40 CFR 136 unless an alternative method has been approved in writing pursuant to 40 CFR 136.4 or as provided in section 22a-430-3(j)(7) of the RCSA. Chemicals which do not have methods of analysis defined in 40 CFR 136 shall be analyzed in accordance with methods specified in this permit.

(2) All metals analyses identified in this permit shall refer to analyses for Total Recoverable Metal as defined in 40 CFR 136 unless otherwise specified.

(3) The Minimum Levels specified below represent the concentrations at which quantification must be achieved and verified during the chemical analyses for the parameters identified in Section 5 Table A. Analyses for these parameters must include check standards within ten percent of the specified Minimum Level or calibration points equal to or less than the specified Minimum Level.

Parameter	Minimum Level
Benzene	1.0 ug/L
Copper	5.0 ug/L
1,1 Dichloroethylene	1.0 ug/L
Methylene Chloride	1.0 ug/L
Tetrachloroethylene	1.0 ug/L
1,1,1- Trichloroethane	1.0 ug/L
Trichloroethylene	1.0 ug/L

(4) The value of each parameter for which monitoring is required under this permit shall be reported to the maximum level of accuracy and precision possible consistent with the requirements of this section of the permit.

(5) Effluent analyses for which quantification was verified during the analysis at or below the minimum

levels specified in this section and which indicate that a parameter was not detected shall be reported as "less than x" where 'x' is the numerical value equivalent to the analytical method detection limit for that analysis.

(6) Results of effluent analyses which indicate that a parameter was not present at a concentration greater than or equal to the Minimum Level specified for that analysis shall be considered equivalent to zero (0.0) for purposes of determining compliance with effluent limitations or conditions specified in this permit.

(7) The analytical method used to determine the concentration of volatile organic compounds (VOCs) shall be EPA method 624.

(B) Acute Aquatic Toxicity Test

(1) Samples for monitoring of Aquatic Toxicity shall be collected and handled as prescribed in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" (EPA/821-R-02-012).

(a) Composite samples shall be chilled, as they are collected. Grab samples shall be chilled immediately following collection. Samples shall be held at 4 degrees Centigrade until Aquatic Toxicity testing is initiated.

(b) Effluent samples shall not be dechlorinated, filtered, or, modified in any way, prior to testing for Aquatic Toxicity unless specifically approved in writing by the Commissioner for monitoring at this facility.

(c) Chemical analyses of the parameters identified in Section 5 Table A shall be conducted on an aliquot of the same sample tested for Aquatic Toxicity.

(i) At a minimum, pH, specific conductance, salinity, total alkalinity, total hardness, and total residual oxidants shall be measured in the effluent sample and, during Aquatic Toxicity tests, in the highest concentration of test solution and in the dilution (control) water at the beginning of the test and at test termination. If Total residual oxidants is not detected at test initiation, it does not need to be measured at test termination. Dissolved oxygen, salinity, pH, and temperature shall be measured in the control and all test concentrations at the beginning of the test, daily thereafter, and at test termination.

(ii) For tests with saltwater organisms that require salinity adjustment of the effluent, chemical analyses shall be conducted on an aliquot of the effluent sample collected for Aquatic Toxicity testing and on an aliquot of the effluent following salinity adjustment. Both sets of results shall be reported on the Aquatic Toxicity Monitoring Report (ATMR).

(d) Tests for Aquatic Toxicity shall be initiated within 24 hours of sample collection.

(2) Monitoring for Aquatic Toxicity to determine compliance with the permit limit on Aquatic Toxicity (invertebrate) in Table A above shall be conducted for 48-hours utilizing neonatal Mysidopsis bahia (1-5 days old with no more than 24- hours range in age).

(3) Monitoring for Aquatic Toxicity to determine compliance with the permit limit on Aquatic Toxicity

(vertebrate) in Table A above shall be conducted for 48-hours utilizing larval Menidia beryllina (9-14 days old with no more than 24-hours range in age).

(4) Tests for Aquatic Toxicity shall be conducted as prescribed for static non-renewal acute tests in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" (EPA/821-R-02-012), except as specified below.

(a) For Aquatic Toxicity Limit, expressed as an NOAEL value, Pass/Fail (single-concentration) tests shall be conducted at a specified Critical Test Concentration (CTC) equal to the Aquatic Toxicity Limit or 100% as prescribed in section 22A-430-3(j)(7)(A)(i) of the Regulations of Connecticut State Agencies.

(b) Mysidopsis bahia may be fed during the tests.

(c) Aquatic toxicity tests with saltwater organisms shall be conducted at a salinity of 20 parts per thousand, plus or minus 2 parts per thousand.

(i) Sodium lauryl sulfate or sodium dodecyl sulfate shall be used as the reference toxicant.

(ii) Synthetic seawater for use as dilution water or controls shall be prepared with deionized water and artificial sea salts as described in EPA/821-R-02-012.

(iii) If the salinity of the source water is more that 5 parts per thousand higher, or lower than the culture water used for rearing the organisms, a second set of controls matching the salinity of the culture water shall be added to the test series. Test validity shall be determined using the controls adjusted to match the source water salinity.

(iv) Salinity adjustment that may be required in tests with saltwater organisms shall utilize artificial sea salts necessary to achieve the required salinity.

(v) The actual effluent concentrations in definitive tests with saltwater organisms shall be used in calculating test results.

(5) Compliance with limits on Aquatic Toxicity shall be determined as follows:

(a) For limits expressed as an NOAEL value, compliance shall be demonstrated when the results of a valid pass/fail Aquatic Toxicity test indicates there is 90% or greater survival in the undiluted effluent.

(C) The Permittee shall monitor the chronic toxicity of discharge DSN001-1 in accordance with the following specifications.

(1) Chronic toxicity testing of the discharge shall be conducted annually during July, August, or September of each year.

(2) Chronic toxicity testing shall be performed on the discharge in accordance with the test methodology established in “Short term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Marine and Estuarine” (EPA-821-R-02-014) as referenced in 40CFR 136 for Mysidopsis bahia survival growth and fecundity and Menidia beryllina survival growth.

(3) Chronic toxicity tests shall utilize a single concentration test of 100% effluent.

(4) East Creek water collected immediately upstream of the area influenced by the discharge shall be used as site water control (0% effluent) and dilution water in the toxicity tests.

(5) A laboratory water control consisting of synthetic saltwater prepared in accordance with EPA-821-R-02-014 at a salinity of 20 ± 2 ppt shall be included in the test protocol in addition to the site-water control.

(6) Grab samples of the effluent East Creek for use as site water control and dilution water shall be collected on: day 0, for test solution renewal on day 1 and day 2 of the test; day 2, for test solution renewal on day 3 and day 4 of the test; and day 4, for test solution renewal on day 5, 6, and 7 of the test. Effluent samples may be adjusted to a salinity of 20 ± 2 ppt using artificial salts. Effluent samples shall not be dechlorinated, pH or hardness adjusted, or chemically altered in any other way.

(7) All samples of the discharge and the East Creek water used in the chronic toxicity test shall, at a minimum, be analyzed and results reported in accordance with the provisions listed in section 6(A) of this permit for the following parameters:

Alkalinity	Nitrogen, Ammonia (total as N)
Benzene	Nitrogen, Nitrate (Total as N)
Oxidant, (Total residual)	pH
Conductivity	Solids, Total Suspended
Copper (Total recoverable and dissolved)	Tetrachloroethylene
1,1 Dichloroethylene	1,1,1- Trichloroethane
Hardness	Trichloroethylene
Methylene Chloride	Zinc, (Total recoverable and dissolved)
Nickel (Total recoverable and dissolved)	Salinity

TABLE HH **Testing Protocol DSN 001-1 Mysidopsis bahia 7-day chronic tests.**	
Testing procedure	Chronic: EPA 821-R-02-014, except as modified below.
Test type	Static with daily renewal.
Salinity	Greater than or equal to 20 ± 2 ppt; Effluent (DSN001-1) water, dilution water (East Creek) and lab control water
Temperature	$26^{O}C \pm 1$
Light	Ambient laboratory illumination
Photoperiod	16-h light, 8-h dark
Test chamber type	Glass or plastic (250 – 400 mLs capacity)
Test solution volume	200 mL per replicate
Test solution renewal	Daily
Age of test organism	7 days old
No. of test organisms	5 per replicate test chamber
Replicates	12 per concentration (100 %), 12- lab control water, 12- dilution water
Source of food	Newly hatched (less than 24-h old) brine shrimp nauplii. Concentrate brine shrimp nauplii with a ≤ 150 um sieve mesh and rinse with seawater.
Feeding regime	About 150 brine shrimp nauplii per mysid twice per day (about three drops). Feed after test solution renewal.
Cleaning test chambers	Siphon excess food prior to test solution renewal.
Aeration	None, unless DO falls below 4.0 mg/l, then gently aerate all chambers
Control/Dilution water	Laboratory control and East Creek water, grab samples, three separate collections: collected on day 0, day 2, and day 4.
Effluent	Grab sample collected at DSN001-1. Three separate grab collections. Samples must be collected on day 0, day 2, and day 4.
Test duration	Chronic: 7 days
Endpoint	Chronic: Survival, growth and egg development
Test acceptability criteria	80% survival (averaged) in controls after 7 days. A minimum average dry weight of 0.2 mg per surviving mysid. Fecundity may be used if 50% of the females in controls produce eggs.
Mortality observations	Each test chamber is examined for mortality at 24-h intervals. Dead individuals are removed and if any individuals are missing (via cannibalism), they are noted.
Physical- chemical measurements of solutions in test chambers	DO, temperature, salinity and pH of the effluent and control test solutions are measured at the beginning, at 24-h intervals and at test termination. These parameters are measured prior to and after test solution renewals. At the end of the chronic test, after the number of live individuals has been determined, measure DO, temperature, salinity and pH in all effluent and control test chambers.
Physical-chemical measurements of grab effluent sample and control grab sample.	The following parameters are measured in each grab sample of DSN001-1and each grab sample collected from the East Creek salinity, pH, total residual oxidant,

	ammonia as N, nitrate and nitrite nitrogen, total and dissolved copper, total and dissolved lead, total and dissolved nickel, total and dissolved zinc, total suspended solids, benzene, 1,1 dichloroethylene, methylene chloride, tetrachloroethylene, trichloroethylene, 1,1,1-trichloroethane.
Reference toxicant	Sodium dodecyl sulfate.

TABLE II: **Testing Protocol DSN001-1 Menidia beryllina 7-day chronic tests.**	
Testing procedure	Chronic: EPA 821-R-02-014, except as modified below.
Test type	Static with daily renewal.
Salinity	Greater than or equal to 20 ppt; Effluent (DSN001-1) water, dilution water (East Creek) and lab control water
Temperature	$26^{o}C \pm 1$
Light	Ambient laboratory illumination
Photoperiod	16-h light, 8-h dark
Test chamber type	Glass or plastic (1000 mLs capacity)
Test solution volume	750 mL per replicate
Test solution renewal	Daily
Age of test organism	7- 11 days old (no more than 24 hrs between)
No. of test organisms	10 per replicate test chamber
Replicates	6 per concentration (100 %), 6-dilution water, 6-lab control water.
Source of food	Newly hatched (less than 24-h old) brine shrimp nauplii. Concentrate brine shrimp nauplii with a $\leq$ 150 um sieve mesh and rinse with seawater.
Feeding regime	Feed once a day concentrated brine shrimp at a rate per replicate of 0.1 mL (2 drops) on days 0-2 and 0.15 mL (3 drops) on days 3–6. Feed after test solution renewal.
Cleaning test chambers	Siphon excess food prior to test solution renewal.
Aeration	None, unless DO falls below 4.0 mg/l, then gently aerate all chambers
Control/Dilution water	Laboratory control and East Creek water, grab samples, three separate collections: collected on day 0, day 2, and day 4.
Effluent	Grab samples collected at (DSN001-1). Three separate grab collections. Samples must be collected on day 0, day 2, and day 4.
Test duration	Chronic: 7 days
Endpoint	Chronic: Survival, growth
Test acceptability criteria	80% survival (averaged) in controls after 7 days. A minimum average dry weight of 0.50 mg per organism in controls is required.
Mortality observations	Each test chamber is examined for mortality at 24-h intervals. Dead individuals are removed and if any individuals are missing, they are noted.
Physical- chemical measurements of solutions in test	DO, temperature, salinity and pH of the effluent and

chambers	control test solutions are measured at the beginning, at 24-h intervals and at test termination. These parameters are measured prior to and after test solution renewals. At the end of the chronic test, after the number of live individuals has been determined, measure DO, temperature, salinity and pH in all effluent and control test chambers
Physical-chemical measurements of grab effluent sample and control grab sample.	The following parameters are measured in each grab sample of DSN001-1and each grab sample collected from the East Creek salinity, pH, total residual oxidant, ammonia as N, nitrate and nitrite nitrogen, total and dissolved copper, total and dissolved lead, total and dissolved nickel, total and dissolved zinc, total suspended solids, benzene, 1,1 dichloroethylene, methylene chloride, tetrachloroethylene, trichloroethylene, 1,1,1-trichloroethane
Reference toxicant	Sodium dodecyl sulfate.

SECTION 7: REPORTING REQUIREMENTS

(A) The results of chemical analyses and any aquatic toxicity test required above shall be entered on the Discharge Monitoring Report (DMR), provided by this office, and reported to the Bureau of Materials Management and Compliance Assurance (Attn: DMR Processing) at the following address. The report shall also include a detailed explanation of any violations of the limitations specified. The DMR shall be received at this address by the last day of the month following the month in which samples are collected.

Bureau of Materials Management and Compliance Assurance
Water Permitting and Enforcement Division (Attn: DMR Processing)
Connecticut Department of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

(B) Complete and accurate aquatic toxicity test data, including percent survival of test organisms in each replicate test chamber, LC50 values and 95% confidence intervals for definitive test protocols, and all supporting chemical/physical measurements performed in association with any aquatic toxicity test, including measured daily flow and hours of operation for the discharge day and for the 30 consecutive operating days prior to sample collection if compliance with a limit on Aquatic Toxicity is based on toxicity limits based on actual flows described in Section 7, shall be entered on the Aquatic Toxicity Monitoring Report form (ATMR) and sent to the Bureau of Water Protection and Land Reuse at the following address. The ATMR shall be received at this address by the last day of the month following the month in which samples are collected.

Bureau of Water Protection and Land Reuse (Attn: Aquatic Toxicity)
Connecticut Department of Environmental Protection
79 Elm St.
Hartford, CT 06106-5127

(C) If this permit requires monitoring of a discharge on a calendar basis (e.g. Monthly, quarterly, etc.), but a discharge has not occurred within the frequency of sampling specified in the permit, the Permittee must submit the DMR and ATMR, as scheduled, indicating "NO DISCHARGE". For those Permittees whose required monitoring is discharge dependent (e.g. per batch), the minimum reporting frequency is monthly. Therefore, if

there is no discharge during a calendar month for a batch discharge, a DMR must be submitted indicating such by the end of the following month.

(D) A complete and thorough report of the results of the chronic toxicity monitoring specified in Section 6 (C) shall be prepared as outlined in Section 10 of EPA-821-R-02-013 and submitted to the Department for review on or before 60 days after test completion to the address specified in Section 7(B) of this permit.

SECTION 8: RECORDING AND REPORTING OF VIOLATIONS, ADDITIONAL TESTING REQUIREMENTS

(A) If any sample analysis indicates [that an Aquatic Toxicity effluent limitation in Section 5 of this permit has been exceeded Toxicity, or that the test was invalid, another sample of the effluent shall be collected and tested for Aquatic Toxicity and associated chemical parameters, as described above in Section 5 and Section 6, and the results reported to the Bureau of Materials Management and Compliance Assurance (Attn: DMR Processing), at the address listed above, within 30 days of the exceedance or invalid test. Results of all tests, whether valid or invalid, shall be reported.

(B) If any two consecutive test results or any three test results in a twelve month period indicates that an Aquatic Toxicity Limit has been exceeded, the Permittee shall immediately take all reasonable steps to eliminate toxicity wherever possible and shall submit a report to Bureau of Materials Management and Compliance Assurance (Attn: Aquatic Toxicity) for the review and approval of the Commissioner in accordance with section 22a-430-3(j)(10)(c) of the RCSA describing proposed steps to eliminate the toxic impact of the discharge on the receiving water body. Such a report shall include a proposed time schedule to accomplish toxicity reduction and the Permittee shall comply with any schedule approved by the Commissioner.

(C) The Permittee shall notify the Bureau of Materials Management and Compliance Assurance, Water Permitting and Enforcement Division, within 72 hours and in writing within thirty days of the discharge of any substance listed in the application but not listed in the permit if the concentration or quantity of that substance exceeds two times the level listed in the application.

(D) The Permittee shall notify the Department of Agriculture, Bureau of Aquaculture and Laboratory at the address listed below, within 72 hours and in writing within thirty days of any permit limit exceedance.

Bureau of Aquaculture and Laboratory (Attn: David M. Lamoureux)
Department of Agriculture
P.O. Box 97- 190 Rogers Avenue
Milford, CT 06460
Phone: (203) 874-0696 Ext. 111

This permit is hereby issued on

_____
Daniel C. Esty
Acting Commissioner

DE/EH

DATA TRACKING AND TECHNICAL FACT SHEET

Permittee : Rea Magnet Wire Company, Inc., DBA Algonquin Industries

PERMIT, ADDRESS, AND FACILITY DATA

PERMIT No: CT0028100 *APPLICATION No. 201005937* *FACILITY ID: 060-082*

Mailing Address:	***Location Address:***
Street: 129 Soundview Road	*Street: 129 Soundview Road*
City: Guilford ST: CT Zip: 06437	*City: Guilford ST CT Zip: 06437*
Contact Name: Greg Jankura	*DMR Contact Greg Jankura*
Phone No.: (203) 453-4348	*Phone No.: (203) 453-4348*

PERMIT INFORMATION

DURATION *5 YEAR X* *10 YEAR ___* *30 YEAR*

TYPE *New ___* *Reissuance X* *Modification*

CATEGORIZATION *POINT (X)* *NON-POINT ( )* *GIS #*

NPDES (X) *PRETREAT ()* *GROUND WATER (UIC) ( )* *GROUND WATER (OTHER) ( )*

NPDES MAJOR (MA) ___
NPDES SIGNIFICANT MINOR or PRETREAT SIU (SI)
NPDES or PRETREATMENT MINOR (MI) X

PRETREAT SIGNIFICANT INDUS USER (SIU)
PRETREAT CATEGORICAL (CIU)
Note: If it is a CIU then check off SIU

POLLUTION PREVENTION MANDATE *ENVIRONMENTAL EQUITY ISSUE*

COMPLIANCE ISSUES

COMPLIANCE SCHEDULE *YES* *NO X* *(If yes check off what it is in relation to.)*

POLLUTION PREVENTION *TREATMENT REQUIREMENT* *WATER CONSERVATION*

WATER QUALITY REQUIREMENT *REMEDIATION* *OTHER*

IS THE PERMITTEE SUBJECT TO A PENDING ENFORCEMENT ACTION? NO X YES

OWNERSHIP CODE

Private X Federal __ State __ Municipal (town only) __ Other public

DEP STAFF ENGINEER *Enna Herrera*

PERMIT FEES

Discharge Code	***DSN Number***	***Annual Fee***
1090000	*001-1*	*$ 4,337.50*

FOR NPDES DISCHARGES

Drainage basin Code: 5109 *Present/Future Water Quality Standard: SB/SA*

NATURE OF BUSINESS GENERATING DISCHARGE

Rea Magnet Wire Company, Inc., DBA Algonquin Industries is conducting groundwater remediation at the site to remove halogenated and aromatic volatile organic compounds.

PROCESS AND TREATMENT DESCRIPTION (by DSN)

DSN 001-1: Contaminated groundwater is pumped from two recovery wells to a settling tank and aerated by two air strippers in series to remove halogenated and aromatic VOC's. The groundwater then passes through two activated carbon filters prior to being discharged.

RESOURCES USED TO DRAFT PERMIT

__ *Federal Effluent Limitation Guideline 40 CFR* *name of category*

__ *Performance Standards*

__ *Federal Development Document* *name of category*

__ *Treatability Manual*

X *Department File Information*

X *Connecticut Water Quality Standards*

__ *Anti-degradation Policy (See General Comments)*

X *Coastal Management Consistency Review Form*

X *Other – Explain (See General Comments)*

BASIS FOR LIMITATIONS, STANDARDS OR CONDITIONS

X *Best Available Technology (BAT)*

X *Case-by-Case Determination and Best Professional Judgment*
DSN 001: Benzene, total copper, trichloroethylene, methylene chloride, tetrachloroethylene, 1,1 dichloroethylene

X *In order to meet in-stream water quality (See General Comments)*
DSN 001: Aquatic Toxicity NOAEL, 1,1,1- trichloroethane

GENERAL COMMENTS

The need to include water quality based discharge limitations in this permit was evaluated to be consistent with Connecticut Water Quality Standards and criteria, pursuant to 40 CFR 122.44(d). Each parameter was evaluated for consistency with the available aquatic life criteria considering the zone of influence allocated to the facility where appropriate. The statistical procedures outlined in the EPA Technical Support Document for Water Quality based Toxics Control (EPA/505/2 90 001) were employed to calculate these limits. The calculated limits were then compared to the available effluent data. A comparison of the calculated limits to the effluent data suggests a low statistical probability of exceeding such limits. Except for 1,1,1- trichloroethane, the resulting limits were found to be less restrictive than those appearing in the existing permit. Since the Permittee has demonstrated the ability to comply with these more restrictive limits, those limits were incorporated into the renewed permit as required pursuant to the anti-backsliding provisions of the permitting regulations at 22a-430-4(l)(4)(xxiii). The 1,1,1- trichloroethane instantaneous permit limit is based on the Connecticut Water Quality Standards. The proposed effluent limitations and conditions specified in the Table A footnotes and remarks are consistent with the requirements specified in the existing permit issued on March 9, 2006. These limitations and conditions are based on BAT and a case-by-case determination using the criteria of best professional judgment pursuant to Section 22a-430-4(m) of the RCSA and 40 CFR 125.3(d).

OTHER COMMENTS

The Bureau of Materials Management and Compliance Assurance issued an administrative Order No. WC 4658 on March 3, 1988. The order required the Permittee to take remedial actions to minimize or eliminate the contamination resulting from a 1,1,1 Trichloroethane spill at 129 Soundview Road, Guilford, CT. Since groundwater protection criteria have not been met, remediation efforts will have to continue until these criteria are achieved at an acceptable level of clean up.

According to the information provided by the Permittee in the application, the treated wastewater discharges into East Creek. The zone of influence allocated for this discharge into East Creek is 5,385 gph, which represents the full 7Q10 flow for this water body. The 7Q10 flow was calculated using a stratified drift and glacial till equation provided by the U.S. Geological survey for this particular location.

There is no new construction at the site. The facility is located in the coastal boundary, but this permit is a renewal. Therefore, submittal of the coastal consistency review form is not necessary.

The differences between the effluent limitations and monitoring requirements of the existing permit and this permit renewal are as follows:

The Applicant requested to reduce the frequency of the acute toxicity testing from quarterly to semi-annually. A review of the Rea Magnet Wire Company's Aquatic Toxicity data over the last seven (7) years revealed that this discharge is consistently not acutely toxic and has a low probability of toxicity. Therefore, DEP staff is recommending that the

effluent monitoring frequency for acute toxicity testing be reduced from quarterly to semi-annually in Table A of this permit.