UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
1 CONGRESS STREET, SUITE 1100, (CPE)
BOSTON, MASSACHUSETTS 02114-2023

FACT SHEET

DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

NPDES PERMIT NO.: MA0000281

NAME AND ADDRESS OF APPLICANT:

Ferraz Shawmut Inc.
374 Merrimac Street
Newburyport, MA 01950

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Ferraz Shawmut Inc.
374 Merrimac Street
Newburyport, MA 01950

RECEIVING WATER: Merrimack River

CLASSIFICATION: Class SB

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

The above named applicant has applied to the U.S. Environmental Protection Agency for reissuance of an NPDES permit to discharge into the designated receiving water. The facility is engaged in the production of electric fuses. The discharge is from treated process wastewater through Outfall 001 to the Merrimack River. The storm water runoff is covered under a general storm water permit No.MAR00A264.

II. Description of Discharge.

A quantitative description of the discharge in terms of significant effluent parameters based on monthly reports is shown in Table 1 in the Discharge Monitoring Report (DMR) data column.

III. Limitations and Conditions.

The effluent limitations and the monitoring requirements may be found in the draft Permit.

IV. Permit Basis and Explanation of Effluent Limitation Derivation.

Ferraz - Shawmut Division Inc. is located in Newburyport, MA along the Merrimack River and is a producer and supplier of electrical fuses to industrial, commercial and residential markets. The present permit has flow limits of 40,000 gpd monthly average and 60,000 gpd maximum daily which includes 23,300 gpd monthly average of non-contact cooling water. The permittee has eliminated the discharge of non-contact cooling water by installing a closed loop cooling system. It has requested EPA to reduce the permitted flow from 40,000 gpd to 20,000 gpd monthly average and from 60,000 gpd to 30,000 gpd maximum daily. EPA has made these changes. Municipal water is used for the operations which include brazing, pultrusion and other miscellaneous processes. There is no electroplating operation. All process streams are joined and then neutralized before being routed to the wastewater treatment system which consists of a grit chamber, holding tanks, chemical treatment, clarifier, final filter and polishing tank. The effluent discharges to the Merrimack River.

The following attachments illustrate the plant's location and flow:

Figure 1 - Geographical location of facility.
Figure 2 - Water Flow & Process Schematic

The Clean Water Act (CWA) requires that discharges satisfy both minimum technology and water quality requirements. The minimum technology requirements which are presently applicable are Best Practicable Control Technology Currently Available (BPT), Section 301(b)(1)A of the CWA; Best Available Technology Economically Achievable (BAT) for toxic pollutants, Section 301(b)(2)(A); and Best Conventional Pollution Control Technology (BCT), Section 301(b)(2)E which applies to conventional pollutants. In the absence of technology based guidelines EPA is authorized to use Best Professional Judgment (BPJ) in accordance with Section 402(a)(l) of the Clean Water Act. In addition, Section 301(b)(1)(c) of the CWA requires that effluent limitations based on Water Quality considerations be established for point source discharges when such limitations are necessary to meet State or Federal Water Quality standards that are applicable to the designated receiving water.

This portion of the Merrimack River is a Class SB water. Such waters are designated for the uses of protection and propagation of fish, other aquatic life and wildlife; for primary and secondary contact recreation and for shellfish harvesting.

The effluent limits of the draft permit were established using a combination of technology based effluent limitation guidelines and Water Quality Criteria. In previous permits, the manufacturing operations at the facility have placed it in the Metal Finishing Point Source Category found at 40 CFR Section 433. With the elimination of electroplating in 1994, the plant does not now perform any of the six metal finishing operations listed at 40 CFR Section 433.10, one of which is necessary for the facility to be considered a metal finisher within the meaning of the regulation. The facility still performs other operations, such as brazing, for which the metal finishing effluent limitation guidelines would apply if one of the

six metal finishing operations were present. There are no other applicable effluent limitation guidelines for the operations currently conducted at the facility.

Therefore, the metal finishing effluent guidelines have not been directly applied as the appropriate technology-based permit limitations. However, for those pollutants in the metal finishing regulations which are still discharged by the facility, the permit limits have been retained as BPJ limits.

The pollutants listed in the effluent guidelines and all other pollutants present in the priority pollutant reporting section of the permit application were also considered on a water quality basis. The limitations derived from the Water Quality Criteria were compared with the effluent guidelines and also with the existing permit limits. In all cases, the most stringent maximum daily and monthly average limitations were proposed. Attachment A shows the calculations of the water quality based limitations for copper and zinc based on marine water quality criteria.

Table 1 shows the existing permit limits, the water quality derived limits, the effluent guideline limits, the recent discharge history of the facility and the proposed draft permit limits.

The flow limits of the permit will change from 40,000 gpd monthly average to 20,000 gpd monthly average and from 60,000 gpd daily maximum to 30,000 daily maximum.

The limits on Total suspended Solids (TSS), Oil & Grease and pH have been established based upon State Certification requirements pursuant to Section 401(a)(1) of the Clean Water Act (CWA). There have been no TSS violations with levels generally well below the established limits, which will remain in effect. The pH range of 6.5 - 8.5 standard units is due to Massachusetts Water Quality Certification requirements for Class SB waters. Recently there have been no pH violations. Oil & Grease values have been consistently reported below the maximum daily limitation of 15 mg/l.

The Water Quality based limitations were calculated using the marine water quality criteria and the 7Q10 flow of 1100 cubic feet per second (cfs), which was reported by the State in recent surveys of the Merrimack River in the vicinity of the permittee's discharge. The 7Q10 flow represents the lowest daily average flow during any consecutive seven days in any ten year period. The average monthly (chronic) and daily maximum (acute) water quality values were obtained by using the dilution factors for average and maximum permitted plant flow and the 7Q10 flow for the receiving stream. These flows are 20,000 gpd and 30,000 gpd respectively.

The technology-based effluent limitations for total copper, total zinc and total toxic organic (TTO) will remain the same. There have been no violations of any of these parameters and sampling results are consistently reported below the limits. A review of test data of TTO from the permit application reveals that Methylene chloride, Tetrachloroethane, Dichloroethylene, Phenols, Benzene and Chlorobenzene as listed in the existing permit are either non-detect or

below quantification level and so have been removed from the permit as specific permit requirements. However, the following chemicals: Chloroform, Bis (2-ethylhexyl) phthalate, Butyl benzyl phthalate, Bromodichloromethane and Dibromochloromethane remain in the permit due to their presence in the process water (see footnote 2 of the permit).

The permittee has requested that EPA remove the monitoring requirements for total chromium and total tin due to very low to undetectable levels in the effluent. EPA has reviewed the DMRs from January 2001 to December 2001, which revealed that out of 12 months of testing, chromium was absent for 8 months and for the other 4 months it varied between 5 to 11 ug/l, tin was absent for 10 months and for the other 2 months it was at 9 ug/l respectively. Based on these findings, EPA agrees with the permittee and has removed the monitoring requirements for chromium and tin.
National studies conducted by the EPA have demonstrated that industrial wastewater may contain toxic constituents such as metals, chlorinated solvents, aromatic hydrocarbons, and others. The impact of such complex mixtures is often difficult to assess. Therefore, the toxicity of several constituents in a single effluent can only be accurately examined by whole effluent toxicity testing. Furthermore, 40 CFR 122.44(d) requires whole effluent toxicity limits in NPDES permits when the permittee has a "reasonable potential" to cause toxicity. (See "Policy for the Development of Water Quality-Based Permit Limitations for Toxic Pollutants", 50 Fed. Reg. 30,784 - July 24 , 1985. See also EPA's Technical Support Document for Water Quality-Based Toxics Control, EPA/505/2-90-001).

Therefore, based on potential toxicity and water quality standards, the draft permit will continue acute toxicity testing requirements.

Attachment A of the draft permit calls for acute toxicity testing using two species; the Mysid Shrimp (Mysidopsis bahia) and the Inland Silverside (Menidia beryllina). This test will be conducted two times per year and the results will be used to confirm the effectiveness of the chemical testing and to modify the monitoring requirements, if necessary. See the Toxicity Testing Protocol in Attachment A for a more complete description of the testing requirements.

As a condition of this permit, the testing requirements may be reduced by a certified letter from the EPA. This permit provision anticipates that the permittee may wish to request a reduction in WET testing. After four consecutive WET tests, demonstrating compliance with the permit limits for whole effluent toxicity, the permittee may submit a written request to the EPA seeking a review of the toxicity test results. The EPA will review the test results and other pertinent information to make a determination. If applicable the toxicity testing requirements may be reduced.

The permittee is required to continue testing at the frequency and species specified in the permit until the permit is either formally modified or until the permittee receives a certified letter from the EPA indicating a change in the permit conditions.

Essential Fish Habitat

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et seq. (1998), EPA is required to consult with NMFS if EPA's action or proposed actions that it funds, permits or undertakes, "may adversely impact any essential fish habitat." 16 U.S.C. §1855(b). The Amendments broadly define "essential fish habitat" as: "waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity." 16 U.S.C. §1802(10). Adversely impact means any impact which reduces the quality and/or quantity of an EFH. 50 CFR §600.910(a). Adverse effects may include direct (e.g contamination or physical disruption), indirect (e.g. loss of prey, reduction in species' fecundity), site specific or habitat wide impacts, including individual, cumulative, or synergistic consequences of actions.

Essential fish habitat is only designated for fish species for which federal Fisheries Management Plans exist. 16 U.S.C. §1855(b)(1)(A). EFH designations for New England were approved by the United States Department of Commerce on March 3, 1999.

Only Atlantic Salmon is believed to be present during one or more lifestages with the EFH area, which encompasses the existing discharge site. No "habitat of particular concern", as defined under §600.815(a)(9) of the Magnuson-Stevens Act, have been designated for this site. Although EFH has been designated for this general location, EPA has concluded that this activity is not likely to adversely affect EFH or its associated species for the following reasons:

1. This is a re-issuance of an existing permit
2. The effluent does not contain toxic chemicals like chlorine, ammonia etc but contains toxic metals like copper and zinc. Appropriate limits of copper and zinc including WET tests are included in the permit to protect water quality standards. The receiving water has a very high dilution factor of 23, 697;
3. The permit will prohibit violations of water quality standards.

Accordingly, EPA has determined that a formal EFH consultation with NMFS is not required. If adverse impact to EFH are detected as a result of this permit action, NMFS will be notified and an EFH consultation will be promptly initiated.

Antidegradation

Compliance with this permit will result in less pollutant discharge in the receiving water compared to the existing conditions due to the reduction of flow. The Massachusetts Department of Environmental Protection has indicated that there will be no lowering of water quality and no loss of existing water uses and that no additional antidegradation review is warranted.

The effluent monitoring requirements have been established to yield data representative of the discharge under authority of Section 308(a) of the Clean Water Act as required by 40 CFR 122.41, 122.44 and 122.48.

The remaining general and special conditions of the permit are based on the NPDES regulations 40 CFR Parts 122 through 125 and consist primarily of management requirements common to all permits.

V. State Certification Requirements.

EPA may not issue a permit unless the Massachusetts Department of Environmental Protection certifies that the effluent limitations contained in the permit are stringent enough to assure that the discharge will not cause the receiving water to violate State Water Quality Standards. The staff of the Massachusetts Department of Environmental Protection has reviewed the draft permit and advised EPA that the limitations are adequate to protect water quality. EPA has requested permit certification by the State and expects that the draft permit will be certified.

VI. 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 the close of the public comment period, to the U.S. EPA, Office of Ecosystem Protection, 1, Congress Street, Suite 1100 (CPE), Boston, Massachusetts 02114 - 2023. Any person, prior to such date, may submit a request in writing for a public hearing to consider the draft permit to EPA and the MADEP. 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 days public notice whenever the Regional Administrator finds that response to this notice indicates significant public interest. In reaching a final decision on the draft permit the Regional Administrator will respond to all significant comments and make these responses available to the public at EPA's Boston office.

Following the close of the comment period, and after a public hearing, if such hearing is held, the Regional Administrator 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 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 40 C.F.R. §124.74, 48 Fed. Reg. 14279-14280 (April 1, 1983).

VII. EPA Contact.

Additional information concerning the draft permit may be obtained between the hours of 9:00 a.m. and 5:00 p.m., Monday through Friday, excluding holidays from:

Suprokash Sarker, P.E.
Office of Ecosystem Protection
1 Congress Street, Suite 1100 (CPE)
Boston, Massachusetts 02114-2023

Telephone: (6l7) 918-1693

Signed and Dated

Linda M. Murphy, Director
Office of Ecosystem Protection

Environmental Protection Agency

Attachments: Figures 1 & 2 not available electronically; Attachment A and Table 1 included

ATTACHMENT A
WATER QUALITY BASED EFFLUENT LIMIT DERIVATION

Refer to December 10, 1998, National Recommended Water quality Criteria for Marine water.

Copper :

Acute (Maximum Daily) Criteria = 4.8 ug/l = 0.0048 mg/l
Chronic (Monthly Average) Criteria = 3.1 ug/l = 0.0031 mg/l

Instream 7Q10 flow = 1100 cfs = 1100/ 1.54732 mgd = 710.9 mgd

Maximum Plant Flow = 0.03 mgd Monthly Average Plant Flow = 0.02 mgd

Maximum Dilution Factor = (710.9 mgd + 0.03 mgd) / 0.03 mgd = 23697
Average Dilution Factor = (710.9 mgd + 0.02 mgd) / 0.02 mgd = 35546

Maximum Effluent Limit = 23697 (0.0048 mg/l) = 113.7 mg/l
Average Effluent Limit = 35546 (0.0031) = 110.2 mg/l

Therefore maximum daily and monthly average water quality based limits for copper is 113.7 mg/l and 110.2 mg/l respectively. However, since the current technology-based daily maximum and monthly average limits for copper are more stringent at 3.38 mg/l and 2.07 mg/l respectively, these limitations will remain in effect.

Zinc :

Acute (Maximum Daily) Criteria = 90 ug/l = 0.09 mg/l
Chronic (Monthly Average) Criteria = 81 ug/l = 0.081 mg/l

Maximum Effluent Limit = 23697 (0.09 mgl) = 2132 mg/l
Monthly Average Limit = 35546 (0.081mg/l) = 2879 mgl

Therefore maximum daily and monthly average water quality based limits for zinc is 2132 mg/l and 2879 mg/l respectively. However, since the current technology-based daily maximum and monthly average limits for zinc are more stringent at 2.61 mg/l and 1.48 mg/l respectively, these limitations will remain in effect.

EFFLUENT LIMIT DERIVATION
TABLE 1

Parameter	Permit Appl. Data	DMR Data[1] chronic	DMR Data[1] acute	Discharge necessary to meet WQC chronic	Discharge necessary to meet WQC acute	Effluent Limitations Guidelines chronic	Effluent Limitations Guidelines acute	Current Permit Limits chronic	Current Permit Limits acute	Proposed Permit Limits chronic	Proposed Permit Limits acute
Copper,(T)[2]	----	0.11	0.11	110.2	113.7	2.07	3.38	2.07	3.38	2.07	3.38
Zinc,(T)	----	0.06	0.06	2879	2132	1.48	2.61	1.48	2.61	1.48	2.61
TTO[3]	----	----	0.026	---	----	----	2.13	----	2.13	---	2.13
TSS	----	0.0	0.0	---	----	31	60	20	30	20	30
LC - 50											
Mysid : 5/31/01	----	—	57.6%	—	—	—	—	—	50%	—	50%
11/30/01	----	—	68.2%	—	—	—	—	—	50%	—	50%
Menidia : 5/31/01	----	—	84.2%	—	—	—	—	—	50%	—	50%
11/30/01	----	—	100%	—	—	—	—	—	50%	—	50%

1. Discharge Monitoring Report (DMR) data for the period 1/01 to 12/01; Note: All units are in mg/l, except as noted.
2. T = Total
3. TTO = Total Toxic Organic