

Industrial Waste Report

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This Industrial Pretreatment Program Annual Report is provided pursuant to 40 CFR 403.12(i) and Massachusetts Water Resources Authority's (MWRA's) National Pollutant Discharge Elimination System Permit numbers MA0103284 and MA0100404. It covers the reporting period of July 1, 2005, through June 30, 2006 (FY06).

Executive Summary and Program Highlights

The FY06 report documents MWRA's ongoing efforts to implement the requirements of 40 CFR Part 403, General Pretreatment Regulations. Some highlights from TRAC's FY06 activities in the metropolitan Boston and Clinton sewer services areas include:

Significant Industrial Users: The number of facilities designated as Significant Industrial Users (SIUs) in MWRA's sewer service areas at any time during FY06 was 240. At the end of the fiscal year, the number of SIUs was 220. TRAC staff inspected all of the original 240 SIUs. TRAC staff sampled 196 SIUs, one fewer than the 197 SIUs with flow during the year due to a facility consolidation. This year, the number of SIUs in Significant Noncompliance (SNC) was 50, down from 60 in FY05.

Enforcement Program: TRAC issued a total of 366 early (Notices of Violations and Traps Warning Letters) and 70 higher-level (orders and penalty assessment notices) enforcement actions to industrial and commercial facilities. TRAC assessed a total of \$790,375.00 in penalties against permitted sewer users, and collected a total of \$93,637.79 in penalties during the fiscal year.

FES Odor and Corrosion Special Studies: TRAC staff continue to play a key role in MWRA's effort to reduce excessive corrosion and odor levels observed in the Framingham Extension Sewer System and points downstream. Staff conducted sampling during the summer of 2000 to assess the contribution of industrial dischargers on the odor and corrosion problem in this area. As a result of this sampling and other information, staff developed permit-specific industrial limits on biochemical oxygen demand (BOD) and sulfates. The limits require significant reductions but do not require industries to reach background domestic sewage levels. These additional limits were approved by MWRA's Board of Directors in November 2001 and affect five industries in Ashland, Framingham, Natick and Needham. During FY06, all but one of the industries had met the applicable limits. The last was issued a strict compliance schedule in its revised permit issued December 22, 2005. MWRA also renegotiated compliance schedules with the municipalities of Ashland, Framingham, Natick, Needham and Wellesley. These municipalities are working to reduce the level of sulfide that they discharge into MWRA's interceptors.

Section 1. Pretreatment Program Activities and Results

A detailed accounting of the pretreatment program activities and accomplishments for MWRA's Industrial Users (including Significant Industrial Users), during FY06 is presented below.

Appendix A contains information on MWRA's SIUs, and provides, in its Key, criteria for SIU status and compliance status codes. The Appendix provides information about why the facility is a SIU and whether it is in compliance with reporting requirements, categorical standards and local limits, dates of MWRA inspections and monitoring events for each facility, and what, if any, enforcement actions were taken by MWRA against the facility. Appendix B details all permitted industrial users not classified as SIUs. The information includes a description of the sampling locations and sampling requirements for each industry, any discharge violations during the year, and all enforcement actions taken against them during the year. Each SIU is inspected at least once per fiscal year and each SIU with a discharge to the sewer system is sampled once per fiscal year.

Statistics on MWRA's Significant Industrial Users (SIUs), and the number of SIUs in Significant Noncompliance (SNC) for FY06 for the Clinton and the metropolitan Boston areas are summarized below. The list of SIUs in SNC can be found in Appendix C.

Industrial Users

Total number of permitted industrial users during FY06 = 1412

The number of SIUs during the fiscal year = 240 (2 for Clinton)

The number of SIUs on June 30, 2006 = 220

The number of SIUs that were categorical industrial users (CIUs) = 105

Industries categorized as SIUs because of process flows of at least 25,000 gpd = 70

Industries categorized as SIUs for potential to violate (PTV) = 112

The number of SIUs in SNC = 50

The number last fiscal year = 60

The number of industries in SNC for reporting violations only = 5

The same number for last fiscal year = 16

Number of SIUs in SNC for discharge violations = 46

MWRA conducts meetings for SIUs annually, to review compliance issues and encourage facilities to reduce instances of violations. MWRA also imposes additional charges for late, incomplete, and missing reports to encourage timely reporting by SIUs and non-SIUs.

The EPA Pretreatment Annual Report Summary forms are attached to the end of this report as Appendix L. A list of permitted users that were SIUs in FY05 but not in FY06 is attached as Appendix D.

Permitting

Appendix A provides permit issue and expiration dates for all SIUs. During FY06, TRAC

completed the following permitting activities:

Industrial permits issued = 255

Industrial permit renewals = 172

Industrial permits issued to new dischargers = 83

Industrial permits revised = 24

Municipal permits issued = 45

Municipal permits revised = 3

Industrial permit renewals or issued to SIUs = 72

Temporary Construction Dewatering Permits issued or renewed = 9

Permits issued to municipal drinking water treatment plants = 4 (One was for lab only)

Inspections

Appendix A provides dates of inspections for all SIUs. During FY06, TRAC completed the following inspection activities:

Facility inspections conducted = 704

Of these, the number of annual inspections of SIUs = 240

The number of repeat SIU inspections = 83

Inspections of septage receiving sites = 57

Inspections of gas/oil separators = 545

Number of annual G1 (photoprocessors) compliance reports reviewed = 334

Number of audits of G1 facilities conducted = 44

Number of audits of G2 facilities conducted = 18

Enforcement

During FY06, TRAC initiated a total of 440 enforcement actions to industrial and commercial users of the sewer system. The types of actions and the number of each type follows. Appendices A, B, and E explain the various types of enforcement actions, and provide information on which facilities received enforcement actions, when and what type(s).

Notices of Violation issued = 359 (216 to SIUs)

Warning letters about gas/oil separator maintenance and accessibility = 7 (Appendix E)

Supplemental Orders issued = 1 (to a SIU)

Notices of Noncompliance issued = 31 (13 to SIUs)

Enforcement Orders issued = 10 (1 to a SIU)

Compliance Schedules in Permits = 8 (4 to SIUs)

Notices of Proposed Permit Revocation or Suspension issued = 2 (0 issued to a SIU)

Administrative Settlements = 1 (with a SIU)

Penalty Assessment Notices issued = 26 (3 were to SIUs)

Total amount of penalties assessed: \$790,375.00 (\$759,150.00 to SIUs)

Total amount of penalties collected = \$93,637.79 (\$77,562.79 from SIUs)

Monitoring

During FY06, TRAC's sampling staff conducted routine and emergency sampling activities for the pretreatment program as well as for other MWRA programs. Appendix A provides information on the dates of all MWRA sampling events for each SIU.

A summary of sampling activities completed by the staff follows:

First time monitoring events at SIUs with flow = 196
Repeat events at SIUs = 447
First time monitoring events at non-SIUs = 129
Repeat events at non-SIUs = 156
Sampling events in support of NPDES permits = 83
Sampling events in response to emergencies = 24
Sampling events for the MWRA Local Limits program = 177
Sampling events for special projects = 732
Total number of monitoring events = 2369

A sampling team is on call 24 hour a day to sample reported spills or releases occurring within or near the MWRA collection system.

Information Systems

TRAC's in-house Information Systems staff are responsible for supporting system design and implementation, data entry, quality assurance, and project management and coordination. This ensures that TRAC maintains accurate and up-to-date information for its currently permitted industries and historical records on additional firms that operate in the MWRA sanitary sewerage area.

TRAC-IS and LIMS: TRAC uses its TRAC Information System (TRAC-IS) and a Laboratory Information Management System (LIMS) to store and analyze permit information, wastewater sampling results and compliance information. TRAC-IS is a comprehensive information and decision support system that was implemented in 1991. Among other features, it can identify discharge violations and late, missing or incomplete reports, and download a Notice of Violation, allowing staff to respond quickly to instances of noncompliance. MWRA put out a request for bids in late FY06 to replace its TRAC IS system. MWRA expects to enter into a contract with the selected bidder in October 2006. The project, which is expected to significantly enhance TRAC's data management capabilities, will take approximately 18 months to complete.

LIMS: stores, tracks and analyzes laboratory data collected by MWRA sampling staff. Analytical results of industrial wastewater samples are transferred from LIMS to TRAC-IS on a weekly basis. Additionally, LIMS was designed to store non-industrial sampling information to support local limits studies and special projects such as toxic evaluation studies. This system will be integrated into the TRAC IS replacement system in FY07.

e-SMART: e-SMART is a web-based application that allows laboratories to either enter data directly into the system, or submit data generated from their LIMS systems via the internet. Currently, 24 labs are using e-SMART to report self-monitoring results on behalf of industries. MWRA staff worked closely with the labs to design the application. TRAC requires all permittees to submit laboratory results through the e-SMART program. The functional capabilities of this system will be incorporated into the TRAC IS replacement system and will incorporate regulatory requirements of EPA's CROMERR Rule.

TRAPS System: The TRAPS system supports TRAC's gas and oil separator inspection and enforcement program. The system currently contains inspection and enforcement records for over 3600 facilities. The data in this system will be incorporated into the TRAC IS replacement system.

Permit TRACking System: Permit TRACking was developed in-house to assist Industrial Coordinators in the development of inspection and permit related documents. By integrating a relational database with word processing software, staff can generate standardized inspection reports, industrial permits, fact sheets, and data encoding sheets. An in-house upgrade of the system was completed in FY06, and the functionality is planned to be incorporated into the TRAC IS replacement system.

Legal Support

MWRA's Law Division provides legal and policy advice and counsel to TRAC managers and staff, and represents MWRA in pretreatment-related matters.

In FY06, Law Division work for TRAC included:

- Reviewing and commenting on TRAC penalty assessment notices, and on enforcement orders, notices of noncompliance, rulings, and penalty assessment notices as requested;
- Representing MWRA in administrative and Superior Court appeals of penalty assessment notices, enforcement orders, notices of noncompliance and permits;
- Representing MWRA in pre-enforcement negotiations; and,
- Tracking bankruptcy filings by MWRA permittees.

There were no changes or revisions to the Sewer Use Rules and Regulations in FY06.

Odor and Corrosion Project for MWRA's Framingham Extension Sewer Service Area

MWRA has been studying the complex odor and corrosion problem in the Framingham Extension Sewer (FES) and downstream sewers for several years. A study conducted in 2001 identified three major sources of the problem: 1) industrial discharges containing high BOD and sulfate, 2) communities that discharge into these lines that contribute higher than normal sulfide levels to these lines, 3) the length and subsequent detention time of the lines. After identifying sources of the problem, MWRA identified and evaluated a number of available odor and control options including industrial and municipal controls and treatment options for the sewer lines.

Industrial Controls: In November 2001, MWRA's Board of Directors approved permit specific limits for Biochemical Oxygen Demand (BOD) of 2000 mg/l and of 500 mg/l for sulfate. During FY06, these limits affected five industries in the municipalities of Ashland, Framingham, Natick and Needham. Four of the five industries achieved compliance with the applicable limits. Two installed pretreatment, one adopted source reduction measures, and the fourth closed the facility. One industry is scheduled to come into compliance by October 1, 2006. This facility, which had planned source reduction measures, was required by a compliance schedule in its permit, revised in December, 2005, to design and install a pretreatment system. An administrative appeal is pending but the company is simultaneously moving forward with temporary and final pretreatment systems.

Municipal Controls: MWRA continues to work with the communities of Ashland, Framingham, Natick, Needham and Wellesley to reduce the amount of sulfide in the wastewater they discharge to MWRA's system through their public connections. MWRA renewed a Settlement Agreement with the Town of Framingham that incorporates specific actions and schedules to reduce the amount of sulfide coming from its system into MWRA's. Compliance schedules were incorporated into the Municipal Permits issued annually by MWRA to the Towns of Ashland, Natick, Needham and Wellesley.

Treatment Approaches: MWRA continues to use a combination of chemicals (a proprietary nitrate-based chemical with an oxidizer) to treat the high sulfide wastewater traveling through the FES. This has been very effective at reducing the generation of hydrogen sulfide at both the addition point and for many miles downstream. MWRA is using the combination of chemicals in the FES from about May through November of each year.

Local Limits

MWRA adopted modified local limits on June 20, 2003. The regulations changes became effective on June 20, 2003 and were submitted with MWRA Industrial Waste Report #19, on October 31, 2003. In anticipation of renewed NPDES permits, MWRA staff began a renewed round of sampling in January 2005 to support an evaluation of existing metropolitan Boston and Clinton local limits. This sampling has continued throughout FY06.

Source Reduction Activities

MWRA continues to promote source reduction through workshops, dissemination of literature, speaking engagements, and staff training. MWRA also distributes information aimed at educating homeowners on what they can do to reduce their use of household products containing toxic chemicals. This is done through outreach to schools, participation in workshops and the distribution of a booklet on household hazardous waste. The booklet, "A Healthy Environment Begins At Home," discusses household products, their proper disposal, and alternatives to products containing toxic chemicals. The revised booklet was approved for publication in FY06 and distribution continued throughout FY06. To date, MWRA has distributed more than 25,000 copies of the booklet. The booklet, which is available in English and Spanish, is also available on line at www.mwra.com.

Emergency Response

TRAC field staff are responsible for responding to emergency events, toxics releases, or spills to the sewer system. These releases may potentially result in interference (disabling of the treatment plant's facilities/processes), or pass-through (discharge of toxics through the treatment works into the receiving waters). Due to the abrupt and often hazardous nature of these events, they generally take precedence over normal monitoring and inspection activities. Chemical and oil spills also pose significant concerns to the collection and treatment systems, due to the possibility of explosion, toxic fumes, and facility damage.

TRAC staff respond to these types of events to assess their potential to affect the sewer system and downstream facilities. TRAC staff are an integral part of MWRA's emergency response organization, and are trained to respond immediately to emergencies posing a threat to public health, worker safety, and facility operation. A TRAC manager, a team of sampling associates and a fully equipped sampling van are on-call 24 hours a day to respond to reported emergencies.

TRAC emergency responses may be initiated for both short-term, episodic releases and continuing events, which may potentially impact the collection and treatment system. The following describe some of the events to which TRAC responded in FY06:

- August 15, 2005 - TRAC staff responded to a release of gasoline from a storage tank located in a tank farm in Chelsea, MA. Fire Department officials estimated that 1,000 to 2,000 gallons spilled from the tank. The spill was contained within the dike surrounding the gasoline tank and no fire suppression foam or gasoline reached the sanitary sewer lines or Chelsea Creek.
- October 16, 2005 - TRAC staff responded to an oil spill from an automobile quick lube facility located in Chelsea, MA. Heavy rains during the weekend leaked into the basement area and into floor drains that discharged to a sump, which then pumped up to an oil/water separator. The storm water flooded the basement area, which eventually surcharged the oil/water separator that overflowed into the facility's parking lot and then to a storm drain located in front of the facility. An environmental oil cleanup company was called to clean up the parking lot, the storm drain and the oil/water separator after Chelsea first responders contained the oil spill.
- November 4, 2005 - TRAC staff responded to a report of a fire and fuel spill in South Boston in a combined sewer area. The Boston Police HAZMAT team and officials from the Boston Water & Sewer Commission (BWSC) responded to this emergency. The fire caused a spill involving multiple fuels. BWSC officials determined that the spill went to a separate storm drain and not a combined sewer line.
- June 29, 2006 - TRAC staff was notified about a house that had exploded in Quincy, MA. Upon arrival of TRAC staff, the Quincy Fire Department, the Mass State HAZMAT team and the Mass Department of Environmental Protection (MADEP) were in the process of

investigating this incident. The owner of the destroyed house informed investigators that there was an odor similar to that of nail polish remover in the house prior to the explosion. The state HAZMAT team found evidence of volatile organic compounds in several manholes located in the area near commercial facilities that included a dry cleaner and an auto body shop. Further upstream, there was also a natural gas leak from a Keyspan natural gas line into the sewer system that was eventually ruled out as the source of the explosion. This incident is still under investigation by MADEP. There was no impact on MWRA's sewer system from this event.

Pass-Through and Interference

There were no investigations of, nor were there any instances of, Pass-Through or Interference at either the Deer Island or Clinton Wastewater Treatment Plants in FY06.

Pretreatment Program Resources

MWRA's Toxic Reduction and Control section (TRAC) is organized along a functional alignment. Presently, a Regional Manager oversees Industrial Coordinators, who conduct inspections, draft permits, and issue low-level enforcement actions (Notices of Violation) and three staff responsible for implementing MWRA's septage and gasoline/oil separator programs. A second Regional Manager oversees all monitoring staff, who collect industrial and other wastewater samples. A Program Manager oversees enforcement staff as well as staff dedicated to the management of TRAC's information system. TRAC has 46 full-time permanent positions (see Appendix G). As of October 2006, one position was vacant. TRAC continues to rely on Technical Services staff from the Field Operations Department's Operations Support section to provide technical support for short and long-term projects to reduce toxics entering the collection system. TRAC also relies on the Field Operations Department for clerical and secretarial staff.

Budget

MWRA's FY06 budget for the Toxic Reduction and Control Department (excluding laboratory analytical costs) was \$2,860,000. The majority of that cost was wages and salaries.

Program Cost Recovery

MWRA's Incentive and Other Charges Program, administered by TRAC, continues to recover a substantial portion of MWRA's costs of inspecting, monitoring, and permitting industrial sewer users. For FY06, TRAC collected \$1,924,994.10 in permit charges from permit holders. Collections are at more than 99% of the adjusted amount invoiced. TRAC issued two Notices of Proposed Permit Suspension to permit holders that did not pay their charges; one closed down its operations (for unrelated reasons) and the other subsequently paid its bill.

Section 2. Pollutant Analyses and Comparison to Environmental Standards

The Environmental Quality Department (ENQUAD) evaluates the water quality and biological health of Massachusetts Bay, Boston Harbor, and the rivers tributary to the harbor to ensure that the Deer Island discharge does not harm the marine environment, to monitor the impacts of CSOs, and to track the effects of the Boston Harbor Project on the harbor.

MWRA measures pollutant concentrations in the plant influent to determine if pollutants are present in quantities that could inhibit proper operation of the treatment facilities, in the effluent to determine the effectiveness of its pollutant control measures and compliance with water quality standards, and in the sludge to ensure it meets beneficial reuse criteria. This section discusses the results of these analyses.

Priority Pollutants Scans

Metropolitan Boston Service Area: MWRA performs scans for priority pollutants on Deer Island Treatment Plant (DITP) influent and effluent samples. Additional non-priority pollutants are analyzed in support of meeting receiving water quality goals and the beneficial reuse standards for plant biosolids.

Appendix H presents the analyses of influent and effluent samples from DITP. Results are presented as monthly averages of all the samples analyzed during the fiscal year. When averaging the results of the inorganic compounds, undetected values are assumed to be half the method detection limit. Organic compounds below the method detection limit are also presented as half the detection limit. Results are reported in quantitation limits, which are about five times the method detection limit. Thus, in the calculations, $\frac{1}{10}$ of the quantitation or $\frac{1}{2}$ of the method detection limit are used. This allows the data to be used without the less conservative assumption that non-detect values are zero. Analyses performed using non-EPA approved ultra low detection methods generally confirm that this methodology is a conservative way to estimate the concentrations of undetected pollutants.

Analyses usually detect very few of the priority pollutants in the influent. As would be expected for a large urban system, petroleum hydrocarbons, surfactants, fats, oils and grease, and most metals are detected regularly. Bis(2-ethylhexyl)phthalate, an organic compound used in the manufacture of plastic materials, 4-methylphenol (*p*-cresol), an intermediate in the manufacture of chemicals, dyes, plastics and antioxidants, and toluene, a solvent and a chemical that is used in the manufacture of benzene derivatives, dyes, and perfumes were detected consistently. Tetrachloroethene, a chemical used in the textile and dry cleaning industries, and a few of the pesticides, 444'-DDE, alpha chlordane, and gamma chlordane were detected at least 50% of the time.

When characteristics of Deer Island influent are compared to literature inhibition values, analysis shows that no parameters exceeded the thresholds. Deer Island did not experience any problems

with process inhibition in either the sludge digestion or the activated sludge process during FY06. Appendix I includes tables comparing Deer Island's influent monthly average concentrations to inhibition values.

The activated sludge process removes most of the organic pollutants. Chloroform and acetone, breakdown products of the process used in secondary treatment, are detected in the effluent consistently. The activated sludge process also effectively removes metals. Removal rates range from 35% for nickel to 92% for mercury. Removal rates for lead, copper, cadmium and silver were over 80%. Priority pollutants in Deer Island Treatment Plant effluent are considerably below levels that would meet water quality criteria after dilution. In fact, toxic contaminants generally met water quality criteria in the effluent even before dilution. Copper is the only parameter that requires use of the dilution factor to meet the water quality criteria. MWRA's NPDES permit allows for a 50:1 dilution for determining compliance with acute water quality criteria, and a 70:1 dilution for chronic water quality criteria standards. Appendix I includes tables comparing Deer Island's effluent to both acute and chronic water quality standards.

Clinton Treatment Plant: MWRA performs priority pollutant scans on Clinton Treatment Plant influent and effluent samples. Appendix H presents the results of all these analyses.

Most of the organic parameters are not detected in either the influent or the effluent. Metals, petroleum hydrocarbons, fats, oils, grease, and surfactants are detected regularly in the influent. Only a few organic parameters were detected. Bis(2-ethylhexyl)phthalate, 4-methylphenol, toluene, acetone and chloroform were detected regularly.

Appendix I compares Clinton influent samples to literature inhibition values for its treatment processes. The zinc and copper concentrations frequently exceeded the published acute inhibition level for nitrification; nevertheless, Clinton has not experienced problems with process inhibition in the sludge digestion, nitrification, or activated sludge processes.

Clinton effluent meets all the acute water quality standards for the Nashua River except for copper and zinc, and all the chronic water quality standards except for copper, zinc, and aluminum. Of eleven samples taken in FY06, there were six calculated exceedences of the acute water quality standard for copper and four for zinc. There were eight for copper, four for zinc, and three for aluminum exceedences of the chronic water quality standards. Copper in the effluent had been consistently violating permit limits. As a result of these violations, on September 30, 2002, MWRA received an administrative order (AO) from EPA, specifying an interim copper limit of 20 ug/L while requiring Clinton to reduce copper in the effluent. The average monthly effluent copper concentrations since the AO have all been well below the interim limit. The average annual effluent copper concentration for FY06 was 9.42 ug/L. The minimum and maximum effluent concentrations were 4.71 and 15.8 ug/L, respectively. Efforts to reduce copper entering the treatment plant include corrosion control and public outreach programs. The plant has taken steps in optimizing plant performance including not scheduling sludge processing during low flow days. Appendix I includes tables comparing effluent concentrations with both acute and chronic water quality criteria.

Toxicity

MWRA tests effluent toxicity every month at DITP. Effluent toxicity provides an overall view of effluent quality, ensuring that the effluent does not adversely affect the receiving waters.

MWRA's permit requires four tests for effluent toxicity. The 48-hour acute static toxicity tests using the mysid shrimp (*Americamysis bahia*) and the silversides fish (*Menidia beryllina*) measure potential short-term lethal effects caused by the effluent. A chronic survival and growth test using *Menidia* and a chronic fertilization test using the sea urchin (*Arbacia punctulata*) both measure subtle toxic impacts over a longer period of time. The results of these tests for FY06 can be found in Appendix J.

LC50 (Lethal Concentration 50%) is the concentration of effluent in a sample that causes 50% mortality of the test population during the duration of the test. The NOEC (No Observed Effect Concentration) is the concentration of effluent in a sample to which organisms are exposed in a life cycle or partial life cycle test that has no adverse effects. An NOEC of 1.5% means that 1.5% of the sample is effluent, and the remainder dilution water. Any acute LC50 below 50% or chronic NOEC below 1.5% would violate the NPDES limit. There was one violation of the chronic *Arbacia* tests for Deer Island effluent in FY06 which occurred in September 2005 with a result of <1.5%.

MWRA also tests effluent toxicity four times per year at the Clinton Treatment Plant. MWRA's NPDES permit requires two tests for effluent toxicity testing using freshwater daphnid shrimp, *Ceriodaphnia dubia*. One test is the 48-hour acute toxicity test, which measures potential short-term lethal effects caused by the effluent. The second test is a chronic survival and reproduction test, which measures subtle toxic impacts over a longer period of time. Clinton effluent had no violations of its permit limits for toxicity in FY06. The results of the Clinton toxicity tests for FY06 can be found in Appendix J.

Residuals Quality

EPA and the Massachusetts DEP regulate the quality of sewage biosolids intended for beneficial reuse. At the federal level, these products are governed by the Clean Water Act. These regulations establish quality criteria for several metals and for the degree of pathogen reduction. Federal and state regulations have adopted a two-tier approach to biosolids regulation. Products meeting the strictest standards for all parameters (DEP Type 1) may be distributed or marketed without regulation or restrictions. Products meeting only the less prohibitive Type II standards may be used as fertilizer, but additional distribution, use restrictions and management practices apply.

During FY06, MWRA biosolids met all applicable federal standards for unrestricted use as a fertilizer (see Appendix K for more details) and met all applicable state standards except for molybdenum. MWRA biosolids exceeded the state standard for molybdenum six out of twelve months. Biosolids generated in those months were not distributed in Massachusetts.