

Name: EMS
Subject: Environmental Management System
Category:
Abstract:
Keywords:

INTRODUCTION

Over the past three years, the Water and Sewer Division has worked with the Environmental Compliance Office to develop operational controls in an Environmental Management System (the “EMS”) to help it ensure compliance with environmental regulations and the safety of its employees at the Springvale Water Treatment Plant. The Division is using as guidance an international environmental business standard called ISO 14001 in developing its EMS. The ISO 14001 standard for EMS was developed by the International Organization for Standardization, based in Geneva, Switzerland. Funding for the development of the Springvale Water Treatment Facilities EMS comes from a federal EPA grant and assistance was provided by the state DEP and Mike Curato with Woodard & Curran. The Springvale Water Treatment Facilities (the “Springvale Facilities”) EMS includes the following areas and is considered the Scope of the EMS:

- S** • The Springvale Water Treatment Plant;
- C** • The Drinking Water Production Wells;
- O** • The Drinking Water Pumping Facilities;
- P** • The Drinking Water Distribution System; and,
- F** • The Sanitary Sewer Pumping Facilities.

ENVIRONMENTAL POLICY

The Division plans to certify its operations at the Springvale Water Treatment Plant under the ISO Standard making it one of the first water departments in the nation to do so. As part of this effort, the Division has drafted an Environmental Policy. The Policy statement is a declaration of the Division’s fundamental environmental principals and defines the basic purpose and goals of its EMS. The policy is both realistic and appropriate for the operations of the Division. It supports; compliance with relevant environmental regulations, the concepts of pollution prevention and continuous improvement, and has the support of the top management in the Town. By placing it on the Town’s website, the Division is making it available to the public. Any questions regarding the policy or the status of the efforts to develop the Springvale Facilities EMS should be directed to the Environmental Compliance Office, at (508) 647-6452.

**TOWN OF NATICK
SPRINGVALE WATER TREATMENT FACILITIES
ENVIRONMENTAL MANAGEMENT POLICY**

Consistent with the Town of Natick’s Environmental Policy Statement, Natick’s Water and Sewer Division is committed to provide safe and potable drinking water to its residents while protecting the environment and maintaining a safe work environment for its employees. This commitment will ensure the protection of the environment and quality of water for future generations.

To meet our commitments, the Natick Water and Sewer Department will endeavor to:

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- Comply with applicable environmental laws and regulations and other requirements of the jurisdiction within which we operate;
 - Honor the requirements of all the environmental initiative that we enter into;
 - Continuously seek opportunities to improve adherence to our environmental, health, and safety principles;
 - Recognize that proper and responsible handling of our chemicals, materials and equipment, together with effective operating procedures, are imperative to reduce risks and protect the environment;
 - Continuously improve our environmental performance; and
 - Implement pollution prevention measures as our means of improving our environmental performance.

This Environmental Management Policy is available to the public upon request.

(Signed by Town Administrator on December 19, 2002 and revised on October 17, 2006 and sign by New Town Administrator Martha White in May 2008)
Town Administrator

Date

ENVIRONMENTAL ASPECTS AND SIGNIFICANT ENVIRONMENTAL ASPECTS AND IMPACTS

After completing the Environmental Management Policy, the next step in developing an ISO 14001 certifiable Environmental Management System for the Springvale Water Treatment Facilities was to identify aspects of work completed in the operation of the Facilities that interact or impact with the environment. By definition, the so called Environmental Aspects (the “Aspects”) are elements of the organization’s

operations, activities, products and/or services that can interact with the environment, both adversely or beneficially.

The Water and Sewer Division identified drinking water as its product and the following list of general activities are aspects of its work that could interact or impact with the environment. Within these General Activities are over 50 specific items - many of them, like chemical use, are found in multiple General Activities (General Aspects).

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- Extracting and Pumping Ground Water to Treatment
 - Treating Ground Water
 - Storing and Distributing Ground Water
 - Maintaining the Storage and Distribution System
 - Testing, Monitoring, Recording
 - Pumping and collecting Wastewater
 - Responding to Emergencies
 - Receiving and Transporting Chemicals
 - Maintaining Operation Buildings

As previously mentions, several specific items (Aspects) were identified for each of the General Activity work elements. The next step in the development of the EMS was to identify the impacts or interactions of these Aspects with the environment. An even larger list of impacts was identified. The next step in development of the EMS was to evaluate the significance of the Aspects using a grading method to rank and prioritize the Aspects for the purpose of selecting those Aspects that are significant and will be addressed in the Facilities Environmental Management Program, an important part of an ISO 14001 certifiable EMS.

The Water and Sewer Division selected criteria to evaluate each Aspect. The criteria used included a weighted: affect on product, flora and fauna; human health and regulatory concerns; and, public perception, to calculate a relative severity score of each Aspect. The likelihood of the Aspect occurring was included as a multiplier to the severity score. A significance cut off score was selected based on discussions and the Division's experience and knowledge with the subject matter. The result of this effort is the following list of Significant Aspects that an ISO 14001 certifiable EMS will control to prevent the occurrence of negative impacts to the environment.

SIGNIFICANT ASPECTS

- Chemical and Oil Spills
- Chlorine Gas Releases
- Chemical Dust Emissions
- Filter Removal Efficiencies
- Handling Hazardous Materials
- Use of Natural Resources
- Regulatory Compliance
- Sustainable (protect) Resource
- Sustainable (efficient) Operation

The Aspects and those that are Significant are reviewed and updated annually by the Environmental Compliance Office. They were last updated in May, 2009 and are provided on an as need basis. By placing the Significant Aspects narrative on the Town's website, the Division is making it available to the public. Any questions regarding the selection of Significant Aspects and Impacts or the status of the effort to develop the Springvale Facilities EMS should be directed to the Environmental Compliance Officer, at (508) 647-6452.

LEGAL AND OTHER REQUIREMENTS

After identifying all Aspects of its work (activities, products or services) that could interact or impact with the environment, the Water and Sewer Division identified all applicable Legal and Other Requirements that regulate those Aspects. A table listing Legal and Other Requirements was completed for the Springvale Water Treatment Facilities. The table identifies each requirement, gives a short description of each requirement, and identifies the area of the Springvale Water Treatment Facilities where each requirement applies. New Legal and Other Requirements are added the table on an ongoing basis by the Environmental Compliance Office. The following is a general list of those requirements:

- REGULATIONS**
- Spill/Release Notification Requirements
 - Waste Site Cleanup Requirements;
 - Employee Right-To-Know Requirements;
 - Air Quality and Asbestos Requirements;
 - Universal Waste Management Requirements;
 - Hazardous Waste Management Requirements;
 - Groundwater Protection and Drinking Water Requirements;
 - Storm water Management and Spill Prevention Requirements;
 - Waste Water and Waste Water Authority Requirements;
 - Wetland Requirements;
 - Emergency Planning Requirements; and,
 - Local By-Laws.

The Legal and Other Requirements will be reviewed and updated annually by the Environmental Compliance Office. The Requirements were last updated in May 2009 and are provided to upon request. The management of Legal and Other Requirements and Significant Aspects is a focus of an ISO 14001 Certifiable EMS to prevent negative impacts to the environment and is consistent with the commitment made by top management in the Environmental Management Policy for the Springvale Water Treatment Facilities. By placing it on the Town's website, the Division is making it

available to the public. Any questions regarding Legal and Other Requirements or the status of the effort to develop the Springvale Facilities EMS should be directed to the Environmental Compliance Office, at (508) 647-6452.

OBJECTIVES AND TARGETS

After identifying all Legal and Other Requirements for the Aspects of its work (activities, products and services) that could interact or impact the environment, the Division selected planning Objectives to control the negative impacts of its Significant Aspects on the environment and to promote compliance with its Legal and Other Requirements. Many of the legal and other requirements identified for Significant Environmental Aspects are spill response requirements. In addition, the Division developed performance Targets to help it and top management monitor the progress in meeting each Objective. The following is the list of Objectives selected by the Division to address its Significant Aspects and its Legal and Other Requirements and is consistent with the commitment made by top management in the Environmental Management Policy for the Springvale Water Treatment Facilities.

OBJECTIVES

- Prevent Chemical Releases
- Prevent Compliance Issues
- Protect the Aquifer as a Sustainable Resource
- Maintain Sustainable Operations

The Targets that have been selected to measure progress in meeting the Division's EMS Objectives for 2008-2009 are listed below:

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- No spills or releases of chemicals above regulatory reporting concentrations (ongoing)
 - No more than five liquid/solid chemical spills or releases per year (ongoing)
 - Train emergency team to respond to flood/chemical release in buildings by December 2009
 - Eliminate the use of chlorine gas as a treatment chemical at the Elm Bank Wells by December 2009
 - No uncontrolled releases of chemical dust by December 2009
 - Develop standard operating procedure for green sand filters by December 2009
 - Develop standard operating procedure for Air Tripping Towers by December 2009
 - Develop a iron and manganese residue sludge management plan by December 2009.

- Maintain drinking water By-laws and water conservation measures (ongoing)
- No water related enforcement (ongoing)

ENVIRONMENTAL MANAGEMENT PROGRAM

The Division has developed an Environmental Management Program (the "EMP") to achieve its Objectives and Targets. The EMP includes details on completing work on each of the targets list above. The completion of many Standard Operating and Emergency Procedures are an important part of the EMP. Division Staff will receive annual training on many Operating and Emergency procedures as well. The Targets and their associated Objectives will be reviewed and monitored annually by staff and top management to evaluate the progress and appropriateness of the target to the Springvale Facilities EMS scope and application. Results of this review will be recorded and any necessary adjustments to the EMP will be initiated. By placing it on the Town's website, the Division is making it available to the public for review. Any questions regarding Objectives and Targets or the status of the effort to develop the Springvale Facilities EMS should be directed to the Environmental Compliance Office, at (508) 647-6452.

RECORDS MANAGEMENT AND DOCUMENT CONTROL

Key to the Division's effort to certify its EMS to the ISO 14001 EMS Standard is keeping accurate records to verify that each element of the Standard has been met. The Division maintains a Master Control Document that includes the most recent Operating and Emergency Procedures and all records verify compliance with its EMS Standards. In addition, all documents have been assigned a unique number to track changes and improvements in operations following (internal/external) audits and top management review.

MONITORING AND MEASUREMENT

All monitoring equipment included in the Division's EMS must be maintained and calibrated according the manufactures specification. It is important to monitor performance of meeting the Objectives and Targets set in the EMS and this can only be done with certainty if monitoring equipment is functioning correctly. Like every other aspect of the EMS, records must be kept to verify compliance with the EMS Standard. Consistent with the Standard, the Division has also identified indicators to help it monitor progress of its EMP. This is critical to report progress of the EMP to top management and make the necessary improvements to the EMS, continuous.

AUDITS

The ISO EMS Standard also requires third party audits of the Division's EMS. In anticipation of ISO certification, the Division completed a "dress rehearsal" audit of its EMS. Auditors from the UMASS-Lowell EMS Service Program completed the "dress rehearsal" audit in December, 2004. Their audit reviewed various aspects of the Springvale facilities EMS and found it to be 85% to 90% in conformance with the ISO EMS Standard. The Auditor completed a Nonconformance Reports that identified 9 areas of nonconformance to the Standard and submitted it to the Division to address. The Division has completed Corrective Actions Requests for each nonconformance. These Requests will be reviewed by top management and implemented over the next several months. The Division anticipates that it will seek formal ISO EMS certification in the winter of 2006 once it completes the changes to its EMS brought about by 2004 changes to ISO 14000. The Division has scheduled its necessary pre-certification "Internal Audit" for November 9, 2006. Also, the Division has selected an ISO 14000 Auditor, NSF-ISR for ISO certification. The Auditor has completed the "desk Audit" and the "ISO readiness audit" of all standards, documents, and procedures of the Springvale Facilities EMS. **The registration audit was completed in early March of 2007 and the results of the audit found the Springvale EMS compliant with the ISO 14001:2004 EMS Standard and recommended it be certified as such. The Town of Natick received its ISO 14001:2004 certification in May 2007 and is registered with ANAB for three years with an expiration date in March 2010. NSF-ISR completed a one year surveillance audit on May 22, 2008 and is scheduled to complete its two year surveillance audit on May 26, 2009.**

The annual evaluation of compliance and the annual internal audit of the EMS were completed by staff from Woodard and Curran in April/May 2008. They found 4 minor compliance matters and 15 findings which will be address and reported to the Management Team in May.

TOP MANAGEMENT REVIEW

In addition to a staff commitment, the Division also has the commitment of top management on its EMS. A committee comprised of the Town Administrator, Director of Public Works, Environmental Compliance Officer and the Springvale Water Treatment Facilities Plant Manager will oversee work and review progress of the Division's EMS. The committee anticipates meeting two or three times a year in its role of managing the Springvale facilities EMS. At the top management review meeting in November, 2006 the following successes were noted for targets set for 2005-2006 and recommendations made for targets set for 2007-2008.

For 2005-2006 targets; there were no spills or releases over or under the regulatory notification requirements for the drinking water treatment chemicals; we eliminated chlorine gas at one location and confined space at one location; and the office space was moved away from the noise of the high lift pumps. The Management team decided not to complete the training target at this time. For 2007-2008 targets, top management agreed to continue to look to replace chlorine gas at the one remaining location and to eliminate confined space at the two remaining sewer pump stations and to look to eliminate uncontrolled chemical dust release to the environment. EMP for the 2007-2008 targets are developed and approved by top management Team.

For 2008-2009 targets: there were no spills or releases; no drinking water related enforcement; the Water Quality Annual Report with conservation measures was sent to residents; all confined space locations at sewer pump stations were eliminated. The target of eliminating chlorine gas use at the Elm Bank pump station has been move to 2009 along with improving removal efficiencies, training emergency staff to respond to building flooding, eliminating chemical dust releases and sludge storage and disposal plan for iron and manganese residues for water treatment plant filters.

In 2008, the Management Team met three times to review progress on that year's targets and to review the overall EMS. The Management Team will meet in May 2009 to review the annual EMS report.

BENEFITS

Although not required by State or Federal regulations, the EMS will help the Division comply with environmental requirements and improve the environmental stewardship of its organization. Some of the more notable benefits are listed below:

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- Improve the ability to meet compliance requirements;
 - Increase the efficiency, reduce the cost and provide greater operational consistency;
 - Improve the environmental awareness, the involvement and the competency of staff throughout the Division;
 - Improve the internal and external communication of environmental issues; and,
 - Recognition for its leadership as an environmental steward.