SMALL BUSINESSES AND TOXICS USE REDUCTION

Hoosac Water Quality District Treatment Plant

KEEPING OUR COMMUNITIES CLEAN AND GREEN

Published by the
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North Adams, MA
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INTRODUCTION

This booklet provides you, the small business owner, with an introduction to Toxics Use Reduction (TUR), how it can help you to improve your operations, and, most importantly, how it can help the Hoosac Water Quality District to maintain a high-quality output flow from its wastewater treatment plant. Here are the topics we cover.

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ABOUT TOXICS USE REDUCTION

Toxics Use Reduction (TUR) is a unique program that encourages businesses and industries in Massachusetts to reduce their dependence on the use of toxic chemicals and to minimize or eliminate the release of toxic waste byproducts.

The TUR program was established in 1989 when the Massachusetts Legislature unanimously passed the Toxics Use Reduction Act (TURA). This Act specifies that firms that use large quantities of certain toxic chemicals must report the amount of the chemical used and the amount of toxic wastes released to the environment. The Act also requires that these firms develop and implement plans to find cost-effective ways to reduce the use and releases of these chemicals.

When properly implemented, TUR results in a safer workplace and a cleaner environment and reduces the overall costs for your business. TUR minimizes the risks to workers, the community, and the environment caused by mishandling or accidental releases of toxics. Costs for after-the-fact treatment and disposal of these hazardous substances are also reduced or eliminated.

In the first six years after the Act was passed, reporting Massachusetts firms reduced their use of toxic chemicals by 20%, or nearly 72-million pounds. In that same six years, those firms reduced toxic releases to the environment by 67% -- 12.7-million pounds. And they saved money in the process!

ABOUT THE HOOSAC WATER QUALITY DISTRICT

In 1972, the city of North Adams and the towns of Williamstown and Clarksburg formed the Hoosac Water Quality District (HWQD) to accept and treat wastewater from homes, businesses, and industries in those municipalities. The HWQD accepts and treats more than 5 million gallons of wastewater each day from these sources.

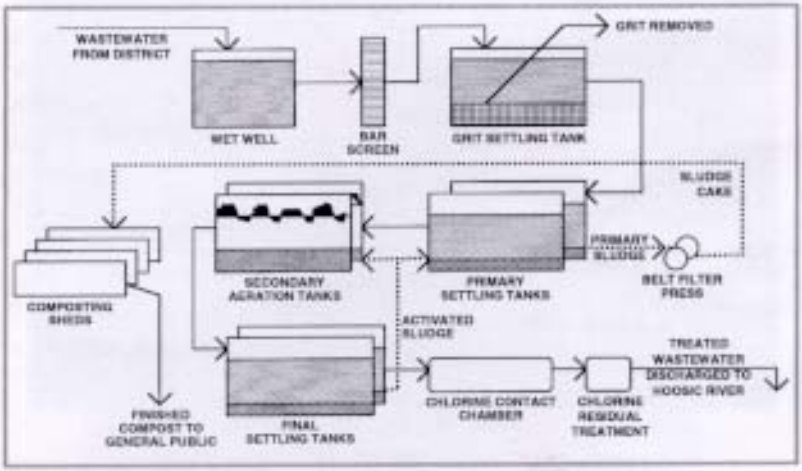
The treatment plant, located in Williamstown, uses the activated sludge process to treat wastewater. As is the case with all plants of this type, excess sludge is created as a result of this treatment process. Rather than dispose of this excess by land-filling or incineration, the HWQD converts the sludge to high-quality compost.

Compost Mixing at HWQD Treatment Plant

Workers at the plant blend wood chips with the sludge in special sheds where naturally-occurring bacteria digest the blend in three to four weeks. High temperatures created by the process destroy harmful agents. Any unpleasant odor is controlled by venting the gases created in the process through a "biomass" filter consisting of natural mature leaf compost and wood chips.

More than 14,000 cubic yards of compost is manufactured annually for use as landfill capping and as a soil amendment for landscapers and home owners. The resulting income is used to offset the cost of plant operation, with subsequent savings to taxpayers.

The HWQD is the only publicly-owned treatment works in Berkshire County using composting for sludge disposal at this time



HWQD Treatment Process Simplified Flow

WHAT'S THE PROBLEM?

The compost produced by the HWQD can contain only minute levels of certain listed toxics, including heavy metals, PCBs, and organic pollutants, if it is to retain its Type 1 designation, which is mandatory for its continued use as a landscape and soil amendment medium. Therefore, the compost must be frequently analyzed to ensure its quality and the absence of harmful levels of pollutants. Discharges of toxic chemicals to the HWQD treatment plant can contaminate the compost, making it unfit for use. It must then be disposed-of by controlled incineration or special landfill at high cost to taxpayers.

Keeping toxics out of the compost is critical to the continued success of this program.

The District's goal is to increase small business-owners' knowledge and awareness of the harm that toxics can cause if they are improperly used or inadvertently released, and to provide techniques and avenues of assistance to help them reduce or eliminate the use of toxics in their places of business.

We want to assist each of the more than 60 small businesses and industries within the HWQD service area to understand how an accidental discharge or careless use of a toxic could cause havoc with the composting program by contaminating the sludge and the compost. A slug of toxic pollutants could also damage the District's treatment facilities, disrupt the biological processes that purify the wastewater, cause severe environmental damage if it passed through the plant and into the Hoosic River, and put the District's workers at risk of injury or worse.

Even if an individual business discharges only a small amount of a toxic, the sum total of discharges of toxics by several businesses could cause great harm.

WHICH TOXIC CHEMICALS ARE INVOLVED?

More than 400 substances have been designated as "toxics". They are named in the U.S. Environmental Protection Agency (EPA) Emergency Planning and Community Right-to-Know and Superfund lists. They include substances commonly used by businesses and industries that can be dangerous or harmful if mishandled, spilled, or released.

Of particular concern to the HWQD are those chemicals which, if released to the District's collection and treatment system, could injure the District's workers, harm its facilities, or pass through the treatment plant to pollute the river or the compost. These chemicals include heavy metals (i.e., lead, mercury, zinc, chromium, cadmium, copper, nickel, and others), strong acids, caustic substances, insecticides, weed killers, and many solvents and cleaning compounds.

WHAT TYPES OF BUSINESSES AND INDUSTRIES ARE AFFECTED?

Industries that employ more than 10 full-time employees, whose business activity is of one of the types designated by the Act, and that manufacture or process more than 25,000 pounds per year of a listed toxic substance (or who otherwise use more than 10,000 pounds per year of such a substance) must be in compliance with the TUR Act.

Firms in this category must report the use of each chemical and the amounts of toxic byproducts created and emissions released to the environment. Also these firms must prepare and periodically update a plan to reduce dependence on the use of toxic substances.

Currently, only one industrial firm within the HWQD service area is covered under the TUR Act. However, many smaller businesses and industries within the HWQD that are not covered by the TUR Act may also discharge harmful chemicals into the collection system and, thus, into the District's treatment facilities.

These firms, by virtue of their smaller size or the fact that they are not of a business type listed by the Act, are not involved in the formal TUR program, yet they collectively represent a large potential for toxics use and for inadvertent discharge of toxic substances.

Typical of such small businesses are:

Automobile/truck repair Shops	Meat/fish/food retailers
Chemical laboratories	Metal finishers/fabricators
Dry cleaners/commercial laundries	Nursing homes
Fuel oil suppliers	Photograph processors
Funeral homes	Physicians'/dentists' offices
Gas Stations	Schools/colleges
Health clinics	Scrap metal processors
Hospitals	Veterinarians' offices

WE OPERATE A SMALL BUSINESS, HOW DO WE KNOW IF WE ARE USING TOXIC SUBSTANCES?

CHECK LABELS:

Recent improvements in labeling regulations require that product labels must better-describe the contents of a product, especially if a hazardous or harmful chemical is involved. So, check the label first.

CHECK MSDSs:

Federal law requires manufacturers to provide Material Safety Data Sheets (MSDSs) for their products. These sheets, which list constituents of the product and especially any that are dangerous or toxic, can be provided by your supplier or the manufacturer.

CHECK MANUFACTURER:

Often, the manufacturer of a product can provide you with guidance on how to properly use their product and what it contains. They may even recommend another product that is less toxic and better-suited to your business. Most reputable manufacturers don't want to risk the adverse consequences of the misuse of their products.

CHECK OTHER RESOURCES:

The Commonwealth of Massachusetts and other resources offer help to businesses who need technical assistance with TUR. See page 10 for a list of these resources.

HOW CAN OUR BUSINESS PARTICIPATE?

The TUR program promotes several techniques to reduce the use of toxics. These include:

- ✔ Substitutions for toxic chemicals. (Replacing a toxic or hazardous substance or material with a non-toxic or less-toxic substance in making products or providing services.)
- ✔ Modifications to production processes. (Developing and using processes that are cleaner, greener, and more efficient than those that are currently used in making products or providing services.)
- ✔ Reformulation of finished products. (Changing a product so that it contains less-toxic or fewer toxic chemicals.)
- ✔ Modernization of production processes. (Upgrading production equipment.)
- ✔ Improvements in plant operations and maintenance. (Improving "housekeeping " .)
- ✔ In-process recycling of production materials. (Re-using materials within a production process.)

You can use these techniques to help reduce or eliminate toxics from your business and to save money. We can help you do this.

WHERE CAN OUR BUSINESS OBTAIN TECHNICAL ASSISTANCE FOR TOXICS USE REDUCTION?

The following sources will be glad to answer your questions and provide technical assistance:

Toxics Use Reduction Institute
UMASS-Lowell
One University Avenue
Lowell, MA 01854
(978) 934-3275

Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Office of Technical Assistance
100 Cambridge Street, Room 2109
Boston, MA 02202
(617) 727-3260

George Heisler, Jr.
Hoosac Water Quality District
P.O. Box 172, 667 Simonds Road
Williamstown, MA 01267
(413) 458-8423

Bob Bugley
Altair Systems
11 Interlaken Crossroad
West Stockbridge, MA 01266
(413) 298-4413

WHAT'S THE BOTTOM LINE WITH TOXIC USE REDUCTION?

Reducing or eliminating toxic substances from your business makes good sense all around:

- ✔ Your workplace will be healthier and safer because of reduced exposure risks for you and your employees.
- ✔ You will minimize the possibility of an accidental spill or release, with its potential to harm the environment or injure or expose your employees and neighbors with all the liabilities that come with such an incident.
- ✔ You will avoid the possibility of a discharge "down the drain", and the resulting potential damage or personnel injury at the HWQD plant.
- ✔ You won't need to worry about the adverse publicity, and its impact on your business, if you should spill or release a harmful chemical. Nor will you have to worry about paying for the very expensive cleanup that such a spill could require, or the fine and penalties that the State and Federal agencies might assess.
- ✔ You won't be burdened with the strict and complex requirements that often regulate how you buy, store, and dispose of toxic chemicals.

Each of these issues brings costs to your business, which can be avoided by the implementation of the valuable TUR techniques. Even small amounts of toxic substances can cause great damage if they are misused, spilled, or released to the environment and the community. The best solution is to not use them.