



*Office of Technical Assistance
Executive Office of Environmental Affairs
Commonwealth of Massachusetts*

Toxics Use Reduction Case Study

Town of Burlington Board of Health Pollution Prevention Programs

Summary

Over the past several years, the Town of Burlington, Massachusetts has implemented a number of innovative municipal environmental health programs, including special criteria for site planning and development, a universal waste management program, a comprehensive study and analysis of environmental health and safety issues in Burlington public schools, and an education and outreach program to local businesses.

The driving force behind these programs has been Todd Dresser, an Environmental Engineer with the Burlington Board of Health. Dresser has helped establish the health department as a central resource of environmental health and pollution prevention (P2) information for the Burlington community. In both 1997 and 1998, the Burlington Board of Health was recognized through the Governor's Award for Toxics Use Reduction for its pollution prevention achievements.

Background

The Town of Burlington is a mid-sized town of approximately 22,600 situated just to the northwest of Boston. The town has a mixture of residential, commercial and industrial properties, including several high-tech companies located along the region's "technology corridor" and a large number of small, job-shop type manufacturing operations.

Like many communities in eastern Massachusetts, Burlington has experienced tremendous growth and development over the past few decades. Rapid expansion and increased demand for limited resources have placed pressure on local environmental quality, particularly Burlington's sensitive groundwater aquifers. Following the detection of serious contamination in Burlington's groundwater in 1984, the town voted to establish its own environmental enforcement authority. Based within the municipal Board of Health, this authority is empowered to inspect and regulate local facilities for the proper use, storage and disposal of hazardous materials and waste.

Since accepting the position in 1991, Todd Dresser has developed a number of special programs to increase awareness of prevalent and potential environmental risks, establish regulatory or economic mechanisms for addressing these risks, and encourage a shift toward practices that minimize or eliminate such risks. These programs include:

Banning Industrial and Commercial Septic Systems

In 1993, well ahead of similar efforts enacted at the state level, Burlington required all

commercial and industrial facilities linked to septic systems to switch over to the municipal sewage system. Abandoned septic systems were tested to determine if any clean-up was necessary, and to help the town develop a map of contamination areas. The wholesale switch to municipal sewer was pursued as a prevention measure to avoid continued or future impacts on the local environment.

The Board of Health implemented the sewerage requirement under the general nuisance statute (MGL Chapter 111, Section 122) which authorizes local health officials to employ measures as necessary to protect the public from serious health threats. In this case, the pollution of the town's limited drinking water supply was deemed serious enough to warrant such an action.

Results: By switching industrial and commercial facilities over to municipal wastewater treatment, Burlington halted ongoing contamination of the local groundwater and prevented future problems resulting from failed or damaged septic systems. The program also helped target problem areas in the vicinity of previously failed systems and focus the town's efforts to conduct necessary containment and remediation.

Construction, Renovation, and Development Site Review

More recently, the town adopted a formal Hazardous Building Component Management Plan policy, which requires the proponent of any renovation or demolition of a site to first conduct an inventory and assessment of all potentially hazardous elements that may be disturbed in the process. This assessment, which must be completed by a Board-approved professional, notes the presence of asbestos, abandoned chemicals and gases, hydraulic fluids, fuel, electronic components such as transformers, lead paint or other lead-containing products, mercury switches, batteries and other hazards. All criteria hazards identified at a site must be managed properly before approval is granted.

The town also requires developers working on former industrial and commercial sites to have their site impact plans reviewed by a licensed professional. The review requirement was implemented to ensure that blasting, excavation, extraction wells, stormwater management and other actions undertaken as part of brownfield redevelopment do not result in the uncontrolled release or accelerated migration of on-site contaminants.

Results: The new site inventory and impact review policies have encouraged developers to pay closer attention to the potential environmental health impacts of their proposed activities. The additional analysis and plan review have allowed Burlington to promote redevelopment of existing industrial and brownfield sites without the associated risk of new or aggravated contamination problems.

Universal Waste Recycling Program

Universal wastes are comprised of commonly disposed but potentially hazardous materials, such as fluorescent bulbs and batteries, for which the U.S. Environmental Protection Agency (EPA) has created simplified management requirements. In January 1998, the town created a municipal Universal Waste Recycling Program which, by taking advantage of a Massachusetts state recycling contract available to municipal agencies, provides discounted universal waste management services to area businesses.

The universal waste management effort focused initially on large universal waste generators, including office parks, malls, and multi-tenant facilities. More than 75 companies have joined the recycling program, while another 20 companies developed their own plans. The program's bulk collection strategy has allowed Burlington to provide real financial incentives to program participants by increasing the economies of scale and avoiding some of the expenses that tend to discourage effective waste

management practices.

Results: Since it started, the Burlington Universal Waste Recycling Program has diverted over 250,000 linear feet of lighting, over 20,000 lbs of ballasts, over 14,000 lbs of computer equipment and 1,700 lbs of batteries from landfills, incinerators and other solid waste disposal facilities. Feedback from participants indicate that by using the Board's access to the state recycling contract, companies are able to save 50-60% on universal waste management costs.

Household and Very Small Quantity Generators Hazardous Waste Collection

The Burlington Board of Health has also offered cost effective hazardous waste collection to very small quantity generators (VSQGs) since 1996. The town has also held 20 household hazardous waste collections for Burlington residents since 1985.

The Board of Health has targeted hazardous waste management programs particularly at small industrial job shops and facility maintenance (buildings and grounds) operations. With limited staff and a reluctance to pay for hazardous waste disposal, these types of operations are most likely to have dangerous stockpiles of outdated or unused chemicals and other hazards stored on-site.

Results: A total of 8 local businesses have chosen to utilize the town's VSQG hazardous waste collection program. Participants have reported 40-50% savings in disposal costs, thereby encouraging them to remove a number of hazardous stockpiles that might have otherwise remained serious on-site liabilities.

Environmental Health and Safety Analysis In Public Schools

Soon after he was hired as Burlington's Environmental Engineer, Todd Dresser investigated a serious chemical fire at a local high school which cost the town \$500,000 in damages. Inspection of the facility revealed several chemical management problems not only in the storage area where the fire occurred but also throughout the school. A detailed review of the school raised a number of significant environmental, health and safety concerns, including:

- haphazard or non-existent chemical inventories;
- student and teacher exposure to toxics (particularly in the science and art departments);
- unsafe storage of flammables, corrosives and other hazardous chemicals;
- unregulated donations of toxic materials to the school from local industry; and
- a lack of adequate emergency planning.

The investigation evolved into a comprehensive study of the whole range of environmental, health and safety issues present in the Burlington public schools, including: inappropriate pesticide use, radiation and mercury concerns, fire prevention and other safety issues, indoor air quality, asbestos, and a number of other existing or potential problems.

Dresser eventually compiled his research into a report, [A Case Study of Environmental Health and Safety Issues Involving the Burlington, MA Public School System](#). The report covers twenty separate common problem areas found in school facilities, providing hazard analysis and solution action plans for each issue, as well as "lessons learned" in attempting to implement solutions. This information has helped other environmental officials prepare their own schools improvement plans.

Results: Several tons of hazardous chemicals and materials have been removed from area schools. Significant procedural changes have been implemented, such as the adoption of

"micro-scale chemistry" in the science curriculum; the substitution of safer alternatives for toxic classroom materials, pesticides and janitorial products; and the implementation of emergency response plans. Faculty and staff are required to take greater accountability for their use and storage of hazardous materials.

Pollution Prevention and Compliance Assistance for Businesses

The Burlington Board of Health regularly promotes pollution prevention to local businesses as part of its effort to improve environmental protection. Dresser has hosted four workshops to date to increase awareness of the assistance programs available to area businesses through:

- the Office of Technical Assistance (OTA),
- the Toxics Use Reduction Institute (TURI) and the Massachusetts Surface Cleaning Lab,
- the Massachusetts Water Resources Authority (MWRA),
- the Massachusetts Department of Environmental Protection (DEP),
- the U.S. Occupational Health and Safety Authority (OSHA),
- the U.S. Environmental Protection Agency (EPA) and other agencies.

Results: Each workshop has been well attended (roughly 55 participants each), and feedback from participants has been overwhelmingly positive. The demand for additional workshops has actually outpaced Dresser's own available time and resources. More significantly, the Board of Health has benefited from hosting the workshops by strengthening its relationship with local businesses, many of which now call on the office for assistance. Other environmental health programs, such as Universal Waste Management and VSQG Waste Disposal (see above), have grown out of this relationship. The increased awareness of available assistance services on the part of Burlington businesses has helped advance the Board's environmental protection goals, by expanding the information resources local facilities may draw from.

Conclusion

By establishing a local environmental enforcement authority, the Town of Burlington has benefited from environmental programs tailor-made to the particular needs of the community. In some cases, such as the switching of industrial and commercial facilities over to the municipal wastewater treatment system, this capacity has allowed Burlington to move forward on implementing necessary changes ahead of state or federal efforts.

The town has made a particular effort to incorporate pollution prevention principles into its local environmental programs. This emphasis on prevention has helped local businesses save money, while allowing Burlington to significantly reduce existing and potential threats to the community and the environment.

This case study is one in a series prepared by the Office of Technical Assistance (OTA), a branch of the Massachusetts Executive Office of Environmental Affairs. OTA's mission is to assist industry in reducing the use of toxic chemicals and/or the generation of toxic manufacturing byproducts. Mention of any particular equipment or proprietary technology does not represent an endorsement of these products by the Commonwealth of Massachusetts. This information is available in alternate formats upon request. OTA's confidential, non-regulatory services are available at no charge to Massachusetts businesses and institutions that use toxics. For further information about this or other case studies, or about OTA's technical assistance services, contact: Office of Technical Assistance, 251 Causeway St., Boston, Massachusetts 02114. Phone #(617) 626-1060. Fax #(617) 626-1095. Website: <http://www.state.ma.us/ota>.

