REPORT TO THE GENERAL ASSEMBLY

POLLUTION PREVENTION

JANUARY 1996

Vermont Agency of Natural Resources
Department of Environmental Conservation

Background

This is the second biennial report of the Vermont Department of Environmental Conservation's (DEC) Pollution Prevention Program that implements the toxics use reduction and hazardous waste reduction planning law for Vermont business and industry.

In 1991 Vermont joined the ranks of a half-dozen or so states that enacted so-called facility planning laws that required business and industry to plan for the reduction of toxic chemical use and reduction of hazardous waste generation. The law also authorized a technical assistance program in the form of on-site assistance, workshops, written materials, and recognition programs. At present, at least 22 states have some form of facility planning requirement, and most states have a pollution prevention technical assistance program.

Pollution prevention has become a significant new national environmental strategy and focus for environmental protection in the last several years. Reducing or eliminating the pollutant at the source through product redesign, process modification, input substitution, improved operating practices, and employee education has supplanted pollution control as the primary environmental protection strategy. Pollution prevention has many potential advantages to business and industry including reduced operating costs (materials purchases, regulatory costs, treatment and disposal costs, insurance costs), reduced regulatory burden, improved worker health and safety and reduced environmental liability.

Since the first pollution prevention biennial report submitted in 1994, Vermont's Pollution Prevention Program has evolved in many ways and has gained experience in implementing the facility planning law, providing technical assistance, and integrating the pollution prevention strategy into department and state government functions. This report will focus on these three areas, which reflect the broader aspects of the Pollution Prevention Program's statutory mandates.

STATUTORY FUNCTIONS OF THE POLLUTION PREVENTION PROGRAM

Review of Toxics Use and Hazardous Waste Reduction Plans

Provide technical assistance to planners through on-site assistance, workshops, conferences, informational materials, and recognition programs

Maintain data and information systems on toxics use reduction for measuring progress and program effectiveness

Work with other state agencies to evaluate, develop and promote pollution prevention strategies

Work with other state agencies to develop pilot programs that encourage toxics use reduction and hazardous waste reduction

Improve data and reporting systems with respect to toxics releases

Review and comment on environmental regulatory programs and proposed rules to encourage a pollution prevention approach

A Note on DEC Reorganization

In 1994, the DEC underwent a significant reorganization. The original Pollution Prevention Division has become a part of the larger Environmental Assistance Division that consolidated non-regulatory programs (such as the Pollution Prevention Division, Resource Conservation and Recycling Program, Permit Specialists in regional offices, and training functions). The Division also provides coordination for permitting, compliance and enforcement, information and management systems, and policy, planning and rule making across the department, in an attempt to improve operational efficiencies of the department and provide better environmental protection and customer service. Another goal of the reorganization was to enhance and provide greater visibility to non-regulatory and assistance related functions of the department and to place greater emphasis on pollution prevention as an environmental management strategy.

Progress in Industrial Pollution Prevention: An Evaluation

Over 200 of the state's largest businesses and industries were required to submit pollution prevention plans in 1993 with a focus on hazardous waste reduction. The DEC has been able to monitor progress on implementation of those plans over the last two years and the impacts that the planning process has had on waste generation practices. Plans are required to be updated in 1996 and will incorporate planning on toxic chemical use reduction (manufacturers only) in addition to hazardous waste reduction planning.

SUMMARY OF PLANNING REQUIREMENTS

Toxics Use and Hazardous Waste Reduction Plans (now called Pollution Prevention Plans) are required every three years of hazardous waste generators and large users of toxics as defined below:

***Class A generators*:** more than 1000 kg (2200 lbs) per month of hazardous waste generation

Class B generators: more than 220 lbs per month of hazardous waste generation

***Large User*:** A manufacturing facility with 10 or more employees that uses 1000 lbs or more of a single toxic chemical (takes effect July 1, 1996)

Note: The first plans were due in 1993. The second round of plans is due July 1, 1996 when the large user definition and applicability takes effect.

Plan Contents

Must include an identification of all hazardous wastes and toxic chemicals, an evaluation of pollution prevention methods and opportunities for these substances, and an implementation schedule for all pollution prevention opportunities that are identified as technically and economically feasible.

Compliance with the planning requirements is relatively high and has increased since the last legislative report in 1994. Over 90% of Class A generators and over 80% of Class B generators are in compliance with plan development and reporting requirements. The remainder are in the process or receiving some form of assistance or are in the process of completing planning requirements.

Figure 1 shows the numbers of planning facilities (Class A and B generators) over the last three years. Initially there were over 220 facilities subject to plan requirements. As facilities planned for and reduced hazardous waste generation below planning thresholds (and thus became exempt from planning requirements), the number of planning facilities has decreased to less than 180. A listing of facilities that have been subject to the planning law and current compliance

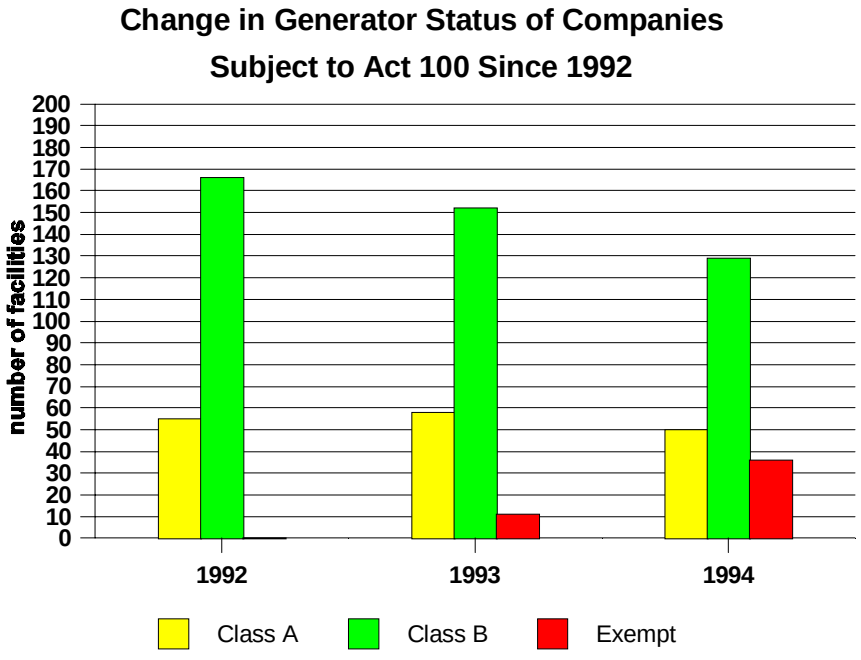


Figure 1.

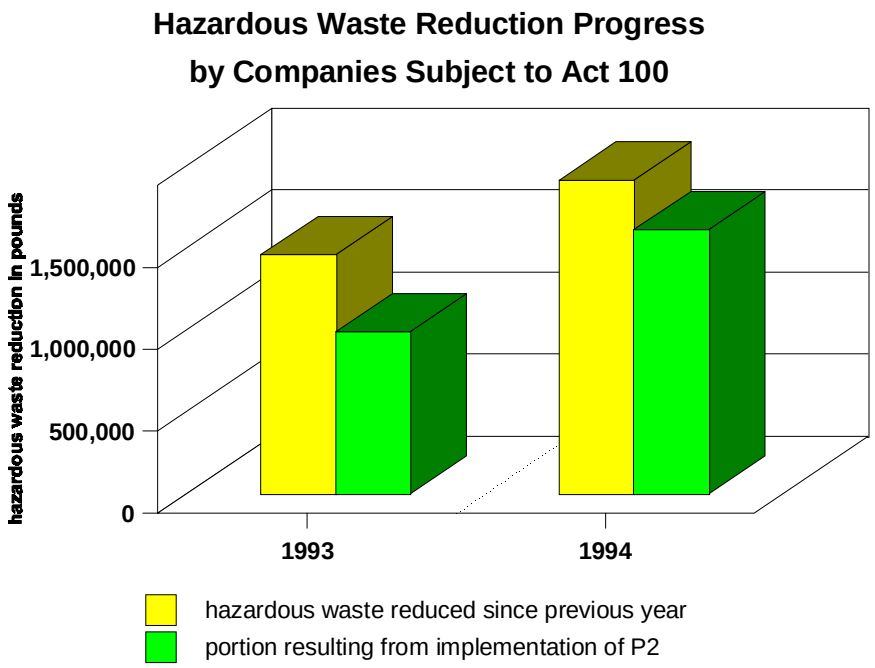


Figure 2.

Figure 2 illustrates hazardous waste reduction that has occurred since 1993 at planning facilities. Nearly 3 million pounds out of an initial 14.5 million pounds were reduced, largely through pollution prevention measures. This represents a decrease in hazardous waste generation of over 20% at planning facilities.

These hazardous waste reductions are also reflected in overall statewide hazardous waste generation which has been decreasing over the last few years as illustrated in **Figure 3**. Overall state hazardous waste reduction has decreased on the order of 25 - 30% since a peak in generation in 1991-1992.

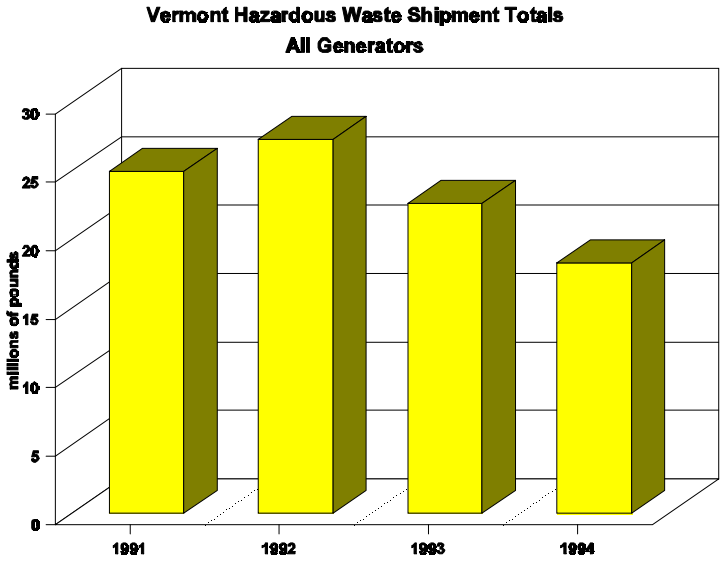


Figure 3.

Figure 4 illustrates the types of pollution prevention measures being applied to waste streams subject to planning. The most prevalent types of pollution prevention measures employed include, in priority order, improved operations and maintenance, recycling of wastes, input substitution of a less or non-toxic process or product ingredient, and equipment upgrade to more efficient or modern equipment.

The downward trend in hazardous waste generation around the time of the implementation of the planning law and technical assistance programs, as well as the documented pollution prevention measures implemented as part of the planning process suggest that there is a correlation between these programs and progress that is now being made in the state. However, it is also clear that there are other forces at work in driving pollution prevention, most notably, the recent phase-out of ozone depleting refrigerants and solvents (CFC bans), as well as state and federal Community-Right-To-Know laws that have required Vermont's 40-50 largest manufacturers to report environmental releases of toxic chemicals. Although the latter law is only a reporting requirement, it nonetheless has served as an incentive for many companies to consider waste and

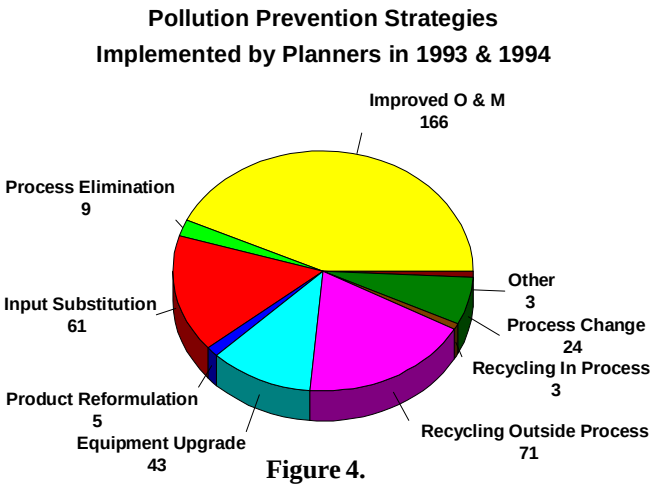
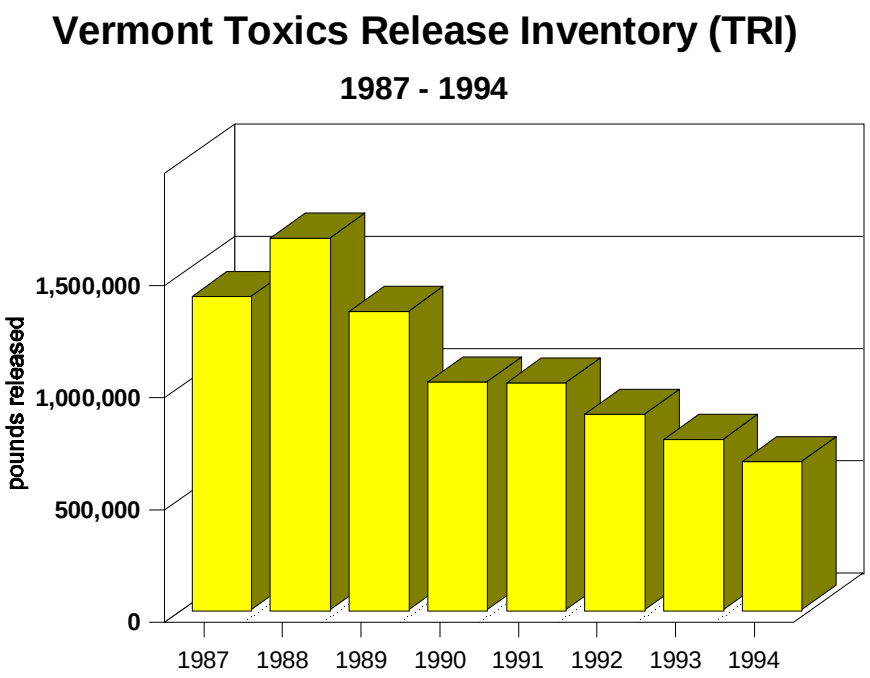


Figure 4.

emissions reductions. **Figure 5** illustrates the more than 50% decrease in toxic releases to all environmental media (air, water, and land) since 1988 for Vermont's largest users of toxic substances.



Future Issues and Trends in Facility Planning

Many of the same facilities subject to planning as Class A and B generators of hazardous waste will also be subject to planning as large users for toxics use reduction. Some new manufacturers will be subject to the law for the first time solely as large users. The DEC estimates there will be fewer than 50 such facilities.

In 1996 the DEC will begin to maintain a data base on toxics use and monitor trends over time in reductions. We do not anticipate that the reduction trends will be as dramatic as for hazardous waste reduction since many companies have already embarked upon toxics use reduction programs due to other laws such as Toxics Release Inventory reporting and bans on ozone depleting chemicals. Others have recognized the cost savings potential of toxics use reduction and have programs under way. And lastly, many of the hazardous waste reductions that have been planned for and have occurred involved the up front reduction in toxics use to accomplish this.

The DEC has revised its planning procedure and manual in 1995 to incorporate the new large toxic user planning requirement. The manual,renamed "Pollution Prevention Planning Procedure" is a much improved, streamlined, and simplified plan development process that utilizes a worksheet approach that has been reviewed and commented on by the Toxics Technical Advisory Board and Vermont business and industry. It will be fully implemented in the 1996 planning cycle. Facilities will continue to file annual progress reports that will enable progress to be measured on both hazardous waste reduction and toxics use reduction.

During the 1996 legislative session,the DEC was successful in amending the planning law in several ways to improve and simplify the plannning process. The most significant change was to postpone the implementation of toxics use reduction planning by one year and require all second round plans to be submitted on July 1, 1996 rather than in 1995. This one-year extension has allowed DEC to revamp the planning procedure and consolidate the two phased elements of planning into a single "Pollution Prevention Planning Procedure". The DEC also worked with the Legislature to reinstate a 50% surcharge on the hazardous waste generator tax, which elapsed in 1993 and was initially used to fund the activities of the Pollution Prevention Program. Anticipating future revenue shortfalls, due to facilities becoming exempt from planning and annual fees, and decreases in federal pollution prevention grants, this surcharge was re-instated without a sunset provision to assure future funding stability, especially for technical assistance programs.

With these funding and statutory changes in place, the DEC does not propose nor seek statutory changes beyond those already put into place. The DEC will continue to investigate regulatory, financial, and other incentives that can further stimulate pollution prevention technologies and approaches.

Overview of Technical Assistance and Non-Regulatory Programs

The DEC has essentially maintained the same types of assistance programs that were in place and reported on in 1994. These programs and efforts will be briefly summarized with certain accomplishments noted.

Plan Assistance

As noted, the planning procedure was modified to improve its user friendliness. Six planning workshops were held around the state in May-June 1995 to review the new requirements with Vermont business and industry. Workshops were well attended with approximately one-third of all businesses required to plan in attendance. Plan assistance is advertised and offered to all that seek assistance. For instance, plan assistance is offered to all of those that have not completed or submitted a plan. Plan assistance is offered both through the office and on-site.

On-Site Pollution Prevention Assistance

On-site assistance is provided in the form of pollution prevention opportunity assessments performed by DEC staff and/or the Retired Engineers assistance program (REAP). The REAP program has now been in place for over three years with over 50 facilities visited and assisted. Assistance is not just limited to planning facilities.

Through special competitive EPA grants, the DEC provides on site assistance to vehicle service facilities and is currently working with Vermont printers and vehicle service facilities to establish model facilities of pollution prevention and environmental compliance. These model facilities will be located throughout the state and will be used by other like businesses to observe and learn best environmental management practices.

The DEC has worked with the Vermont Small Business Development Center (SBDC) and has helped them to receive funding to establish a pollution prevention program for its clientele, including on-site assistance visits.

Workshops and Conferences

A major emphasis of assistance programs has been and will continue to be industry-specific focus group meetings and conferences. Through surveys of Vermont businesses, DEC has learned that this is one of the most effective methods to provide for technology transfer and information on pollution prevention. The Pollution Prevention Program frequently sponsors informal workshops in conjunction with industry trade associations and other organizations. Workshops have been sponsored over the last two years involving the following groups or topics: metal finishers and fabricators, printers, vehicle service and repair, ski areas, metal cleaning and degreasing processes, paints and coatings, drycleaners, and financial evaluation of pollution prevention projects. Frequent topics include issues on environmental compliance, pollution prevention techniques and case studies.

Governor's Awards for Environmental Excellence

This fall the third annual Governor's Awards Program for Environmental Excellence in Pollution Prevention was held in which more than a dozen small and large companies, individuals, non-profit organizations and public agencies were recognized for their achievements. This program has proved to be a successful way to bring high level support and attention to pollution prevention activities in the state. As a part of the second annual Governor's Awards, a statewide conference on pollution prevention was held.

Information Dissemination

The Program continues to issue a pollution prevention newsletter three times a year to over 1000 businesses. Case

studies are written and published and an information clearinghouse is maintained to assist businesses in investigating pollution prevention opportunities.

Business Compliance Assistance

Recognizing small businesses' need for a better understanding of environmental regulations, the Environmental Assistance Division has embarked on an effort to establish a small business compliance assistance program. After working this past year with an advisory committee on defining needs and a program, this effort identified the need for a Small Business Assistance Coordinator within DEC to assist in the coordination of outreach to businesses on new and existing regulatory requirements and seek ways to make it easier or simpler for businesses to comply. It is hoped that this program can be initiated in 1996.

Other Business Recognition Programs

The DEC is investigating the feasibility of a small business recognition/certification program to encourage Vermont businesses to adopt pollution prevention and best environmental management practices. There are a number of models throughout the country that will be evaluated, including such programs as the Green Star Program in Anchorage, AL.

Pollution Prevention Integration

The Pollution Prevention Program has embarked on a few initiatives to integrate pollution prevention into the DEC as well as in state government.

The Program has developed plan to train DEC staff on integrating pollution prevention into permitting and compliance/enforcement functions. Staff in these functions have frequent contact with business and industry and their actions and observations can encourage the adoption of pollution prevention measures.

The Governor has signed an Executive Order establishing a Clean State Initiative in state government. A Clean State Council has been developed that represents the heads of major state agencies and departments. Under this program, state government has developed a Materials Management Plan to evaluate the environmental implications of state procurement of goods and services and to adopt practices that reflect these considerations. Under this program, the Agency of Natural Resources is conducting an environmental assessment of its own operations. Based on this work, the Agency will prepare guidance for other state agencies to develop similar plans.

The DEC has also received a grant from EPA to examine and evaluate ways to better utilize toxics data and hazardous materials information received from Vermont facilities for planning purposes and priority setting. The project will examine ways to consolidate and streamline reporting requirements for Vermont industry.

Program Funding

Revenue sources for the program support four full time staff persons and part of the time of several other staff within the Environmental Assistance Division who serve as coordinators for DEC programs. Revenue sources include the following:

Plan fees	$ 60,000
Manifest surcharge tax	$ 150,000
EPA Grant	$ 60,000

Total	**$270,000**

Projected FY 96 Program Expenses

Personnel	$225,000
Technical Assistance Programs	45,000
Total	**$270,000**

Pollution Prevention Program funding has decreased over the past two years and reflects a general reduction in department spending. Revenue sources should remain stable at least for the near term and funding is now adequate to maintain existing levels of pollution prevention activity.