

EPA-New England's Assistance & Pollution Prevention Office

1999 Annual Report

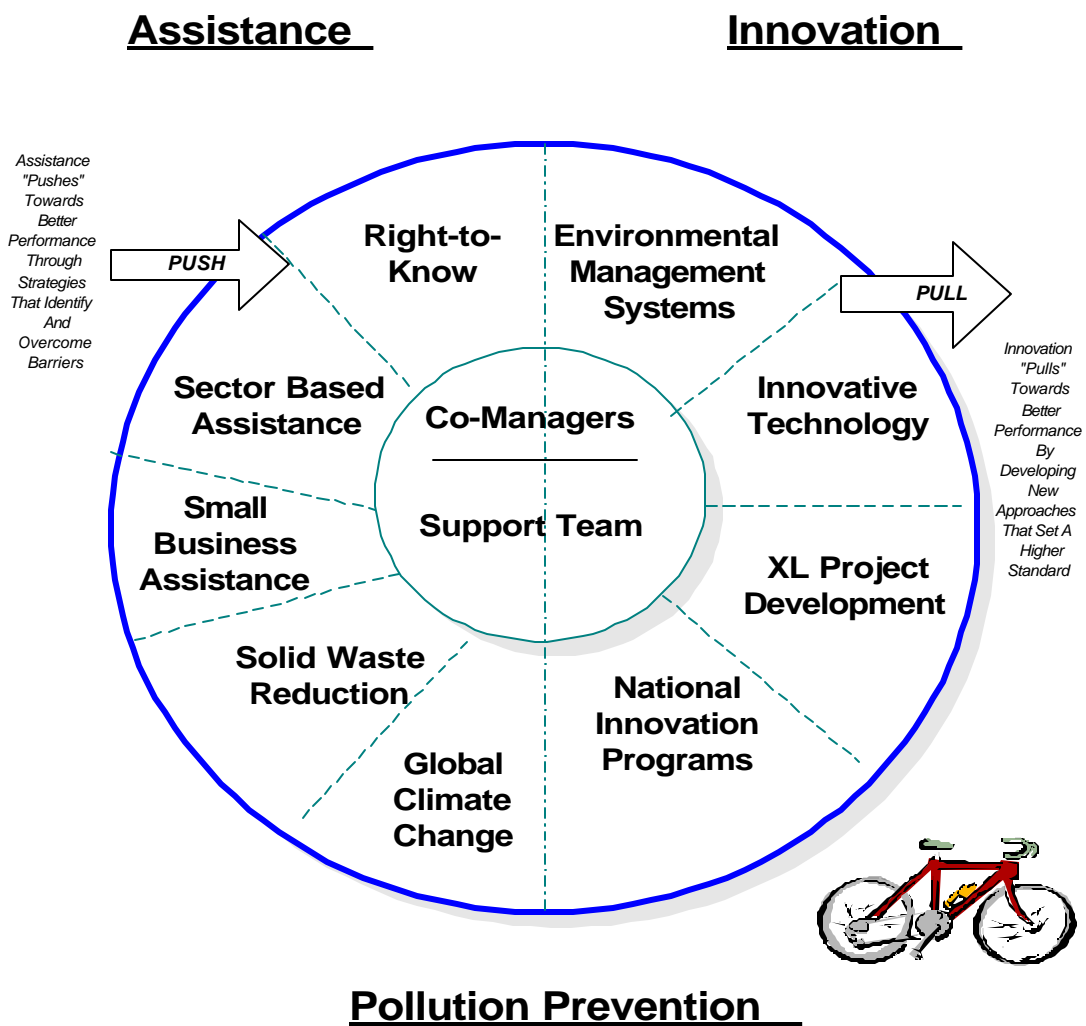


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INTRODUCTION

Who We Are and What We Do

In 1994, the EPA-New England’s Office of Environmental Stewardship (OES) was created during the regional reorganization. OES is comprised of a multimedia Enforcement Office and the Assistance & Pollution Prevention Office (A&P2). OES spent its first several years working out the “carrot and stick” relationship between assistance and enforcement. In subsequent years, OES has developed integrated strategies to achieve improved environmental performance.

When it was formed as part of OES, the A&P2 office was given the ambitious mission to be a “laboratory for bold experimentation” for environmental programs and policy tools. The A&P2 office is home to the various programs which are described in this report. Our goal has been to improve the regulated community’s environmental performance both by providing targeted assistance, and by developing and testing innovative programs. The following basic principles have guided our work:

- Adopting a “problem solving” approach.
Having a clear sense of what environmental or compliance problems we’re trying to solve with our work has been a crucial element of our planning.**
- Developing integrated strategies to solve those problems
Integrated strategies allow us to make strategic use of an assortment of environmental programs or approaches in order to address and improve specific environmental problems. We have also worked with a wide range of outside stakeholders to leverage their resources and interests to accomplish mutual goals.**
- Evaluating our progress and developing new measures of success
Measuring the success of innovative efforts can be difficult so we are testing a range of new tools, including surveys and environmental performance reports.**
- Fostering a culture of innovation
We promote an organizational culture that rewards risk taking and supports opportunities to: use resources more effectively; reduce red tape; and, ultimately, provide measurable results that demonstrate environmental improvements.**

Our Work In 1999

The “bicycle wheel” on the cover page gives an overview of our major assistance and innovation teams. Together, A&P2 staff on these teams completed over 7,000 activities in 1999 that reached over 390,000 entities (both individuals and organizations). These activities varied widely from mass mailings to workshops to on-site assistance.

In many cases, the goal of this work was to assist municipalities, industry (especially small businesses), and others in understanding and complying with the complex environmental requirements that apply to them. In other cases, we provided assistance to improve performance in areas that EPA does not regulate (such as energy use, health and safety, and solid waste). We also did extensive work in cutting edge areas such as Innovative Technology and Environmental Management Systems. All of these are described in the following pages, and we welcome your thoughts and comments about our work.

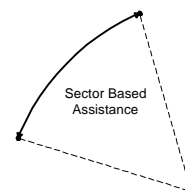
ASSISTANCE

The historical role of the agency, which can be gleaned even from its current name (Environmental *Protection Agency*), was one of protecting human health and safeguarding the natural environment. Some of our most effective tools have been enforcing the evolving inventory of environmental statutes and regulation. However, as environmental problems have become more diffuse and complex, new tools are needed to address them. The new EPA embraces as part of its agenda the role of servicing customers by helping them fulfill their regulatory obligations and embracing sound, sustainable environmental practices. Whether it’s assisting metal finishers with solvent requirements or helping communities make better use of environmental data and information to make decisions, providing assistance has emerged as a fundamental tool for our evolving role in environmental protection.

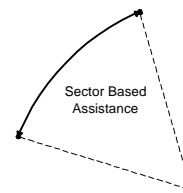
Sector Based Assistance

The New England Environmental Assistance Team’s (NEEATeam) mission is to help New England businesses and other regulated entities comply with environmental laws, benefit from pollution prevention, and improve their environmental performance in money saving ways.

The team specializes in assisting sectors that have been targeted as regional or national priorities. In 1999, these sectors included metal finishing, auto repair and refinishing, votech schools and two-year technical colleges, colleges and universities, municipalities, and wood finishing. To improve performance in these sectors, the team developed and provided a range of tools such as:



- # workshops on compliance with regulations, pollution prevention and emerging technologies;
- # written resources, such as manuals, checklists, and fact sheets;
- # specialized services tailored to sector needs, such as videos, technology demonstrations, on-site assessments, and issue roundtables; and
- # telephone assistance: 1-888-EPA-7341.



The NEEATeam’s 1999 work in specific sectors is described below.

Metal Finishing

There are 1,200 metal finishers in New England and many of them are very small businesses which use a variety of hazardous chemicals. Although the sector has a history of environmental problems, national and regional trade associations have worked hard to address those problems.

A primary example is the Strategic Goals Program, which grew out of the EPA’s Common Sense Initiative, a new approach for EPA in creating policies and environmental management solutions that relate to industry sectors. The Strategic Goals Program is a cooperative effort between EPA, the states, publicly owned treatment works, environmental groups, the American Electroplaters and Surface Finishers Society (AESF), the National Association of Metal Finishers (NAMEF), and the Metal Finishing Suppliers Association (MFSA). Its purpose is to test new ideas that are both bold and “common sense” for improved environmental protection. The program was created by key industry leaders and other important stakeholder groups to achieve "cleaner, cheaper and smarter" environmental performance. Some of the goals include: a 50% reduction in the amount of hazardous waste shipped off-site; a 25% reduction in energy use; and a 50% reduction in water use.

Our 1999 work focused on advancing the Strategic Goals Program as a means of increasing compliance among metal finishers.

Overview of Metal Finishing Assistance Work in 1999	
Number of Workshops for metal finishers	15
On site assistance	16
Speaking Engagements	5
Articles Published	6
Stakeholder Meetings	6
Fact sheets	1
Companies signed up for Strategic Goals Program	44
<p>Other tools developed included a slide show and video, a detailed pamphlet on environmentally safe ways to close facilities that are going out of business, and development of a policy on evaporators as a treatment technology. Results of the Strategic Goals Program can be found at: www.strategicgoals.org</p>	

Successful programs in Rhode Island and Massachusetts are resulting in more companies signing on. We worked closely with groups in both Massachusetts and Rhode Island to determine how we can encourage metal finishers to meet their goals. Workshops on specific compliance issues such as water conservation, RCRA and the halogenated solvent air regulations were very well received. Workshops on Environmental Management Systems and technical issues, such as dragout and rinse water reduction, were also well received.

Auto Repair and Refinishing

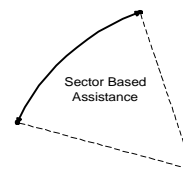
New England has thousands of auto repair and refinishing facilities that face significant challenges managing fluids and hazardous materials in an environmentally responsible way. Such facilities typically deal with a variety of hazardous and nonhazardous materials of concern, including virgin and spent cleaning solvents, lubricating oils, paints, thinners, antifreeze, refrigerants/CFCs, batteries containing battery acid, and a host of other materials.

In 1999 the NEEATeam focused on the following assistance priorities for this sector: new low VOC paint use requirements; the importance of proper floor drain connections; CFC/refrigerant requirements; new underground storage tank (UST) regulations; and source reduction, reuse, recycling and disposal methods. We have found technicians in the shops to be highly competent in their field of expertise, but they are lacking the basic understanding of environmental requirements, hazards associated with materials they use, and possible impacts of mismanagement of wastes generated in their shops.

Overview of Auto Sector Assistance Work in 1999	
Workshops	32
On-Site Assistance Visits	88
Technical Bulletin Mass Mailings (15,000 facilities for each mailing)	3

One strategy for this sector, conducting on-site visits, continues to be a valuable tool to encourage behavior changes in facilities, particularly when a number of the visits are concentrated in a specific geographic area (such as a watershed, municipality, etc.). Many facilities visited have said that their interactions during on-site visits were very positive. In addition, these visits keep EPA in touch with shops so that we can discuss compliance barriers, obtain feedback on assistance tools and services, and test assistance tools such as checklists. Some of the behavior changes which have been documented include: recycling of antifreeze, oil filters, and used oil; changing from solvent to aqueous parts cleaners; switching to low-VOC paints; checking and correcting floor drain connections;

implementing an employee training program; and labeling drums of hazardous waste. Mass mailings and workshops that reach a much broader universe of facilities are also an integral part of our strategy. To better assess the effectiveness of this work, EPA is in the process of evaluating data from a survey administered in August 1999.



Votech Schools and Two-Year Technical Colleges

Schools are not typically considered environmental polluters, yet this sector was targeted because of increasing evidence of significant concerns about the way in which hazardous materials are handled, used and disposed of, and because of the sector's limited understanding of its responsibilities.

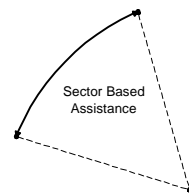
In 1999, our schools sector staff expanded and built on their 1998 assistance efforts in Massachusetts and introduced a basic awareness program throughout the state of Maine. Limited, request specific assistance was offered in Rhode

Island, Vermont and Connecticut. The primary compliance problems we encountered were lack of familiarity with the regulations that apply to schools and RCRA storage, handling, and disposal issues. Our secondary focus was on floor drain problems, tank information/regulations, and indoor air quality concerns. Schools also have pollution prevention opportunities such as inventory control, product selection criteria, appropriate purchasing procedures, proper management of donations of hazardous and nonhazardous materials, and water and energy usage.

Overview of Votech Schools Sector Assistance Work in 1999	
Site Visits/Assessments	18
Workshops/presentations/conferences	36

Another project in 1999 was the Green Campus Program, which was piloted at two technical colleges in New England. Its purpose is to position faculty, administration and students to systematically assess the environmental conditions on their campus and work together to address compliance issues and implement pollution prevention strategies. In 1999, EPA-New England also promoted the use of supplemental environmental projects (SEPs) to support assistance efforts at schools. A SEP is an environmentally beneficial project which a violator voluntarily agrees to perform as part of a settlement of an enforcement action. Other significant efforts in this sector included oversight of a grant to support school hazardous and nonhazardous waste clean out efforts, and monthly facilitation of the Massachusetts multi-agency task force on environment, health and safety in schools (MATS).

To date, we have received dozens of requests for facility specific assistance from workshop attendees and by those who previously received assistance who then requested follow up help with more advanced issues. Even more significant is the number of facilities or individuals requesting initial help or workshops based on the recommendation of schools and colleges who previously received our help. We have been asked to repeat student training at three schools, teacher training at two others, and have been invited for the third time to the Maine Summer Safety Institute. MATS partners have tripled since EPA convened the initial group, and the Green Campus program has lead to an effort to take the program national. A formal evaluation of workshop attendees and schools visited is scheduled for 2000.



College/University Initiative

Colleges and universities are faced with the unique challenge of achieving and maintaining compliance with environmental laws while operating in an academic/research setting. In addition, a heightened enforcement presence at colleges and universities in New England has resulted in this sector clamoring for assistance programs to help clarify and come into compliance with their regulatory requirements.

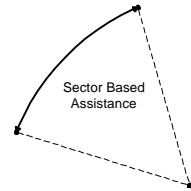
EPA-New England has been coordinating its enforcement and compliance assistance resources to address environmental noncompliance issues and promote pollution prevention at colleges and universities in New England. Through past inspections in this sector, EPA-New England has found particular compliance problems with hazardous waste management requirements of the Resource Conservation and Recovery Act (RCRA), the oil pollution prevention requirements of the Clean Water Act, and the Clean Air Act.

EPA-New England announced in March 1999 that we would be focusing enforcement efforts on colleges and universities, and we subsequently conducted compliance evaluation inspections at several. At the same time, we co-sponsored two workshops (in March and July of 1999) to provide critical information to colleges and universities about how they can comply with environmental laws and implement pollution prevention techniques.

Recently, we conducted a focus group for environmental, health and safety (EHS) staff at colleges and universities. The focus group was held in November 1999 and allowed participants an opportunity to “brainstorm” the types of tools and services necessary to improve their environmental performance. The valuable information provided by the participants, which included EHS staff, facility managers, and aculty, is being used to develop a strategy for this sector. The strategy will be shared with third party stakeholders (consultants, environmental organizations, and vendors) and other assistance providers to see if there is interest in partnering on future endeavors.

Municipalities - Department of Public Works Highway Facilities

Our 1999 assistance work in this sector emphasized municipal Department of Public Works (DPW) highway facility projects in New Hampshire and Vermont. The main compliance issues addressed included fluids and materials management, as well as an emphasis on floor drain connections at the facilities (RCRA, Clean Water Act, underground injection control, etc). We also provided assistance on pollution prevention tools and techniques including: performing oil analysis to extend the life of oil in vehicles, and recycling and reuse of fluids typically found at such facilities (antifreeze, CFCs/refrigerants, etc.).



A survey of the New Hampshire and Vermont highway workshop attendees is now underway and will be completed in the first quarter of 2000. A similar survey was conducted of attendees of Massachusetts highway workshops held in late 1998. The Massachusetts survey indicated that, of those who responded to the survey: 88% increased their awareness of environmental problems; greater than 50% took action on compliance issues; about 25% implemented pollution prevention recommendations; and about a third implemented better operational practices. We expect similar results from the New Hampshire and Vermont surveys.

Overview of Municipal Sector Assistance Work in 1999	
Workshops	15
Fact Sheets	3
On-site assessments	13
Energy audits	5
Speaking Engagements	7
Articles published in trade journals	2

Other assistance provided to DPWs, not specific to highway facilities included: establishing a committee on energy issues and conducting five audits at selected wastewater treatment facilities; conducting a workshop on modifying Sewer Use Ordinances; and conducting two workshops on controlling metals in wastewater.

Wood Finishing

The wood finishing sector (which includes furniture manufacturing) was targeted when EPA published a new regulation that covered air emissions from these facilities, the wood finishing maximum achievable control technology (MACT) standard. Additionally, input from stakeholders indicated some concerns about volatile organic compounds (VOC) emissions from wood finishing processes. One of the obvious ways to enhance compliance and directly reduce VOC emissions in this sector was to promote lower VOC coating products.

To achieve this goal, EPA funded the development of a Pollution Prevention (P2) video for wood finishers that describes how P2 can both advance compliance and reduce emissions. Over 500 copies of the EPA-New England video "Making P2 Work for You: Opportunities for Wood Coaters" and an accompanying P2/compliance resource order form have been distributed upon request nationwide and in Canada. The video covers P2 techniques (coatings, applications equipment, etc) that can help accomplish or go beyond compliance. More than 50 evaluations were received and they were very positive; several manufacturers indicated willingness to talk about their successes with improved coatings, equipment and other pollution preventive practices.

EPA's Wood Coating Technology Fair, held in November 1998, was fully subscribed at 200 participants and received enthusiastic reviews. The Fair featured exhibits and presentations by 25 vendors of environmentally preferable coatings and application equipment. The Fair provided a one-stop-shopping opportunity for small and medium-sized wood finishers to find technologies to help them come into or go beyond compliance. EPA called the vendors in May, 1999 to assess what requests for advanced technologies or services they had received as a result of the Fair. Responses indicated that vendors had received many inquiries into alternative products and equipment as a result of the Fair. While some smaller sales have occurred already, vendors told us that it is too early to expect major equipment or coating changes.

We also produced and widely distributed a fact sheet entitled Wood Furniture Manufacturers: How to Determine Your Obligations Under the NESHAP- A Fact Sheet With Sample Calculations. This fact sheet is designed to help small/medium facilities who are on the borderline or uncertain about their status under the air regulations, and who may be able to qualify for an exemption by reducing their usage of hazardous chemicals. In addition, working with state and interstate partners, we also finished three state P2/compliance guides for wood finishers in New Hampshire, Vermont, and Maine. Work in this sector was phased out in 1999.

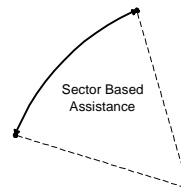
Other NEEATeam Assistance

Mercury Challenge- Partners for Change

This regional program encourages New England medical facilities and supporting organizations to eliminate mercury and/or mercury-containing waste by 2003. Facilities commit to meet their own reduction goals and agree to make a good faith effort to identify and implement pollution prevention measures. In order to become recognized as a Mercury Challenge Partner, each facility must: conduct a baseline survey; develop measurable mercury goals; develop an action plan outlining their reduction goal for mercury and the steps to achieve the goal; and track their progress. To date, we have received and are processing a total of 21 applications for this program.

Assistance Response

Assistance Response is our strategy to provide timely compliance and pollution prevention assistance for regional priorities. The highlights for the 1999 Assistance Response effort include three workshops: a chrome Maximum Achievable Control Technology (MACT) workshop in Connecticut that was attended by 50 people and two RCRA laboratory compliance workshops that attracted a total of 300 attendees. The Assistance Response effort also included approximately seven mass mailings, several of which included materials developed by the Assistance & Pollution Prevention Office.



Right-to-Know

The goal of our regional Right-to-Know team is to facilitate reporting of hazardous chemical information to local, state, and federal agencies, as well as to ensure that these agencies, and the general public are able to use this information for planning, prevention, response, and to reduce the risks from those chemicals. The variety of support and expertise that the team provides is described on its homepage, which is posted on EPA-New England's website

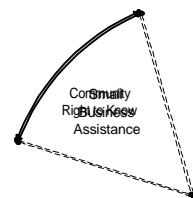
www.epa.gov/region01/steward/emerplan/.



In 1999, the team was charged with three national priorities:

- **The Toxics Release Inventory “New Sectors” 1998 Reporting** In 1999, seven new regulatory sectors were required to reporting Toxics Release Inventory (TRI) data to EPA and the states. The new sectors are: electric utilities; commercial hazardous waste treatment; wholesale chemical and allied products; petroleum bulk terminals and plants; solvent recovery services; metal mining; and coal mining. The team did informational mailings to these new sectors, contacted their trade associations, spoke at several meetings, and offered seven TRI “New Sectors” compliance assistance workshops. We also co-sponsored three “train the trainer” workshops and offered eight additional workshops for current TRI reporters. Over 450 facilities participated.
- **Risk Management Plans (RMP) under Clean Air Action Section 112r** Hundreds of New England facilities were required to prepare Risk Management Plans (RMP) to identify and reduce the risk of chemical accidents. The team did a variety of outreach to these facilities in 1999, including informational mailings, presentations, and close coordination with state and local emergency planning officials.

- **EPA's Multi-media Persistent Bioaccumulative Toxics (PBTs) Strategy** Our work on EPA's strategy to reduce the risk from the most persistent toxic chemicals (in particular mercury) included mailings, presentations, and training to industry, as well as state and local officials.



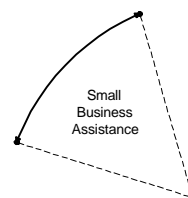
In addition, the team spent significant time on our regional goal of supporting state and local officials. One priority was to work with each of the six New England State Emergency Response Commissions (SERCs) to assist them in adopting electronic reporting of hazardous chemical inventories. In 1999, the team supported the SERCs at 22 of their meetings, as well as nine training sessions, and also provided on-site technical and compliance assistance. As a result, we now have electronic access to over 20,000 chemical-specific reports which we make available to other regional programs.

The team also provided focused compliance assistance and information to Massachusetts and New Hampshire towns and cities which are trying to share emergency planning resources through regional Local Emergency Planning Committees (LEPCs). By assisting these regional LEPCs, an additional 85 communities in New Hampshire and Massachusetts are now gathering EPCRA data from their local businesses, developing regional emergency response plans, and actively preventing pollution during their annual business inspections.

In one specific success story, the team continued to support and expand the community right-to-know environmental and educational project in Chelsea, Massachusetts. Recognized nationally, the "Chelsea Model," involves the team working with local emergency planning officials and a local high school to obtain, computerize, and quality assure emergency planning data concerning hazardous chemicals. The students learn several computer skills and are educated about right-to-know chemicals and their community. The community benefits by receiving more accurate information about chemical hazards. The team secured a grant for Salem State College (an original partner in the Chelsea Model) to create a website for the Chelsea Model project. Much of the success of the Chelsea Model is due to local ownership and understanding of the community's right-to-know information.

Small Business Assistance

Our small business program provides assistance to small businesses in meeting environmental regulations and understanding their rights, while being sensitive to the unique challenges faced by small businesses. The regional Small Business Ombudsman (SBO) provides a point of contact for small businesses to request compliance assistance, resolve compliance issues, and obtain business/technical information that can help them meet their regulatory obligations and improve their bottom line. Our 1999 work focused on two priority areas:



Network of Small Business Environmental Assistance Providers The small business technical assistance programs and state small business ombudsmen in

each of the New England states met in the fall of 1999 to review their programs, discuss future technical and compliance assistance efforts and exchange data and information. This meeting represented the culmination of an effort to form a network of small business environmental assistance providers for the mutual benefit and cooperation at the state and regional level. EPA has awarded several grants to New England states as a result of their innovative work with small businesses. We hope to expand this network of small business environmental assistance providers to other private and public small business providers.

Small Business Policy The regional SBO aggressively reached out to small businesses through a number of associations and trade organizations to educate small business owners on the Small Business Regulatory Enforcement Fairness Act (SBREFA) and the resulting EPA “Policy on Compliance Incentives For Small Businesses,” also known as the “Small Business Policy.” This policy provides two important benefits to businesses of 100 employees or less:

1) The policy allows small businesses to audit or receive on-site assistance and voluntarily disclose and correct violations. Penalty elimination is available if certain conditions are met.

2) The policy allows small businesses to receive compliance assistance with a level of protection provided for violations identified, if certain conditions are met. More information about this policy is available at: <http://www.es.epa.gov/oeca/smbusi.html>

The regional SBO made over 20 presentations on this policy at various New England meetings, and also represented EPA-New England at national small business assistance meetings. Also, in 1999, the Office of Environmental Stewardship created a protocol to process and track small business self-disclosures of environmental violations. As a result of these efforts, over 30 small businesses have self-disclosed using the Small Business Policy.

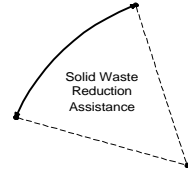
Solid Waste Reduction

The mission of the solid waste reduction team is to reduce the amount of solid waste being disposed through the promotion of solid waste reduction and recycling. EPA-New England provides grant money and disseminates information to the many organizations and agencies who make our goal a reality. EPA also relies on and recognizes the efforts of our partners in the business community who have committed to solid waste reduction. There are a variety of programs and projects which EPA participated in or funded in 1999, including:



Recycling

Over nine million people now recycle in New England. In 1980, less than 10% of trash was recycled whereas New England states now have some of the highest recycling rates in the country and are improving those rates. Most communities achieve a 25% recycling rate, with some national role models in the region reaching over 50%. Most communities now successfully recycle the standard recyclables including paper, glass, metal, plastic, and compost yard waste. Recycling has increased in the past 20 years due to intense collection, markets and buy-recycle efforts by EPA, states and local communities.



With a solid infrastructure in place for standard recyclables, EPA-New England is helping to build an infrastructure in new frontiers such as electronics (computers, monitors, televisions) and food waste, in order to help grow the recycling rates and divert more waste from landfills and incinerators. Additionally, EPA-New England has focused on growing markets for recyclables and has helped fund business financing seminars and recycling investment forums. These EPA projects have helped over 500 companies, assisted in finding over \$21 million in financing and created over 200 jobs, diverting more than 200,000 tons of recyclables. According to one participant in a recycling investment forum, Geoff Perry of Cellutech, “participation in the forum provided my company with added credibility and helped us to secure \$350,000 in equity financing.”

Pay-As-You-Throw (PAYT)

On the trash collection side, EPA has been promoting a new concept in trash management called Pay-As-You-Throw (PAYT). This is a method of paying for the amount (either by volume or weight) of trash that you generate, just as you would with any utility in your home. EPA is promoting PAYT in the New England states through tool kits, workshops, and other technical assistance to the states. PAYT communities have realized the added benefit of reducing the amount of trash generated, as well as increasing the amount recycled. EPA’s national goal is to reach 35% recycled by 2005 and to reduce the amount of trash generated to 4.3 pounds-per-person-per-day. By supporting and growing markets, as well as implementing PAYT, we are well on our way to this goal in New England.

WasteWise

WasteWise is a voluntary partnership program between EPA and the business community. The purpose of WasteWise is to spur substantial progress in reducing municipal solid waste by working with businesses to identify and implement innovative and cost-saving waste reduction and reuse programs. WasteWise participants commit to: implement three significant waste prevention activities; expand or improve programs to collect recyclables; and increase the purchase and/or manufacture of products with recycled content.

In New England, there are 60 active members, representing a diverse cross-section of the region's businesses. Four organizations joined in 1999, including EPA-New England. In 1999, EPA-New England implemented its Tread Lightly program to reduce the environmental impacts of our operations. We continue to make progress towards our goal for the first year of a 6% reduction in greenhouse gases produced (directly and indirectly) from EPA's offices.

Research Library

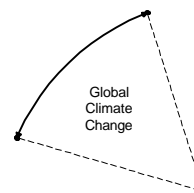
EPA's Solid Waste Reduction Team includes a Research Library for RCRA (Research Library). The Research Library disseminates information about pollution prevention, waste minimization, solid waste education, innovative technological developments, case studies, and solid waste management programs internationally. The Research Library has technical and regulatory information on all aspects of waste management, as well as information on business, legal, public health, and remanufacturing issues, among others. Each year, the Research Library responds to thousands of calls seeking information on a variety of topics. The Research Library also helps match organizations with potential non-EPA funding opportunities. In 1999, many organizations received grant money as a result of the assistance they received from the Research Library. In addition, other firms benefitted from the Research Library's waste management assistance.

Global Climate Change

The mission of EPA-New England's Global Climate Change team is to inform the public about the science, potential environmental impacts and developing national policies on climate change, and to encourage them to plan for potential climate change impacts through adaptation and by undertaking voluntary actions to reduce greenhouse gas emissions.

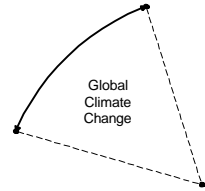
Education

Our goal is to stimulate interest and the exchange of ideas concerning climate change in order to empower the public to help us address this significant environmental issue. To facilitate public education, in 1999, we produced the 2nd edition of our "Website Guide to Global Climate Change." The document is available in both hard copy and on our EPA-New England website <http://www.epa.gov/region01/steward/cchange/guide.html>.



Partnership Programs

As part of EPA's global climate change efforts, we have conducted outreach and education to market and recruit entities into EPA's voluntary, energy efficiency, and pollution prevention programs to reduce greenhouse gas emissions. Programs include: Cities for Climate Protection program; Green Lights and EnergyStar Buildings Partnership programs; EnergyStar Small Business program; and the ClimateWise program. These programs are designed to reduce greenhouse gas emissions, conventional regulated air pollutant emissions, and save participants' money, while reducing energy use through increased efficiency.



As a result of the global climate change efforts by EPA and its partners, the expected or obtained benefits include:

- # energy efficiency gains;
- # pollution prevention;
- # reduction in greenhouse gas emissions (CO₂) and conventional regulated pollutants (e.g. SO₂, NO_x, particulates, mercury, ozone precursors);
- # cost savings to businesses and taxpayers;
- # education of participants (and respective constituencies) on connections between environmental/public health protection and energy efficiency/use; and
- # the promotion and use of highly efficient, cutting edge efficiency technologies.

In 1999, four Massachusetts cities (Cambridge, Lynn, Medford and Newton) joined the Cities for Climate Protection program. The City of Burlington, Vermont has been in the program for several years, leading the way in New England to demonstrate that cities are interested in voluntarily inventorying their greenhouse gas emissions and developing action agendas to mitigate them. With EPA funding, five New England states have completed greenhouse gas emission inventories. Two states have also completed climate change mitigation action plans, two have action plans now under development, and two plan to do an action plan in the future. In addition, Federal agencies in New England have completed greenhouse gas emission surveys to inventory their greenhouse gas emissions. The goal of the inventories is to provide baseline data, educate decisionmakers and inform citizens.

Green Lights and EnergyStar Buildings Partnership Programs Cumulative Accomplishments:

Number of participants in New England:	243
Total energy savings from all upgrades (lighting and whole building)	943.8 million kWh
Total energy bill savings from all upgrades:	\$ 72.2 million
Total CO₂ prevented:	1,346.2 million pounds
Total SO₂ prevented:	8.4 million pounds
Total NOx prevented:	4 million pounds

Green Lights and EnergyStar Buildings Partnership programs annual savings:

Energy from all upgrades:	98.7 million kWh
Energy bill savings:	\$ 22.3 million

CO₂ prevention:

Metric tons of CO₂ equivalent:	57.3 thousand
Cars equivalent off the road:	46.4 thousand
Trees planted equivalent:	63.6 thousand acres

EnergyStar Small Business

Total number of participants:	80
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ClimateWise

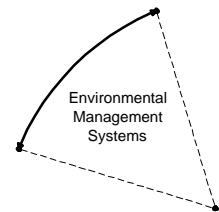
Total number of participants:	81
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INNOVATION

Our regional innovations work has many connections with our assistance work, but it often has a different purpose. In some cases, such as with the national XL program, the goal is to identify and implement alternatives to national regulatory programs that have the promise of offering superior environmental protection. In other cases, such as with our programs to promote Environmental Management Systems, we work with top performing companies to assess innovative strategies to achieve and go beyond compliance. In all cases, the goal is to look forward and develop promising alternatives that can help EPA achieve its core mission of environmental protection.

Environmental Management Systems

Many of our innovative programs both promote and evaluate the use of an Environmental Management Systems (EMS). An EMS is basically a way for an organization (private or public) to identify and systematically manage its environmental responsibilities. Instead of focusing on individual regulatory requirements, EMSs develop a systematic approach to the management of environmental issues that improves compliance as a product of better management. EMSs include policies and procedures, such as training programs and the use of self audits. Evaluation and correction is a key feature of quality EMSs.



There is increasing recognition of the potential for EMSs to help organizations maintain compliance and achieve better overall environmental performance. Several state agencies have, or are considering, laws and policies to reward companies that develop and use an EMS. For a regulatory agency such as EPA, EMSs present an opportunity to encourage greater compliance and performance. Yet, there are still many questions regarding their use and benefits.

EPA has long supported the use of systematic management approaches for maintaining compliance at regulated facilities. While several EMS standards are in use worldwide, a voluntary international EMS standard, ISO 14001, has been adopted by the U.S. and many other countries. While ISO 14001 has no official regulatory standing at this time, EPA and states are exploring the potential use of ISO 14001 in a public policy context through various pilot projects and initiatives. This exploration is especially ambitious at EPA-New England.

StarTrack: Third Party Certification

StarTrack is a voluntary program designed to address several challenges:

- **Resources are not sufficient for EPA or the states to be able to inspect all regulated facilities.**
- **Environmental laws and regulations do not address many significant environmental problems (such as impacts on global climate change).**
- **We need more information and experience in how a regulatory agency such as EPA can leverage a company's decision to implement an EMS to improve environmental quality.**

Facilities participating in the StarTrack Program agree to audit their environmental management and compliance performance each year; prepare and publish a comprehensive environmental performance report annually; and have their audit results reviewed and certified by an independent third party every three years. StarTrack Program participants receive benefits including recognition for participation and completion of program requirements, partnerships with EPA, state, and other regulatory agencies; modified inspection priority; and penalty mitigation for violations that are corrected within the designated correction period.

Fifteen organizations in New England are currently participating in the StarTrack Program, including two Federal facilities. These organizations are demonstrating the effectiveness of environmental management systems (EMSs), including compliance audits, in identifying potential weaknesses in a facility's environmental performance. Also, through the corrective action and continuous improvement process, they are demonstrating the effectiveness of EMSs in ensuring sustainable compliance.

"StarTrack has accelerated our efforts to upgrade organization-wide ESH performance."

Raymond Lizotte
Senior Environmental Specialist
Texas Instruments
Materials & Controls Group
Attleboro, MA

The StarTrack Environmental Performance Report Guidance was revised and updated in 1999 so that it aligns more closely with emerging voluntary reporting standards, such as the Global Reporting Initiative and the CERES principles. Most significantly, through the facility's environmental performance reports, regulated entities are voluntarily providing

EPA with information on their environmental performance targets, absolute and normalized trend data for core environmental indicators, and results of ongoing regulatory compliance efforts. This data includes non-regulatory environmental information, such as reductions in total electrical usage and total water usage.

As a pilot program, it is essential that the elements of the StarTrack Program continue to be examined and improved. EPA and state inspectors participated in many of the StarTrack audits to provide feedback and suggestions for improving the audit process. An EPA contractor has been reviewing the third party certification process through both review of program guidance materials and field observations and will be issuing a report. As the StarTrack Program moves forward, we expect to emphasize refinement of the certification process and to align, where appropriate, with EPA Headquarters' Performance Track initiative.

StarTrack Participants in 1999
BOC Gases
Clairol
Dexter Corporation
E G & G Electro-Optics
Environmental Soil Management, Inc.
GAF Materials Corporation
International Paper Company-Androscoggin Mill
Sanders, A Lockheed Martin Co.
Spalding Sports
Texas Instruments, Materials & Control Group
Toray Plastics
U.S. Coast Guard Air Station
U.S. Postal Service
Unilever HP

StarTrack Participants' Accomplishments (Number of Facilities Completing each Activity)	
Conducted Compliance Audit	15
Conducted EMS Audit/ Gap Analysis	15
Established Environmental Policy	14
Published Environmental Performance Reports	11
Set Environmental Targets & Objectives	9
Identified Environmental Aspects & Impacts	8
Management Review of EMS	8
ISO 14001 Certification	5

EMS Implementation and Research Projects

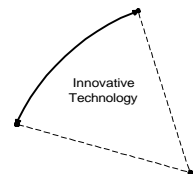
State EMS Pilots: New Hampshire, Vermont, Massachusetts, Rhode Island, and the Narragansett Bay Commission are conducting pilot projects supported by national and regional EPA grants to provide training and assistance to small to medium sized facilities in implementing EMSs. The New Hampshire and Vermont pilots are part of a national series of projects to assist regulated entities in implementing EMSs based on ISO 14001 and to contribute data to a national research project to aid in evaluating the benefits of EMSs (see National EMS Research Database below). The Massachusetts Department of Environmental Protection (MADEP) is implementing an EMS “Peer Assistance” program, pairing companies who have established an EMS with companies who want to implement them, and identifying facility “leading indicators” of environmental performance to facilitate the management process.

Municipality EMS pilot: This pilot, funded by EPA Headquarters’ Office of Water, is assisting government agencies, primarily municipalities, in implementing effective EMSs. New England participants include the City of Lowell, Massachusetts, the Town of Londonderry, New Hampshire and a Massachusetts Department of Corrections facility.

National EMS Research Database: The EPA Headquarters’ Office of Water is sponsoring a national research project to aid in evaluating whether EMS implementation can achieve equal or better environmental results than regulatory compliance alone and to determine the environmental and economic results on subject firms and the public. The project is a joint effort of EPA, the Multi-State Working Group on Environmental Management Systems, the University of North Carolina and the Environmental Law Institute. Data on approximately 100 pilot projects will be collected and made publicly available.

Innovative Technology: The Center for Environmental Industry and Technology

Recognizing that New England has a rich supply of innovative ideas and technologies that would benefit both the environment and the economy — if only they could find their way to the marketplace — EPA-New England established the Center for Environmental Industry and Technology (the Center) in 1994. The mission of the Center is to be a window to resources, people, and programs for the environmental technology industry in New England, and to promote the acceptance of innovative environmental technologies to solve the most significant environmental problems in New England.



During 1999, the Center undertook a number of key activities to help bring new technologies to the marketplace and to address the concerns of the envirotech industry. Through its hotline, the Center responded to more than 1,000 calls over the past year. Also, a workshop was held to provide a forum for increasing awareness of EPA's Small Business Innovative Research (SBIR) Program, the agency's only research and development funding source for small businesses.

Outreach on Innovative Environmental Technologies

Over the past three years, the Center has organized 13 technology trade shows on innovative technologies which address non-point source pollution, a significant environmental problem in New England. In 1999, the five technology trade shows covered stormwater technologies, and on-site wastewater treatment and disposal technologies. These trade shows attracted more than 1,200 state and local officials, consultants and engineers. A Products and Services Guide was developed for each show to assist participants and others in evaluating available technology options. The trade shows included a day of presentations on the regulations and the innovative technologies. It also offered the participants the opportunity to see new systems firsthand and discuss specific site problems.

The value of the stormwater trade shows has been documented by Vortech, a regular exhibitor and presenter at the trade shows and recipient of EPA's Environmental Technology Innovator Award. According to Vortech, "...we feel the educational environment in this series of shows has been an invaluable resource for water-quality professionals who may have previously been unaware of innovations in the emerging field of stormwater treatment."

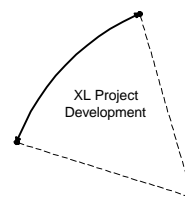
Also in 1999, the Center established the Innovative Technology Inventory, a website database of commercially-available innovative environmental technologies. According to Best Management Products, Inc., whose technology is featured in the Innovative Technology Inventory, "by providing such outstanding platforms to introduce new technologies and exchange information, you have made it possible for small companies with big ideas to reach the eyes and ears of those in the public sector who are hungry for cost-effective solutions to environmental challenges." This inventory, along with the Center's technical bulletin, *TECHNOVATION*, are two more ways that the Center is working to promote greater acceptance of innovative technologies in the marketplace. *TECHNOVATION* is mailed quarterly to more than 3,000 people who need access to timely information about emerging, innovative environmental technologies.

New England Interstate Regulatory Cooperation Project

The Center has also collaborated with the New England Governors Conference (NEGC) to initiate the New England Interstate Regulatory Cooperation Project. This project is a remarkable compact of the six New England state environmental agencies who are working cooperatively in a regional program to promote the acceptance of innovative environmental technologies. By involving a regional review process, the approach has proven successful for on-site wastewater treatment and disposal technologies, site characterization and monitoring technologies for small hazardous waste sites, and pollution prevention technologies. Working with our New England state partners and other interstate organizations, the Center continues to promote the acceptance of innovative environmental technologies across state lines. In 1999, as part of the New England Interstate Regulatory Cooperation Project, the Center facilitated the signing of a third Memorandum of Agreement and two additional Advisory Opinions.

XL Project Development

Project XL, (eXcellence and Leadership) is a national pilot program which seeks areas where specific changes to regulations could provide better environmental protection and a better solution for the regulated group. Our principal regional focus has been keeping faith with our project partners, striving to fairly represent both the project sponsor's interest and EPA's desire for continuing environmental improvement. We have worked hard on improving the XL process in order to achieve improved program efficiency.



During 1999, the XL program has begun to mature and reach its potential. Significant steps have been taken to make the XL process more understandable and streamlined. At EPA Headquarters, the Office of Policy and Reinvention (OPR) was reorganized under new leadership, and it has developed and provided to the regions a set of XL Program Guidelines. The guidelines cover proposal development, the stakeholder involvement process, and development of a Final Project Agreement (FPA). These guidelines have contributed to rationalizing the process and allowing it to run more smoothly.

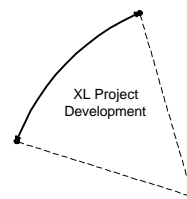
Current EPA-New England XL Projects

New England University Labs XL Project

In 1996, several New England universities, under the sponsorship of the Laboratory Consortium for Environmental Excellence (a non-profit group facilitated by ML Strategies, Boston), proposed an XL project for managing laboratory wastes. The Final Project Agreement and Rule resulted in the promulgation of the project as an XL pilot project on September 28, 1999. Under this project, three universities (University of Massachusetts-Boston, Boston College and the University of Vermont) will test an alternative system for managing lab wastes. There are numerous environmental improvements anticipated.

Massachusetts Environmental Results Program (ERP)

In October 1998, EPA and the Massachusetts Department of Environmental Protection (MADEP) signed an historic XL final project agreement to test the Massachusetts Environmental Results Program (ERP). The project replaces conventional, time-consuming, state-issued permits for each individual business with uniform industry-wide environmental performance standards that each business must certify they are meeting. Current sectors included in this program are printers, dry cleaners, and photo processors representing 10,000 Massachusetts companies. The Massachusetts model is being evaluated around the nation as the next wave of smart environmental regulation.



HADCO

HADCO is a printed circuit board manufacturer with three facilities in New Hampshire and New York. The company generates a metal hydroxide sludge (F006 waste), which it would like to be removed from regulation as a hazardous waste, in order to enhance the direct recycling of metal bearing waste streams generated by HADCO's manufacturing processes. HADCO's proposal was accepted as one of the original XL pilot projects, with the goal of devising an alternative to the existing process for delisting a waste, which has historically taken four to six years to implement. Development of this FPA involved extensive coordination with HADCO, two EPA regions, two state environmental agencies, EPA Headquarters personnel in several offices, and various stakeholders.

XL Projects in Development

International Paper - Predictive Emissions Monitoring (IP-1)

The company has proposed to develop, test and implement a computer generated predictive emissions monitoring (PEM) system for the mill's waste fuel incinerator (WFI). The system would correlate operating parameters to emission rates and predict pollutant emissions on a continuous basis. This would provide tangible compliance information on stack emissions that would exceed current Federal and state monitoring frequency regulations and enhance environmental protection. The model will assist in optimizing WFI emissions, thereby potentially allowing the mill to operate at reduced emission rates without reducing production.

International Paper - Effluent Improvements (IP-2)

The company has proposed to do a series of effluent improvement projects instead of implementing the best management practices (BMPs) as required under the water portion of the Pulp & Paper Cluster Rule. The company feels it can achieve better environmental results through an alternative project rather than by implementing the BMPs. The company has also volunteered to take enforceable limits for chemical oxygen demand (COD) and color in its upcoming NPDES permit.

IBM - Copper Metallization, Process Delisting

The project would recognize the copper metallization process used in chip manufacture as being a new and different process from the electroplating process designated as an F006 process under RCRA. This project was selected for FPA development in October 1999.

Narragansett Bay Commission (NBC) - Publicly Owned Treatment Works (POTW) Innovations

As part of the national POTW solicitation, NBC is proposing to reallocate resources away from inspections of large facilities (especially Tier 1 facilities) that have historically excellent compliance records, and devote the resources to Tier 2 facilities which are making an effort, but need assistance to achieve compliance.

"XL is one of the best projects that the mill has ever been involved in because it has allowed us to use our ingenuity to achieve environmental improvement, while improving both process and profitability."

Steve Groves
Manager, Environmental, Health & Safety
International Paper Androscoggin Mill
Jay, Maine

National Innovation Programs

Beyond New England, EPA has also made a national commitment to innovation. The best overview of this agenda can be found in the July, 1999 "Aiming for Excellence" report which outlines 10 separate actions that EPA will take to accelerate environmental progress. A copy of the "Aiming for Excellence" report can be found on the EPA website at <http://www.epa.gov/reinvent/taskforce>.

In her memo transmitting the report to EPA staff, Administrator Carol Browner emphasized two specific goals that she had related to the report:

- 1) **First, we need to do a better job of providing compliance assistance to those that need it.**
- 2) **Second, we need to provide more motivation for companies and other organizations to strive toward superior environmental performance, and do more to recognize and reward the very best performers.**

The work of the Assistance and Pollution Prevention Office is very much in alignment with these goals, and A&P2 staff have been active participants in developing national strategies for Environmental Management Systems, incentive programs, and compliance assistance strategies. We expect this national agenda to shape much of our work in the years to come.

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