

REPORT BY EPA REGION 1 (NEW ENGLAND)

on

THE MERRIMACK PROJECT: A Regional Demonstration Project of the IP3

The Merrimack Project, a pilot initiative funded under the EPA's Industrial Pollution Prevention Project (IP3), targeted intensive pollution prevention technical assistance jointly through Massachusetts and New Hampshire to industries on the Merrimack River, a major interstate river. The main purpose of the project was to demonstrate how two states can work together successfully to bring about pollution prevention in the industries along an interstate river. It pioneered the watershed approach to pollution prevention. It helped set the stage of the joint EPA/Interstate Merrimack River Initiative.

The IP3 awarded Massachusetts's Office of Technical Assistance (OTA) and New Hampshire's Department of Environmental Services (DES) \$120,000 each to promote cooperatively the objectives of the project within the Merrimack River Basin.

RESULTS

1. As an interstate effort, the project tested and demonstrated that two states, even with technical assistance programs that are very different institutionally, can successfully work together to provide technical assistance to industries along a commonly shared river.

In Massachusetts, technical assistance was well established in an Office of Technical Assistance separate from the compliance functions of the Department of Environmental Protection. In contrast, in New Hampshire technical assistance would fall under the regulatory umbrella of the state's Department of Environmental Services (DES); and, at the start of the Merrimack Project, such technical assistance was only starting to evolve in the Waste Division while only being considered in the Water Supply and Pollution Control Division. At the time, the New Hampshire programs shared (with much of EPA) the conventional reservations about compromising compliance functions with a technical assistance program, about lack of staff capabilities to provide technical assistance, about liability, and about competing with consultants.

Through the Merrimack Project, New Hampshire drew extensively on Massachusetts's experience in developing its approach. Both Massachusetts and New Hampshire exchanged visits to their respective state offices. The Massachusetts leader and staff for the IP3 Merrimack Project shared the experience they gained in developing a separate and multi-media technical assistance program. New Hampshire then established a multi-media statewide Pollution Prevention Task Force, chaired by the DES's Deputy Commissioner and the Commissioner's Water Resources Coordinator and staffed by the IP3 Merrimack Project coordinator for New Hampshire.

As a result of the Merrimack Project, the State of New Hampshire has established a technical assistance program known as New Hampshire's Pollution Prevention Program (NHPPP). NHPPP is under the regulatory umbrella of the DES. Prior to the Merrimack Project, the State of New Hampshire did not have any formal technical assistance program providing or promoting toxics use reduction or pollution prevention.

As the Merrimack Project gained popularity, the NHPPP was increasingly being asked to perform on-site assessments, organize workshops, train staff, and respond to informational requests. This presented a resources and organizational challenge for DES. During this period, DES projected a professional and positive image throughout the State regarding the program, while Massachusetts OTA and EPA provided public relations support. NHPPP used Total Quality Management tools to overcome the resource and organizational barriers.

Within two years, NHPPP had become recognized throughout New England as an organization possessing the ability to identify and characterize pollution prevention opportunities. It has successfully established a pollution prevention clearinghouse which includes information on new and innovative technologies, products, fact sheets, and case studies. It has also successfully developed and instituted procedures for setting priorities and disseminating requests and information.

Despite New Hampshire's initial misgivings about embarking on pollution prevention technical assistance, a positive experience gradually evolved. Both states and those in EPA involved in or exposed to the project became convinced of the benefits of an active pollution prevention approach.

The two states successfully worked together to conduct jointly many very successful workshops and other events, involving the industries in both states along the Merrimack River.

2. The Merrimack Project also demonstrated that a technical assistance program can be successfully structured and implemented under either a regulatory or non-regulatory organization.

The project demonstrated over a three-year learning period that public agencies with environmental results as their "bottom line" can deploy technical assistance in their official capacity in various forms and under the divergent institutional arrangements in Massachusetts and New Hampshire without jeopardizing industry confidentiality or compromising their ultimate compliance and enforcement responsibilities.

In the case of Massachusetts, an already established technical assistance program, within a non-regulatory organization (OTA), continued to demonstrate success in bringing about pollution prevention with industry. In the case of New Hampshire, the Merrimack Project illustrated how a regulatory organization can provide "grass roots" technical assistance to its industries without jeopardizing potential enforcement actions.

The State of New Hampshire successfully demonstrated the ability to integrate pollution prevention into traditional enforcement-related activities, e.g., compliance inspection, enforcement actions, permit writing.

Companies have informed EPA that they were satisfied with the assistance they received and that, even though (in the case of New Hampshire) the technical assistance service was not segregated from the regulatory program, they believe that the information collected will be held confidential.

3. The Merrimack Project also demonstrated the value of publicizing the potential for pollution prevention opportunities.

The project conducted over 20 major workshops and over 100 public events.

The workshops were targeted to a variety of manufacturing operations, e.g., electroplating, metal finishing, machine shops, printed circuit board manufacturing and assembly, etc. Workshop participation was overwhelming and, as the project gained publicity, participation expanded even more. Massachusetts OTA, for example, found itself visiting and providing assistance to many more POTWs, because POTW officials valued the opportunity to increase the communities' public awareness and understanding of the local treatment plant. Manufacturing facilities appreciated participating in the workshops targeted to them because they received information on the economical incentives of pollution prevention. Workshops were also a conduit for the industrial community to express concerns or frustrations.

As the bottom line, Massachusetts and New Hampshire conducted over 200 on-site assessments of pollution prevention opportunities at industrial facilities. Of these, at least 27 percent already have implemented or are expected to implement pollution prevention measures.

Some industrial facilities have accomplished "zero discharge" by using innovative technologies such as electrolytic recovery or ion exchange. These processes have made it possible for the facilities to achieve a "closed-loop" wastewater system.

Furthermore, most of the original POTWs visited by Massachusetts OTA and New Hampshire NHPPP have already incorporated various pollution prevention activities into their Industrial Pretreatment Programs. (The Merrimack Project revealed that, while corporations and local municipalities favor having state or federal agencies promote pollution prevention technical assistance, corporations favor having local POTWs provide the assistance where possible -- probably because they feel that there is more of a common interest and bond between the two parties because they are part of the same local community.) Some POTWs continue to sponsor workshops, while others integrate pollution prevention directly into program elements such as permits or enforcement actions.

4. The Merrimack Project achieved both cost savings to industry and environmental improvement to the Merrimack River.

The project has resulted already in the elimination of over 1.7 million pounds of toxic substances, with a savings of over \$1.9 million to industry. The project highlights and case studies presented in a report titled THE MERRIMACK PROJECT -- a report jointly written by Massachusetts and New Hampshire -- detail these cost savings and environmental improvements.

5. Positive experiences with the project's workshops, technical assistance, kept-confidences -- combined with a desire to continue an intensified level of communication on an industry-wide basis -- led involved Merrimack industries to work with the two states to form a Merrimack Business Environmental Network (MBEN). In turn, MBEN has mushroomed into a Northeast Business Environmental Network (NBEN).

Committed to seek and implement solutions that promote pollution prevention through improved management and technology while enhancing the economic viability of the community, MBEN initially grew to over 35 corporate members. Members have met monthly to exchange pollution prevention ideas; they even organized a day-long conference at Maudslay State Park on the banks of the Merrimack River to share industry, state, and federal experience and insights.

The concept of MBEN captured the attention of industries throughout New England. The concept has subsequently expanded from the Merrimack River network to a network throughout the Northeast United States. The Network has now been chartered into a Northeast Business Environmental Network (NBEN), with chapters like MBEN to be organized on a watershed basis.

6. The Merrimack Project also showed how Total Quality Management (TQM) techniques can be used by a state agency as a tool in creating a pollution prevention program and in implementing pollution prevention technical assistance to industry.

The New Hampshire DES used TQM while constructing the NHPPP. DES evaluated program commitments against existing program resources. The procedure involved an investment and disinvestment process using TQM. As a result, resources and job functions were shifted within certain programs in order to create the NHPPP.

IMPLICATIONS: EPA Region 1 (New England)'s Views/Perspective

The Merrimack Project has demonstrated that environmental compliance can be obtained either by using technical assistance independently or in conjunction with traditional enforcement related activities. The project has verified that technical assistance is an effective and economical device for achieving and encouraging environmental compliance.

The project has highlighted that technical assistance should never necessitate the suspension of enforcement, or disinvestment in enforcement. Enforcement can be used as a tool

to encourage industrial participation in technical assistance programs, i.e., Supplemental Environmental Projects. Pollution prevention and technical assistance programs should only complement and provide support in an enforcement case orientated system. Technical assistance programs should not assume a lead role in resolving compliance issues. Without the threat of legal recourse, technical assistance programs could, among other things, delay compliance, threaten the integrity of an enforcement program, and potentially provide an economic benefit to the violator.

Over the past three years EPA Region 1 (New England), at all levels, has and continues to undergo tremendous change and reorganization. Managers and staff have become increasingly aware and receptive to the concepts of providing pollution prevention and technical assistance within their respective programs, but not at the expense of delaying compliance or jeopardizing the integrity of enforcement.

Gradually, the Merrimack Project produced (at the federal, state, and local levels) numerous examples of "how-to methods" of integrating pollution prevention and technical assistance programs into enforcement related activities taking into consideration management's concerns. The project, among other things, has produced a network of valuable technical assistance resources that assist management and staff. As a result, the project has increased the ability of each and every person at EPA Region 1 (New England) to access this information more readily than ever.

The Merrimack Project experience has overcome the deep-seated mindset that EPA, as well as state environmental agencies, must serve solely as a regulatory agency, taking a "hands off" approach to offering technical assistance. This mindset had discouraged EPA from actively promoting pollution prevention and had made EPA reluctant to raise questions about pollution prevention opportunities for process change and materials substitution.

The success and acceptance brought by the Merrimack Project is a result of several conditions adhered to by all parties:

- 1) Pollution prevention and technical assistance shall serve as a tool to achieve and maintain continued compliance; in no way will it substitute for compliance and enforcement actions;
- 2) Pollution prevention and technical assistance shall not be supported/funded at the expense of disinvesting in compliance or enforcement activities/resources;
- 3) Pollution prevention and technical assistance shall serve as a tool to assist the industrial community in achieving more stringent environmental levels, not circumvent lower levels;
- 4) Pollution prevention and technical assistance shall support enforcement programs by encouraging and promoting process and/or materials substitution in order to

achieve compliance. It is possible that the permittee will be allowed to delay enforcement-related schedules only on an ad hoc basis where pollution prevention shows promise of achieving enhanced environmental benefits and only as long as good-faith efforts are demonstrated. It is critically important to set forth clearly the environmental objectives in the negotiation of compliance schedules.

- 5) Pollution prevention and technical assistance shall promote relations and encourage communication among the regulatory agencies, industry, and the public.

In conclusion, the Merrimack Project resolved many myths on whether or not a regulatory organization could successfully implement pollution prevention. Through the Merrimack Project, it has become more apparent to the regulatory community that environmental compliance can be obtained using pollution prevention technical assistance independently or in conjunction with traditional enforcement actions.

The project has also verified that pollution prevention technical assistance is an effective tool for encouraging and achieving environmental compliance. Results have illustrated industry's need for pollution prevention technical assistance while attempting to achieve compliance. The project also provides us in EPA Region 1 (New England) with additional insight on various techniques that we might consider when promoting or implementing pollution prevention.

NEXT STEPS FOR EPA REGION 1 (NEW ENGLAND)

EPA Region 1 (New England) -- hereafter referred to as "EPA - New England" in this report -- should follow up on the Merrimack Project experience, as follows:

1. Support pollution prevention technical assistance -- both separate from and in conjunction with water quality evaluations, permit writing/negotiations, and compliance. Tailor the technical assistance, drawing upon various models, to best fit the situation by considering the following model options:
 - technical assistance separated completely from compliance/enforcement (e.g., MA OTA & MA DEP);
 - preliminary consultation and technical assistance followed up by inspections, compliance and enforcement, with increasing scale of penalties as necessary (e.g., OSHA Consultation Program);
 - inspectors trained to ask questions leading toward pollution prevention and to direct facility to sources of pollution prevention technical assistance;
 - inspectors trained to refer facility to sources of pollution prevention when they notice violations or opportunities for pollution prevention;

- enforcers seek voluntary agreement for facility to research, evaluate, and implement pollution prevention measures;
 - enforcers require -- through the inspection, permitting, and enforcement process -- that the facility adopt and implement pollution prevention measures.
2. Strengthen the performance measures for compliance and enforcement activities to include not only the numbers of permits, inspections, and enforcement actions but also measures of environmental results.
 3. Undertake EPA - New England's proposed pollution prevention FY95 Intermedia Initiative, "Intermedia Environmental Assistance," drawing upon the Merrimack Project experience and recommendations.
 4. Undertake EPA - New England's proposed pollution prevention FY95 Initiative, "Integrating Pollution Prevention into Multi-media Permitting."
 5. Undertake EPA - New England's proposed pollution prevention FY95 Initiative, "Technical Assistance to a Pretreatment Community," building on the Merrimack Project's recommendations to involve POTWs actively in pollution prevention technical assistance.
 6. Support the development of local industrial discharge limits that are based on best available technology which recognizes and credits pollution prevention technology.
 7. Support and involve POTWs in pollution prevention technical assistance by assisting them in negotiating implementation schedules with their respective industrial users.
 8. Provide incentives to stimulate development and application of new technology to achieve pollution prevention and more cost effective measures to meet limits.
 9. Support provisions in Clean Water Act Reauthorization to incorporate more pollution prevention in permitting. In the meantime, take advantage of every opportunity to integrate pollution prevention into permitting, e.g., implementation measures, compliance schedules, outreach, and reporting.
 10. Develop integrated data management systems to assist EPA, states, POTWs, and industries to fine tune pollution prevention measures and implementation schedules. Such a system would make it possible to target pollution prevention technical assistance to the most critical industrial facilities. (The Merrimack Project revealed that such a data system was lacking and would be helpful if it existed.)

11. The New England Environmental Assistance Team

- To implement pollution prevention assistance, EPA - New England founded the New England Environmental Assistance Team (NEEAT) early in FY94 as the core of EPA - New England's new focus on assistance to the regulated community. In establishing this function, EPA - New England is seeking to improve compliance rates and pollution prevention implementation through assisting and collaborating with industry rather than enforcement whenever possible -- the philosophy behind the Merrimack Project.

NEEAT itself will not perform on-site assessments (the primary outreach tool in the Merrimack Project) in the foreseeable future, but will use other mechanisms to reach, inform, and serve the regulated community: a toll-free assistance hotline, workshops, guidance manuals, technology demonstrations, compliance checklists, etc. NEEAT is focusing on three industry sectors (metal finishing, printing, and electronics) and municipalities. Much of its efforts within these sectors will be focused on resources of concern, like the Merrimack.

EPA - New England is also funding its partner state pollution prevention assistance programs -- Maine's and New Hampshire's included -- through the Pollution Prevention Incentives for States grant program. NEEAT has met with the board of the Northeast Business Environmental Network (or NBEN, the successor to the Merrimack-based group MBEN) to discuss collaboration between NEEAT and NBEN, and will be following with joint outreach.

In sum, the Merrimack Project has provided important experience with assistance tools, partnerships, and geographic focus that now forms EPA - New England's own assistance efforts.