



# Learning to Listen: A Cooperative Approach to Developing Innovative Strategies



New Jersey  
Department of  
Environmental Protection



*Lessons from the New Jersey Chemical Industry Project*

**Learning to Listen:  
A Cooperative Approach to Developing Innovative Strategies  
for Environmental Protection**

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*Final Report  
May, 2000*

## PREFACE

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The U.S. Environmental Protection Agency (EPA) began the New Jersey Chemical Industry Project (NJCIP) in 1995 as one of a number of efforts to reinvent how it does business. EPA's Office of Policy (currently the Office of Policy, Economics and Innovation) was exploring approaches to working cooperatively with different industry sectors to examine how strategies for environmental protection might be improved based on the characteristics of a specific sector. The aim was to work with a multi-stakeholder group to find innovative ways to maintain or improve environmental quality while lowering the financial and/or transaction costs of complying with environmental requirements. EPA's Office of Policy worked with the New Jersey Department of Environmental Protection (NJ DEP), EPA Region 2, and a Stakeholder Group made up of industry, environmental group, union, and community representatives on this project involving the batch chemical industry in New Jersey.

The batch chemical industry in New Jersey was identified as a good candidate for this effort as a complement to EPA's work with a large continuous process chemical manufacturer. The Chemical Operations Team of the President's Council on Sustainable Development noted that many regulations seem to be written with large continuous process manufacturers in mind and urged EPA to look at the special challenges that batch chemical manufacturers face in complying with these regulations. New Jersey has a large number of batch chemical manufacturers and the industry was willing to work with EPA to look for innovative ways to improve both environmental performance and economic efficiency.

The NJCIP started by asking what inspires batch chemical companies to achieve — or keeps them from achieving — better environmental performance. From this information provided by the Stakeholder Group, project staff developed a list of 45 issues for possible Pilot projects to test new environmental protection strategies. Four Pilot projects were selected by the Stakeholder Group:

- C Compliance Assistance;
- C Materials Recycling;
- C Effluent Trading of Local Limits between Indirect Dischargers; and
- C Flexible Track for Good Environmental Performers.

A subset of the Stakeholder Group formed Teams to work on each of the Pilots, along with several additional industry, agency, environmental and community representatives who were invited

to participate and contribute specific expertise on issues addressed by the Pilots. After completing most or all of their work developing the innovative approaches to environmental protection envisioned in these efforts, the Pilot Teams reported their results to the Stakeholder Group. Stakeholders then presented opinions about the broader policy implications of the NJCIP. This report presents a brief summary of these Pilot projects and the broad policy recommendations from our project participants on substance of the Pilots and the project as a whole, and also provides observations and recommendations on the process of running a successful project.

For more information about the New Jersey Chemical Industry Project and each of the Pilots, contact:

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## Acknowledgments

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This project benefitted from the dedication, enthusiasm, creativity, and technical knowledge of the participants on the Stakeholder Group and each of the Pilot Project Teams of the New Jersey Chemical Industry Project. Through the efforts of these individuals, the expertise and perspectives of industry, regulatory agencies, environmental and community groups, unions and academics have been incorporated throughout the definition, implementation, and documentation of this project.

This report was drafted with a considerable amount of guidance and input from many of the Stakeholders and Pilot Team members. Specifically, the following participants contributed their ideas and suggestions: Alan Bogard, Infineum USA L.P.; Joseph Gentile, CasChem; Peg Hanna, NJ DEP; Dot Kelly, Ciba Specialty Chemicals; Scot Mackey, Chemical Industry Council of NJ; Jeanne Mroczko, NJ DEP; Steve Scher, Scher Chemicals; and Wayne Tamarelli, Dock Resins. We would also like to thank the EPA staff members who contributed to this report, especially those from the Office of Policy, Economics and Innovation; Office of Water; and Region 2, Division of Environmental Planning and Protection. Each and every project participant also deserves a thank you, because their views and expertise shaped each step of our progress. The success of this project is a result of valuable contributions from every member of the Stakeholder Group and Pilot Teams.



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## EXECUTIVE SUMMARY

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### **Background**

Since its inception 30 years ago, the U.S. Environmental Protection Agency (EPA) has achieved significant improvements in the environment by developing regulations, administering and delegating programs, and enforcing environmental laws. Yet some issues are not being addressed adequately and compliance is often time-consuming and costly. As EPA and other environmental agencies mature, it is worthwhile to look at how they operate and how their programs influence facilities to see if we can develop better approaches to complement and fine-tune existing ones.

The New Jersey Chemical Industry Project (NJCIP) was one of a number of efforts initiated by EPA to reinvent how it does business. EPA's Industry Strategies Division,<sup>1</sup> was working cooperatively with industry to examine how the environmental protection infrastructure (the laws, regulations, and practices of agencies at the federal, state, and local levels) impacts industry and how strategies for environmental protection might be improved. EPA chose to focus this effort on the specialty batch chemical industry because the Chemical Operations Team of the President's Council on Sustainable Development noted that smaller batch processors often have more difficulty complying with environmental requirements. The Agency decided to focus in New Jersey because it is a major center of chemical manufacturing in the U.S.

This report includes a brief discussion of the stages of the project, how EPA recruited Stakeholders and managed the Stakeholder process, the activities of Pilot projects implemented by the Stakeholders, and the observations from Stakeholders and other Pilot project participants on the policy implications of the project. EPA and the Stakeholders prepared this report to help others find better ways of running projects, better approaches to managing particular environmental issues, and most of all, to show that there are many ways we can improve how we protect the environment.

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<sup>1</sup> Currently the Performance Incentives Division of the Office of Policy, Economics, and Innovation.

## Stakeholders

In establishing a Stakeholder Group, EPA sought balance between government, industry (large and small businesses), and environmental and other groups, and sought to identify participants who would think innovatively, could represent their organization yet still work cooperatively with others without promoting a set “agenda.” Stakeholders agreed to operating principles, including open and honest communication, non-adversarialism in all proceedings, being open to ideas for better approaches, and seeking to develop approaches that would have broad applicability for the sector and potentially other sectors. A key factor in creating a positive working relationship was frequent, open, and honest communications. Background materials were faxed before each of the many conference calls and detailed summaries were sent afterwards. A concerted effort was made to solicit input from all participants.

Ideas given by potential Stakeholders in initial meetings served as the basis for a project plan that described how the project would proceed. (See Figure 2-1.) This plan identified in general terms what would be accomplished at each of four Stakeholder meetings as well the tasks to be completed between meetings. The plan gave Stakeholders a clear vision of the structure of the project yet provided flexibility for them to identify the substantive issues to be addressed.

EPA provided significant contractor support to research issues and document proceedings, which freed up other project participants for thinking, planning, and interacting. While EPA funded the project and managed the process, it did not seek to control outcomes. This assured participants that their views would be heard and that they had a genuine opportunity to make a difference.

## Pilot Projects

The NJCIP started by asking the Stakeholders what inspires batch chemical companies to achieve—or keeps them from achieving—better environmental performance. Using this information, project staff developed a list of 45 issues for possible Pilot projects to test new environmental protection strategies and, using feedback from the agencies on feasibility, Stakeholders chose four Pilot projects. The goals and outcomes of these Pilots are summarized below.

- < **The Compliance Assistance Pilot Team** developed an extensive set of Compliance Assistance Materials (CAM) using a collaborative approach between industry representatives and regulatory agency staff. The materials include plain language descriptions and agency contact information for many of New Jersey's environmental regulations; descriptions of ongoing NJ DEP compliance assistance activities; applicability flowcharts for six key regulations; and an extensive bibliography of compliance assistance resources published by NJ DEP, other regulatory agencies, and trade associations. This led to the establishment of an ongoing working group of NJ DEP and industry representatives to maintain the CAM and continue to explore additional innovative approaches for improving compliance assistance in New Jersey. When implementing Compliance Assistance efforts, the industry-government

collaboration is powerful for identifying the topics that most needed to be addressed and formats that are most useful. This collaboration is also valuable in keeping materials up-to-date and developing new materials. Finally, it is important to get the word out on how to access the materials so that they can help facility staff in protecting the environment.

- < **The Materials Recycling Pilot Team** sought to identify opportunities to recycle or reuse process materials and clarify how hazardous waste management regulations applied to these situations. The Team described five typical batch process scenarios found in the chemical industry and identified where materials can be safely recycled, yielding environmental and financial benefits. New Jersey and federal hazardous waste regulations are the same so the lessons learned through this effort are relevant in other states where the federal rules apply. The government-industry collaboration is valuable for identifying opportunities for materials recycling. Stakeholders urge facility staff to discuss opportunities for recycling with agencies and urge agencies to encourage innovative recycling activities. Where recycling activities differ from those allowed under the regulations, agencies may wish to test them with a few facilities before changing national policy. Facilities with records of good environmental performance, such as Flexible Track participants, may be good test sites.
  
- < **The Effluent Trading Pilot Team** worked to identify and address the barriers to effluent trading and to establish the first local pretreatment trades in the nation between indirect dischargers. Trading allows facilities to work together to control the discharge of pollutants in a manner that is cheaper for all parties. Trading at the Passaic Valley Sewerage Commissioners (PVSC) also benefits the environment, since 20% of the allowable metals units that are traded will be "retired," and not discharged into the environment. POTW credibility, both in establishing defensible local limits and maintaining a strong compliance and enforcement program, is crucial for establishing a successful trading program. Because lack of information and uncertainty are significant barriers to trading, "trading teams" or the POTW can assist facilities. Trading should be introduced when new local limits are being developed or existing ones revised to give facilities time to plan and establish trades.
  
- < **The Flexible Track Pilot Team** developed the framework for a program within the NJ DEP that provides incentives—some flexibility and public recognition—for facilities to achieve, maintain, and go beyond good compliance. The community gains improved input into the environmental management process and a better understanding of facility operations. The environment benefits from the sustained good environmental performance of participating facilities. This framework was adopted by the New Jersey Department of Environmental Protection for its *Silver and Gold Track for Environmental Performance* program and also used by EPA's *Performance Track* program. The multi-Stakeholder process was invaluable to developing a framework and identifying eligibility criteria and incentives that would work for industry, the agencies, and the community. One of the main challenges was identifying types of flexibility that were feasible to implement and would attract facilities to participate. Outreach can help both industry and communities recognize the benefits of Flexible Track.

Participants in each Pilot prepared reports summarizing the activities, accomplishments and lessons learned from the effort (see Exhibit ES-1). In publishing these reports, the participants hope to document the outcomes of the Pilots so that others seeking to undertake similar efforts to improve environmental protection approaches can benefit from their experiences.

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**Exhibit ES-1: Major Publications Describing NJCIP Pilot Project Outcomes**

*Inspiring Performance: The Government-Industry Team Approach to Improving Environmental Compliance (May, 1999, EPA 231-R-99-002).*

*Sharing the Load: Effluent Trading for Indirect Dischargers (May, 1998, EPA 231-R-98-003).*

*Promoting Chemical Recycling: Resource Conservation in Chemical Manufacturing (May, 1999, EPA 231-R-99-001).*

*Proposed Framework for a Flexible Track Program (May 1997).*

*Silver Track Guidance Document (prepared by NJ DEP, September, 1999).*

*Silver Track II Program—Solicitation of Interest for Participation (prepared by NJ DEP, May, 2000).*

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**Achieving Success**

At their fourth and final meeting, the NJCIP Stakeholders concluded that the project was a success in terms of both process and substance.

- There was a very high degree of Stakeholder satisfaction at the conclusion of the project. Stakeholders noted that their initial skepticism about working with regulatory agencies on this type of project was dispelled.
- The NJCIP Stakeholders had no shortage of ideas to explore for developing new approaches to environmental protection. They were highly motivated to find the best approaches by focusing on the merits of each issue and pooling ideas and efforts.
- The efforts of the NJCIP Stakeholders resulted in the design and implementation of innovative Pilot projects that broke new ground in developing efficient and effective approaches to environmental protection.
- Each of the approaches developed through the Pilots still function as planned several months to years after being implemented, with all indications that this success can continue in the future. There is substantial interest in using the Pilots to inform or serve as models for efforts in other states and for national initiatives.

The NJCIP and other multi-stakeholder efforts represent a significant culture change in the way all parties approach environmental protection. These efforts require regulatory agencies to adopt a cooperative approach to working with the regulated community. Further, they require that these agencies work together with industry and with environmental and community groups in a non-adversarial forum. Project staff must maintain open and honest communication and effectively coordinate project logistics to allow the Stakeholders to focus on substance. Adequate funding and management support is needed to avoid distractions that can potentially derail the process.

Credibility is critical to the success of a cooperative project like the NJ CIP to develop trust, both between participants and with those outside the project. A diverse and balanced stakeholder group coupled with an open and honest, non-adversarial atmosphere proved to be an important manner of building credibility. The project must also be a partnership for finding better ways of protecting the environment, not a means of dispensing special favors for industry. Focus on the substance of the issues emphasizes the factors that will lead to substantive improvements in environmental quality, in the functioning of environmental programs, and in the environmental performance of broad segments of the regulated community.

It is important to generate broader interest in the outcomes of the project so that better approaches can be more widely applied and their benefits can be more fully realized. Despite the significant outreach efforts undertaken by the Pilot Teams, additional effort to follow-up on their successes would allow these approaches to be more widely implemented and yield greater benefits.

The NJCIP clearly challenged all parties to take on new and different roles in the context of environmental protection. Each group faced a unique set of challenges during the NJCIP.

EPA faces the challenge of finding a balance among a variety of approaches — maintaining command and control as the foundation of environmental protection for each program, while still being open to working with Stakeholders in a cooperative manner to seek innovative approaches to improve and complement those programs. Is the EPA ready to add cooperation to its repertoire of approaches? The outcomes of the NJCIP suggest that, in many respects, it clearly is. Managers and staff in many programs welcomed the chance to collaborate on exploring and trying innovative ideas. Some program offices, while not opposed to developing innovative approaches, did not have the staff time to participate fully in the NJCIP Pilots. Some program staff wondered why any aspect of their program should be changed. While many environmental programs at the local, state, and federal levels are extremely effective, agencies should always be open to ideas for improvements.

The length of time it takes to complete a complex project like the NJ CIP makes it vulnerable to changing management priorities. It is important for project staff to demonstrate consistent and strong leadership in upholding the project ground rules and the substantive decisions made by the Stakeholders.

NJ DEP faced many challenges similar to EPA's. Many NJ DEP staff and managers expressed interest in participating in the cooperative effort; however they were constrained by their existing

work load and a lack of resources to devote to such efforts. These constraints caused the Department to be slow in committing to working on the NJCIP and the specific Pilots. As the NJCIP progressed, NJ DEP was able to integrate many of the Pilot activities into its own re-engineering efforts and played a larger role in implementing the Pilots.

Industry Stakeholders expressed initial skepticism about working directly with regulatory agencies in a cooperative effort. Potential industry Stakeholders needed to evaluate whether the NJCIP was a worthwhile use of their time. Several industry Stakeholders were anxious because of previous adversarial experiences with regulatory agencies.

Community and environmental groups faced severe resource constraints and were unable to participate in Stakeholder meetings or Pilot projects on a regular basis. The project staff attempted to compensate for this by offering personal telephone briefings, soliciting feedback at critical junctions, and involving additional community and environmental group representatives at different stages of the Pilots to ensure that their perspectives would be included in key aspects of the project.

Despite these challenges, NJCIP participants were able to achieve significant advances in improving environmental protection techniques and had fun doing it. Stakeholders concluded that the synergy which existed among participants on this project was the single most important component of our success. The sincere and enthusiastic atmosphere encouraged individuals to contribute, ensuring a successful project. All ideas were welcomed because of a shared commitment to facilitate environmental improvement.

The following recommendations developed by the NJCIP Stakeholder Group are intended to help develop a workable process for conducting future projects and to enhance the potential for achieving substantive results:

- C**     **Sector basis.** Focusing on one sector allowed us to capitalize on relationships within the industry and address issues more in-depth.
- C**     **Geographic focus.** By working in one location, we were able to build on and strengthen existing relationships to develop an honest and open atmosphere for cooperation among industry, environmentalists and all levels of government.
- C**     **Balanced Stakeholder group.** The Stakeholder Group was balanced among industry (including smaller and larger companies), government (local, state, and federal), environmental and community groups, unions, and academia to ensure that new approaches would be broadly applicable and beneficial. Future efforts may want to provide financial support to help sustain NGO participation.
- C**     **Stakeholder-driven.** Stakeholders helped design the project, chose and designed the Pilots, and developed recommendations for future efforts. This inspired active participation because Stakeholders knew they could make a difference.

- C Choose participants well.** Stakeholders were selected to bring the knowledge and the perspective of their organization to project discussions, for their innovative thinking and ability to listen to others, express their views in a non-adversarial way, and work to develop solutions that would be genuinely better for everyone.
- C Open and honest atmosphere.** Establishing an open and honest atmosphere allowed the project to be a forum for learning the pros and cons of different environmental protection approaches, not for political debate or divisiveness.
- C Completely voluntary.** Participation in the project was voluntary. Yet we achieved a high degree of Stakeholder participation without making promises of direct benefits to any participating company or organization. Stakeholders exhibited exceptional altruism and high quality service in contributing to a greater good.
- **Management commitment.** Participants must live by the ground rules and must be completely open to new approaches. Sufficient resources must be allocated to see the project through to completion. Dedicated staff researched issues, developed project materials, documented meetings, and kept everyone informed and on-track.
- C Communication, communication, communication.** Our emphasis on open and honest communication began when EPA staff first began meeting with potential Stakeholders and was maintained throughout the project. Frequent communication with Stakeholders along with careful listening to and appreciation of their input was crucial to building the trust needed for this project to succeed.
- **Seek the public good.** We set ground rules for the project that were designed to achieve substantive goals: 1) cooperative mode of interacting, 2) seek general agreement in the group, not 100 percent consensus, 3) seek solutions that are transferrable to other facilities and industries, 4) seek solutions that do not threaten participants—don't avoid change, but seek change that can benefit everyone.
- C Focus on substance.** The ultimate purpose of the NJCIP was to develop better approaches for protecting the environment. Maintaining focus on this goal was instrumental to keeping participants involved—making a positive difference is the reason the Stakeholders worked with us.
- C Mechanism for change.** Stakeholders noted the importance of developing a mechanism through which some of the issues raised in the Pilots could be translated into regulatory changes.

## Conclusions

The Stakeholders found that the New Jersey Chemical Industry Project was a very valuable forum for working cooperatively to identify needs for improvements in environmental protection strategies and develop new approaches. Nearly half of the original suggestions for pilots were addressed in one form or another. Each of the pilot projects achieved significant advances in environmental protection through innovative approaches. And while regulatory change was not an initial NJCIP goal, the project influenced some regulatory changes at the State and local levels, and identified additional opportunities for regulatory changes on the State and Federal level.

There is a need to continue the positive working relationships, environmental improvements, and program efficiencies demonstrated in the Pilots. The lessons of the NJ CIP should be used to spark similar programs and to inform future work on regulatory and program innovation.



**Background and Rationale**

How can the Environmental Protection Agency (EPA) improve how it protects the environment? Nearly 30 years of developing regulations, administering and delegating programs, and enforcing environmental laws have yielded significant improvements in air and water quality, and in the management of waste materials. Yet there is still more work to do. Some issues are not being addressed adequately and some members of the regulated community report that compliance is often time-consuming and costly. As the EPA and other environmental agencies mature, it seems worthwhile to look at how they operate, and how environmental programs influence facility operations, to see if it is possible to develop better approaches.

EPA began the New Jersey Chemical Industry Project (NJCIP) in 1995 as one of a number of efforts to reinvent how it does business. A division of EPA's Office of Policy, the Industry Strategies Division,<sup>2</sup> was exploring approaches to working cooperatively with different industry sectors to examine how the environmental protection infrastructure (the laws, regulations, and practices of agencies at the federal, state, and local levels) affects industry and how strategies for environmental protection might be improved based on the characteristics of a specific sector. The aim was to work with a multi-stakeholder group to find ways to maintain or improve environmental quality while lowering the financial or transaction costs of complying with environmental requirements.

EPA and state and local environmental agencies have achieved great economies of scale in environmental protection by establishing common standards in water, air, and waste handling that every member of the regulated community must meet. But this one-size-fits-all approach means that the most efficient or effective solution is not always applied to environmental problems, thus introducing diseconomies of scale. This approach has caused problems for some members of the regulated community when their facility operations have not matched those envisioned by legislators and regulators. Similarly, this approach has not adequately addressed some environmental problems.

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<sup>2</sup> Currently the Performance Incentives Division of the Office of Policy, Economics, and Innovation.

In addition, members of the regulated community have complained that some requirements are extremely difficult or illogical, and agencies do not seem to care about the impacts of these requirements, focusing more on “bean counting” than on environmental results. EPA reinvention efforts sought to find "cleaner, cheaper, and smarter" approaches.

The objectives of the NJCIP were to:

1. Work with a multi-Stakeholder group to identify possible opportunities for improving approaches for protecting the environment;
2. Work informally with EPA and other agencies to resolve issues identified that could be readily addressed;
3. Design and implement pilot demonstration projects to develop, test and refine new and innovative approaches (the largest part of the NJ CIP); and
4. Make recommendations back to EPA and other parties for making improvements that are beyond the scope of the project.

As the NJ CIP progressed, it became apparent that the methods used for managing the project were having a significant impact in the success of the substantive work of the project. As a result, another objective was added:

5. Document the key methods for managing a successful project.

EPA chose to focus this effort on the specialty batch chemical industry because the Chemical Operations Team of the President’s Council on Sustainable Development noted that many environmental regulations seemed to be written with larger continuous process chemical manufacturers in mind and that the smaller batch processors often have more difficulty complying with these requirements. The Agency decided to focus on New Jersey for a number of reasons:

- C New Jersey is the third largest state in the United States for chemical manufacturing, especially batch chemical manufacturing;
- C Focusing on one state would lead to efficiencies, requiring coordination with only one EPA region, one state government, and one set of local governments; and
- C EPA had just completed a study of industrial communities in New Jersey,<sup>3</sup> and lessons and contacts from that study could help in establishing the project.

## **Pilot Projects**

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<sup>3</sup>*Industrial Communities: Stakeholder Perspectives on Strategies for Sustainability in Northeastern New Jersey*, prepared by Kim Nelson, US EPA, and Katherine B. Heller and Sheryl J. Kelly, Research Triangle Institute.

The NJCIP started by asking what inspires batch chemical companies to achieve — or keeps them from achieving — better environmental performance. From this information, the Stakeholder Group developed a list of 45 issues for possible Pilot projects to test new environmental protection strategies.<sup>4</sup> Four Pilot projects were selected by the Stakeholder Group. The goals and outcomes of these Pilots are summarized below:

- < The Compliance Assistance Pilot Team developed an extensive set of Compliance Assistance Materials (CAM) that includes plain language descriptions and agency contact information for many of New Jersey's environmental regulations; descriptions of ongoing NJ DEP compliance assistance activities; applicability flowcharts related to six key regulations; and an extensive bibliography of compliance assistance resources published by NJ DEP, other regulatory agencies, and trade associations. The Pilot culminated by posting the CAM on NJ DEP's web page (<http://www.state.nj.us/dep/enforcement/home.htm>) and in sponsoring two one-day workshops in which NJ DEP and industry experts presented information on compliance issues related to the six key regulations. The success of these efforts also led to the establishment of an ongoing workgroup of NJ DEP and industry representatives that will continue to maintain the CAM and explore additional innovative approaches to improving compliance assistance in New Jersey. The Team developed a report, titled *Inspiring Performance: The Government-Industry Team Approach to Improving Environmental Compliance* (May, 1999, EPA 231-R-99-002), that documents the lessons learned from this Pilot project and is intended to be helpful to others seeking to establish compliance assistance efforts for other sectors or in other states.
  
- < The Materials Recycling Pilot Team sought to identify opportunities to recycle or reuse process materials and clarify how hazardous waste management regulations applied to these situations. Industry Stakeholders noted that process materials are often sent for disposal rather than reused because facility staff often are unclear about whether or how hazardous waste rules apply. The Team sought to address this issue by describing five typical batch process scenarios found in the chemical industry and identifying where materials can be safely recycled, thus yielding environmental and financial benefits. The Team found that three of the recycling scenarios could be implemented without triggering the hazardous waste rules. The Team also believes that opportunities for safe recycling could be increased with some adjustments to the regulations.<sup>5</sup> New Jersey and federal hazardous waste regulations are the same, so the lessons learned through this effort are relevant in other states where the federal regulations apply. Two participating companies implemented one of these scenarios and documented the benefits observed. The Team wrote a report, titled *Promoting Chemical Recycling: Resource Conservation in Chemical Manufacturing* (May, 1999, EPA 231-R-99-001), that describes all five scenarios, how the hazardous waste regulations apply to them, and the outcome of the scenario that was implemented.

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<sup>4</sup> See Appendix C for a more complete description of these issues.

<sup>5</sup> Changing Federal Regulations was beyond the scope of the NJ CIP.

- < The Effluent Trading Pilot Team worked to identify and address the barriers to effluent trading and to establish the first local pretreatment trades in the nation between indirect dischargers. The trades occurred in the Passaic Valley Sewerage Commissioners (PVSC) service area, one of the largest publicly-owned treatment works (POTWs) in the country. Pretreatment can be very expensive for facilities. Yet when control measures are instituted, a facility may be able to reduce the levels of pollutants in their effluent more than is required. For other facilities, instituting additional control measures to meet these limits would be prohibitively expensive, forcing them to shut down some production processes or to go out of business entirely. Trading allows facilities to work together to control the discharge of pollutants in a manner that is cheaper for all parties. Trading at PVSC is also good for the environment, since 20% of the allowable metals units that are traded will be "retired," and not discharged into the environment. The Team worked with industry to identify and address the obstacles to trading, and prepared a report, titled *Sharing the Load: Effluent Trading for Indirect Dischargers* (May, 1998, EPA 231-R-98-003), that provides guidance on how to establish effluent trading at other POTWs.
  
- < The Flexible Track Pilot Team developed a framework for an innovative program within the NJ DEP for good environmental performers. Three tracks, Silver, Silver II, and Gold, are being established to complement the existing multi-media compliance system. This program seeks to provide incentives for facilities to achieve, maintain, and go beyond compliance. Facilities will receive some flexibility and public recognition for their good performance. The community will have improved input into the environmental management process and increased understanding of the impacts of facility operations. The environment will benefit from the sustained good environmental performance of the participating facilities. The Team prepared a white paper in May, 1997, titled *Proposed Framework for a Flexible Track Program*. NJ DEP adopted this framework and took primary responsibility for implementing a flexible track program. Silver Track was implemented in September, 1999 and Silver Track II was implemented in May, 2000. Guidance and application forms for these programs are available at <http://www.state.nj.us/dep/opppc/silver.html>. NJ DEP is continuing to work with EPA and a stakeholder group of industry and environmental group representatives in developing Gold Track.

### **Purpose and Organization of Report**

This report is intended to document the process and outcomes of the NJCIP and to serve as a guide to others who undertake similar efforts. It includes a brief discussion of the stages of the project, the activities of the four Pilot projects implemented by the Stakeholders, and the observations from Stakeholders and other Pilot project participants on the policy implications of the project. We hope that the information and ideas presented in this report will help others find better ways of running projects, adopt better approaches to managing particular environmental issues, and most of all, recognize that there are many ways we can improve how we protect the environment.

The remainder of this report includes four chapters. Chapter 2 describes the initial stages of the NJCIP, including establishing the Stakeholder Group and the ground rules for the project. It also describes the project structure, which was organized around a series of four Stakeholder meetings. Chapter 3 summarizes EPA's approach to working with the Stakeholders to identify and analyze key issues for the batch chemical sector in New Jersey and the process for selecting specific issues to address through Pilot projects. This is followed by a description of the activities and achievements of these Pilot projects in Chapter 4. The final chapter of the report presents the Stakeholders' assessment of the outcomes of the NJCIP, explores their views on the lessons learned through this project, and presents their recommendations on how these lessons can be applied to other efforts in the future.

This chapter discusses the underlying operating principles and the basic structure and functioning of the NJ CIP. These elements of the project were designed to ensure that project participants could focus on substance in order to maximize the value of their ideas for developing better approaches.

### **Establishing a Stakeholder Group**

EPA set out to establish a Stakeholder Group to help guide the project in identifying issues, choosing which issues to address, and providing continuing input to assure that the new approaches developed would work for all parties — industry, government agencies, the public, and the environment. The project staff looked for individuals who were well-established and could represent their organization, yet who had the personal ability to step outside of the mantle of their organization and work together with others to develop approaches that would be better for everyone. Most importantly, staff looked for innovative thinkers who could envision and develop novel ideas for improving environmental quality.

#### ***What makes a good stakeholder?***

- L innovative thinker***
- L well-established in their organization with ability to represent its views***
- L open and honest***
- L non-adversarial***
- L not focused on a set "agenda"***

In choosing participants for a Stakeholder Group, EPA sought balance between government, industry, environmental groups, and other parties. Staff first discussed this new project idea with EPA's Region 2 and the New Jersey Department of Environmental Protection (NJ DEP). Because environmental issues addressed during the project may affect water discharges, they sent letters to the key Publicly Owned Treatment Works (POTWs) in New Jersey. Several local environmental groups in New Jersey, as well as academics, industry trade groups, and union representatives were also contacted. In recruiting industry representatives, the aim was to be sure that the Stakeholder

Group represented the views of the full range of batch chemical companies, including but not limited to large multi-national corporations. While large businesses often have the financial and staff resources to work with EPA on special projects, it is important to develop new approaches that will work for companies of different sizes, especially since much of the specialty batch chemical industry is comprised of small businesses. EPA worked through trade associations to identify potential industry participants and sent a letter to approximately 60 small chemical firms in New Jersey. In the end, the Stakeholder Group included twelve companies — six small businesses, two medium-sized businesses with 100 to 150 employees, and four large multi-national corporations.

In the process of establishing the Stakeholder Group and designing the general project structure, EPA staff spent at least one to two hours with each potential Stakeholder prior to asking them to join the project.<sup>6</sup> Most often this was done in person. At these "get-to-know-you" meetings, EPA presented a broad vision of the project, and the potential Stakeholder spoke about their organization and some of the issues that might be addressed by such a project. EPA also asked the potential Stakeholder for input on the structure and process of the project. In this way, the Stakeholders who would implement the project were very instrumental in designing it. In addition, the concept of the Stakeholders driving the project was established very early. Through these meetings, Stakeholders learned the general purpose and scope of the project and what would be expected of them, which led to a committed group that stayed with the project over time and thus provided "institutional memory" and momentum.

**Exhibit 2-1**  
***Organizations Represented in the Stakeholder Group***

<i>Baykeeper Program/American Littoral Society</i>	<i>New Jersey Institute of Technology</i>
<i>CasChem, Inc.</i>	<i>Octagon Process, Inc.</i>
<i>Chemical Industry Council/NJ</i>	<i>Oil, Chemical, and Atomic Workers Union</i>
<i>Ciba Specialty Chemicals</i>	<i>Passaic Valley Sewerage Commissioners</i>
<i>Dock Resins Corporation</i>	<i>Pilot Chemical Company</i>
<i>E.I. Dupont</i>	<i>Rutgers Environmental Law Clinic</i>
<i>Exxon Chemical/Infineum USA L. P.</i>	<i>Scher Chemicals</i>
<i>Fabricolor, Inc.</i>	<i>Synthetic Organic Chemical Manufacturers Association</i>
<i>OMG Fidelity Chemical</i>	<i>Teamsters Local 877</i>
<i>Merck, Inc.</i>	<i>Tricon Colors, Inc.</i>
<i>Middlesex County Utilities Authority</i>	<i>US EPA Office of Policy</i>
<i>NJ DEP (various offices)</i>	<i>US EPA Region 2</i>
<i>NJ First</i>	

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<sup>6</sup> The members of the Stakeholder Group are listed in Appendix A.

## **Creating a Positive Working Relationship - Ground rules**

In a project like the NJCIP, where the purpose is to identify issues related to the current environmental protection infrastructure and develop new approaches that will work better, it is critical that communications be open and honest. Previous relationships among some of the organizations represented on the Stakeholder Group had been adversarial at times. The Group needed to find a way to hear what the problems were with the current system while leaving any adversarial feelings behind. To accomplish this, Stakeholders needed to be able to express their views without fear of retaliation. It was essential to know what the pros and cons were for the new approaches from every Stakeholder's point of view so that these approaches could work in the real world and yield concrete benefits.

EPA staff discussed this need for open communications with each potential Stakeholder and with the Stakeholder Group as a whole. This led to the Group's adopting a ground rule of non-adversarialism in all of its proceedings. Stakeholders believed that there were enough ideas out there and enough work to be done, that they could make significant progress in developing new environmental approaches without being confrontational. In managing the process, EPA staff worked to create an environment where the Stakeholders could share their ideas without being criticized. This enabled the Group to focus on the substance of better approaches, and prevented the process from becoming a forum for political debate or divisiveness.

EPA accomplished this by first acknowledging that it did not have all of the answers. While agencies try to set up programs and operational systems to assure compliance with environmental requirements, they cannot always see the inconsistencies or duplication among different requirements. Current regulatory systems do not effectively address or prevent all environmental problems. There may be strengths that industry has that can be incorporated into these systems. There also may be community concerns that can be addressed voluntarily if there is an effective mechanism for communicating those concerns. EPA needed to show that it could be open to both criticism of the current systems and to new ideas for better approaches to environmental protection.

EPA also needed to set a tone that would encourage the Stakeholder Group to seek solutions that would offer the greatest public good, where the interactions would not slip into lobbying the agencies for special favors. The Group set specific criteria for choosing and developing new approaches to test that would have broad applicability for the whole sector and potentially for other sectors as well. This led to a greater sense of public service (a feeling of altruism) and much broader thinking about what the Stakeholder Group could do and how to make its work benefit as many parties as possible, including the environment.

Finally, a key factor in creating a positive working relationship among the Stakeholders was the encouragement and practice of frequent, open, and honest communications. Pilot Teams held frequent conference calls. Background materials, agendas and reminders were faxed to participants



before each call and detailed summaries were sent out after each call. Those responsible for facilitating the calls made a concerted effort to solicit input from all participants in the call. EPA staff also sent periodic project updates to all project participants.

## **Project Structure**

When inviting individuals to join the Stakeholder Group, EPA asked them to commit to attending a series of four one-day meetings over the life of the project. EPA also established another category of participants for individuals who were interested in the project, but could not commit to participating at the Stakeholder level. These individuals were called "Trackers" because they were tracking the progress of the project. Maintaining a list of Trackers served to keep additional individuals involved and the project benefitted from their opinions and expertise. In fact, some Trackers made significant contributions to developing and implementing the Pilot projects.

Given all the ideas presented by potential project participants at the "get-to-know-you" meetings, the staff was able to design a project plan in chart form (see Figure 2-1) that described how the project would proceed through various stages. This was approved by the Stakeholder Group at its first meeting. The project plan reflected many of the ideas suggested by Stakeholders in the initial discussions. It gave Stakeholders a clear vision that the project had a definite structure and a finite time scale, yet provided flexibility for them to identify the substantive issues to be addressed in the Pilots.

Potential Stakeholders said they were busy, so the Group agreed that there would be only four Stakeholder meetings. The Stakeholders also endorsed the general structure of the project, which consisted of stated activities to be completed at each meeting (listed in the top half of Figure 2-1), and tasks to be completed between meetings (listed in the bottom half of Figure 2-1) so that subsequent meetings could be productive. By following this plan, the Group was able to stay on track and complete each of the agreed steps in a reasonable time frame without scheduling additional Stakeholder meetings.

The project plan guided the Group through each stage of the project in a logical manner. The first tasks included gathering background information on the batch chemical industry and establishing the Stakeholder Group. The goals of the first meeting were to introduce Stakeholders to each other and initiate discussions both on how the project would be run and on identifying the factors that affect the batch chemical industry. After the first meeting, industry Stakeholders and EPA staff continued discussing factors that affect individual firms. Using all this information from the Stakeholders, EPA staff began identifying and assessing issues for Pilot projects. Each issue was evaluated through a scoping analysis. The analysis included identifying the issue and potential new approaches and then getting feedback from appropriate experts at EPA, NJ DEP, POTWs, and other state and federal agencies on the potential for success if the issue were to be pursued as a Pilot.<sup>7</sup>

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<sup>7</sup> This scoping analysis is documented in a NJCIP document titled "List of Facility Issues," October 10, 1999, 137 pp.

Figure 2-1

## New Jersey Chemical Industry Project Plan

### Meetings:

#### 1st Stakeholder Meeting:

- Introduce participants;
- Review Project Plan;
- Initial group backward mapping.

#### 2nd Stakeholder Meeting:

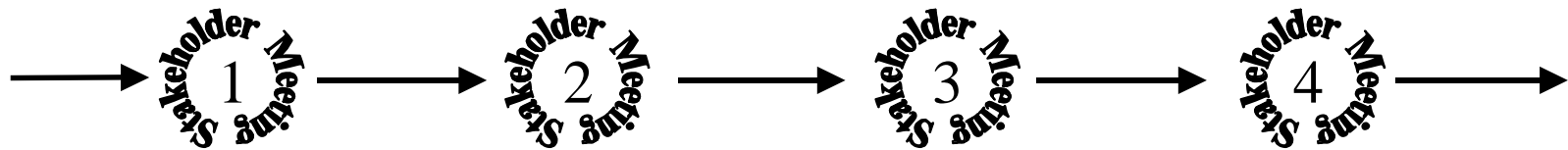
- Review backward mapping results;
- Present issue scoping results;
- Select issues and facilities for pilots.

#### 3rd Stakeholder Meeting:

- Review and discuss proposed pilot project agreements.

#### 4th Stakeholder Meeting:

- Review results of pilots;
- Develop conclusions;
- Draft policy recommendations.



### Tasks between meetings:

#### Project Initiation:

- Gather background on industry;
- Establish Stakeholder Group.

#### Project Definition:

- Identify facility-level drivers and barriers;
- Identify and assess issues for pilots;
- Scope issues:
  - What is the issue?
  - What laws/regs and agencies/offices involved?
  - Room for flexibility?
  - Potential for transferability?
  - Do people have time to commit?

#### Defining Test Approaches:

- Complete issue analysis for pilots;
- Recruit local Stakeholders;
- Develop proposed project agreements.

#### Testing and Analysis:

- Implement pilot projects;
- Evaluate pilots and compare environmental results and costs of pilot approach to traditional approach.

#### Documentation:

- Document pilot results, Group conclusions, and recommendations in draft report;
- Finalize report with Stakeholder input;
- Develop and implement outreach plan for project results.

Stakeholders evaluated each issue and, at the second Stakeholder meeting, chose the issues to work on in greater detail through the Pilot projects. Teams were established for each Pilot.<sup>8</sup> Each Team recruited additional members who could provide needed expertise and perspectives and developed a work plan for the Pilot. At the third Stakeholder meeting, these Pilot plans were presented and discussed with the Stakeholder Group. Each Team then developed its new approach, implemented the approach to the extent possible, and prepared outreach materials so that the lessons learned about new approaches to environmental protection could be shared with others and applied more broadly. After developing the new approaches and implementing the Pilots, each of the Teams reported its results at the fourth and final Stakeholder meeting. The Group also discussed the lessons and recommendations from the Pilots and from the project as a whole.

### **Process Support**

EPA provided significant contractor support to help keep the substance of the project moving. The contractors attended meetings and conference calls, helped facilitate the discussions, and documented the conclusions of each. They also developed task reminders and schedules, researched specific issues that were raised by the Stakeholders, offered assistance to participants in completing their own tasks, and developed materials for project participants to discuss in subsequent meetings and calls. In this way, the contractor support was crucial in keeping the focus on substance, completing the analysis of 45 issues, and keeping the multiple Pilots progressing at a pace needed to achieve our goals. This was an important role — it greatly reduced the burden on other project participants and freed them up for thinking, planning, and interacting.

Both the EPA project manager and the lead contractor for the NJCIP are skilled in facilitation and negotiation. These skills were crucial to ensuring that the process was handled fairly and professionally. Having senior project staff with these skills who also dealt with substantive issues allowed the project substance to move more quickly than if an outside facilitator had managed group interactions. The satisfaction of the Stakeholder Group and other participants was the measure they used to determine if more attention was needed to any matter.

While EPA provided financial support for the project and managed the process, it was critical to the integrity of the process, and the ultimate success of the project, that project staff did not seek to control the substantive outcomes. Instead, Stakeholders and other participants decided or had input to most every issue. This assured all participants that their views would be heard and incorporated wherever possible. It also signaled the participants that they had a genuine opportunity to make a difference.

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<sup>8</sup> The members of the Pilot Teams are listed in Appendix A.

This chapter discusses how the NJ CIP drew upon various information sources to identify and evaluate ideas for new approaches to environmental protection. The Group started with very general information about the industry compiled from published sources. We augmented this information with the views of stakeholders to develop a list of 45 issues for possible pilot projects. Using the results of a scoping analysis of these issues, including agency staff reactions to the potential for conducting Pilot projects for specific issues, and a set of criteria established by the Stakeholders, the Group selected four pilot projects and organized the work of the Pilot Teams.

### **Understanding Industry Decision-Making Factors**

EPA began the NJCIP by reviewing the relevant characteristics of the batch chemical industry in New Jersey, including current economic and technological trends, demographics, and prevailing organizational culture — all traits that may promote or hinder environmental improvements. EPA wanted to learn what factors inspire companies to achieve — or keep them from achieving — better environmental performance. The strategies developed by the project are based on this knowledge about factors affecting industry.

This analysis included developing an understanding of agency, corporate, and others' decision-making factors that affect environmental performance: regulatory factors, organizational culture, availability of information and technology, market trends, financial and human resources, etc. These factors represent the key leverage points for the industry. We did this in two ways. First, we looked at published sources of information about the industry. Second, we asked our project participants for their views about factors affecting industry.

### **Published Information<sup>9</sup>**

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<sup>9</sup>The data included in this report is taken from two *Profiles of the New Jersey Chemical Industry*, prepared by Industrial Economics, Incorporated in August and September 1995. Since no economic data were available for batch component of the chemical sector, the information presented reflects the status of the full chemical manufacturing sector at that time.

EPA staff reviewed published economic literature to collect information on the size of the batch chemical industry in New Jersey. Historically, New Jersey has ranked with Texas, Louisiana, and California as one of the four largest chemical manufacturing states. New Jersey represents a major concentration of U.S. chemical manufacturing. For example, it ranked second to California in total number of chemical manufacturing plants in the 1987 Census of Manufactures, with 912 and 1,423 chemical plants in these two states, respectively.

The chemical industry in New Jersey has been declining, both in the number of facilities and in the size of the work force employed. From 1990 to 1993, the total number of chemical manufacturers in New Jersey decreased from 926 facilities to 857 facilities, an average annual decrease of 2.6 percent. Over a 13-year period beginning in 1980, the number of chemical industry employees in New Jersey decreased by 18,000, a 14.7 percent decline. Similar, though less dramatic, decreases occurred nationally. For example, chemical industry employment in the U.S. decreased 3.5 percent from 1980 through 1993.

Company restructuring, state taxes, and environmental regulations have been cited as reasons for these declines in New Jersey. Restructuring has occurred for a variety of reasons, all based on company decisions to improve profitability. These include financial retrenchment by a parent company, downsizing to decrease company expenditures, company mergers, and the sale of a division to another company. While the factors affecting restructuring may not be unique to New Jersey, corporate taxes are comparatively high in New Jersey (based on 1992 data) and environmental regulations there often include more requirements or are stricter than those adopted at the federal level.

Despite this decline in the number of chemical manufacturers in the U.S., the economic performance of the sector remains relatively strong. The value of shipments for the chemical industry rose 21 percent between 1987 and 1991. One contributing factor to the strength of the chemical industry in New Jersey is the competitive advantage provided by the state's large harbors, which facilitate exporting. The chemical industry remains the foremost exporter among New Jersey manufacturing industries.

### **Participant Views**

EPA asked Stakeholders to share their views about the key decision factors for the batch chemical sector during both the first Stakeholder meeting and subsequent visits to individual plants. Staff used the following questions to help guide these discussions with the Stakeholders:

- C What do you think are the biggest concerns of the batch chemical industry, day-to-day and longer term?
- C What do you think are the biggest concerns of the community about the batch chemical industry?
- C What currently drives your decisions to improve environmental performance?
- C How does the current system promote better environmental performance?

- C What environmental requirements do you think are particularly difficult to comply with?
- C Are there some requirements that you think aren't worth the cost or effort for the environmental protection gained?
- C Does the current regulatory system present barriers to better environmental performance?
- C For companies: Do you see specific barriers to improving your facility's environmental performance? What are they?
- C If existing regulations allowed you the flexibility to design new compliance approaches, what alternative procedures would you like to implement?
- C What are the barriers to implementing your proposed alternative compliance approaches?
- C What kind of incentives or regulatory alternatives can government provide to encourage improved environmental performance?

Stakeholders cited a variety of concerns related to the batch chemical industry: industry representatives were interested in finding ways to be “clean and green” – performing well environmentally and economically; government representatives expressed an interest in providing more assistance to industry to help improve compliance; academics wanted to increase pollution prevention opportunities; and environmentalists wanted companies to become more environmentally responsible and regulatory agencies to be more responsive to their concerns. The most commonly-cited factors that motivate the decision-making of the managers of batch chemical firms were competition and economics. Other important factors include non-monetary societal values; foreign competition; fast pace of change in the industry; worker and customer safety; community concerns; and the desire to be environmentally responsible.

The Group believed that environmental protection approaches could be enhanced if: costs and time delays associated with compliance were reduced; laws and regulations allowed more recycling of waste materials within and between plants; more positive rewards and incentives were given for good performance; the agencies focused on environmental results rather than on procedures and paperwork; rules were less complex; and companies, especially small businesses, had easy-to-understand information on how to comply.<sup>10</sup>

From these discussions with the Stakeholders, EPA staff developed a list of 45 issues for possible Pilot projects to test new environmental protection strategies.<sup>11</sup> The next step involved "scoping out" each of these issues by asking the appropriate agency officials (US EPA, NJ DEP, and the publicly-owned treatment works (POTWs)) what they thought of the proposals. Was there some reason a project to address this issue could not succeed? Is there legal/regulatory flexibility to try an alternative approach on this issue? Had it been tried before? Have agencies been looking for an

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<sup>10</sup> A complete list of Stakeholders' comments during the discussion of decision factors for the batch chemical sector is presented in Appendix B.

<sup>11</sup> A list of all 45 issues is included in Appendix C. This list includes a brief summary of each of the issues.

opportunity to try it? Would the regulators be willing to work with Project participants on the issue if the Stakeholder Group chose it as a Pilot?

EPA documented the results of this scoping, and prepared a summary of each issue for the Stakeholder Group.<sup>12</sup> Each issue summary included:

- General Issue Statement:
  - < A description of the current situation
  - < Problems that are caused by the current situation
  - < The proposed alternative to the current situation
  - < The general benefits of the alternative
- The relevant regulations and permits
- Evaluation Factors:
  - < Overall assessment
  - < Room for flexibility
  - < Potential for environmental improvement
  - < Cost-effectiveness potential
  - < Transferability
  - < Staff availability
- Regulatory agency and industry contacts, and issue leads (from among the Stakeholders)
- Additional clarification questions to help define the issue

This “List of Facility Issues” was sent to each of the Stakeholders several weeks before the second Stakeholder meeting so that they could review the analysis and form initial opinions. EPA asked the Stakeholders to express their initial view of the merit of each issue for further work. The results of this straw poll were compiled and presented at the Stakeholder meeting.

### **Selecting the Pilots and Forming Pilot Teams**

At the second Stakeholder meeting, the Group used the results of the “straw poll” as the starting point for its discussions. The Stakeholders considered the agency responses, the potential environmental benefits

***The Four Pilot Projects:***

- C Compliance Assistance*
- C Materials Recycling*
- C Trading Local Effluent Limits*
- C Flexible Track for Good Environmental Performers*

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<sup>12</sup> This analysis is available in an unpublished New Jersey Chemical Industry Project document titled “List of Facility Issues” dated October 10, 1996, 138 pp., available upon request.

of the proposed approach, the transferability of the approach to the rest of the industry and perhaps other industries, the priority they placed on seeing the issue addressed, and their willingness to work on the issue. We then sorted each of the issues by priority and likelihood of success and chose four Pilot projects all in a one-day meeting.<sup>13</sup> The criteria for evaluating each issue's potential as a suitable Pilot included:

- potential for learning;
- potential for environmental improvement;
- cost effectiveness;
- transferability;
- room for flexibility; and
- availability and interest of agency and company staff to work on the issue.

Two themes emerged from the discussion of the proposed issues. First, Stakeholders emphasized that they would like to see a decrease in the resources needed to comply with environmental permitting and reporting requirements. This could take two forms, consolidating overlapping requirements and reducing requirements for good environmental performers. Second, the Stakeholders also emphasized the need for better communications between regulators and the industrial community. This recommendation arose because the issue scoping revealed that solutions were already in place for some of the problems cited by industry, but Stakeholders were not aware of them. The Group agreed that regulatory agencies needed to provide more information about new programs that can help address industry's issues.

Eight issues were selected as the top choices for Pilot projects. The Group identified some overlap among several of these issues and decided to consolidate them into four Pilot projects.<sup>14</sup> The four Pilot projects chosen were:<sup>15</sup>

- C **Compliance Assistance.** The goal of this Pilot was to facilitate compliance with environmental regulatory requirements among New Jersey's batch chemical industry and other facilities by providing improved compliance assistance.
- C **Materials Recycling.** This Pilot sought to address Stakeholders' concerns over the lack of opportunity for materials recycling under RCRA by clarifying how hazardous waste rules apply to a series of typical scenarios for recycling process waste at batch chemical facilities.

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<sup>13</sup> Given the number of issues considered that day and the differing views of the organizations represented, the Stakeholders were faced with a daunting task. It was the strength of the project ground rules, and the degree of trust and commitment they engendered among the Stakeholders, that enabled individuals to "buy into" the process of sorting the issues and to follow-up by supporting and contributing to the development of Pilots to address the highest priority issues.

<sup>14</sup> As work progressed on the Pilots, participants found that they overlapped with the concepts of additional issues. Eventually, aspects of more than 20 of the 45 issues were incorporated into the Pilots.

<sup>15</sup> A more complete description of the activities and outcomes of these Pilots is provided in Chapter 4. Also see the reports and materials prepared by each of the Pilot Teams and which are listed in Appendix D.



- C **Trading Local Effluent Limits.** This Pilot explored the use of trading to help facilities meet new local pretreatment limits for discharging metals to a POTW.
- C **Flexible Track for Good Environmental Performers.** The goal of this Pilot was to provide incentives for facilities to achieve, maintain, and go beyond compliance by designing, demonstrating, and eventually implementing a "flexible track" for facilities that demonstrate a capacity for good environmental performance.

After selecting the Pilots at their second meeting, the Stakeholders discussed the general format and tasks for developing and implementing them. The starting point for each Pilot was the information presented in the "List of Facility Issues." The Stakeholders agreed that each Pilot Team would develop a plan of action and further define the Pilot by articulating tangible goals, identifying any barriers to be overcome, defining measures of success, and securing appropriate "buy-in" within each participating organization. Pilot participants would then define and implement specific activities and tasks needed to accomplish the Pilot's goals. A unifying theme across each Pilot was maintaining the NJCIP's overall emphasis on the importance of collaboration and open and honest communication.

A sub-group of the Stakeholders formed the core work team for each of the four Pilots. Additional experts from NJ DEP, US EPA, industry, trade associations, and environmental and community organizations were invited to join the Pilot Teams to achieve a balance of organizational representation and secure the needed expertise.

The Pilot Teams met frequently via conference calls and workshops to design the Pilot projects and work through each step of implementation. It was easier for everyone to participate in conference calls rather than attend meetings because there is no need to travel, so many more calls were held than workshops. Most calls were 1½ to 2 hours and held at two to four week intervals for each Pilot. Occasionally, a day-long workshop was held to allow the Team to discuss issues in a more concentrated time frame. EPA's conference call system was used extensively throughout the project.

The calls and workshops were led by the EPA project manager, a contractor, or one of the Pilot Team Chairs. Contractors and the EPA project manager prepared and sent agendas before each call/workshop and summaries of each call/workshop afterward with task lists so that participants could keep up with the Team's progress and follow up on what they had agreed to do. This was valuable in helping the Team consistently achieve substantive progress in addressing issues and in sustaining interest among the Team members.

This chapter focuses on the activities and achievements of the four individual Pilot projects selected and implemented by the NJCIP Stakeholders. As described earlier, each project was chosen because it addressed one or more of the regulatory issues identified by the Stakeholders and because it tested an alternative approach to environmental protection that offered better environmental results while providing economic benefits for facilities and/or efficiency benefits for agencies.

For each Pilot, we describe the Stakeholders' objectives in pursuing the project and their approach to implementing it. This is followed by a summary of the outcomes of the Pilot and the Stakeholders' principal recommendations for implementing this type of innovative environmental protection strategy. We do not attempt to present a complete description of each Pilot here. Rather, we hope to provide some background for the Stakeholders' recommendations for each Pilot (see the end of each section of this chapter) and for the project as a whole (see Chapter 5). For additional information on the Pilots, please refer to the reports and other documents referenced in Appendix D.

### **Compliance Assistance Pilot**<sup>17</sup>

#### *Objectives and Approach*

The Stakeholders chose to undertake a Pilot that focused on providing improved compliance assistance based on concerns raised by facilities. Specifically, facilities expressed concern over their

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<sup>16</sup> A complete list of reports and documents produced during the course of the New Jersey Chemical Industry Project is presented in Appendix D. The major reports on each of the Pilots are included in this list, as are other significant documents, ranging from summaries of major meetings to analyses of key issues related to the Pilots.

<sup>17</sup> More information about the Compliance Assistance Pilot and its accomplishments can be found on the Internet. The Pilot Team's report, entitled *Inspiring Performance: The Government-Industry Team Approach to Improving Environmental Compliance* (EPA 231-R-99-002, May 1999) describes how the Pilot Team developed compliance assistance materials, and includes a series of recommendations for a future compliance assistance initiatives. It can be viewed at: <http://www.epa.gov/emergingstrategies/njcip/cadoc/home.htm>. In addition, the compliance assistance materials developed by the Pilot Team were placed on NJ DEP's web site. They can be viewed at: <http://www.state.nj.us/dep/enforcement/home.htm>. Paper copies of the *Inspiring Performance* report and the materials can also be requested from EPA. See Preface for contact information.

abilities to fully track all of the environmental requirements they are subject to under the complex regulatory system. This task is especially challenging for smaller companies that do not have dedicated environmental staff and those companies that are not members of trade associations or other organizations that provide regulatory update services. These concerns were reflected in several of the issues contained in the List of Facility Issues.

The goal of this Pilot was to facilitate compliance with environmental regulatory requirements among New Jersey's batch chemical industry and other facilities by providing improved compliance assistance. In keeping with the philosophy of the larger NJCIP, the Pilot Team's approach to achieving this goal was based on a wholly collaborative process involving agency staff, trade association staff, and facility representatives, to identify and develop the most useful forms of compliance assistance.

By taking this innovative approach, the Pilot Team hoped to target its efforts at developing compliance assistance that would effectively meet industry's greatest needs. Thus, the first, and perhaps most challenging, task for the team was to determine how it could make the most valuable contribution to meeting industry's needs for compliance assistance. To do so, the Pilot Team collected information on facilities' current use of commercial compliance assistance resources, the regulations for which facilities need the most assistance, and the formats of compliance assistance that facilities find most helpful. They relied on the following sources during this effort:

- C NJCIP Stakeholder and Tracker facilities;
- C Members of trade associations participating in the Pilot -- Synthetic Organic Chemical Manufacturers Association, Inc.<sup>18</sup> and the Chemical Industry Council of New Jersey;
- C A 1994 Chemical Manufacturers Association's survey of its members; and
- C Staff from EPA's Office of Enforcement and Compliance Assurance (OECA).

Based on this research, the Pilot Team concluded that chemical companies have difficulty understanding many New Jersey regulations and that complying with these regulations is very time-intensive, especially for smaller companies that do not have in-house staff specializing in environmental compliance. In particular, the Pilot Team concluded that facilities' most urgent needs are for information on:

- C What regulations apply to them;
- C How the regulations apply to them;
- C What they need to do to comply with the regulations; and
- C How they can stay abreast of regulatory changes.

The Team's research also found that companies preferred receiving this additional compliance assistance in the following formats:

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<sup>18</sup>The Chemical Manufacturers Association, Inc. changed its name to the American Chemistry Council in June, 2000.

- C Electronically searchable compliance information;
- C Plain language summaries of regulations/applicability flowcharts;
- C Training programs;
- C Confidential question and answer sessions; and
- C Regulatory alert services.

### *Outcomes and Recommendations*

The Pilot Team decided to focus its activities on developing a series of compliance assistance materials (CAM) and conducting a pair of workshops for industry representatives as the most effective way to help meet the needs that it had identified.<sup>19</sup> While the impetus for these activities stems from this project which involves the batch chemical industry, the products are applicable to many other manufacturing and service sectors.

The CAM consists of the following specific components:

- C ***Summary of New Jersey regulations.*** A list of state environmental regulations, brief plain language descriptions of 20 major regulations with phone numbers for NJ DEP offices that facility staff can call with questions.
- C ***Summary of NJ DEP compliance assistance programs.*** Descriptions of NJ DEP's Greenstart, Small Business Assistance, Technical Assistance, and One Stop programs, and the Hazardous Waste Welcome Wagon Initiative, including information on how to access them.
- C ***Information on New Jersey Administrative Code and New Jersey Register.*** A description of the type of information included in the New Jersey Administrative Code and New Jersey Register, as well as how a regulation is adopted.
- C ***Detailed Applicability Flowcharts for Selected New Jersey Regulations.*** Flowcharts were prepared for six regulations that the Pilot Team felt were particularly difficult for facility staff to understand. They were designed to assist these staff in determining whether and how a regulation applies to their facility.
- C ***Bibliography of Additional Compliance Assistance Resources.*** Information on how to obtain additional compliance assistance resources for New Jersey and federal regulations, such as training materials and regulatory guides prepared by U.S. EPA, NJ DEP, and several trade associations.

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<sup>19</sup> In designing these materials, the Team also chose to address only New Jersey state regulations, largely because EPA's Office of Enforcement and Compliance Assurance had already begun to develop its Internet-based national compliance assistance center for the chemical industry that focuses on federal regulations. This information can be found at <http://www.chemalliance.org>.

The CAM were designed to be transferred to NJDEP for future management and distribution. NJDEP was the most logical organization to take on this future role because the CAM focused on New Jersey programs and requirements.

After completing the CAM, the Pilot Team sponsored two compliance assistance workshops in October 1998, one in Newark and one in Trenton. These workshops differed from typical workshops because they were developed and presented jointly by agency and industry representatives. They consisted of discussion panels on each of the six regulations highlighted in the CAM with applicability flowcharts. The panels generally included one or more NJ DEP representatives who made an initial presentation about the regulation plus industry representatives who provided additional insights based on their experiences in fulfilling the requirements of the regulation—all of which was intended to help identify effective approaches to compliance. Feedback from workshop participants was positive, with the vast majority of them indicating that the presentations improved their understanding of the regulations and that they would recommend the CAM to a colleague.

In response to the Pilot Team's enthusiasm and to the positive feedback from the regulated community to both the CAM and the workshops, NJ DEP and industry representatives have formed an ongoing Working Group with the goal of continuing the government/industry collaboration initiated by this Pilot. Through this partnership, industry representatives and NJ DEP hope to maintain an open dialogue on industry's compliance assistance needs and work jointly to identify and develop additional compliance assistance tools. A number of industry and trade association representatives on the Pilot Team and participants in the compliance assistance workshops are participating in the Working Group along with NJ DEP staff.

Establishing this ongoing Working Group is perhaps the most significant outcome of the Pilot. It not only signals the success of the Pilot Team's efforts in developing useful compliance assistance materials, it provides a way to sustain both the usefulness of the CAM, which needs to be kept up-to-date to reflect regulatory changes, and the atmosphere of collaboration in the area of compliance assistance achieved during the Pilot. The benefits of completing this Pilot are summarized in Exhibit 4-1. These include actual benefits that have already accrued as a result of Pilot activities, plus potential benefits that may be realized as improved forms of compliance assistance become increasingly available.

<b>Exhibit 4-1</b>	
<b>ACTUAL AND POTENTIAL BENEFITS OF THE COMPLIANCE ASSISTANCE PILOT</b>	
<b>Actual Benefits</b>	<b>Potential Benefits</b>

Enhanced communication and cooperation between industry and regulators.	Reduced uncertainty for industry.
More efficient/effective delivery of compliance assistance.	Economic benefits for industry.
Increased access to compliance assistance.	Easier for facilities to understand and comply with environmental regulations.
Increased understanding of environmental regulations.	Cleaner environment due to improved compliance.
Workshop participants benefitted from meeting NJ DEP and EPA Region 2 contacts.	Improved perception of chemical industry by the public.
	Improved perception of government by industry.
	Successful model for future compliance assistance efforts.

In reflecting on the achievements of the Compliance Assistance Pilot, Team members and the Stakeholder Group agreed that the collaborative approach between industry and government exemplified through this Pilot is a model for developing effective compliance assistance in other states. They developed a series of recommendations for future, similar efforts.

1. **Researching other efforts and getting facility input are critical activities when defining compliance assistance needs.** Researching other efforts is critical to ensuring that potential compliance assistance activities and products will fill gaps in current resources rather than duplicate them. Obtaining facility input is equally important for developing compliance assistance materials that cover the most valuable topics and are in the formats most useful to industry. When seeking this input, it is important to reach beyond the usual constituency to identify the needs of those facilities that are not in trade associations and do not already participate in voluntary programs—these may be the facilities most in need of compliance assistance.
2. **Efforts should be made to sustain government/industry collaboration in providing improved compliance assistance and to keep the information in compliance assistance materials current.** NJ DEP and industry have formed an ongoing compliance assistance partnership. This working group's goals include identifying additional worthwhile compliance assistance activities, maintaining up-to-date compliance assistance materials, and integrating compliance assistance tools into the development of regulations (e.g., preparing plain language summaries and applicability flowcharts when regulations are written).
3. **Marketing of compliance assistance materials is a key to successfully conveying this type of information.** The usefulness of compliance assistance materials will be dictated not only by their accuracy, but also by the number of people with access to them. Marketing these materials is key to ensuring that they will be visible and available to all. Potential marketing techniques include distribution of NJ DEP announcements and links from other web sites.

## Materials Recycling Pilot<sup>20</sup>

### *Objectives and Approach*

The Stakeholders expressed concern over the lack of opportunity for materials recycling under the Resource Conservation and Recovery Act (RCRA). They commented that both the uncertainty engendered by the complexity of RCRA regulations and strict interpretations of these regulations represented barriers to recycling activities. The goal of this Pilot was to achieve both environmental and economic benefits by facilitating safe and efficient materials recycling under RCRA. The Pilot team defined materials recycling as an activity in which "non-product output" from a process is used productively and safely as an input for either the same or a different process. Recycling activities can be performed at a single industrial facility or they can involve an exchange of materials with other facilities.

The Pilot Team first defined a series of potential materials recycling scenarios that represent a range of activities likely to occur at batch chemical facilities (see summaries in text box). The scenarios were proposed by one or more of the facilities participating in the Pilot and are intended to be broad enough to apply to operations at other facilities within the sector. Next, the Team sought to identify and clarify the regulatory boundaries associated with each scenario. By taking this approach, the Team hoped to explore how additional recycling opportunities could be implemented at batch chemical facilities, even where current regulatory barriers exist.<sup>21</sup>

For each scenario, the Pilot Team aimed to clearly delineate the conditions under which the proposed activities are permissible without triggering costly hazardous waste management rules. This type of clarification would be valuable given the complexity of the definition of solid waste and other aspects of RCRA regulations. The Pilot Team felt that clarification was particularly important for facilities in New Jersey, since the state's hazardous waste rules were changed in 1996 to be

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#### Exhibit 4-2

##### **MATERIALS RECYCLING SCENARIOS:**

! **Trading Neutralization Chemicals.** Cross-facility trading of acidic and alkaline process streams that can be used in lieu of fresh neutralization chemicals.

! **Wastewater Alcohol Reuse.** Shipping organic wastewater alcohols, which are traditionally incinerated, to a Waste Water Treatment Plant where they serve as supplemental nutrients for biological treatment microbes.

! **Characteristic By-Product Recycling.** Purifying and selling a process stream containing alkyl alcohol.

! **On-Site Reclamation of Spent Solvents.** Cleaning a spent solvent to remove the solids and reusing it in the same cleaning process.

! **Off-Site Reclamation of Spent Solvents.** Sending a spent solvent off-site to a second facility that will reprocess it and either use it, sell it, or return it.

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<sup>20</sup> The Pilot Team documented the activities and outcomes of this effort in its report: *Promoting Chemical Recycling: Resource Conservation in Chemical Manufacturing* (EPA 231-R-99-001, May, 1999). This report can be obtained through EPA's web site at <http://www.epa.gov/emergingstrategies/njcip/mrdoc/home.htm>.

<sup>21</sup> The Pilot Team originally proposed a sixth scenario concerning the applicability of the RCRA closed-loop exclusion to recovery and reuse of excess process materials. However, the Team chose to withdraw this scenario because EPA Headquarters Office of Solid Waste staff's interpretation of the applicability of the RCRA closed-loop exclusion to the proposed activities seemed restrictive.

consistent with the federal rules, and therefore facilities may be confused about how the new rules apply. This change was fortuitous for the Pilot also, because it meant that the regulatory information presented in the scenarios can be useful for facilities outside New Jersey where the federal rules apply.

### *Outcomes and Recommendations*

Once the scenarios were defined, the Team submitted them to RCRA staff at NJ DEP, EPA Region 2, and EPA Headquarters for review. Agency staff then provided the Team with their regulatory determination concerning the conditions under which a facility could engage in the specified activities. For three of the scenarios — Trading Neutralization Chemicals, Wastewater Alcohol Reuse, and Characteristic By-Product Recycling — the proposed materials recycling activity could be undertaken without triggering hazardous waste management requirements, as long as certain conditions are met. For the other two scenarios, involving on-and off-site reclamation of spent solvent, hazardous waste management requirements would be triggered under most conditions.

Based on these regulatory determinations, two facilities on the Pilot Team implemented the Wastewater Alcohol scenario over a five-day period in October, 1998. During this small-scale test, a chemical manufacturer sent wastewater alcohols to a nearby wastewater treatment plant (WWTP), reducing its waste disposal costs by \$5,760 while the WWTP saved \$500 by reducing its use of fresh alcohol. The environment benefitted from the test as well. The amount of waste alcohol being discarded into the environment was reduced, as was the amount of raw-material alcohol produced for purchase by the wastewater treatment plant. These facilities plan to implement this scenario on a broader scale, at an anticipated annual cost savings of \$5,750 for the WWTP and \$8,980 for the chemical manufacturer.

The Pilot Team also tried to implement the trading of neutralization chemicals scenario. They contacted a number of facilities about the potential to trade alkaline and acidic waste streams. While several facilities were interested in participating, all of them had acidic process streams. The Team was not successful in locating a facility with a compatible alkaline process stream.

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*The Materials Recycling Pilot Team drafted a report presenting each of the scenarios and the associated regulatory determinations to encourage innovative thinking about materials recycling activities. Even if facility operations do not fully match the scenarios, the Team strongly encourages facility representatives to discuss ideas for recycling with the appropriate state or federal agency.*

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The characteristic by-product recycling scenario has been implemented previously outside of New Jersey.

With the publication of the results of this Pilot, the Team hopes that facilities in New Jersey and elsewhere will become more aware of the opportunities represented by the scenarios described in the report and will undertake these recycling activities when appropriate. Even if operations at a specific facility do not fully match those described in the scenarios, the Team strongly encourages facility representatives to discuss opportunities for recycling with the appropriate state or federal



agency.

The Pilot Team identified several actual and potential benefits related to this Pilot as summarized in Exhibit 4-2. These benefits stem from both increased materials recycling activities as described in the scenarios and from the process of conducting the Pilot and potential future activities as a cooperative effort between industry and government.

**Exhibit 4-3**

**ACTUAL AND POTENTIAL BENEFITS OF THE MATERIALS RECYCLING PILOT**

Actual Benefits	Potential Benefits
<p>Environmental benefits and cost savings associated with pilot testing the wastewater alcohol reuse scenario.</p> <p>Enhanced communication between Pilot Team members and NJ DEP and EPA RCRA staff.</p> <p>Increased industry understanding of the regulatory interpretation of five materials recycling scenarios.</p>	<p>Additional environmental benefits and cost savings from future implementation of the trading of neutralization chemicals, wastewater alcohol reuse and characteristic by-product recycling scenarios.</p> <p>Increased development of innovative recycling activities by the regulated community.</p>

The Stakeholder Group and Pilot Team have developed the following recommendations for increasing the opportunities for facilities to develop innovative recycling approaches. These are based on the outcomes of the Team's efforts to develop materials recycling scenarios and evaluate the regulatory boundaries for implementing them.

1. **Facilities should be more proactive in seeking opportunities to increase their materials recycling activities.** Facilities should seek opportunities to apply the three materials recycling scenarios that do not trigger additional hazardous waste management requirements as appropriate, saving money and benefitting the environment. There should also be more opportunities for facilities to check the regulatory interpretation of additional scenarios.
  
2. **Regulatory agencies should make a stronger commitment to encourage innovative recycling activities.** There are many innovative recycling activities that would result in economic and environmental benefits. However, in many cases, strict regulatory interpretations of these activities trigger RCRA hazardous waste requirements and hinder efforts to increase recycling. The Stakeholder Group encourages regulatory agencies to recognize that these activities can represent "win-win" situations for both the environment and for industry, to commit to evaluating the merit of these activities on the basis of their environmental outcomes, and to provide sufficient flexibility for facilities to implement those activities that are truly beneficial.
  
3. **Regulatory agencies should develop mechanisms to allow facilities to test recycling activities when they make environmental and economic sense.** EPA seemed to be concerned about setting national precedents by approving specific materials recycling activities in the context of this Pilot; however, the experiences of Pilot Team facilities suggest that it may be easier to obtain approval for such activities on a case-by-case basis. Thus, it may be best for future efforts to develop innovative recycling activities to proceed at a state

or regional level. Ultimately, there needs to be a mechanism for translating the outcomes of these separate efforts into a national policy and possible regulatory changes that can more effectively promote safe materials recycling.

4. **Allow testing of innovative recycling activities by good environmental performers through the New Jersey Flexible Track Program and other performance track initiatives.** A major concern under RCRA has been protecting against "sham" recycling activities. While it is essential that facilities not undertake environmentally damaging or illegal activities under the guise of "recycling," efforts to protect against these sham activities may also hinder facilities' attempts to develop truly beneficial recycling activities. One approach to overcoming this barrier is to offer greater flexibility for implementing innovative recycling activities to those facilities with proven records of good environmental performance through the New Jersey Flexible Track Program and other similar performance track initiatives.
5. **Industry representatives can make significant contributions to identifying innovative recycling opportunities and working with agencies to develop hazardous waste policies that provide effective incentives for facilities to implement them.** Hazardous waste regulations are extremely complex and present a significant challenge to undertaking materials recycling activities. Many industry representatives know a great deal about these regulations and how they apply to their facility operations. This knowledge can be a valuable resource in identifying safe materials recycling activities. Industry representatives should be encouraged to think innovatively about recycling opportunities and to discuss their ideas with the relevant regulatory agencies and agencies should be open to such dialogue. In this way, facility staff can help agencies to develop policies that encourage, rather than hinder, efforts to implement more effective materials recycling.

## **Effluent Trading Pilot**<sup>22</sup>

### *Objectives and Approach*

The Effluent Trading Pilot explored the use of a "trading" mechanism as a means for companies to meet local pretreatment limits for the level of metals in the effluent they discharge to a Publicly-Owned Treatment Works (POTW).<sup>23</sup> Trading allows industrial permittees to achieve the required reductions in pollutant discharge levels more economically. Controlling metals levels in effluent can be very expensive. Yet when some facilities institute the control measures, they may be able to reduce the levels of metals in their effluent more than is required. For other facilities,

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<sup>22</sup> More information about the Effluent Trading Pilot and its accomplishments can be found in the Pilot Team's report, *Sharing the Load: Effluent Trading for Indirect Dischargers* (EPA 231-R-98-003, May 1998). This report can be obtained through EPA's web site at <http://www.epa.gov/emergingstrategies/njcip/etdoc/home.htm>.

<sup>23</sup> Trading is encouraged as a way to meet local pollutant limits. Trading of federal technology-based (categorical) limits is prohibited.

instituting the control measures would be so expensive that they would have to shut down some production processes or go out of business. Through a trading program, facilities within the same POTW service area can work together to control the discharge of metals in a manner that is less expensive for all parties. A company that has instituted control measures that have brought its metals levels down below the local limits can "sell" these excess reductions. One or more companies with effluent levels in excess of the local limits can buy the reductions as a means of complying with the local limits. A buying company and a selling company negotiate a price for the metals credits, and the permits of the trading partners are adjusted to reflect the amount of credits sold in the trade.

The Pilot Team worked with the Passaic Valley Sewerage Commissioners (PVSC), a POTW in Northern New Jersey, and its industrial permittees to establish a trade of local pretreatment limits for metals. To accomplish this, the Pilot Team facilitated the process of identifying potential trading partners and negotiating a trading agreement. The Pilot Team first contacted each of the industrial dischargers in the PVSC service area to ask if they would be interested in working with other facilities to establish trades. Interested companies were invited to a meeting at which the framework for trading was described and questions concerning trading were answered. The Pilot Team continued to assist these companies in their efforts to establish trades over the next several months and eventually oversaw the drafting and approval of a trading agreement between two facilities that took effect on July 1, 1997.

#### *Outcomes and Recommendations*

The Pilot Team succeeded in facilitating the first ever trade of effluent limits among indirect dischargers to a POTW. Negotiations for this trade were completed in the Summer of 1997. Subsequently, there was a second trade negotiated in the Fall of 1999. Since there had been no effluent trades between companies discharging effluent to a POTW prior to this Pilot, the Pilot Team decided that an important aspect of this project would be to document its experience establishing effluent trades in order to assist other facilities and POTWs. In May 1998, the Team published a report called *Sharing the Load: Effluent Trading for Indirect Dischargers* through which it hopes to share the lessons learned during this project concerning the benefits of trading, as well as barriers to trading and approaches to overcoming them. Some of the key findings of this effort to establish effluent trading are highlighted below.

Effluent trading among indirect dischargers within a sewer service district can produce a variety of benefits for the environment, industrial facilities, and the POTW itself (See Exhibit 4-3).

- C Trading among facilities in the PVSC service district benefits the environment because PVSC structured the regulations governing trading to incorporate an overall reduction in the amount of pollutants discharged from participating facilities.
- C Trading provides greater flexibility to facilities in how they meet local limits. This flexibility encourages wider and more timely compliance with local pretreatment limits and can lead to economic savings for facilities that buy and sell effluent credits, which

ultimately can help to sustain local economic conditions.

- C The POTW benefits from trading by developing an enhanced public image as a proactive and effective regulatory agency that is concerned with ensuring that facilities meet local limits that protect the environment while alleviating potential negative impacts of regulations on the local economy through innovative compliance approaches.

<b>Exhibit 4-4</b>		
<b>POTENTIAL BENEFITS OF EFFLUENT TRADING PROGRAMS</b>		
<b>Environmental Benefits</b>	<b>Facility Benefits</b>	<b>POTW Benefits</b>
<p>Trading regulations can require a reduction in pollutant discharges through "retiring" a portion of the pollutants involved in each trade.</p> <p>Potential economies of scale in treatment systems (reduced water, electricity, and treatment chemical usage).</p> <p>Reduced likelihood of facilities locating in areas with more lax local limits.</p>	<p>Increased flexibility in achieving compliance.</p> <p>Public recognition for good environmental performance.</p> <p>Financial benefits: (1) sellers — offset costs of installing treatment systems; (2) buyers — avoid fines, reduce monitoring costs, and potentially decrease compliance costs.</p>	<p>Improved relations with industrial permittees.</p> <p>Economic boost to community — more capacity for growth and increased incentives for facilities to remain or move into an area with progressive POTW.</p> <p>Enhanced public image of POTW as protecting environment and lowering costs of compliance.</p>

The Pilot Team spent considerable effort exploring various aspects of the process of establishing trades to identify both key steps in trading and some of the barriers that facilities face as they attempt to establish trades. Based on this, the Team and Stakeholder Group developed the following set of recommendations for those making future efforts to establish effluent trading programs.

1. **Defensible local limits and POTW credibility are important factors in gaining acceptance for a trading program.** Trading of local effluent limits is a relatively untried regulatory approach that can be controversial. For any trading program to be accepted, the local limits to which it applies must be technically-based and defensible. In addition, the POTW's credibility in maintaining a strong compliance and enforcement program is an important factor in establishing a trading program. This credibility serves two purposes. First, it serves to assure the public that the POTW can be trusted to effectively administer a trading program so that potential environmental benefits will be achieved. Second, it sends a message to industrial users that they will be accountable for meeting the terms of their trading agreements.

2. **Timing can be important in establishing trading programs.** The Pilot Team concluded that it is most productive for the concept of trading to be introduced to the industrial user community at the same time new local pretreatment limits are being developed or existing ones are being revised. This allows potential trading partners to begin discussions early on in the process of planning how they will meet the new or revised limits. Early discussions can improve their ability to develop and implement more economical and efficient approaches to treatment, fully considering the potential of a coordinated approach to pretreatment among two or more facilities.
3. **Lack of information and uncertainty represent significant barriers to establishing trades.** In trying to generate interest in trading among facilities discharging to PVSC, the Pilot Team noted that facilities had little, if any, knowledge of what was involved in trading. This created an overall sense of uncertainty about whether trading could be an effective approach to helping facilities meet PVSC's local limits. The Team addressed this barrier through extensive outreach to PVSC industrial permittees to inform them of the potential for using trading as an approach to meeting the upcoming compliance deadline for PVSC's local limits and to assist them in identifying suitable trading partners. It was also valuable for potential trading partners to see the POTW, the state, and EPA working together to promote the trading program. The Team's experience suggests that the process of developing trades in other POTW service districts would likely benefit from establishment of similar "trading teams" or from a POTW or state taking a larger role in promoting and assisting trading negotiations.

## **Flexible Track Pilot**

### *Objectives and Approach*

This Pilot is an effort to address three primary concerns expressed by the Stakeholder Group during the course of the New Jersey Chemical Industry Project. First, it provides flexibility in the current system for firms to operate more efficiently and implement improvements in environmental management. The current "one-size-fits-all" approach to environmental regulation does not sufficiently account for the characteristics of the batch chemical industry or for differences among firms in their compliance histories and their capacities for responsible environmental management.

Second, it creates positive incentives for facilities to improve their environmental performance. The current regulatory system includes negative incentives (e.g., punishing facilities for violating standards) yet lacks mechanisms for encouraging more effective environmental management.

Third, this Pilot builds trust among regulators, facilities and communities. Lack of trust is a barrier to developing better working relationships and cooperative efforts among affected

Stakeholders to achieve better environmental performance.

The Pilot Team's approach to addressing these concerns was to propose a framework for a program that complements the current regulatory track – a flexible track – for facilities exhibiting exemplary records of environmental performance that rewards this past performance and provides incentives for facilities to continually improve their performance in the future. In developing this framework, the Team attempted to meet the following objectives:

1. To provide incentives for facilities to achieve good environmental performance and to commit to maintaining and even continuously improving their performance.
2. To reduce the adverse environmental and quality of life impacts of facility operations on surrounding communities and ecosystems, many of which cannot be addressed through current regulatory programs.
3. To improve relationships among industry, communities and regulators with a Flexible Track Program that increases the level of confidence of the public and regulatory agencies in the quality of environmental management at participating industrial facilities.
4. To reduce the transaction costs and increase operational flexibility of facility operations in order to achieve greater "eco-efficiency."
5. To demonstrate how to design and implement an effective Flexible Track Program that can be applied across different industrial sectors and regions.

### *Outcomes and Recommendations*

The Pilot Team developed a framework for a Flexible Track Program that consists of two levels: an initial point of entry, the *Silver Track*, for facilities with a sustained pattern of compliance and an internal system to measure and maintain their environmental performance; and the *Gold Track*, for outstanding performers that are committed to exceeding environmental requirements or to maintaining their high level of performance and implementing one or more activities designed to further the goal of environmental protection, such as being a mentor, practicing product stewardship, or continuous improvement in performance.

This framework is intended to provide incentives for facilities to improve their environmental performance. The benefits of participating in the Flexible Track Program encourage companies to improve their performance to a level that qualifies for entry into either the Silver or Gold Tracks. The Pilot Team recognized the importance of balancing these incentives with assurances that facilities participating in the Flexible Track Program will actually improve their environmental performance and provide an accounting of that performance.



The Pilot Team published the Flexible Track Framework in May, 1997<sup>24</sup> and then vetted it with a number of organizations, including EPA's OECA, EPA program offices, trade associations and other industry stakeholders, a multiple-facility community advisory panel, the NJ DEP Commissioner and his management team, and the Green and Gold Task Force.<sup>25</sup> Each of these groups provided positive feedback about the program.

The Pilot Team used the feedback from the vetting process to improve and continue to develop the details of the Flexible Track Program. The Pilot Team and NJ DEP both agreed that the Department would adopt the framework of the Flexible Track program and take on the primary responsibility for implementing it. NJ DEP's senior managers began a concerted effort to take the lead for Flexible Track and adapting its details to mesh with their programs in Spring of 1999, while continuing to obtain support and input from the Pilot Team. Shortly after this shift, NJ DEP and the Pilot Team agreed that the Silver Track would be broken out into two levels in order to expedite the start of the program. Silver Track would offer a variety of incentives to facilities, including public recognition of their commitment to improved environmental performance and several types of operational flexibility that could be offered within the context of current regulations. Silver Track II would offer additional flexibilities, most notably exempting facilities from the need to obtain preconstruction air permits for equipment that meets de minimus emission threshold levels, which may require state statutory or regulatory changes. Thus, Silver Track has been implemented quickly and is open to the entire regulated community, both public and private entities, while Silver Track II required additional time to develop. Silver Track II is being tested with a small group of volunteer facilities as a pilot program while NJ DEP revises its regulations to broaden participation to more facilities.

NJ DEP completed its guidance for the Silver Track, with input from the Pilot Team, in the Summer of 1999 and began accepting applications in September 1999.<sup>26</sup> NJ DEP, working with the Pilot Team and additional Stakeholders, developed Silver Track II and began accepting applications in June 2000.

NJ DEP plans to develop the Gold Track in several phases. The first involves working with the Stakeholder Group to develop the eligibility criteria and incentives for facilities to participate in the program. Then, NJ DEP will conduct a pilot test of the Gold Track while simultaneously embarking on a rule-writing process to institutionalize a Gold Track Program. Since Gold Track will likely require some changes to federal regulations, the state is pursuing a state-wide Project XL status

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<sup>24</sup> A copy of the *Proposed Framework for a Flexible Track Program* can be obtained through EPA's web site at <http://www.epa.gov/emergingstrategies/njcip/flextrk/sum.htm>.

<sup>25</sup> The Green and Gold Task Force is a group of leaders from industry and environmental groups that the NJDEP has convened to serve as a sounding board for its ideas and to help ensure balanced input for department proposals.

<sup>26</sup> This guidance can be found on NJ DEP's web site at: <http://www.state.nj.us/dep/special/silver/fulldoc.htm>.

to help implement Gold Track.

There has been a great deal of interest in “alternative path” programs such as Flexible Track in recent years. Flexible Track is among the most well-developed, and may be the most developed, performance-based incentive program. The Flexible Track framework was used to guide the development of EPA’s new National Environmental Performance Track program.

In designing the framework for the Flexible Track Program, the Pilot Team envisioned it would provide a variety of benefits for the environment, for facilities and for communities. These benefits are summarized in Exhibit 4-4. The environment benefits from reductions in pollutant emissions and discharges related to the improvement of environmental performance at facilities participating in the program. The environment can also potentially benefit from projected improvements in facility performance resulting from NJ DEP's shifting resources to assist those facilities that have traditionally had difficulty maintaining compliance. Facilities enjoy public recognition for their participation in the program, and are rewarded with increased operational flexibility and financial benefits associated with more streamlined compliance requirements and increased ability to respond more quickly to market opportunities. Communities can benefit from improved environmental quality, better economic conditions, and better access to information on facility performance.

<b>Exhibit 4-5</b>		
<b>POTENTIAL BENEFITS OF THE FLEXIBLE TRACK PROGRAM</b>		
<b>Environmental Benefits</b>	<b>Benefits for Facilities</b>	<b>Benefits to Communities</b>
Measurable/verifiable reductions in pollutant emissions and discharges.	Increased operational and regulatory flexibility.	Improved environmental quality.
Continuous improvement in environmental performance among Flexible Track facilities.	Public recognition for good environmental performance.	Increased economic stability due to facilities' ability to operate more efficiently within the current legal structure.
Additional NJ DEP resources available to assist facilities having difficulties maintaining compliance.	Financial benefits associated with reduced compliance costs and increased ability to respond to market opportunities.	Improved access to data on environmental aspects of facility operations.

Based on its experience in developing the framework for the Flexible Track Program and working with NJ DEP to implement the Silver Track, the Pilot Team and Stakeholder Group made the following recommendations for future efforts to develop similar programs:

1. **Collaborative Approach.** The stakeholder process was an invaluable tool in developing the Flexible Track framework. A collective effort was required to identify the types of flexibility and eligibility criteria that made sense to both industry and regulators. Without broad participation by both groups, it would not have been possible to develop a framework which balances the competing industry desires for increased operational flexibility with the agency's needs to maintain regulatory oversight and accountability.
2. **Broad Input.** The Pilot Team vetted the draft framework for the Flexible Track Program among regulatory agency program managers and staff, as well as with representatives of community and environmental groups. This enabled the Team to get early feedback on the framework, incorporate comments into the ultimate program design and gain greater acceptance for the program among the diverse range of stakeholders.
3. **Identifying suitable types of operational flexibility that will serve as effective incentives to attract facility participation is a major challenge.** An essential step in developing a Flexible Track Program is identifying the types of operational flexibility that can be offered to participating facilities. This should include types of flexibility that are: 1) feasible for agencies to incorporate into the program; and 2) attractive enough to a cross-section of facilities to encourage them to participate in the program. The Pilot Team experienced significant difficulty in identifying types of operational flexibility that would meet both of these criteria. This was due to a number of factors, including the extensive effort required to envision systems that operate differently than the current system, limitations in finding meaningful flexibilities without changing regulations (or laws in the case of Gold Track), some false starts with proposals that would not apply to broad segments of industry, uncertainty about what flexibilities would be acceptable to agencies, and agencies' inability to assess feasibility of proposed flexibilities without detail. It is important for facility Stakeholders to think innovatively and identify changes in regulatory approaches that will lead to significant increases in flexibility. Similarly, agency representatives must be willing to explore innovative approaches to providing these types of flexibility both for pilot tests and for full-scale program implementation. To accomplish this requires considerable communication and perseverance on the part of all Stakeholders.
4. **Integrate other innovative approaches into Flexible Track.** Efforts of the other Pilot Teams have identified several new approaches to environmental management that could not be implemented because of existing regulatory barriers. The Stakeholders have suggested that it may be possible to offer these approaches to facilities with proven records of environmental performance in the context of the Flexible Track Program. Two specific examples identified by the Stakeholders include allowing participants in Silver Track or Gold Track to trade categorical effluent limits and to implement additional materials recycling scenarios. Programs like Flexible Track can be used as a “laboratory” to test these and other new approaches at facilities with good environmental performance records to learn how they might work with broader segments of the regulated community.

5. **Outreach.** Like the Compliance Assistance Pilot, public outreach is an essential component of the Flexible Track Pilot. Outreach is crucial for generating interest in the program and for obtaining facility input on the Flexible Track framework. Outreach will also be key to attracting facilities to participate in the Silver and Gold Tracks and helping communities recognize the benefits that can be achieved through a Flexible Track program.

The NJCIP and other multi-stakeholder efforts represent a significant culture change in the way all parties approach environmental protection. These efforts require regulatory agencies at the federal, state, and local levels to adopt a cooperative approach to working with the regulated community. Further, they require that these agencies work together with industry and with environmental and community groups in a non-adversarial forum. This chapter of the report presents the Stakeholders' assessment of the outcomes of the NJCIP, explores their views on the lessons learned through this project, and presents their recommendations on how the lessons learned from the NJCIP can be applied to similar efforts in the future. This chapter especially focuses on how issues associated with culture change contributed to the significant project outcomes.

### **Measures of Success**

At their fourth and final meeting, the NJCIP Stakeholders concluded that the project was a success in both process and substance. In reaching this conclusion, they considered a range of questions, including: Is it possible for industry, government, and environmental and community groups to work together in a non-adversarial forum? Are projects like the NJCIP a good way to improve environmental protection? Do the approaches developed through this project have the potential to be on-going, functional programs that can be implemented on a broader scale?

All indications are that the answer to these questions is yes:

- There was a very high degree of Stakeholder satisfaction at the conclusion of the project. Stakeholders noted that their initial skepticism about working with regulatory agencies on this type of project was dispelled. They were pleased with the process followed throughout the project, the level of support provided in documenting project activities, the collegial nature of the stakeholder interaction and the outcomes of the Pilots.
- The NJCIP Stakeholders had no shortage of ideas to explore for developing new

approaches to environmental protection. They were highly motivated to find the best approaches by focusing on the merits of each issue and pooling ideas and efforts.

- The efforts of the NJCIP Stakeholders resulted in the design and implementation of innovative Pilot projects that broke new ground in developing efficient and effective approaches to environmental protection.
- Each of the approaches developed through the Pilots — Compliance Assistance, Materials Recycling, Effluent Trading, and Flexible Track for top environmental performers — still function as planned several months to years after being implemented, with all indications that this success can continue into the future. In fact, there is substantial interest among agencies and industry in using the Pilots to inform or serve as models for similar efforts in other states and national initiatives.

## **Lessons Learned from the NJCIP**

### **Factors Affecting Success**

The federal, state, and local environmental protection agencies have a long history of cooperating in administering environmental protection programs. Cooperating in voluntary, non-adversarial efforts to develop innovative approaches such as the NJCIP is less common and represents a culture change.

As described throughout this report, the approach to identifying and testing new environmental protection strategies used in the NJCIP offers many strengths. However, it also poses significant challenges. The primary strength is that this approach can enhance the opportunities for finding solutions to environmental management problems that work better for everyone, not just for a few parties. By creating a non-adversarial atmosphere, projects like the NJCIP help participants with different perspectives focus on the issues and find solutions rather than be distracted by these differences. To accomplish this, project staff face the significant challenge of maintaining open and honest communication and effectively coordinating project logistics to allow the Stakeholders to focus on substance. Staff must establish a rapport with the individual Stakeholders and ensure that they are comfortable with each step of the process. By developing a detailed project plan with concrete tasks and time lines and providing detailed documentation of project activities, staff can keep the Stakeholders informed and involved. To hold Stakeholders' interest, EPA also needs to establish and maintain momentum by demonstrating steady progress in completing this plan. Difficulties, including providing adequate funding to support project activities and changes in priorities among senior management, can distract participants and potentially derail the process.

Many recent stakeholder projects have been marred by sharp conflicts between stakeholders, with the conflicts often preventing the project from producing any concrete results. This did not occur in the NJ CIP, largely because of how the stakeholder process was structured and managed.

In Chapter 2 we discuss in detail the factors affecting the NJ CIP success in establishing and dealing with Stakeholders, including how the Stakeholders who would implement the project were very instrumental in designing it. In this way, the concept that the Stakeholders would drive the project was established very early. The Stakeholders not only provided significant input to the design of the project framework, they identified the issues to be investigated, chose the Pilots, worked together to design Pilot plans, implemented each Pilot, documented the project findings, and made recommendations for future efforts. In selecting participants for a Stakeholder group, balance among organizations—government, industry (large and small businesses), environmental and community groups—is clearly important. It is also very important to have Stakeholders who, as individuals, were well established in their field so that they could represent their organization’s views, who could think innovatively, and who could step outside the mantle of their organization to work cooperatively with others in establishing new approaches. EPA’s principles for founding and operating this project, especially the ground rules for a non-adversarial atmosphere and open and honest communication, contributed significantly to encouraging Stakeholders to participate so fully, which led to a strong sense of ownership among the Stakeholders for the approaches developed in the Pilots.

Credibility is critical to the success of a cooperative project like the NJ CIP to develop trust, both between participants and with those outside the project. A diverse and balanced stakeholder group coupled with an open and honest, non-adversarial atmosphere proved to be an important manner of building credibility. A diverse and balanced stakeholder group will allow for the presentation of different viewpoints; an open and honest, non-adversarial atmosphere will assure that those views will be heard, respected, and considered in the work of the group. When participants feel that their contributions will be valued, they are encouraged to contribute more.

Credibility is also important to assure participants and the public that the project is a partnership for finding better ways of protecting the environment, not a means of dispensing special favors for industry. Cooperation must not become capture. A focus on substance is one way of building both internal and external credibility. Focus on the substance of the issues not only places the emphasis on the factors that will actually make or break the success of a new approach over the long term, it can also neutralize any attempts to “game” the process. Similarly, focusing the outcomes of the Pilots on the best ways of achieving the potential for substantive improvements in environmental quality, in the functioning of environmental programs, and in the environmental performance of broad segments of the regulated community will help to demonstrate credibility. The NJCIP maintained a concrete focus on achieving mutually desirable outcomes. The participants’ universal commitment and enthusiasm on finding ways to improve environmental protection approaches kept them actively involved throughout the project.

NJCIP participants discovered many advantages to a project that has a narrow geographic focus, i.e., a single state. In developing the project, EPA staff were able to focus their energies on coordinating with one set of organizations (EPA Region, state agencies, local agencies, industrial facilities, and environmental and community groups) that face a common set of issues rather than having to work with a larger number of organizations spread over a wider geographic area that are likely to face disparate issues. The common set of issues and organizations helped NJCIP participants

come to understandings more quickly and more readily develop new approaches to address these issues. This limited geographic focus also helped the NJCIP staff and Stakeholders develop closer working relationships, which in turn enabled them to develop and implement more complex and better tailored pilots that operate more efficiently and yield more benefits. The NJCIP demonstrated that EPA and states can work together effectively on innovative projects and should serve as a model for future efforts.

Another key to developing useful new approaches was the Stakeholders' priority on ensuring that the issues explored through the Pilots were relevant to a broad spectrum of companies throughout the sector and even in other sectors. Pilots that only benefit a few companies or one sector are often too narrow in scope to justify the significant investment of agency resources required for this type of project. The NJCIP demonstrates the importance of establishing an understanding with participants at the onset that the project will focus on the broader public good and not the benefit of specific companies.

Even when the Stakeholders agree on this goal, it is important to generate broader interest in the outcomes of the project so that better approaches can be more widely applied and their benefits can be more fully realized. Pilot Teams should plan outreach strategies as they develop and test their new approaches for environmental protection. Sharing the Pilot Team's ideas and "getting the word out" are essential if these approaches are to be applied beyond the specific Pilot efforts. This can be accomplished by working with others who are interested in the approach being tested and widely sharing the lessons learned from the Pilot. Outreach methods include writing substantive reports and distributing them and/or incorporating them into websites to demonstrate how the new approach worked, whether it will work in other situations, and how others can adopt the approach. "Getting the word out" can be done through formal presentations at meetings and conferences, press announcements and interviews (especially with trade press), and through contacts with government, trade, environmental, and community groups. Despite the significant outreach efforts undertaken by the Pilot Teams, additional effort to follow-up on their successes in developing and implementing new and innovative approaches would allow these approaches to be more widely implemented, thus yielding greater benefits.

### **Challenges Faced by Stakeholders**

The NJCIP clearly challenged all parties to take on new and different roles in the context of environmental protection. For the project to succeed, agencies, industry, and community and environmental groups all had to be willing to accept a more cooperative approach to addressing environmental issues. Each of these groups faced a unique set of challenges during the course of the NJCIP.

As it continues its reinvention efforts, EPA faces the challenge of finding a balance among a variety of approaches — maintaining command and control as the foundation of environmental protection for each program, while still being open to working with Stakeholders in a cooperative manner to seek innovative approaches to improve and complement those programs. Is the EPA ready



to add cooperation to its repertoire of approaches? The outcomes of the NJCIP suggest that, in many respects, it clearly is. Managers and staff in many programs welcomed the chance to collaborate on exploring and trying innovative ideas. For example, the Office of Water was very supportive of the Effluent Trading Pilot; the Office of Air and Radiation entered into an extensive discussion with NJCIP participants about the possibility of incorporating specific types of operational flexibility into NJ DEP's Silver and Gold Track Programs; and the Office of Policy, Economics and Innovation was supportive of efforts to adopt and extend many of the ideas developed through the Pilots. Other program offices, while not opposed to developing innovative approaches, were not in a position to seize the opportunity to participate fully in the NJCIP Pilots. The Office of Solid Waste (OSW), for example, had a very heavy work load based on its current system and found it difficult to provide regulatory interpretations for the scenarios developed by the Materials Recycling Pilot Team. Some program staff also seemed puzzled by certain proposed flexibilities, wondering why any aspect of their program should be changed. While many aspects of environmental programs at the local, state, and federal levels are extremely effective, agencies should always be open to ideas for improvements. Overall, the vast majority of EPA staff contacted during the course of the NJCIP seemed seriously interested in exploring new approaches and adopting better ways of doing business.

The experiences of the NJCIP Stakeholders suggest that future efforts could benefit if EPA were to more completely embrace this type of cooperative approach. First, there is the issue of resources. Sufficient funding must be found to support EPA's traditional environmental protection actions, while at the same time working to develop more efficient ones. This could have helped alleviate the shortage of OSW staff for evaluating the materials recycling scenarios. Second, EPA's interest in cooperative approaches should be reflected in all of its policies. For example, even EPA's Headquarters press policies seem geared toward traditional enforcement actions and lacked flexibility to accommodate the needs of cooperative projects. NJCIP staff were told that press releases must include the names of all private companies involved. While it may be appropriate to always include company names in releases concerning an enforcement action, it is important for EPA and other agencies to respect the privacy of their partners in cooperative efforts when they request anonymity.

The length of time it takes to complete a complex project like the NJ CIP make it vulnerable to changing management priorities—especially when reorganizations occur. New managers may have different objectives in mind and may not fully appreciate the value of the project's principles and ground rules. While EPA managers and staff were generally very supportive of the cooperative nature of the NJ CIP, some EPA managers needed an occasional reminder. For example, one EPA manager sought to pressure a Stakeholder to take on extra tasks, implying that it was owed given the financial investments EPA had made. Project staff were accustomed to explaining the ground rules and asking participants to respect them; this task was a special challenge with one's own management. It is important for project staff to demonstrate, over the life of the project, consistent and strong leadership in upholding the project ground rules as well as the substantive decisions made by the Stakeholders.

NJ DEP faced many challenges similar to EPA's throughout the course of the NJCIP. Many NJ DEP staff and managers expressed interest in participating in the cooperative effort; however they

were constrained by their existing work load and a lack of resources to devote to such efforts. When EPA first approached NJ DEP about the project, the Department was struggling with sharp budget cuts and thus had limited staff resources. At the same time, NJ DEP had several ongoing ambitious re-engineering initiatives, including developing new database systems, strategic planning, and designing innovative regulatory programs (e.g., open market trading). These constraints caused the Department to be slow in committing to working on the NJCIP and the specific Pilots. As the NJCIP progressed, NJ DEP was able to integrate many of the Pilot activities into its own re-engineering efforts and played a larger role in implementing the Pilots. NJ DEP staff from various divisions were active in each of the Pilots. They have also taken on lead roles in the final design and implementation of the Silver Track and Gold Track Programs and an ongoing compliance assistance workgroup consisting of industry and department representatives that is intended to continue the efforts initiated under the Compliance Assistance Pilot.

Industry Stakeholders expressed initial skepticism about working directly with regulatory agencies in a cooperative effort. Most had heard of or participated in other efforts that had not produced tangible results. Potential industry Stakeholders needed to weigh the time commitment of participating in the project against the potential benefits and convince their upper management that the NJCIP was a worthwhile use of their time. Several industry Stakeholders also noted their previous adversarial experiences with regulatory agencies and were anxious about granting agency staff greater access to their facilities through participating in the project. Thus, a major challenge in forming the Stakeholder Group was to develop a basis for these industry representatives to trust the other participants and the process established for the NJCIP.

Community and environmental groups faced severe resource constraints and were unable to participate in the Stakeholder meetings or Pilot projects on a regular basis. They faced considerable pressure to address other crisis issues; however, several environmentalists did manage to maintain minimal involvement in the project. Two of them commented that they were comfortable with the goals, process, and direction of the project and did not feel the need to be involved on a regular basis. The project staff attempted to compensate for this low level of participation by offering personal telephone briefings, soliciting feedback at critical junctions, and involving additional community and environmental group representatives at different stages of the Pilots to ensure that their perspectives would be included in key aspects of the project. For example, in vetting the framework developed by the Flexible Track Pilot Team, members of the Team met with the community advisory panel for one of the participating facilities to obtain feedback from community representatives. In addition, the project staff briefed the NJ DEP's Green and Gold Task Force, which includes leaders from environmental groups and industry, on several occasions regarding the progress of the Pilots.

Despite these challenges, NJCIP participants were able to achieve significant

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advances in improving environmental protection techniques and had fun doing it. In general, the Stakeholder Group concluded that the synergy which existed among participants on this project was the single most important component of our success. The sincere and enthusiastic atmosphere encouraged individuals to contribute, ensuring a successful project. There seemed to be a genuine and friendly atmosphere in which all ideas were welcomed by others because there was a shared commitment to facilitate environmental improvement. The next section outlines some of the most important factors that contributed to this positive atmosphere and the substantive gains it fostered.

### **Recommendations for Success**

The NJCIP Stakeholder Group has developed a number of recommendations for success for others who are contemplating initiating a similar project. These recommendations are intended to help develop a workable process for conducting the project and to enhance the potential for achieving substantive results.

- **Sector basis.** The batch chemical sector was chosen because it is a significant industry with special challenges in meeting environmental requirements due to the nature of its operations. Batch processors are often small companies with many products facing a dynamic market and considerable competition. Our focus on one sector allowed us to capitalize on relationships within the industry and address issues more in-depth.
  
- C Geographic focus.** New Jersey is one of the top three states for chemical production, especially for batch processing. It is also a state that is highly populated, with neighborhoods often very close to facilities. We were able to build on and strengthen relationships to develop more effective alternative approaches by working cooperatively with industry, environmentalists, other interests, and all levels of government in one location.
  
- C Balanced Stakeholder Group.** EPA chose a Stakeholder Group that was balanced among industry, government, environmental and community groups, unions, and academia. Future efforts may want to look for opportunities to provide financial support for NGOs to participate, especially for travel if the project covers a large geographical area. In addition, the Stakeholder companies represent a cross-section of the batch chemical sector: six small businesses, two medium-sized businesses, and four large corporations. This insured that we developed solutions that will work for the whole sector, not just a few select companies. The NJCIP "Tracker" status also allowed additional perspectives to be considered.
  
- C Stakeholder-driven.** The NJCIP is truly Stakeholder-driven. The Stakeholders helped design the structure and process of the project, identified the topics to be addressed, chose the Pilots, designed and directed the substantive work undertaken

during the Pilots, and developed recommendations for future efforts. EPA staff listened to the concerns and suggestions of all Stakeholders to ensure that the new approaches will benefit the environment and everyone that lives in it. This inspired active participation because Stakeholders knew they could make a difference.

- **Choose participants well.** Stakeholders were selected because of their ability to bring the knowledge and the perspective of their organization to project discussions, as well as for their innovative thinking and their ability to listen to and understand others' perspectives, express their views in a non-adversarial manner, and work to develop "cleaner, cheaper, smarter" solutions that would be genuinely better for everyone. It is valuable to choose individuals who are well-established in their organization and have some degree of freedom to allot time to the project.
  
- C** **Open and honest atmosphere.** EPA set the tone for an open and honest atmosphere where we could learn the pros and cons of different approaches, and did not allow the project to become a forum for political debate or divisiveness. EPA staff discussed this approach with each Stakeholder individually and worked diligently to maintain it throughout the project. This created an environment where it was safe for participants to express their views, knowing they would be listened to and considered. This open and safe environment is critical to ensure that values that are important are incorporated and concerns that may be "show-stoppers" for any participant are addressed. Not only does this lower stress and help participants be more productive, it produces better environmental approaches.
  
- C** **Completely voluntary.** Participation in the NJCIP was completely voluntary for every participant. There were no promises of any direct benefits to any participating company or organization. When a Stakeholder joined, they were asked to commit to participating in four one-day meetings over the life of the project. All other activities were optional. Yet almost every Stakeholder volunteered for more. In fact, many Stakeholders have been very active in more than one Pilot project. EPA staff have been extremely impressed with the altruism and exceptional quality of the Stakeholders' service in contributing to a greater good. The project's products reflect that quality.
  
- **Management commitment.** This is important for the lead agency and for every participating organization. Agencies and other participants must live by the project ground rules and must be completely open to suggestions for improving operations, not come with a set "agenda" to be ratified or imposed. Resources must be allocated to see the project through to completion. It is critical to have dedicated staff to push the project forward and to research issues, develop materials, document meetings, and keep everyone informed and on-track. This support frees Stakeholders to contribute to the substance of the project. While EPA provided financial support and managed the process, it was critical to the integrity of the process, and its ultimate success, that

EPA did not seek to control substantive outcomes. The staff assigned to the project must have mature facilitation and negotiation skills and work to maintain an open, non-adversarial atmosphere.

- C** **Communication, communication, communication.** EPA staff started by spending one to two hours with each Stakeholder — before asking them to join the project — to get to know each other and to be sure Stakeholders knew what they were getting into. EPA staff asked for the Stakeholder's ideas about the project and incorporated them into the project design. At each meeting and each conference call Stakeholders were presented with project materials that reflected their previous work and perspectives and asked to build on them. If conditions had changed since previous discussions, EPA communicated that. And the project staff never forgot that communication must be two-way. They truly listened, considered, and incorporated the best of the ideas and expressed appreciation of the Stakeholders' efforts frequently. All of this is crucial to building trust.
- **Seek the public good.** Set ground rules designed to achieve substantive goals: 1) cooperative mode of interacting, 2) seek general agreement in the group, not 100 percent consensus (don't allow one party to stonewall), 3) seek solutions that are transferrable to other facilities and industries, and 4) seek solutions that do not threaten participants—don't avoid change, but seek change that can benefit everyone.
- C** **Focus on substance.** It is important to maintain a focus on the substance of the issues to keep participants involved. While the process of these projects is critical to ensuring that the full range of wisdom available on each issue we addressed was gathered, the ultimate purpose as to develop better approaches for improving the environment. The Stakeholders all have many other responsibilities—their commitment to making a positive difference is the reason they work with us.
- C** **Mechanism for change.** The NJCIP had many successes, demonstrating that innovative approaches can result in economic and environmental benefits. These benefits could multiply as these approaches become more widely applied. Effort should be made to further demonstrate the benefits of these new approaches and expand their use beyond the scope of the Pilots. As EPA continues its innovation activities, it is essential that EPA demonstrate the ability to successfully institutionalize new approaches that have been shown to be efficient and effective. This will require early and strong collaboration among staff involved in the Agency's policy efforts and those working in media-specific program offices. Also, Stakeholders noted the importance of developing a mechanism through which some of the issues raised in the Pilots could be translated into regulatory changes. Thus, senior regulatory staff should commit to implement, where appropriate, the findings of projects like the NJCIP that aim to identify and test new approaches.

## **Conclusions**

The Stakeholders found that the New Jersey Chemical Industry Project was a very valuable forum for working cooperatively to identify needs for improvements in environmental protection strategies and develop new approaches. Nearly half of the original suggestions for pilots were addressed in one form or another. Each of the pilot projects achieved significant advances in environmental protection through innovative approaches. And while regulatory change was not one of the NJCIP's initial goals, the project did influence some regulatory changes at the State and local levels, and have identified additional opportunities where regulatory changes on the State and Federal level may yield additional gains in environmental performance. Some of these ideas for State and Federal regulatory changes are likely to be implemented in the near future as part of NJ DEP's Silver and Gold Track Program.

The NJCIP is a good solid start in the right direction. There is a need to continue the positive working relationships between the Federal, state and local agencies, and between the agencies, industry and environmental and community groups. The environmental improvements and program efficiencies demonstrated in the Pilots should be continued and expanded. The lessons of the NJ CIP should be disseminated to spark similar programs in other states and nationally, and to inform future work on regulatory and program innovation.

## **Appendix A**

### **NEW JERSEY CHEMICAL INDUSTRY PROJECT STAKEHOLDERS AND PILOT PROJECT TEAMS**



## NEW JERSEY CHEMICAL INDUSTRY PROJECT

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### NEW JERSEY CHEMICAL INDUSTRY PROJECT STAKEHOLDERS

Kevin Aiello	Middlesex County Utilities Authority
Barry Bochner	Fabricolor, Inc.
Alan Bogard	Infineum USA L.P.
Dorothy Bowers	retired, Merck & Co., Inc.
Joseph Burgard	Octagon Process, Inc.
Frank D'Ascensio	Passaic Valley Sewerage Commissioners
Peter Downing	formerly, OMG Fidelity; currently, Reach Associates
Sherry Edwards	formerly, Synthetic Organic Chemical Manufacturers Association; currently, American Meat Institute
Ken Eng	US EPA, Region 2, Division of Enforcement and Compliance Assistance
Dan Fiorino	US EPA, Office of Policy, Economics and Innovation
Joseph Gentile	CasChem, Inc.
Dot Kelly	Ciba Specialty Chemicals
Peter Lederman	New Jersey Institute of Technology
Edward Lloyd	Rutgers Environmental Law Clinic
Ronnie Madjeski	International Brotherhood of Teamsters
Jehuda Menczel	US EPA, Region 2, Division of Enforcement and Compliance Assistance
Angelo Morresi	Angelo Morresi, Esq.
Jeanne Mroczo	NJ DEP, Pollution Prevention and Permit Coordination
Barbara Mullis	retired, TRICON Colors, Inc.
Patrick Parsons	Infineum USA L.P.
Richard Rosera	formerly, Pilot Chemical Company
Steve Scher	Scher Chemicals, Inc.
Eric Scherzer	formerly, Oil, Chemical, and Atomic Workers Union
Stan Siegel	US EPA, Region 2, Division of Environmental Planning and Protection
John Spinello	formerly, NJ DEP; currently, New Jersey Governor's Office



**NEW JERSEY CHEMICAL INDUSTRY PROJECT STAKEHOLDERS (continued)**

Cathy St. Clair	E.I. Dupont
Richard Sullivan	New Jersey First, Inc.
Wayne Tamarelli	Dock Resins Corporation
Catherine Tunis	US EPA, Office of Policy, Economics and Innovation
Robert Vignes	Ciba Speciality Chemicals
Daniel Watts	New Jersey Institute of Technology
Andy Willner	American Littoral Society
Trish Zita	Chemical Industry Council of New Jersey



# NEW JERSEY CHEMICAL INDUSTRY PROJECT

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## PILOT PROJECT TEAMS

### Compliance Assistance Pilot Team

#### New Jersey Chemical Industry Project Stakeholders

Barry Bochner	Fabricolor, Inc.
Alan Bogard	Infineum USA L.P.
Peter Downing	formerly, OMG Fidelity; currently, Reach Associates
Sherry Edwards	formerly, Synthetic Organic Chemical Manufacturers Association; currently, American Meat Institute
Joseph Gentile	CasChem, Inc.
Peter Lederman	New Jersey Institute of Technology
Jehuda Menczel	US EPA, Region 2, Division of Enforcement and Compliance Assistance
Barbara Mullis	retired, TRICON Colors
Richard Rosera	formerly, Pilot Chemical Company
Steve Scher	Scher Chemicals
Catherine Tunis	US EPA, Office of Policy, Economics and Innovation
Trish Zita	Chemical Industry Council of NJ

#### Additional Participants

Emily Chow	US EPA, Office of Enforcement and Compliance Assurance
Kent Davis	NJ DEP, Compliance and Enforcement
Anne Downey	Industrial Economics, Incorporated
Tom Detweiler	formerly, Chemical Industry Council of NJ
Gail French	Industrial Economics, Incorporated
Michele Glassburg	New Jersey Business and Industry Association
Peg Hanna	NJ DEP, Special Assistant to the Deputy Commissioner
Sarah Henricks Holtz	Industrial Economics, Incorporated
Carl Koch	US EPA, Office of Policy, Economics and Innovation
Joshua Levine	Industrial Economics, Incorporated
Ron Lockwood	US EPA, Region 2, Division of Enforcement and Compliance Assistance
Scot Mackey	Chemical Industry Council of NJ
Kathleen Malone	US EPA, Region 2, Division of Enforcement and Compliance Assistance
Chuck McCarty	NJ DEP, Small Business Assistance Program

**Compliance Assistance Pilot Team (continued)**

Arnold Medbery Cheryl Morton	Consultant to US EPA, Office of Policy, Economics and Innovation formerly, Synthetic Organic Chemical Manufacturers Association; currently, Chemical Manufacturers Association
Eric Ruder	Industrial Economics, Incorporated
Jim Sinclair	New Jersey Business and Industry Association
Marcus Zobrist	US EPA, Region 2, Division of Environmental Planning and Protection

**Effluent Trading Pilot Team**

**New Jersey Chemical Industry Project Stakeholders**

Barry Bochner	Fabricolor, Inc.
Frank D'Ascensio	Passaic Valley Sewerage Commissioners
Joseph Gentile	CasChem, Inc.
Stan Siegel	US EPA, Region 2, Division of Environmental Planning and Protection
Wayne Tamarelli	Dock Resins Corporation
Catherine Tunis	US EPA, Office of Policy, Economics and Innovation
Daniel Watts	New Jersey Institute of Technology

**Additional Participants**

Suzette Apis	Industrial Economics, Incorporated
Mary Belefski	US EPA, Office of Water
Patrick Bradley	US EPA, Office of Water
Ella Filippone	Passaic River Coalition
Harriet Greenwood	Industrial Economics, Incorporated
Richard Kashmanian	US EPA, Office of Policy, Economics and Innovation
Jim Murphy	NJ DEP, Division of Water Quality
Mahesh Podar	US EPA, Office of Water
Eric Ruder	Industrial Economics, Incorporated
Edward Schlueter	US EPA, Region 2, Division of Environmental Planning and Protection
Theresa Tuano	formerly, US EPA, Office of Water; currently, US Peace Corps
Virginia Wong	US EPA, Region 2, Division of Enforcement and Compliance Assistance

## **Materials Recycling Pilot Team**

### **New Jersey Chemical Industry Project Stakeholders**

Barry Bochner	Fabricolor, Inc.
Joseph Gentile	CasChem, Inc.
Catherine Tunis	US EPA, Office of Policy, Economics and Innovation
Dot Kelly	Ciba Specialty Chemicals

### **Additional Participants**

Andrew Bellina	US EPA, Region 2, Division of Environmental Planning and Protection
Shih Chang	NJ DEP, Division of Solid and Hazardous Waste
Sarah Henricks Holtz	Industrial Economics, Incorporated
Richard Klawunn	Tosco
Joshua Levine	Industrial Economics, Incorporated
Mitchell Press	E.I. Dupont
Eric Ruder	Industrial Economics, Incorporated
Sharon Sexton	Infineum USA L.P.

## **Flexible Track Pilot Team**

### **New Jersey Chemical Industry Project Stakeholders**

Alan Bogard	Infineum USA L.P.
Dorothy Bowers	retired, Merck & Co., Inc.
Peter Downing	formerly, OMG Fidelity; currently, Reach Associates
Ken Eng	US EPA, Region 2, Division of Enforcement and Compliance Assistance
Dan Fiorino	US EPA, Office of Policy, Economics and Innovation
Joseph Gentile	CasChem, Inc.
Peter Lederman	New Jersey Institute of Technology
Edward Lloyd	Rutgers Environmental Law Clinic
Lance Miller	NJ DEP, Division of Watershed Management
Jeanne Mroczko	NJ DEP, Pollution Prevention and Permit Coordination
Stan Siegel	US EPA, Region 2, Division of Environmental Planning and Protection

**Flexible Track Pilot Team (continued)**

John Spinello	formerly, NJ DEP; currently, New Jersey Governor's Office
Cathy St. Clair	E.I. Dupont
Catherine Tunis	US EPA, Office of Policy, Economics and Innovation
Wayne Tamarelli	Dock Resins Corporation

**Additional Participants**

Bill Allmond	National Association of Chemical Distributors
Bruce Augustine	US EPA, Region 2, Division of Enforcement and Compliance Assistance
Russ Cerchiaro	Schering-Plough Corporation
Yue-On Chiu	US EPA, Region 2, Division of Enforcement and Compliance Assistance
Ed Choromanski	NJ DEP, Air and Environmental Quality Compliance and Enforcement
Dianne Crilly	Akzo Nobel
Fred Doeman	BASF
Avia Ellyon	US EPA, Region 2, Division of Enforcement and Compliance Assistance
Wendy Grossman	Bristol-Myers Squibb
Chris Hanson	Synthetic Organic Chemical Manufacturers Association
Sarah Henricks Holtz	Industrial Economics, Incorporated
Ed Kelley	BASF
Kathleen Malone	US EPA, Region 2, Division of Enforcement and Compliance Assistance
Brad Martin	E.I. Dupont
Tom Micai	NJ DEP, Air Quality Regulation
Jerry Newsome	US EPA, Office of Policy, Economics and Innovation
Eric Ruder	Industrial Economics, Incorporated
Bill O'Sullivan	NJ DEP, Air Quality Regulation
Randy Solomon	New Jersey Future
Gary Sondermeyer	NJ DEP, Environmental Regulation
Mathy Stanislaus	Minority Environmental Lawyers Association
David Sugarman	Industrial Economics, Incorporated

## **Appendix B**

### **STAKEHOLDER DISCUSSION OF DECISION FACTORS FOR THE BATCH CHEMICAL SECTOR**



# NEW JERSEY CHEMICAL INDUSTRY PROJECT

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## STAKEHOLDER DISCUSSION OF DECISION FACTORS FOR THE BATCH CHEMICAL SECTOR

### Questions and Answers

**Questions 1 and 2:** For companies: What do you think are the biggest concerns of the batch chemical industry, day-to-day and longer term?

For others: What do you think are the biggest concerns of the community about the batch chemical industry?

- ! To move more toward cooperative efforts;
- ! To be clean and "green" and manufacture environmentally safe, yet profitable products;
- ! To make high quality products for users;
- ! To use similar methods for driving business and for better environmental compliance;
- ! To do environmental protection more cost-effectively;
- ! Foreign competition—need to be able to compete globally, want to manufacture in U. S.;
- ! To design an environmentally sound facility under flexible regulatory standards;
- ! To capitalize on research and development opportunities;
- ! To efficiently manufacture products under a flexible regulatory environment;
- ! To provide enhanced community participation;
- ! To provide compliance assistance to industry;
- ! To develop new technology for pollution prevention—sees opportunity for technology to be used initially by the batch chemical industry (i.e., for VOC uses);
- ! To represent the community and encourage further attainment of standards set forth by the Clean Air and Clean Water Acts;
- ! To voice the concerns of the community, especially with one-sided implementation of concepts such as the Dutch Covenant System;
- ! To stress more protective actions, as opposed to regulatory procedures, from the regulatory agencies;
- ! To represent the industry's concern with the complexity, cost, and time delays of regulations;
- ! To understand the initial thought and reasoning behind the implementation of certain regulatory standards;
- ! To respond to community concerns regarding risks;
- ! To develop products that are safer environmentally, yet perform up to customer specifications;

- ! To develop less cumbersome ways of achieving good environmental performance alongside efficient manufacturing standards;
- ! To promptly respond to customer's demands for products, while operating in a flexible regulatory environment;
- ! To determine ways to decrease costs (e.g., financial assurance costs);
- ! Increasingly complex regulations—orders of magnitude more complex than years ago;
- ! To be an industry leader in an extremely competitive, dynamic industry with continuous changes in environmental standards, and changing demands from the community;
- ! To understand where public interest will be and position company to be there;
- ! To prevent further downsizing of the industry and increase capital investment;
- ! To work closely with community awareness groups and respond to their concerns on jobs, odor, traffic, and environmental performance;
- ! To work faster, more flexibly, with more cost effectiveness and competitiveness;
- ! To form a cooperative relationship with regulated companies and community representatives;
- ! Regulatory systems may divert resources from other activities that could do more good;
- ! To get recognition for doing things right;
- ! To develop a better regulatory scheme that is more "results-oriented;"
- ! To move beyond emphasis on enforcement to manage wastes and resources better; and
- ! To review all "uses" of resources with an accompanying "replenishment" idea.

**Question 3: What currently drives your decisions to improve environmental performance?**

- ! Want a product that is safe to use and won't hurt environment;
- ! Achieving compliance to be in good standing with regulatory agencies;
- ! Information reporting (e.g. TRI reporting to gauge facility performance among other industry establishments);
- ! Economics—return on investment requirements (sometimes eased for environmental requirements);
- ! Pollution prevention saves money and has "multiplier" savings to help facilities perform beyond requirements and decrease internal costs;
- ! Employee participation in plant decisions;
- ! Compliance and liability concerns;
- ! Company image;
- ! Employee health and safety;
- ! Recognition for being good environmental performer;
- ! To demonstrate good environmental track record (has payoffs with customers and agencies);
- ! Clear economic advantage;
- ! To do "the right thing;"



- ! To avoid environmental regulation burden (e.g., Title V, CAA) by getting below applicability cutoffs;
- ! To achieve positive feedback from community groups and stakeholders;
- ! Genuine, meaningful community involvement up-front is more productive, less confrontational during facility changes, e.g. Project XL;
- ! CEMS monitoring–information is available to the public so facilities want to comply;
- ! Access to information on how to do better and easier access to agencies (single point of access);
- ! Peer pressure (e.g., Responsible Care);
- ! International Standards Organization (ISO) certification;
- ! Technology that achieves better efficiency/protection and knowledge of that technology;
- ! Alternative types of technology; and
- ! Enforcement actions from agencies and third parties.

**Question 4: How does the current system promote better environmental performance?**

- ! Publications such as the Small Business Compliance Assistance newsletter provide information on regulatory changes and contacts for environmental questions;
- ! Outreach programs (e.g., Region II Office) to different industry groups;
- ! Permitting (but system is imperfect);
- ! Standards (e.g., ambient air quality standards, water quality) as goals;
- ! Monitoring reports and systems to actually measure environmental performance (could be improved);
- ! Positive incentives for good performance; and,
- ! Place-based regulation.

**Question 5: What environmental requirements do you think are particularly difficult to comply with?**

- ! Process of regulatory compliance is a burden–too much engineering resources spent to read and interpret regulations;
- ! Recycling regulations–RCRA and in-process vs. out-of-process definition;
- ! Air permitting;
- ! Rules with no *de minimis* applicability cutoffs;
- ! TCPA regulations ("every gram released must be called into DEP");
- ! Regulations that do not recognize the concept of diminishing marginal returns;
- ! Proposed Federal regulations to list new dyes and pigments as hazardous (water releases);
- ! "Stupid" regulations with no obvious environmental benefit;
- ! "Potential to emit" calculations;

- ! Regulations that require retrofitting of processes (e.g., air and water regulations) for facilities are small and compact with no room for retrofits;
- ! Requirement to submit the same or similar information to different parts of agency;
- ! Regulations that require excessive paperwork—many enforcement actions are for paperwork violations;
- ! Effluent guidelines that require high degree of precision: a violation may be within the analytical margin of error;
- ! Regulations that specify technology-based standards that send companies shopping for a low enforcement state;
- ! Regulations with mandatory penalties, but without a reality-check;
- ! Requirements that are more onerous for batch processes (e.g., Clean Air Act permitting and stack testing must test total emissions vs. sample for continuous process); and
- ! Conflicting regulations—a lot of regulation writing is "unplanned development."

**Question 6: How does the current regulatory system present barriers to better environmental performance?**

- ! Limited staff;
- ! Limited capital and access to capital;
- ! Need more tax credits and low-interest loans for environmental investments;
- ! Competition from countries with no or low environmental regulations;
- ! Permit requirements for environmental improvements to containers, vessels, and tanks, even if the tank did not require a permit;
- ! Timing of permits and requirements to re-do permit if making environmental improvements;
- ! Technology-specific regulations;
- ! RCRA "listed waste" requirements prevent reuse/recycling;
- ! Excessive inspections for very small amounts of pollutants;
- ! Off-site recycling limits—current regulations frequently limit facilities' ability to perform off-site recycling;
- ! Denial of non-compliance;
- ! Lack of baseline data to compare progress;
- ! Focus on procedures, paperwork—sometimes agency response is just "lip service;"
- ! Too little cross-media focus, too little focus on cumulative effects;
- ! Disconnect between standards and implementation;
- ! Too much focus on punishment;
- ! Reporting data based on potential rather than actual releases;
- ! Some apparent violations occur because of glitch in system; and
- ! Some violations are never caught because companies don't know there is a regulation or just don't file.

**Question 7: For companies, Do you see specific barriers to improving your facility's environmental performance? What are they?**

- ! Diminishing returns on frequently repeated inspections;
- ! Regulatory limitations on waste recycling;
- ! Space and historic district limitations; and
- ! Differences between EPA, OSHA, and state accidental release requirements.

**Question 8: If you had the flexibility to design new compliance approaches, what alternatives would you implement?**

- ! Clear but simple regulations—"less is more;"
- ! "Self-implementing" monitoring and reporting system: if a facility can stay below a threshold, won't be required;
- ! Audits based on a cooperative effort between facilities and agencies;
- ! Assistance for small companies that may not know they are out of compliance through compliance assistance audit;
- ! Amnesty for violations found and fixed due to audits;
- ! Set a specific threshold which leads to less frequent inspections and decreased agency involvement (like OSHA Star);
- ! Flexible CEM standards;
- ! Facility-wide permits;
- ! Substituting BMP techniques in lieu of technical requirements;
- ! "Non-use" certifications that eliminate monitoring;
- ! *De minimis* standards for inspection frequency;
- ! Emission reduction trading for air (especially for VOCs) and effluent; and
- ! Simplified reporting for standard, well-known processes (e.g., boilers).

**Question 9: What are the barriers to implementing your proposed alternative compliance approaches?**

- ! Cost;
- ! History of mistrust (stakeholder process can help overcome this);
- ! Burden falls on the first pioneer of alternative;
- ! "Bureaucratic featherbedding:" environmental experts in industry and agencies see streamlining regulations as possible job loss; and
- ! Changes needed in current laws.

**We did not have enough time to cover the last two questions:**

***Question 10:* Are there some requirements that you think aren't worth the cost or effort for the environmental protection gained?**

***Question 11:* What kind of incentives or regulatory alternatives can encourage improved environmental performance?**

## **Appendix C**

### **SUMMARY OF FACILITY ISSUES IDENTIFIED BY STAKEHOLDERS OF THE NEW JERSEY CHEMICAL INDUSTRY PROJECT**

**Appendix C**

**SUMMARY OF FACILITY ISSUES IDENTIFIED BY STAKEHOLDERS OF THE NEW JERSEY CHEMICAL INDUSTRY PROJECT<sup>1</sup>**

<b>ISSUE NUMBER/TITLE</b>	<b>CURRENT APPROACH / NATURE OF PROBLEM</b>	<b>ALTERNATIVE APPROACH / BENEFITS</b>	<b>FOLLOW-UP CATEGORY<sup>2</sup></b>
<b>AIR</b>			
A-1: Upgrading/ Changing Equipment without Permit Revisions	The permitting process imposes a disincentive for facilities to replace current equipment with equipment that is more efficient. When replacing equipment with a new model, even one that may be more efficient, a facility must either totally revise its permit or proceed un-permitted at its own risk. The former option may significantly increase the facility workload; the latter option may expose the facility to enforcement action. These options represent significant barriers to upgrading equipment and to achieving any associated potential emissions reductions and cost savings.	Develop an alternative permitting approach that provides facilities flexibility and incentives to upgrade permitted equipment by installing better technology (e.g., more efficient and/or lower emitting) when replacing an existing piece of equipment. Possible approaches include: (i) providing expedited permit review or requiring only notification for such upgrades; (ii) writing more flexible permits; and (iii) providing incentives for reducing emissions by ensuring retention of emission reduction credits achieved during the permit period.	V
A-2: Decreasing Costs of Stack Compliance Demonstration for Small Batch Facilities	Stack compliance demonstrations are costly — one Stakeholder reported spending approximately \$100,000 for external consulting services alone. Because NJDEP requires these demonstrations both for five-year permit revisions and for mid-permit process changes, they place a disproportionately high compliance burden on batch chemical manufacturers.	Stakeholders suggested that NJDEP should adjust their regulations to accommodate the nature of batch production. Specifically, NJDEP could allow batch facilities to replace stack compliance tests with alternative, less-costly processes such as parametric monitoring during key points of production processes.	IV
A-3: Establishing <i>de minimis</i> Thresholds for Process Equipment	New Jersey Title V requirements dictate that facilities have permits that include details on all process equipment with greater than 25 tpy of VOC emissions. Completing these process equipment descriptions places a huge resource burden on facilities.	Stakeholders suggested that establishing <i>de minimis</i> emission thresholds for units would reduce much of this regulatory burden. Because those units with emissions below <i>de minimis</i> levels would not require Title V permits, this system would provide facilities with incentives to emit less in exchange for reduced administrative burden.	IV
A-4: New NESHAP Requirement, Title III of CAA - Applicability to Wastewater Treatment Plants (WWTPs)	Existing NESHAP rules require that treatment plants associated with major facilities treat all waste streams with more than 500 ppm of HAPs before the stream enters the plant. The two processes for doing so are exceedingly costly. Furthermore, because WWTPs that are associated with large manufacturers are regulated while independent WWTPs are not, the latter have a competitive advantage.	Stakeholders suggested that NJDEP allow facilities to consider alternative approaches to reducing HAPs from the entire site rather than from the WWTP alone. This may lead to more cost-effective HAP reductions.	V
A-5: NO <sub>x</sub> and VOC Trading between Stationary and Mobile Sources	NJ regulations place substantial controls on stationary sources and relatively few controls on mobile sources. The state is in non-attainment for ozone and, although the costs of placing additional controls on stationary sources are higher than those for placing controls on mobile sources, the political climate has not been favorable to placing additional controls on mobile sources.	Establish a trading program that allows facilities to generate or purchase voluntary reductions in emissions from mobile or area sources in exchange for flexibility or increased allowable emissions from stationary sources. Because the marginal cost of emissions reductions from mobile sources is generally less than that for stationary sources, this would lead to more economical emission reductions.	VI

<b>Appendix C (Continued) SUMMARY OF FACILITY ISSUES IDENTIFIED BY STAKEHOLDERS OF THE NEW JERSEY CHEMICAL INDUSTRY PROJECT<sup>1</sup></b>			
<b>ISSUE</b>	<b>CURRENT APPROACH / NATURE OF PROBLEM</b>	<b>ALTERNATIVE APPROACH / BENEFITS</b>	<b>FOLLOW-UP CATEGORY<sup>2</sup></b>
A-6: Accidental Releases under NJ TCPA and CAA 112	Facilities that use or store certain chemicals are presently required by the NJ Toxic Catastrophe Prevention Act (TCPA) and the Clean Air Act (CAA) to design and implement programs to prevent accidental releases. Ensuring that the facility adheres to both the NJ TCPA and the CAA is a large undertaking, particularly for facilities too small to take advantage of guidance and/or resources from trade associations. In addition, public disclosure or release estimates raises concerns about confidentiality.	Following a consolidated set of requirements for performing accidental release estimates would be much easier than following two regulatory scenarios. Thus, coordination between EPA and NJDEP may help make facilities' environmental compliance work more efficient. Furthermore, facilities would also like to see accidental release information distributed either only to individuals who have legitimate interests, or to the public in a more controlled setting.	V
A-7: Potential to Emit Calculations	Current regulations require that potential to emit (PTE) calculations be based on assumptions about operating conditions that significantly overstate operating conditions (e.g., operating 24 hours per day, 7 days per week). Consequently, a facility's PTE is generally set much higher than its actual emissions, and many facilities are classified as major sources despite having actual emissions below CAA thresholds. This places unnecessarily high compliance burdens on such facilities.	Allow those facilities that continuously have emissions below threshold levels to use more realistic operating assumptions to produce "ratcheted down" PTE calculations that would lead to less overstated emissions estimates. Alternatively, EPA could allow facilities to perform PTE calculations using state-approved permit methods and assumptions that better portray the facility's operations. PTE limits based on these lower PTE calculations would force facilities to maintain lower emissions levels. More realistic PTE calculations would allow additional facilities to remain below the major source threshold level and save considerable facility and agency staff resources.	V
A-8: Bubble Air Permit	Potential to emit (PTE) calculations are performed for each tank in a production section rather than for a whole section of tanks. It is time intensive for a company to permit tanks separately, including projecting the expected use and emissions for each tank. In addition, tank-specific permits reduce a facility's flexibility in choosing which tank to use in producing specific products.	A "bubble permit" can be written to accommodate an entire facility or a whole section of process units rather than obtaining separate permits for each tank. This would allow a facility greater flexibility in designing operating scenarios. Also, with respect to PTE calculations, using a bubble approach would lead to more representative calculations than calculations based on individual tanks.	IV
<b>HAZARDOUS WASTE</b>			
HW-1: Waste Handling	Recycling is currently defined as either in-process or out-of-process. Only the former is considered "pollution prevention" by NJDEP and counts toward a facility's P2 goals. The basic equipment and processes of batch chemical manufacturing usually preclude batch facilities from recycling in-process; consequently they are unable to obtain credit for their recycling efforts.	Develop a regulatory framework that recognizes and offers incentives for out-of-process recycling. This will encourage increased recycling because manufacturers will be able to get P2 credit for their efforts. One approach suggested could be to broaden the definition of recycling to relax "hard pipe" requirements.	IV
HW-2: Out-of-Process Recycling of Hazardous Wastes	Current regulations provide a disincentive for out-of-process recycling. If a facility recycles a RCRA hazardous material out-of-process more than 90 days after it has been generated, then it will be considered a hazardous waste treatment, storage, and disposal facility (TSDF). Because of the significant regulatory burden placed on TSDFs, facilities often dispose of wastes rather than recycle them in order to avoid this classification.	Develop a regulatory framework that allows companies to recycle materials out-of-process after 90 days of storage without being subject to TSDF requirements. This would increase the recycling of materials and would enable facilities to save money on raw materials and waste disposal.	IV

**Appendix C (Continued) SUMMARY OF FACILITY ISSUES IDENTIFIED BY STAKEHOLDERS OF THE NEW JERSEY CHEMICAL INDUSTRY PROJECT<sup>1</sup>**

ISSUE	CURRENT APPROACH / NATURE OF PROBLEM	ALTERNATIVE APPROACH / BENEFITS	FOLLOW-UP CATEGORY <sup>2</sup>
HW-3: Cross-Facility Reprocess/ Recycling	NJ rules presently provide a disincentive to the recycling of materials from one facility to another and thus increase facility operating costs and raw material usage. Unlike federal RCRA rules, NJ hazardous waste rules do not exempt such recycling from burdensome TSD requirements. Therefore, generators in NJ are required to either become a TSD or complete RCRA paperwork and dispose of the waste.	Stakeholders suggested that NJDEP provide facilities with more flexibility for this type of recycling under their hazardous waste rules. This could involve less stringent permitting, or the use of a system which grants exceptions for this type of transfer. By stimulating greater materials re-use, this would decrease both raw material usage and operating costs for facilities. <i>[Note: NJ adopted the federal regulations governing the reuse of secondary materials on November 21, 1996.]</i>	I or II
HW-4: Land Ban Prohibition of Wastewater Alcohol Reuse	Land ban rules currently prohibit facilities from reusing wastewater comprised of more than 24 percent alcohols. Thus, some manufacturing facilities are required to reduce the amount of alcohols in their wastewater while wastewater treatment plants (WWTPs) must purchase fresh alcohols as nutrients for microbes to maintain proper operation.	Establish protocols for evaluating whether certain waste streams containing more than 24 percent alcohol can be reused to enhance performance of WWTPs. Allowing such reuse would reduce off-site waste transport and disposal costs for manufacturers and decrease WWTP operating costs.	III or VI
HW-5: Listing of Wastes from Dye Production as Hazardous	EPA has proposed a rule under RCRA to list wastewater and sludge from the manufacture of certain dyes. The cost of compliance with RCRA requirements may be prohibitively expensive for small facilities. Stakeholders asserted that EPA is proceeding with the rule, despite the fact that its environmental benefits are likely to be negligible.	No specific alternative offered.	IV or V
HW-6: Recirculation of Wastewater as Cooling Water	Effluent streams from a WWTP that treats RCRA wastes are considered hazardous until they are discharged into a body of water. This classification precludes facilities from reusing wastewater for use as a cooling water because if it is recirculated, all equipment it comes in contact with will become subject to RCRA. Therefore, facilities pull fresh water from surrounding areas for process cooling. This is especially problematic during droughts.	Develop a way to allow facilities to use newly-treated wastewater as cooling water without triggering additional RCRA requirements for facility equipment. This would reduce the facility's water demand and minimize its impacts on the surrounding water supply and other competing water uses, such as farming.	III
HW-7: Difficulty of Site Remediation for Small Companies	A facility locating to an urban site may be liable for any environmental damages it discovers, even if it had no prior knowledge of these or if it participates in a voluntary cleanup program. This fear of liability is a disincentive for facilities to locate in urban areas.	Develop a mechanism to limit potential liability of facilities that relocate to a site with residual environmental contamination from the activities of previous owners. This will help encourage facilities to relocate to urban areas and provide economic benefits to the surrounding communities.	V or VI
HW-8: Solid/Hazardous Waste Definition	Facilities are uncertain how to determine if a waste is hazardous.	This issue relates to upcoming proposed rule on the definition of a solid waste. It may be most effectively addressed as a compliance assistance project.	VI



<b>Appendix C (Continued) SUMMARY OF FACILITY ISSUES IDENTIFIED BY STAKEHOLDERS OF THE NEW JERSEY CHEMICAL INDUSTRY PROJECT<sup>1</sup></b>			
<b>ISSUE</b>	<b>CURRENT APPROACH / NATURE OF PROBLEM</b>	<b>ALTERNATIVE APPROACH / BENEFITS</b>	<b>FOLLOW-UP CATEGORY<sup>2</sup></b>
<b>WATER</b>			
W-1: Pharmaceutical Effluent Guidelines	These proposed effluent guidelines will impose stringent rules on pilot plants and consider them manufacturing facilities. Compliance with these guidelines will require significant effort on the part of facilities, but will result in minimal environmental benefits.	The use of Best Management Practices (BMPs) may be a more desirable and cost-effective alternative to the monitoring guidelines proposed by the effluent guidelines.	V
W-2: Cost Effectiveness of Pretreatment Requirements	Pretreatment requirements under the CWA may not achieve the most cost-effective protection possible. Prior to discharging effluent to a POTW, facilities are required to use pretreatment techniques to treat organic chemicals that the POTW would be able to handle. Besides the immediate costs of treatment, facilities also face regulatory and permitting costs.	Costs could be avoided by relaxing pretreatment requirements and allowing facilities to discharge directly to sewers in cases where POTWs would be able to effectively treat their effluent. This would save facilities construction, transportation and treatment costs, as well as decrease energy consumption for treatment processes.	V
W-3: NJPDES Permit Concerns	Some facilities may find it difficult to comply with their NJPDES requirements for stormwater discharges or biochemical oxygen demand (BOD) limits due to situations beyond their control (e.g., groundwater sources infiltrating a facility's stormwater system). These situations are often unpredictable, and their effects cannot be detected until after they have caused violations. Therefore, despite their best control efforts, many facilities cannot avoid fines.	Make allowances under NJPDES stormwater permits for random spikes in BOD or slug discharges into stormwater systems that are beyond a facility's control.	IV
W-4: Effluent Requirements for Organic Chemicals	To meet pretreatment standards, facilities may need to purchase and add chemicals (e.g., inorganics) to their effluent to decrease the concentration of organics prior to discharging to a POTW. This increased volume of combined chemicals increases the charges facilities must pay to POTWs (e.g., for suspended solids or biological oxygen demand). In addition, this may also cause facilities to exceed their maximum allowable effluent waste loads.	An alternative is to allow facilities to discharge higher concentrations of organic chemicals, plastics, and synthetic fibers (OCPSFs) to POTWs, so long as this does not exceed POTW treatment capabilities.	III
W-5: Laboratory Analysis of All Effluent Discharges to POTWs	All industrial users are required by POTWs to perform monthly monitoring of their effluent streams to obtain measurements of flow rate, biological oxygen demand, total suspended solids and other parameters. Obtaining these measurements is a costly undertaking for facilities that are already subject to high POTW sewer rates.	Industrial users should be allowed to conduct these lab analyses less frequently if they are not a significant contributor to the overall waste load of the POTW, are consistently within their discharge limits, and have operating conditions that are unlikely to lead to potential upsets at the POTW's treatment operations. This would reduce costs to facilities at very little risk of increased pollution or spikes to POTW loads.	III
W-6: Trading Pollution Limits - Water Discharges	Many manufacturing facilities have significant difficulty in meeting their POTW discharge limits for certain substances. Costs associated with meeting these limits can threaten a facility's competitiveness. They also may represent a significant operating constraint to increasing production.	Instead of changing processes to meet regulatory requirements, facilities within the same sewer service area could trade discharge limits. Depending on how trades are structured, such a program may result in cost savings and a reduction in pollutant loadings to POTWs.	I or II

<b>Appendix C (Continued) SUMMARY OF FACILITY ISSUES IDENTIFIED BY STAKEHOLDERS OF THE NEW JERSEY CHEMICAL INDUSTRY PROJECT<sup>1</sup></b>			
<b>ISSUE</b>	<b>CURRENT APPROACH / NATURE OF PROBLEM</b>	<b>ALTERNATIVE APPROACH / BENEFITS</b>	<b>FOLLOW-UP CATEGORY<sup>2</sup></b>
W-7: Trading Neutralization Chemicals	Facilities spend a large amount of money to purchase chemicals to neutralize their waste streams and meet their discharge requirements for pH. This is costly for facilities and leads to increased manufacture, transportation, and discharge of chemicals solely for the purpose of neutralization.	Facilities seek the flexibility to trade their "waste product streams" to other manufacturers. For example, an acidic waste stream from one facility would be shipped to a second where it would be used to neutralize an alkaline stream. Such a trade would allow both facilities to neutralize their effluent at reduced cost and with reduced need for production of fresh neutralization chemicals.	II
W-8: Waste Minimization	The New Jersey Spill Control Act (NJSCA) requires facilities to implement leak countermeasures for underground waste lines. Consequently, facilities are required to upgrade their waste lines, which can be a very costly process. In addition, NJSCA does not allow facilities to make process changes to reduce waste flow in lieu of this requirement, even though the reduction may lead to a better environmental result.	One stakeholder suggested that, instead of spending money and time to upgrade underground waste lines, they would be interested in decreasing the volume of effluent from one of its production processes. The end result would be an 85 percent reduction in wastewater from this process (equivalent to a one-third reduction in total waste through the underground line).	IV
<b>MULTI-MEDIA</b>			
MM-1: Flexible Track: Reporting	Current reporting requirements are extremely burdensome for facilities, especially small manufacturers with limited resources to devote to environmental compliance. Facilities must currently complete numerous reports for the agencies which administer the numerous relevant requirements. This is made more difficult because many of these reports have similar deadlines.	Alternate reporting systems may ease the resource burden placed on facilities. Examples include programs which offer flexibility in reporting (e.g., decreased frequency) in exchange for environmental achievement, electronic monitoring and reporting, and consolidated reporting. These would allow agencies to collect the same information at reduced cost to facilities.	I
MM-2: Flexible Track: Inspections	All facilities, regardless of their environmental performance records, are subject to routine and unannounced facility inspections by regulatory staff. Because these inspections are resource-intensive, they can impose a significant burden on facility staff, especially at small facilities that do not have a designated compliance officer.	Stakeholders suggested that NJDEP establish a tiered framework in which facilities are "ranked" according to their environmental performance histories. Those good performers near the top of this list would be subject to decreased inspection frequency. This would provide firms with an incentive to continuously improve their environmental performance.	I
MM-3: Flexible Track: Permitting	Because the chemical manufacturing industry is highly regulated, facilities must obtain a large number of permits and satisfy many compliance requirements. Renewing permits and demonstrating compliance may be very costly and labor-intensive for facilities. In addition, some small facilities feel "overwhelmed" by the sheer volume of paperwork and testing they are required to complete.	Stakeholders suggested that NJDEP decrease the permitting and laboratory testing/reporting requirements placed on facilities with good compliance histories. This would provide facilities with an incentive to maintain good environmental performance and would also decrease the resources they must devote to compliance demonstrations and permit revisions.	I
MM-4: Paperwork Reduction	Facilities are required to complete both NJDEP's DEQ 114 and EPA's Form R reporting requirements. These forms require duplicative information which makes reporting requirements unnecessarily burdensome for facilities.	Stakeholders suggested that EPA and NJDEP either consolidate these forms or use similar measures and similar methodologies for calculating the reported measures. This will lead to cost savings by reducing the amount of staff time required for facilities to complete these forms and for agencies to review them.	V

<b>Appendix C (Continued) SUMMARY OF FACILITY ISSUES IDENTIFIED BY STAKEHOLDERS OF THE NEW JERSEY CHEMICAL INDUSTRY PROJECT<sup>1</sup></b>			
<b>ISSUE</b>	<b>CURRENT APPROACH / NATURE OF PROBLEM</b>	<b>ALTERNATIVE APPROACH / BENEFITS</b>	<b>FOLLOW-UP CATEGORY<sup>2</sup></b>
MM-5: Turnaround Time for Permit Modifications or Approvals	Facilities occasionally need to install or modify equipment in the middle of their five-year permitting cycle. Facilities must file for a permit modification and wait for approval for the necessary permit revisions before proceeding with the equipment change. Not only does this require extra staff time, but it can also disrupt or unnecessarily delay production schedules, which can lead to significant financial losses.	Establish an abbreviated permit amendment process for such replacements to reduce preparation time for facilities and review time for agencies. Furthermore, if a delay in agency approval is anticipated, a temporary permit could be granted to alleviate the delay. Such expedited temporary permits could be made available only for facilities replacing units with one that is more efficient/less polluting than the original.	II
MM-6: Registration for Storage Tanks	Facilities are currently required to notify NJDEP each time they change the contents of storage tanks, whether or not such a change represents a change in potential environmental risks. Completing the required forms can be onerous for facilities with multiple storage tanks.	Stakeholders suggested three alternative options to reduce burdens placed on facilities: 1) allow tanks to be registered for the storage of multiple chemicals; 2) allow facilities to substitute chemicals freely, so long as the new chemical being stored does not require additional human health or environmental safeguards; and 3) utilize simplified paperwork for changing the use of a tank.	V
MM-7: Compliance Assistance: Notification of Regulatory Changes	Many facilities, especially those with limited environmental staff, have difficulty in interpreting regulations, determining if the regulations apply to them, and devising the means to comply. Existing sources of information, notably the Federal Register and NJ Register, are not clearly written and typically refer to other rules with additional requirements. This may lead to violations by facilities who are unaware of regulations that apply to them.	Regulatory agencies could publish an ongoing notification of newly promulgated regulations in plain English (e.g., not legalese), which identifies their requirements and applicability. Another alternative is to ease interpretation of the rules by improving the clarity of the rules themselves, using introductory summaries and eliminating the need to refer to other documents. These changes would help facilities ensure full compliance.	I or II
MM-8: Compliance Assistance: Guidebook	Identifying and understanding all of the regulations that affect a facility can be very difficult for some facilities, especially small ones that do not have staff dedicated solely to environmental compliance. This can lead to violations of regulations of which facilities are not even aware.	Develop a compliance guidebook to assist facilities in determining what rules apply to them and what they must do to ensure compliance with these regulations. This would reduce facilities' uncertainty regarding regulations and help them better meet applicable environmental requirements.	I-II
MM-9: Assistance for Schools	Schools have to dispose of their chemical wastes (e.g., from laboratories) at a TSD, complying with regulations for transport and treatment. It is even more difficult for schools to learn about and comply with these requirements than it is for small facilities.	Large facilities can help schools understand their environmental requirements and can combine school waste with their own to assist in disposal of chemicals. This would decrease schools' disposal costs and likely increase their compliance rates.	VI
MM-10: Amnesty for Voluntary Facility Audits	Because of the difficulty of understanding the myriad of complex environmental regulations, many facilities are interested in volunteering for on-site audits by agency staff or larger companies to help them determine how effectively they are complying with applicable requirements. These facilities are concerned, however, about being subjected to potential enforcement action should violations be discovered during an audit.	Stakeholders suggested that agency audit policies include amnesty for voluntary inspections of this type. Facilities at which violations are discovered during such inspections would be given 60 or 90 days to correct the problem without fear of penalties. This would increase the compliance rates and confidence levels among well-intentioned facilities, as well as the sense of partnership between regulators and industry.	III, IV, or V

<b>Appendix C (Continued) SUMMARY OF FACILITY ISSUES IDENTIFIED BY STAKEHOLDERS OF THE NEW JERSEY CHEMICAL INDUSTRY PROJECT<sup>1</sup></b>			
<b>ISSUE</b>	<b>CURRENT APPROACH / NATURE OF PROBLEM</b>	<b>ALTERNATIVE APPROACH / BENEFITS</b>	<b>FOLLOW-UP CATEGORY<sup>2</sup></b>
MM-11: International TSCA Concerns	There are significant inconsistencies between the testing requirements and nomenclature used by U.S. and European chemical registration regulations (TSCA and the sixth amendment of Directive 67/548/EEC, respectively). These discrepancies often force U.S. facilities to undertake duplicative registration requirements and make it exceedingly difficult or costly for them to export to and sell chemicals in Europe.	Better international coordination of environmental regulations would ease the process of registering chemical products internationally and help lower trade barriers.	IV
MM-12: TRI Expansion	The final rule in TRI reporting will add 286 chemicals to the list. This expansion will increase the likelihood that a facility will need to file a Form R with EPA, which automatically qualifies them for the NJ DEQ 114 program. As a result, many facilities will have to revise their current NJ P2 program. This can be very burdensome, especially for small facilities.	Stakeholders would like to see approaches developed that make it easier for them to comply with the TRI expanded rule.	VI
M-13: Label Requirements for Product Containers	Current NJ Department of Health rules require that facilities list detailed product information on all container labels. Fears that this requirement both forces facilities to reveal proprietary information and is unnecessarily burdensome for some facilities have been addressed in the 1993 Right to Know (RTK) amendments. However, many facilities are unaware of these changes.	The NJ Department of Health should attempt to make companies aware of the RTK amendments, including threshold levels for certain labeling requirements and procedures for obtaining and using a NJ Trade Secret Registry Number. This will help facilities maintain their market advantage by better protecting proprietary product information.	IV or V
MM-14: Duplication of Regulations between EPA and Other Agencies	Different agencies have varying and sometimes duplicative regulations addressing the same issue. Facilities attempting to ensure compliance must therefore adhere to multiple sets of regulations that may be redundant, but also contain several unique requirements. This places an unnecessarily high compliance burden on facilities. One example is the accident prevention requirements under the NJ TCPA, OSHA Process Safety Management Standards, and EPA's Risk Management Guidelines.	Agencies could review their regulations, determine the overlap across agencies, and create a more organized system. Another option is to design regulations to ensure that facilities that satisfy all state requirements will also satisfy all corresponding federal regulations.	IV
MM-15: Mentoring of Small Businesses	Some small facilities could benefit greatly from batch permits similar to those some large facilities have. Small facilities often do not have dedicated environmental staff and would therefore need to hire outside consultants to complete the necessary detailed calculations and paperwork. Thus, they believe that this would be too time-intensive and costly of an application process.	Having large corporations, which have obtained batch permits, assist small facilities in completing the application may reduce the associated costs and expedite the process. Small facilities will benefit from the increased flexibility associated with their batch permits. Regulatory agencies could provide recognition or other incentives to encourage large facilities to serve as mentors.	II

<b>Appendix C (Continued) SUMMARY OF FACILITY ISSUES IDENTIFIED BY STAKEHOLDERS OF THE NEW JERSEY CHEMICAL INDUSTRY PROJECT<sup>1</sup></b>			
<b>ISSUE</b>	<b>CURRENT APPROACH / NATURE OF PROBLEM</b>	<b>ALTERNATIVE APPROACH / BENEFITS</b>	<b>FOLLOW-UP CATEGORY<sup>2</sup></b>
MM-16: Recognition for Businesses to Achieve Good Environmental Performance	Many facilities that invest significant time and resources in improving environmental performance feel that regulatory agencies do not have high regard for these efforts and provide few incentives for them to continue sound environmental performance.	Create a program to recognize companies that have good environmental performance records or that develop environmentally benign products. This could help provide additional incentives for facilities to improve their overall environmental performance.	II
MM-17: Shift to Performance-based Standards and Goals	Current regulations are primarily technology-based rather than performance-based. This reduces operational flexibility for facilities and increases the paperwork necessary to demonstrate compliance. In addition, technology-based requirements do not encourage facilities to develop more efficient environmental technologies.	Regulatory agencies should shift their focus toward performance-based standards. Specifically, Stakeholders suggested that regulations might establish environmental targets and give facilities flexibility in determining how to comply with these. This would increase facility operational flexibility, decrease paperwork burden, and likely facilitate technological progress.	III
MM-18: Different Lists of Chemicals with Different Requirements	Chemicals are often placed on multiple regulatory lists, each of which is subject to different requirements. It is time consuming for facilities to identify which chemicals are on each list and to understand the specific requirements of the regulations.	Making the Register of Lists (ROLs), which relates if a chemical is subject to regulation, more available or compiling all of these lists into one book would enable facilities to more easily identify under which agency or program specific chemicals are regulated.	IV
MM-19: Customer/Supplier Relationship	Many facilities have worked diligently to maintain their status as good environmental performers. To achieve this goal, they not only need to meet regulatory requirements, but also must often follow the guidance, demands, and incentives of their customers and suppliers. The supplier/customer relationship can be a positive force in improving environmental performance.	Suppliers and customers should make greater efforts to encourage each other to be good environmental performers. Regulators should also encourage the use of the supplier/customer relationship as a tool for improving environmental performance. This could create a "self-policing" concept within industry.	IV
MM-20: Regulatory Testing Procedures	Manufacturing facilities that produce food, drugs, cosmetics, or additives to these must use testing methods standardized by the FDA. These sometimes outdated procedures often require that facilities use a more toxic chemical and greater quantities than is necessary to test products accurately. This may increase total loading to the environment. In some cases, because this is the only use of such chemicals at a facility, the testing requirements may subject a facility to additional reporting requirements.	Allow and encourage facilities to develop testing methods that are equivalent in accuracy and more environmentally-friendly than those currently required. Specifically, the FDA should encourage the use of environmentally benign chemicals in testing procedures. This will decrease the use and discharge of toxic chemicals. In addition, to the extent that this enables facilities to eliminate or reduce their usage of toxic chemicals, this may exempt them from certain requirements and reduce their compliance burden.	IV
MM-21: Compliance with Site-wide Permitting	Manufacturing facilities are required to obtain a permit for each stack and discharge point. This is costly and resource-intensive for facilities because they have to project all the uses of each tank and perform individual emission calculations for each of their stacks. In addition, this limits a facility's operational flexibility.	Using "site-wide" permitting allows facilities to meet emissions levels for their entire operations rather than for each stack and discharge point. This approach could lead to better environmental performance because it involves comprehensive site reviews, which can improve compliance, and performance-based standards can be used to set tighter emissions limits. Site-wide permitting would also increase a facility's flexibility to shift production to meet changing market demands.	V

1. From: *List of Facility Issues*, New Jersey Chemical Industry Project, October 10, 1996. Please refer to this document for additional information about each issue and the scoping analysis.
2. The appropriate level of follow-up for each issue was determined by the Stakeholder Group. The specific categories for follow-up are as follows:
  - I. High level of interest for pilot;
  - II. Support for pilot;
  - III. Good pilot, but cannot proceed due to ongoing regulatory/legal action or staffing limitations;
  - IV. Good idea, but not suitable for pilot; other actions may help resolve issue;
  - V. In the process of being resolved, no action needed or just forward issue to relevant parties; and
  - VI. Document that the issue was raised.

## **Appendix D**

### **LIST OF MAJOR REPORTS AND DOCUMENTS PRODUCED BY THE NEW JERSEY CHEMICAL INDUSTRY PROJECT**



# NEW JERSEY CHEMICAL INDUSTRY PROJECT

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## LIST OF MAJOR REPORTS AND DOCUMENTS PRODUCED BY THE NEW JERSEY CHEMICAL INDUSTRY PROJECT

### Pilot Project Reports

*Inspiring Performance: The Government-Industry Team Approach To Improving Environmental Compliance, Lessons from the New Jersey Industry Project — Compliance Assistance Team, Final Report.* EPA 231-R-99-002. Washington, D.C. May, 1999. <http://www.epa.gov/emergingstrategies/njcip/cadoc/home.htm>.

*Promoting Chemical Recycling: Resource Conservation In Chemical Manufacturing, Lessons from the New Jersey Chemical Industry Project — Materials Recycling Team, Scenarios and Regulatory Interpretations.* EPA 231-R-99-001. Washington, D.C. June, 1999. <http://www.epa.gov/emergingstrategies/njcip/mrdoc/home.htm>.

*Sharing the Load: Effluent Trading for Indirect Dischargers, Lessons from the New Jersey Chemical Industry Project — Effluent Trading Team, Final Report.* EPA 231-R-98-003. Washington, D.C. May, 1998. <http://www.epa.gov/emergingstrategies/njcip/etdoc/home.htm>.

*Proposed Framework for a Flexible Track Program.* May 7, 1997. <http://www.epa.gov/emergingstrategies/njcip/flextrk/sum.htm>.

Note: NJ DEP has produced related documentation concerning the Silver Track: *Silver and Gold Track Program for Environmental Performance — Guidance Document.* NJ DEP. August 1999. <http://www.state.nj.us/dep/special/silver/index.html>.

### Meeting Summaries and Analyses

*First Stakeholder Meeting Summary.* April 11, 1996.

*Second Stakeholder Meeting Summary.* October 28, 1996.

*Third Stakeholder Meeting Summary.* May 16, 1997.

*Compliance Assistance Materials (CAM) For New Jersey Environmental Regulations.* May, 1998. [www.state.nj.us/dep/enforcement/home.htm](http://www.state.nj.us/dep/enforcement/home.htm).

*List of Facility Issues.* October 10, 1996.

*Initial Profile of the New Jersey Chemical Industry.* August 8, 1995.

*Second Profile of the New Jersey Chemical Industry.* September 8, 1995.



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Many of the reports and documents listed in this appendix can be obtained through the Internet at the websites provided. In addition, paper copies can be obtained by contacting the NJCIP project manager:

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