

**Towards Integrated Approaches
to Compliance Assurance**

Submitted to
The National Academy of Public Administration

by

Tellus Institute

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**Learning from Innovations in Environmental Protection:
The Research Papers**

This report is one in a series of independent evaluations of innovations in environmental management commissioned by the National Academy of Public Administration's Center for the Economy and the Environment. The entire series is available at the Academy's website, www.napawash.org, and will be available in print in late 2000.

The U.S. Congress initiated this study in FY 1998 when it asked the Academy to undertake an independent evaluation of some of the most promising innovations in environmental management. A panel of Academy Fellows and other experts is guiding the project. The panel selected the research topics and researchers, and encouraged the researchers to offer their own findings and recommendations. The reports in this series are the work products of the research teams; neither the Academy nor the project panel endorses their findings and recommendations. The panel will use the research reports as a foundation for its own report and recommendations to Congress and the U.S. Environmental Protection Agency later this year.

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Executive Summary

There is broad agreement at the federal and state levels that the traditional emphasis on penalty-based enforcement approaches to compliance assurance is inadequate. Academic inquiry and regulatory agency experience in the field indicate that non-compliance has both economic and institutional causes. That is, non-compliance arises *in part* because firms may make a conscious judgment regarding the possibility of being caught and its consequences; penalties and enforcement address that economic cause of non-compliance. But non-compliance also arises because firms have inadequate understanding of applicable regulations, and poor knowledge of their own emissions and mitigation or pollution prevention options. Penalty-based approaches do little to address those institutional causes of noncompliance.

Through the Office of Enforcement and Compliance Assurance (OECA), EPA has therefore publicly committed to promoting and practicing *integrated* approaches to compliance assurance. Such integrated approaches involve a combination of three types of tools: enforcement; compliance assistance; and compliance incentives. OECA has long held that neither compliance assistance nor compliance incentives work very effectively without a strong enforcement “hammer.” As a result, OECA views enforcement as an essential part of any integrated approach.

Compliance assurance is, however, among the most contentious issues in the post-2000 EPA policy agenda. The broad agreement between and within EPA and the states regarding the need for integrated approaches breaks down over two sets of issues. The first is essentially disputes over the proper application of federalism in the administration of the national environmental statutes. The second is instrumental: questions concerning the details and efficacy of individual compliance assurance tools, and the most effective means of constructing and implementing integrated compliance assurance approaches. This study focuses on those instrumental questions, with two objectives:

- **To inform the ongoing effort within EPA and the states to move integrated approaches to the center of compliance assurance policy.** This represents a shift in traditional enforcement approaches, and one for which there are few established models. It is thus incumbent upon EPA and the states to derive maximum learning from those models that are available.
- **To inform an ideologically charged debate between EPA and the states that often conflates instrumental questions (e.g., the efficacy of compliance assistance) with ideological positions concerning the proper conduct of federalism.** This and similar research may produce a more constructive base for dialogue between EPA and the states.

This study examined six of EPA’s national and regional integrated compliance assurance initiatives in detail, using publicly available documents, internal documentation, and extensive interviews with EPA officials and members of the relevant regulated communities. The study also conducted a focused survey of the literature and a set of interviews with enforcement experts in the academic, environmental/NGO, and regulatory communities.

The study focused on three instrumental issues at the center of the debate over the proper conduct of integrated approaches.

- The public cost-effectiveness of integrated assurance approaches.
- The proper mix of compliance assistance and enforcement.
- Effective organization and implementation of integrated approaches

We judged the integrated compliance assurance initiatives examined for this study to have been generally effective. Our conclusion is not unexpected, as we selected the initiatives in part on the basis of perceived success. In general, integrated approaches to compliance assurance are strongly indicated by the best current knowledge regarding sources of non-compliance. EPA's stated position that integrated approaches depend for their success on a credible threat of enforcement is supported by scholarship, our interpretation of the case studies, and, indeed, all the stakeholders interviewed for this project.

The six integrated initiatives studied are atypical—a majority of the work conducted by OECA and regional enforcement managers and staff is focused on more traditional enforcement activities. But the initiatives do demonstrate that innovative, integrated approaches to particular compliance problems are being designed and implemented, both at the headquarters and the regional level. And, rather than standing alone as “reinvention” or “pilot” projects, those initiatives are a part of the day-to-day work of EPA's compliance assurance functions.

The initiatives provide in many cases models that merit wider duplication; they also illustrate the measurement and organizational challenges EPA must meet. We present analysis and discussion, structured around a number of common observations and issues, intended to facilitate such learning. From this analysis, we make seven recommendations to EPA:

1. **Continue and expand the use of integrated approaches.** Because we found the six integrated initiatives we studied to have been effective uses of EPA's resources, and because integrated approaches are strongly indicated by the best current knowledge regarding sources of non-compliance, we recommend continued and expanded use of integrated initiatives, under the conditions outlined by the remainder of our recommendations.

The initiatives we studied do not engage EPA in the essential task of fostering and rewarding innovative approaches to compliance assurance by the states, which are responsible for the large majority of compliance assurance activity. Neither state initiatives nor the state-federal relationship were the subject of this study. However, our earlier research on the National Environmental Performance Partnership System (NEPPS) made clear that there is significant tension between state and EPA enforcement personnel regarding what types of innovative compliance assurance approaches are appropriate; many state personnel have the perception that EPA is not supportive of *any* innovative state activity in the area. EPA should clearly communicate principles for the design of integrated approaches, and reward such activity by the states.

2. **Assure flexibility in the design and implementation of integrated initiatives.** The success of integrated initiatives depends substantially on three key factors: the appropriate selection of tools, the application of these tools to an appropriate target population, and the commitment of adequate resources. EPA must assure that essential flexibility is available in each area to those designing and implementing integrated approaches.

- **Design flexibility.** In the design of initiatives, those in the agency with the best understanding of the particular compliance problem must maintain the flexibility to balance issues such as the nature and complexity of the industry, nature and severity of violations, compliance history, and the geographic distribution and size of the target universe.
 - **Targeting flexibility.** Effective targeting is essential to the success of integrated initiatives. The basis of effective targeting is appropriate flexibility in regional implementation of national compliance assurance priorities. That implies a more consultative process of regional goal setting than has been employed historically; it appears that OECA is indeed moving to greater flexibility at the regional level.
 - **Resource flexibility.** Self-disclosure initiatives in particular tend to create unexpected demands on agency resources—from high response rates, from spillovers to other regions, or from poor response requiring increased inspections. EPA offices and regions must retain the resource flexibility to follow through on initiatives to maintain credibility. Resource flexibility was essential to the success of several of the case study initiatives. Through the mid-year MOA adjustment process and other mechanisms, EPA must ensure that adequate flexibility to meet the resource demands of integrated initiatives exists in states' and regions' annual compliance assurance program commitments and resource allocations.
 - **Continue efforts to institutionalize the audit policy.** In concept, the audit policy represents an important change in the nature of EPA's interaction with the regulated community: the principle that violations assiduously discovered and forthrightly disclosed are treated very differently than those concealed deliberately or by neglect. The audit policy—a key compliance incentive tool for EPA—is only now being perceived within the agency and without as an established tool, rather than as a novelty or pilot. EPA's recent steps to better institutionalize the policy must be continued, leveraging the release of the revised policy. The regulated community's awareness of and access to the policy should be improved.
3. **Commit convincingly to new measurement metrics.** OECA's revised compliance assurance metrics and guidance are relatively new; old enforcement activity measures dominate in the perception of regional staff, if not in reality. While EPA and OECA are under significant pressure to quantify program results, failure to institutionalize the new measures—and to give credit to measures which may, inevitably, be less rigorously quantifiable than enforcement activity counts—disadvantage integrated initiatives. In the long term, further research into outcome measurement and compliance verification technologies will address some—but by no means all—barriers to outcome measurement.
 4. **Focus on effective coordination and communication.** Integrated approaches rely on coordination among single-medium programs, between compliance assurance and policy/program and compliance assistance offices, between EPA regions, and among states. The research identifies several approaches that seem to effect better coordination. Initiatives should emulate such models, or employ appropriate substitute mechanisms.

Chapter 1. Background and goals of study

Introduction and overview

EPA states that its mission is to “protect human health and safeguard the natural environment—air, water, and land—upon which life depends.”¹ And most state environmental agencies formulate their missions in similar terms. The primary tools available to achieve those missions are the national environmental statutes. Thus, in practice, assuring compliance with those laws and the regulations issued under their authority is a key operational goal of EPA and state environmental agencies. The Office of Enforcement and Compliance Assurance (OECA) is the EPA office with primary responsibility for compliance assurance.

There is broad agreement at the federal and state levels that the traditional, exclusive reliance on penalty-based enforcement approaches to compliance assurance is inadequate. The emphasis in the 1990s on a more partnership-focused, less adversarial approach to environmental policy has led to an increased focus on using multiple tools to advance compliance assurance. In part to that end, EPA consolidated compliance assurance activities into a single Office of Enforcement and Compliance Assurance (OECA) in late 1994. EPA intended the consolidation to facilitate coordinated and integrated approaches to compliance assurance, both across and within media.²

Through OECA, EPA has publicly committed to promoting and practicing integrated approaches to compliance assurance. OECA defines such approaches as involving the combination of enforcement with compliance assistance and/or compliance incentives.

Compliance assurance is, however, among the most contentious issues in the post-2000 EPA policy agenda. The broad agreement between and within EPA and the states regarding the need for integrated approaches breaks down over two sets of issues. The first is essentially disputes over the proper application of federalism in the administration of the national environmental statutes. The second is instrumental: questions concerning the details and efficacy of individual compliance assurance tools, and the most effective means of constructing and implementing integrated compliance assurance approaches. This study focuses on these instrumental questions, with two objectives:

- **To inform the ongoing effort within EPA and the states to move integrated approaches to the center of compliance assurance policy.** This represents a shift in traditional enforcement approaches, and one for which there are few established models. It is thus incumbent upon EPA and the states to derive maximum learning from those models that are available.
- **To inform an ideologically charged debate between EPA and the states that often conflates instrumental questions (e.g., the efficacy of compliance assistance) with ideological positions concerning the proper conduct of federalism.** This and similar research may produce a more constructive base for dialogue between EPA and the states.

Towards those ends, this study examined six of EPA's national and regional integrated compliance assurance initiatives in detail, using publicly available documents, internal documentation, and extensive interviews with EPA officials and members of the relevant regulated communities. The study also conducted a focused survey of the literature and a set of interviews with enforcement experts in the academic, environmental/NGO, and regulatory communities.

The scope of this study is limited. It takes place within the context of OECA and EPA's headquarters and regional compliance assurance programs, and thus accepts compliance as a principle metric of success—with one key caveat: Given limited resources, compliance assurance efforts should be targeted to best achieve environmental results, and the methods used to obtain compliance results should be cost-effective. Issues of targeting and cost-effectiveness related to integrated initiatives are thus examined. The study does not address higher-level issues, such as the proper division of resources between compliance assurance and other offices/functions within EPA.

Definitions

The primary implementation goal of environmental regulatory agencies is compliance assurance: that is, obtaining the highest degree of compliance possible with environmental laws and regulations on the part of regulated entities. Agencies have multiple tools available to attempt to effect greater compliance. Such tools can be divided into three categories: enforcement; compliance assistance; and compliance incentives. The paragraphs below explain each of the categories, while the “Compliance Assurance Tool Box,” below, details specific techniques OECA may utilize in trying to better assure compliance.

- **Enforcement** is the practice of discovering violations of law or statute—typically through facility inspections—and then requiring corrective action, and usually imposing penalties. By taking and publicizing enforcement actions, environmental agencies intend to both address specific cases of non-compliance, and deter non-compliance in the regulated community at large. Enforcement has been EPA's traditional method of assuring compliance. In recent years, the agency has added newer enforcement tools to the usual ones of inspections, settlements, and court cases. One such tool is the use of investigations and strategic information requests to examine more deeply overall facility issues that may not be addressed in traditional inspections—such as compliance history, commercial records, and other data.
- **Compliance assistance** is the practice of building the *capacity* of regulated entities to comply with environmental laws. The effectiveness of assistance in assuring compliance is founded on the premise that the targeted regulated community is *willing* to obey regulations, but *unable* to do so because of a lack of awareness or technical capacity. An environmental agency attempts to compensate for those deficiencies through a variety of outreach methods, such as open meetings, hotlines, site visits and dissemination of printed or electronic resource materials. Compliance assistance has frequently been provided to newly regulated communities, entities that have only recently become a focus of compliance assurance efforts, and small businesses. Some states have created non-regulatory agencies to provide compliance assistance, in an effort to enhance trust between government and the regulated community.

- **Compliance incentive** tools are a much newer development, and are designed to encourage compliance assurance in a more “positive” way than traditional deterrence. Agencies provide benefits to firms that come into compliance of their own accords, rather than as a result of an enforcement action. For example, EPA’s self-audit and small business policies mitigate penalties for firms that self-discover and -disclose violations.

The “integrated approach” concept

As noted, OECA’s view of integrated approaches is centered on the *combination* of enforcement with compliance incentives and/or compliance assistance. For example, a regional air program might couple new offers of compliance assistance to a particular regulated community with a public threat of increased inspections. OECA has particularly held that neither compliance assistance nor compliance incentives work very effectively without a strong enforcement “hammer.” As a result, OECA’s approaches in dealing with individual companies, facilities, or sectors always combine compliance assistance and/or incentives with traditional enforcement tools.

A senior OECA manager notes: “[the integrated approach] concept means tying the tools together in a way that provides clear information to the regulated community, some incentive to get ahead of the curve, and the prospect of sanctions for those who lag behind.”

Integrated approaches are intrinsically rooted in the view that non-compliance arises both out of economic and institutional/organizational reasons (see Chapter 3). In principle, the strength of integrated approaches is the synergy that results from attacking multiple sources of non-compliance simultaneously, using an approach

Compliance Assurance Tool Box

EPA staff may draw upon the following tools in developing integrated compliance initiatives.

Enforcement

- Inspections
- Investigations
- Announcement and conduct of accelerated/targeted inspections
- Education (investing in the development and dissemination of staff expertise)
- Administrative enforcement actions
- Civil And criminal enforcement actions

Compliance Assistance/Awareness-Building

- Plain-language regulations
- Expert advice
- Compliance or audit checklists conveyed to the regulated community in any of several ways: via trade associations, via direct communication (phone, mail, or visit); via compliance workshops; via compliance assistance centers, on-line resources, or hotlines.

Compliance Incentives

- Self-disclosure, solicited by the agency under the audit policy, small business policy, or protocol established for a particular initiative or situation.
- Penalty waivers (including those associated with self-disclosure)
- Liability and penalty caps or reductions (including those associated with self-disclosure)
- Other penalty/enforcement flexibility
- Deadlines for self-disclosure or opt-in to reduced penalty or other enforcement flexibility schemes
- Extended compliance schedules

customized to the characteristics of a particular regulated community.

Controversies

As mentioned above, there exists widespread agreement on the need to utilize “integrated” or “balanced” approaches to compliance assurance. That agreement is rooted in an understanding that, despite the real environmental gains made under EPA’s traditional approach to enforcement, a great deal of progress still remains to be made—and there continue to be significant non-compliance issues that a simple deterrence approach is not fully addressing. In addition, an increased understanding of the desirability of pursuing pollution prevention as a means for compliance is linked to the understanding that such pursuit relies upon both industry knowledge and industry willingness for success. Compliance assistance and incentives are intended to address those concerns.

There is less agreement, however, on the *details* of how integrated approaches should be designed and deployed. Particular controversy has erupted between EPA and the states on two broad issues: control and the philosophy of federalism; and instrumental and organizational questions related to the proper design and implementation of integrated approaches.

Compliance assurance conflicts between the states and OECA, in part, reflect the long-standing tension between states and the federal government over the proper conduct of federalism in environmental protection. Particularly in context of the emphasis on “performance-based management” and the development of the National Environmental Performance Partnership System (NEPPS), agency leaders and staff of many states feel that EPA should not dictate the makeup of compliance assurance activities, as long as states meet specific environmental or compliance outcome goals. The issue deserves attention, but is not the focus of this work.³

This study focuses on a second aspect of the debate over compliance assurance—the disagreements among observers and practitioners over instrumental and organizational questions. Those questions concern the details and efficacy of individual compliance assurance tools, as well as the most effective means of constructing and implementing integrated compliance assurance approaches. Three issues are prominent in the debate:⁴

- **The public cost-effectiveness of integrated assurance approaches.** Some observers have argued that the deterrent effect—hitting violators with heavy penalties that reimburse government coffers—may be more cost effective to government than “softer” policies that involve more communication and coordination with the regulated community. Others have pointed out that compliance assistance and incentives show the potential of greatly expanding the reach of environmental agencies, because a large number of regulated entities have come to believe that diminishing resources of environmental agencies means that regulatory hammers will likely never hit them.
- **The proper mix of compliance assistance and enforcement.** As mentioned above, OECA managers believe that the deterrent effect is of paramount importance in success of integrated approaches. OECA managers question the efficacy of compliance assistance alone in improving

compliance rates. But many states believe such assistance can have more far-reaching impacts than the deterrent effect.

- **Effective organization and implementation of integrated approaches.** EPA has little institutional experience to date in implementing and overcoming obstacles to such approaches. Integrated approaches present several challenging obstacles, such as internal and external coordination demands; building awareness among regulated entities; maintaining agency credibility; flexible resource management; proper sequencing of tools; follow-through; and measurement of outcomes.

We observed in our previous research on the National Environmental Performance Partnership System⁵ that, in the absence of significant data on the issues, the essentially instrumental questions (e.g., the efficacy of compliance assistance) become the subject of unproductive debate—debate that often conflates instrumental questions with ideological positions concerning the proper conduct of federalism. It is our hope that this and similar research may produce a more constructive base for dialogue—as well as fulfill its primary objective of informing the ongoing effort within EPA and OECA to move integrated approaches to the center of compliance assurance policy.

Approach of study

Integrated approaches to compliance assurance represent a significant shift from EPA's historical practice, and one for which there are few established models. Focusing on the three instrumental questions detailed above, this study is thus intended to help EPA derive maximum learning from its own efforts, and to synthesize current scholarship and expert opinion regarding integrated approaches.

Key elements

Specifically, the study rests on three key elements:

Six case studies. We examined six EPA national and regional integrated compliance assurance initiatives in detail. We assembled the case studies from publicly available documents, internal documentation, and extensive interviews with EPA and state agency officials and members of the relevant regulated communities. The studies we chose, which OECA management considers successful initiatives, exhibit diversity in targeted sector, geographical scope, and compliance assurance tools employed.

Review of OECA/EPA actions to date. To establish context for the case studies, we reviewed OECA/EPA's actions to date in the area of integrated approaches. Our review focused on published documents related to compliance incentive tools, strategy setting, and national coordination and performance metrics.

Literature survey and expert interviews. Additional context and interpretive guidance was provided by a literature survey, intended to identify widely supported concepts and conclusions from the regulatory and environmental policy literature with clear relevance to integrated approaches. In

addition, we conducted interviews with nine compliance assurance experts selected from academia, environmental NGOs, practicing environmental attorneys, and state environmental agencies.

Results of the literature survey constitute Chapter 3 of this report. The expert interviews were conducted specifically in support of our analysis of the case studies, and are not separately summarized. The nine individuals interviewed were:

- Mark Cohen: associate professor of management, and director, Vanderbilt Center for Environmental Management Studies (VCEMS)
- Robert Kuehne: visiting professor, University of Michigan School of Law
- Julie Domike: partner, Wallace King Marraro & Branson,
- Edward Kunce: deputy commissioner, Massachusetts Department of Environmental Protection
- Beth Nicklas: associate commissioner, Massachusetts Department of Environmental Protection
- Nancy Marks: senior attorney, Natural Resources Defense Council
- Grant Cope: staff attorney, U.S. Public Interest Research Group
- Ann McGinley: director, Division of Enforcement; Office of Compliance and Enforcement, Texas Natural Resource Conservation Commission
- Steven Sisk: senior project manager; National Enforcement Investigation Center (NEIC), EPA

Report structure

- **Chapter 1** provides the reader with a better understanding of the breadth of tools available under an integrated compliance assurance framework, explores some of the contentious issues related to integrated approaches, and outlines the goals of this study.
- **Chapter 2** provides additional background, outlining the tools and strategies generated by OECA and EPA in the area of integrated approaches.
- **Chapter 3** reviews the current literature on enforcement and integrated compliance assurance, and attempts to synthesize the state of knowledge regarding the application and effectiveness of integrated approaches.
- **Chapter 4** presents six case studies, each considered to be an example of success by OECA management:
 - Lead Notification Initiative (Headquarters)
 - Minimills Initiative (Region 5)
 - National Refineries Initiative (Headquarters)

- POTW Management, Operations, and Maintenance Program (Region 4)
- Telecommunications Initiative (Headquarters)
- Universities Initiative (Region 1)
- **Chapter 5.** The case studies are particularly intended to provide insights into barriers and best practices regarding organization and implementation, but will offer lessons regarding audit policy, resource efficiency, and the combination of compliance assurance tools. Chapter 5 analyzes common elements observed across the case studies, offering a better understanding of six key issues related to the implementation of integrated compliance assurance approaches: credibility; targeting; resource flexibility; resource efficiency; external and internal coordination; and outcomes.
- **Chapter 6.** Based on the analysis of the case studies, and on the literature review, Chapter 6 offers a set of recommendations to EPA, made in the context of EPA's stated commitments in this area and actions to date.

Appendix A is a list of all individuals interviewed as part of this project. Appendix B is the questionnaire used for interviews with individuals associated with case studies. Appendix C is the questionnaire that guided interviews with the nine individuals not associated with case studies (the compliance assurance experts.).

Chapter 2. EPA tools and strategies for integrated approaches

EPA Administrator Carol Browner created OECA in late 1994, consolidating compliance assurance—and particularly enforcement—functions previously housed in the various EPA HQ media offices. She intended the consolidation to facilitate coordinated and integrated approaches to compliance assurance, both across and within media. As a *Federal Register* notice soliciting comments on OECA’s five-year anniversary noted, “the reorganization reflected a belief in the value of complementary approaches in achieving compliance with public health and environmental laws.”

OECA has engaged in significant activities in all three elements of integrated approaches—compliance assistance, compliance incentives, and enforcement.⁶ This chapter is intended to provide essential background, outlining the tools available to OECA in conducting integrated initiatives, and the strategies by which its activities in this area should be governed. Accordingly, the text summarizes the published policies, strategies, and commitments produced by the office in three areas:

- Compliance incentive tools
- Strategy-setting
- National coordination and performance metrics

Published documents and policies in the three areas are the focus of the discussion for three reasons. They reflect:

- The substantive commitments made by the office in the area of integrated approaches
- The tools available to implement those commitments
- The degree to which integrated approaches are being prioritized as the agency moves to the performance-based management regime mandated by GPRA.

In addition, in this chapter we summarize OECA’s central compliance assistance efforts—an important part of integrated compliance assurance.

In general, OECA has consistently asserted that any integrated approach depends for its effectiveness on the maintenance of a strong enforcement program. The tools and initiatives described below reflect this position. OECA has exerted significant pressure through memoranda of agreement, and through other channels, to attempt to assure that states and EPA regions maintain strong enforcement programs.

Compliance incentives

Audit Policy. EPA’s audit policy⁷ took effect January 1, 1996, after an extensive public development process. It establishes the qualifying conditions and nature of penalty mitigation for voluntary disclosures of non-compliance. Under the policy, voluntary self-disclosures meeting the qualifying conditions are

eligible for elimination of gravity-based (but not economic benefit-based) penalties associated with a violation.

EPA established the audit policy in part as a preemptive measure to guard against the possibility of more-sweeping audit privilege initiatives in Congress; EPA has long held that granting immunity to audit is counter to the national interest in assuring maximum compliance with environmental laws. EPA has brought pressure to bear on the states to reduce scope of audit immunity under existing or prospective state audit laws.

OECA's Office of Regulatory Enforcement (ORE) has responsibility for the audit policy.

Small Business Policy. Very similar in concept and design to the audit policy, the small business policy (formally, the "Policy on Compliance Incentives for Small Businesses") came into effect on June 10, 1996. The small business policy was developed in response to the Executive Memorandum on Regulatory Reform⁸ and the Small Business Regulatory Enforcement Fairness Act of 1996 (§323); both directed regulatory agencies to mitigate penalties for small businesses given good faith compliance efforts. The policy allows for 100 percent mitigation of the gravity-based portion of penalties for businesses having less than 100 employees.

In the first half of 2000, EPA issued revisions to both the audit and small business policies. Changes are relatively minor and focus on lengthening the "window" within which violations must be reported under the policy, as well as on the conditions under which discovery of a violation qualifies for self-disclosure penalty mitigation under the policies.

Audit policy

100% of gravity-based penalties* can be waived IF the regulated entity satisfies all of the following conditions:

- violation must be discovered systematically (if not systematically discovered, the entity is eligible for 75% mitigation in gravity-based penalties.
- discovery must be voluntary—not the result of inspection, monitoring, or auditing required by law, order or consent agreement
- violations must be disclosed within 21 days of discovery
- violations must be discovered independently (not because the entity has reason to believe it will soon be the subject of regulatory inspection or investigation)
- violations must be expeditiously corrected and remediated
- steps must be taken to prevent recurrence of the violation
- a similar violation cannot have occurred within the past three years
- violations resulting in serious environmental harm or endangerment of public health are excluded
- the entity must cooperate with EPA in ascertaining that these conditions are met

*Gravity-based penalties are those based on the nature and severity of the violation. Penalties based on the company's economic benefit from the violation still apply.

Reflects revised audit policy, April 2000.

Strategy-setting

OECA has promulgated two key strategy documents in support of integrated compliance assurance efforts:

“Operating Principles for an Integrated EPA Enforcement and Compliance Assurance Program” (1995). This document describes a set of core principles by which EPA's compliance assurance program should operate. It also defines the various compliance assurance tools available to EPA—civil and criminal enforcement, compliance monitoring, compliance incentives, and compliance assistance. Very general guidance is provided on the appropriate use of each tool. The need for collaboration between

federal, state, local and tribal agencies is identified, and a commitment is made to developing a “more sophisticated and comprehensive approach to measuring success” beyond traditional activity counts.

In conveying the principles to his staff, senior agency management and regional enforcement personnel, OECA Assistant Administrator Steve Herman characterized their impetus and intent: “The principles should help guide planning and decision-making of Agency enforcement and compliance assurance personnel. I also believe they will help other Agency personnel and external stakeholders understand . . . the OECA program.”⁹

Innovative Approaches to Enforcement and Compliance Assurance: Action Plan for Innovation (September 1999)¹⁰. The action plan was developed through an extensive public outreach and involvement process, including two stakeholder conferences in early 1999. It articulates a set of generally stated action items, timelines, and responsible offices, focusing on the following areas:

- **Compliance assistance.** EPA makes an expanded commitment to providing timely compliance assistance for final rules, and to coordinating and prioritizing diverse compliance assistance efforts within the agency. The plan emphasizes a shift in EPA’s compliance assistance focus from “retailer” to “wholesaler,” “providing tools and other assistance to frontline compliance assistance providers in states and the private sector.”
- **Self-auditing and EMSs.** EPA commits to issuing revised audit and small business policies to increase “user-friendliness.” The agency also commits to further evaluating the compliance effects of EMSs.
- **Support of “performance track” development.** EPA commits to formalizing regulatory flexibility for superior environmental performers (the document does not specify the definition of flexibility, or the criteria for superior performance.)
- **Public involvement and data access.** EPA proposes a greater stakeholder role in identifying compliance priorities, increased public access to compliance data, establishment of a single hotline for citizen complaints, and development of publications.
- **Self-assessment and performance evaluation.** The document calls for improve performance measures for compliance assurance activities.
- **Integrated approaches.** EPA plans to expand use of integrated enforcement strategies for program priorities.

Metrics and coordination

OECA’s National Performance Measures Strategy. The Government Performance and Results Act of 1993 (GPRA) requires federal agencies to assess and report on program performance. The intent of the act is that performance should be measured by the progress programs have achieved against the ends they are supposed to achieve rather than on program actions per se (e.g., reporting pollution prevented rather than inspections conducted).

GPRA and a set of similar influences, such as the performance-based management model upon which NEPPS is based, have spurred OECA’s efforts to develop indicators of the performance of its compliance assurance program that go beyond traditional activity counts. (The two strategy documents discussed above confirm that commitment.) The metrics by which OECA measures success are relevant to any discussion of integrated initiatives, as metrics serve to define incentives for EPA enforcement personnel, and reflect the priority accorded to integrated initiatives in practice.

OECA initiated the National Compliance Measures Strategy in early 1997 with a public outreach effort. The result was the selection of twelve sets of measures collectively known as the “Performance Profile.” Since 1998, OECA has been working to design, create necessary data collection infrastructure for, and/or pilot these measures, described in Table 1. Note that only in Phase 2 are environmental and human health results, as well as measures of compliance assistance and integrated initiative measures, incorporated.

Table 1: OECA national performance measures

| |
|---|
| Phase 1 (last portion FY 99) |
| <ul style="list-style-type: none"> • average duration for significant violators to return to compliance • percentage of significant violators with recurrent violations • number of investigations conducted • responses to citizen complaints • number of violations issued by media program • capacity-building efforts provided to state, local, tribal programs |
| Phase 2 (FY 2000) |
| <ul style="list-style-type: none"> • statistically valid compliance rates for selected regulated populations • facilities/entities reached through compliance assistance* • environmental and human health improvements from compliance assistance • environmental and human health improvements from enforcement* • environmental and human health improvements from integrated initiatives • self-policing efforts by using compliance incentive policies* • self-policing settlements concluded <p>*Existing metrics undergoing revision in FY 2000</p> |

The national compliance assurance performance measures support EPA-wide performance assessment; GPRA mandates such agency-wide assessment against EPA’s strategic plan.

Because most national environmental programs are delegated to the states, OECA’s performance measures must reflect the performance of and data reported by state programs. EPA and the Environmental Council of the States (ECOS) have negotiated Core Performance Measures (CPMs) to report the performance of delegated state programs under NEPPS. OECA intends that those CPMs dealing with compliance assurance will feed directly into the national performance measures. However, ensuring compatibility between the CPMs and the national measures is an ongoing process.¹¹

MOA guidance. OECA is a headquarters office; regional enforcement personnel are not directly under OECA. Each fiscal year, OECA enters into a memorandum of agreement (MOA) with each region regarding the conduct of the regional enforcement program during that year. It is through the MOA process that OECA promulgates national compliance assurance priorities and strategies. Because regions oversee delegated state programs, the MOA process is also a principal means by which OECA influences state-level enforcement activity. The MOA process includes a mid-year adjustment element intended to allow for changes in resource allocations to accommodate unanticipated costs, as well as for changes in priorities.

The most recent (FY 2000/2001) OECA MOA guidance mentions compliance assistance and compliance incentive activities for each core regulatory program area. However, the guidance enumerates performance expectations for activities far less specifically in those areas than for traditional monitoring and enforcement. In addition, it does not prominently emphasize integrated initiatives.

Compliance assistance

OECA notes that “states and localities are the primary providers of direct assistance to the regulated community. EPA views its role as providing tools for states, tribes, localities and the regulated community.”¹² Since its establishment, OECA’s central compliance assistance efforts have been:

- **Compliance assistance centers.** Over the past few years, OECA, in cooperation with other agencies, industry and institutions and organizations has established nine national, sector-specific compliance assistance centers. The sectors chosen were those “heavily populated with small businesses and entities that face substantial federal regulation.”¹³ (Examples include printing, metal finishing, chemicals, transportation, and paint and coatings, among others.) The centers are “virtual” (i.e., web- and telephone hotline-based) and are intended to provide “first stop shopping” for regulatory requirements, compliance assistance tools, and pollution prevention information.
- **Sector notebooks.** Over the past several years, OECA’s Office of Compliance has developed a series of more than 30 sector notebooks and profiles containing information on industries/sectors of significant environmental and economic importance. The notebooks integrate a set of key information about the industry, including an environmental emissions profile related to production processes, regulatory requirements, pollution prevention information, and enforcement/compliance history. Experts from both inside and outside EPA have reviewed these notebooks.
- **Audit protocols.** OECA is developing a series of 12 audit protocols covering the major federal environmental statutes. The protocols are intended to assist regulated entities in evaluating their compliance status. Each protocol summarizes statutory requirements, defines regulatory terms, and gives overviews of applicable federal laws. A regulatory checklist is the central element of each protocol, containing detailed procedures to conducting a review and audit of facility operations and conditions.

Towards Integrated Approaches to Compliance Assurance

In addition to those efforts, OECA has developed more than 20 compliance assistance tools, ranging from compliance checklists to in-depth compliance assessment guides. The tools are specialized for industry sectors or manufacturing processes, and give detailed information on how to comply with applicable regulations. OECA also publishes periodic “Enforcement Alert” newsletters to inform the public and regulated community regarding important environmental enforcement issues, recent trends, and significant enforcement actions.

Chapter 3. Current scholarship

The previous chapter described the institutional commitments EPA has made in support of integrated compliance assurance. This chapter places those actions within the context of current scholarship and debate over the conduct of environmental enforcement and compliance assurance. Understanding the scholarship and debate regarding integrated approaches is necessary both to inform our interpretation of the case studies, and to broaden the work beyond the limited perspective offered by these case studies.

Towards those ends, we conducted a literature survey. We do not attempt to present a comprehensive summary of literature related to compliance assurance. That is a task undertaken elsewhere¹⁴ and, in any case, is well beyond the scope of the current work. Rather, we conducted a survey of the literature to identify a set of key ideas of clear relevance to integrated approaches. Particular attention was paid to the extent to which EPA's general approach may or may not be validated by the literature, and to any specific guidance the literature may offer regarding the conduct of integrated compliance assurance.

The survey reflects the focus of this report on compliance and compliance assurance, and implicitly accepts compliance as an appropriate metric and objective. It should be noted that normative economic models also exist regarding the *broader objectives or goals* of regulatory agencies, and of compliance assurance and enforcement activity in particular. Broadly speaking, such normative economic perspectives assume that the goal of a regulatory agency *should* be to maximize social welfare/minimize social costs—i.e., that the marginal benefits of an additional unit of environmental protection should equal the marginal costs. That implies the existence of an optimal level of non-compliance, determined both by the cost of compliance and the costs of assurance activity.¹⁵ For an office such as OECA whose mission is defined as compliance assurance, the optimal level of compliance is not a relevant question. In essence, the goal of such an office is best stated as *maximizing environmentally meaningful compliance within available resources*. In effect, that assumes that the weighting of environmental benefits and costs has already occurred—in the legislative process producing the enabling statute, in the process of promulgating the specific regulation, or in the allocation of resources to the compliance assurance function, all of which are processes that allow for public input.

Sources of noncompliance

To be effective, regulatory agencies' compliance assurance policy and strategy must successfully target the causes of non-compliance. The theoretical literature offers two general models of non-compliance:

- **Economic perspectives.** Economic models of non-compliance treat non-compliance as a gamble to which one can apply the standard theory of choice under uncertainty (Heyes 1998). In the most basic economic model, a firm decides to comply if the cost of compliance is less than the expected outcome of non-compliance (i.e., the penalty for non-compliance multiplied by the chance of non-compliance being detected). A number of more sophisticated variants build on this model. But those variants maintain the basic premise that the firm makes an economically rational decision to comply or not to comply.¹⁶

(Refinements to that basic model include, for example, accounting for multiple interactions with a regulatory agency over time, accounting for reputational and other extended costs of non-compliance, and incorporating misjudgments regarding the probability of violations being detected.)

- **Institutional and organizational perspectives.** Those perspectives posit that, all else being equal, firms will tend to comply with regulations because environmental compliance is a social norm. Under those models, firms are not cynical economic rationalists with regard to compliance. Thus, failure to comply arises from four key sources: ignorance of regulatory requirements; inadequate knowledge of the firm's own operations; poor internal environmental management systems; and inadequate capability to comply.¹⁷

Economic perspectives suggest that increasing the penalties for non-compliance, or increasing enforcement effort (that is, increasing the probability that violators will be discovered), are the most effective means to improve compliance. Institutional and organizational perspectives suggest that the best tools for improving compliance are outreach and assistance, which increase awareness of regulatory requirements, as well as their capabilities to comply with those requirements. Both perspectives suggest that regulatory streamlining and rationalization, which reduce the transaction costs of compliance and render regulatory requirements more transparent, will tend to result in increased compliance.

An “ecumenical” view of non-compliance

Both economic and institutional perspectives on compliance provide useful insight into the nature of non-compliance, but neither alone provides sufficient explanation for the real-world behavior of regulated entities. That point is made clearly even by a limited set of representative examples from the empirical and descriptive literatures:

- While compliance levels are difficult to measure, indications are that compliance in the United States is substantially in excess of that suggested by the simple economic model. While adjustments can be made to the model to account for at least some of the “excess compliance,” indications are that social norms do play a role in firm behavior.¹⁸
- Purely voluntary approaches—such as voluntary programs focused on knowledge dissemination and technical assistance—are not of proven efficacy as stand-alone tools in promoting compliance and pollution prevention. Such voluntary approaches achieve far better results when they are closely linked to statutory requirements than when there is no statutory base.¹⁹ However, there is clear evidence that capability and knowledge barriers to compliance are real, particularly for smaller enterprises, and that reducing those barriers can improve environmental performance.²⁰
- Absent the plausible threat of enforcement, cooperative approaches to achieving compliance seem to have only limited effect on regulated entities.²¹
- The view of a firm as a unitary economic actor is rarely a valid one. The economic incentives facing individuals arise as a function of organizational structure and job description, and may not reflect

profit-maximizing behavior for the firm as a whole. Non-compliance, if deliberate, may be the result of individual rationality rather than firm rationality.

Thus, indications are that, in most situations, both economic and institutional factors contribute to non-compliance. Large, publicly held entities might be expected to conform more closely to models of economically rational behavior—both because they are under a legal mandate to maximize shareholder value, and because they are more likely than smaller entities to possess significant economic analysis capabilities. Large entities, however, are also institutionally complex—and thus institutional and organizational sources of non-compliance do apply.

Validation from the literature

A clear indication from the descriptive/empirical literature is that the compliance assurance strategies of regulatory agencies should address *both* economic and institutional sources of non-compliance. Thus EPA's *stated* commitment to integrated compliance assurance (as outlined in Chapter 2) is well-supported by the literature:

- EPA's consistent commitment to enforcement and a credible deterrent speaks to economic sources of non-compliance. Effects on institutional sources of non-compliance are secondary. For example, a credible threat of enforcement may incentivize firms to establish and maintain rigorous environmental management systems.
- EPA's stated commitment to compliance assistance and outreach largely address *institutional* sources of non-compliance. Effects of those activities on economic sources of non-compliance are secondary. For example, technical assistance may reduce the transaction costs of compliance.
- In principal, compliance incentives address both economic and institutional sources of non-compliance. For firms that elect to use them, they typically increase the certainty of the economic penalty for noncompliance, but reduce its amount. To the extent that they are linked to sound environmental management requirements (as the audit policy is, for example), they address institutional sources of non-compliance.

Little specific guidance

The literature offers little specific guidance, however, regarding the conduct of integrated compliance assurance approaches. The authors are aware of no taxonomy of integrated compliance assurance approaches, or of any statistical studies that would permit comparative assessment of such approaches. There is an emerging case study literature (to which this current study contributes), much of it generated by the regulatory agencies themselves,²² but it is too new to permit many conclusions or generalizations. But the value of a credible regulatory hammer as a backdrop to compliance assistance and outreach is one common theme. Another is the importance of clear definition of the targeted regulated community.

The dearth of third-party guidance and evaluation emphasizes the need for EPA to learn from its own integrated compliance assurance initiatives, as well as those of the states.

Chapter 4. Case studies

Overview and methodology

This chapter presents narrative descriptions of the six integrated-approach cases examined for this study:

The narratives synthesize the information gained from our documentation review and interviews. They are not constructed from the words or views of any one interviewee. To the extent possible, the narratives represent solely the relevant facts of the case, leaving analysis to later chapters of the report.

Selection

In collaboration with OECA’s Office of Regulatory Enforcement and Academy staff, Tellus selected the six cases based upon several criteria. First, we picked the six because OECA believes they all represent integrated approaches that are working (or have worked) to effect better compliance. Examining “success” cases facilitates the development of a better understanding of what *may be* working—especially important at this early stage of experimentation—and allows easier comparison across other dimensions of variation that influenced case study selection.

Despite the small sample, the research team intended the cases to represent, in a balanced way, the following variations: scope of the initiative (national vs. regional); type of sector (industrial vs. non-industrial); and type of approach (compliance incentives vs. no compliance incentives). The table below details how the cases are equally split along each of those lines of variation.

Table 2: Case Study Dimensions of Variation

| | Scope | | Sector | | Use of Incentives? | |
|--------------------|----------|----------|------------|----------------|--------------------|------------------|
| | National | Regional | Industrial | Non-Industrial | Audit Policy | Non-Audit Policy |
| Refineries | • | | • | | | • |
| Telecommunications | • | | • | | • | |
| Lead | • | | | • | | • |
| Minimills | | • | • | | • | |
| Universities | | • | | • | | • |
| POTWs | | • | | • | • | |

Methodology

After selecting cases, the research team procured from OECA ORE the name of a primary contact for each initiative, usually the staff member or manager primarily responsible for the initiative. The research team procured background materials, documentation, and additional contact names from the primary

contact. With the help of the primary contact, the team arranged interviews with EPA staff and management involved in the initiative. We asked the primary contacts to provide a list of interviewees who would provide a well-rounded perspective. When possible, the team scheduled group interviews to enable interviewees to brainstorm. Also when possible, the team attempted to separate staff and managerial interviews, to encourage candor.

Where possible and relevant, we interviewed state agency personnel in the affected states, members of the regulated communities affected by the programs, and industry association representatives. (A full list of all interviewees is in Appendix A.)

When timing and resources allowed, two members of the research team conducted interviews, in person. Interviews typically lasted between a half-hour and 2 hours, and was generally followed a questionnaire prepared by the research team in advance of conducting the interviews. (A copy of the questionnaire is in Appendix B.)

Format

Each case study is presented below in a similar format. First, an introductory sub-section provides an overview of the initiative. Then, in order, the chapter examines the background and history of the initiative; administration and organization; resources involved; and relations with the regulated community. Finally, each case study closes with a discussion of the initiative's current status and next steps that includes, when available, information on observed program outcomes.

Lead-Based Paint Notification Initiative

Origin and background

EPA's "Section 1018" activities cover a wide range of actions undertaken to implement and assure compliance with a new regulatory rule. The rule in question is the implementation of §1018 of the Residential Lead-Based Paint Hazard Reduction Act of 1992. Section 1018 required EPA and HUD to jointly issue regulations requiring disclosure of known lead-based paint and/or lead-based paint hazards in housing built before 1978. (Lead-based paint was phased out of residential applications in 1978). The disclosure obligations were imposed on lessors and sellers of such housing, and their agents. The rule, promulgated in 1996, required sellers/lessors of pre-1978 housing to: disclose any known lead-based paint or paint hazards; provide any reports or documentation relating to lead-based paint assessment and/or remediation; provide a federally approved lead-hazard information pamphlet to purchasers or lessors; and provide purchasers with a 10-day period to conduct assessment or inspection for lead-based paint hazards before being obligated under any purchase contract. Agents must ensure compliance with these provisions.

The mandate of the 1992 act, reflected in the rule, established a large and highly unusual regulated constituency for EPA—private landlords, real estate agents, and property management companies. Neither the act nor the implementing rule contained the authority to compel abatement—rather, the rule implemented a right-to-know requirement aimed at reducing the incidence of lead poisoning in children.

Section 1018 was only one part of the 1992 act. Other sections of the act established, for example, lead paint certification and abatement standards for contractors, and disclosure prior to beginning lead paint renovation activities. The Section 1018 program is not delegable, though a number of states have “look alike” laws, some more stringent than the federal requirements. (In Massachusetts, for example, tenants with children under the age of six have the ability to compel abatement of lead-based paint hazards.) “Lead program” activities at EPA thus administer a variety of regulatory instruments to a diverse set of regulated constituencies.

Implementation

A “compliance assistance year” followed the finalization of the §1018 rule and preceded the release of EPA’s interim enforcement response policy (IERP) in January 1998. During that year, compliance assurance activities consisted of outreach and compliance assistance inspections. EPA inspectors worked with real estate firms and property managers to assess their level of compliance with the new law, and provided on-site instruction on how to meet the new law’s requirements. Regions were (and remain) the front-line implementers of such activity, with national coordination and guidance provided by three headquarters offices: OECA’s Office of Regulatory Enforcement (ORE) and Office of Compliance (OC), and the Office of Prevention, Pesticides, and Toxic Substances (OPPTS), each with general areas of responsibility.²³ Each region has a lead coordinator, who has overall responsibility for coordinating §1018 and other lead activities. (The diversity of offices reflects the areas of responsibility each is assigned within the EPA organization. Consolidating lead activities into one office is not possible, given current EPA structure.)

EPA’s outreach to the regulated community has been extensive and creative. While variation by region has been considerable, real estate offices, real estate associations, and large landlords were the principal targets of early §1018 outreach activity. Regions typically conducted mass mailings, working with state real estate registries. Outreach to these constituencies continues; regions have shifted the focus of outreach to increasing the awareness of at-risk groups. Region 7, for example, is conducting outreach to children in school classrooms and day care centers, and has developed information for children about lead hazards in a storybook format. The intent is to build awareness in the population most at risk, and have them communicate information to their parents.

EPA is also conducting targeted enforcement under §1018. Lead programs in the EPA regions are working with health departments in a limited number of cities in an effort to identify children with lead poisoning and to conduct focused inspections of housing itself and the disclosure documentation required by §1018. (Again, §1018 does not prohibit the presence of lead paint hazards in rented dwellings. But it does require a written disclosure of known hazards to renters, and provision of a lead hazard information pamphlet.)

Given the scope of lead activities mandated by the 1992 law (including §1018), the three headquarters offices involved, the non-traditional nature of the regulated community, and the central regional role, the need for coordination of lead activities has been large, both between headquarters and regions, and within headquarters.

Resources

Both headquarters and the regions identify resource constraints as problematic. Section 1018 must be implemented and enforced by the regions in each of the 50 states, as the program is not delegable. Resource constraints increase in regions where states have elected not to become authorized to operate related, delegable lead rules—the Worker Certification and Training Rule (TSCA 402) and the Pre-Renovation Disclosure Rule (TSCA 406). In such states, regions must begin to enforce those rules from the common pool of resources designated for lead rule enforcement. OECA and OPPTS combined fund approximately two FTEs per region for lead work.

Current status and next steps

EPA managers and staff interviewed generally feel that there is currently good awareness of §1018 requirements in the regulated community²⁴—but that the challenge now is to make an appreciable difference in the incidence of lead poisoning. That requires *public* awareness and outreach efforts, of the type described above, as well as the leveraging of enforcement resources.

The final §1018 Enforcement Response Policy (ERP) was issued in early 2000. Whereas the IERP made enforcement essentially conditional on “egregious” violations, ERP expands the scope of violations that may be subject to penalty. Under the IERP, regions conducted more than 1,000 inspections, 517 Notices of Noncompliance issued, and 19 civil complaints filed with approximately \$700,000 in proposed penalties.²⁵

Under ERP, the current, targeted enforcement efforts continue. Additionally, OECA is considering deploying a §1018 self-disclosure initiative, which would employ both the audit policy and a penalty cap. Letters would be sent to large landlords in target cities inviting them to disclose under the audit policy. Landlords would not, however, be eligible for penalty relief under the audit policy for any units in which child lead-poisoning cases exist.

Minimills Initiative

In November 1996, the EPA Region 5 Enforcement and Compliance Assurance Team (ECAT) focused a self-audit initiative on the region’s 22 independently operating steel minimills.²⁶ Those minimills comprised approximately one-fourth of all the minimills in the United States.²⁷ Iron and steel had been a priority sector for EPA, but Region 5 air enforcement staff had become concerned about the sub-sector because of recent growth, and suspected compliance violations. The ECAT announced that facilities would have six months within which to conduct self-audits and to self-disclose violations under EPA’s self-audit/disclosure policy. As part of the initiative, the region would also provide facilities with information on auditing and respond compliance assistance requests. After those six months, multimedia inspection teams would inspect all non-auditing facilities (reserving the right to inspect others), and the region would take necessary enforcement actions.

Background

Region 5 divides its enforcement resources among media programs. Enforcement activities are managed by the ECAT, a group of program branch chiefs who meet regularly to determine priorities. In 1996,

based on the suggestions of numerous individuals in air enforcement and the ECAT, the ECAT chose to focus a multimedia compliance assurance initiative on the minimills sub-sector.

ECAT had been interested for some time in developing a compliance assistance initiative for a mid-sized sector, and one of the branch chiefs suggested using EPA's new self-audit policy. They targeted the sub-sector for a number of reasons. Iron and steel was an OECA priority sector, and staff felt that minimills had been a neglected, but increasingly important, sub-sector. The sector's market share had increased from five percent in the 1960s to 37 percent in 1997.²⁸ In addition, because of facilities' growth in production and process modifications, enforcement staff that handle iron and steel facilities suspected that facilities might be triggering a number of Clean Air Act provisions, particularly those that govern new sources of emissions.²⁹ Finally, according to one staff member, the ECAT and project staff felt the sub-sector was a manageable size for such an initiative. Had it been larger, the region would not have been able to commit to doing inspections at all non-auditing facilities.^{30, 31, 32}

Administration and coordination

The air branch chief and the ORC branch chief, both members of ECAT, managed the initiative. They assigned three staff members to lead the day-to-day efforts: an iron and steel expert in the air enforcement program; an associate regional counsel in the Office of Regional Counsel (ORC); and a customer service coordinator, based in the Office of Public Affairs and attached to ECAT. Those three individuals organized staff across program groups and within ORC to develop letters sent to facilities, to respond to industry questions regarding the initiative and regulatory issues, to evaluate self-audits, and to conduct multimedia inspections. The region had laid groundwork for such internal coordination by organizing enforcement across media, and through a history of conducting 10 to 12 multimedia inspections per year.

Region 5 staff also coordinated with members from the Common Sense Initiative (CSI) and staff from the Office of Air Quality Policy and Standards (OAQPS) and EPA headquarter to expeditiously resolve several issues of regulatory interpretation that arose during the course of the minimills initiative. (Under CSI, EPA headquarters convened teams of stakeholders and regulatory staff to examine and recommend changes to "complicated and inconsistent environmental policies" for six different industrial sectors, including the iron and steel sector. CSI has since been replaced by EPA's Sector-Based Environmental Protection Program.³³) According to interviewees, those regulatory issues probably received greater attention from headquarters than usual because the Steel Manufacturers Association (SMA) worked to raise the profile of the issues, and because the large number of facilities in the initiative created a "critical mass."

In addition, ECAT gave advance notice of the initiative to members of Congress, as well as to staff-level state agency personnel. ECAT notified upper management in state agencies shortly after launching the initiative. Region 5 invited state inspectors to training for conducting and implementing multimedia inspections, which ECAT organized. Only Indiana and Illinois chose to participate in inspections. Wisconsin chose not to do so, because the state believed its transaction costs of participating would be too high considering the state has only one minimill. However, the level of coordination does not appear to have fully minimized duplication of effort at the state level. At least two states, Illinois and Michigan, did not agree to suspend their own inspection schedules during the initiative, citing short notice. As a result, those states may have duplicated inspections conducted by EPA staff as part of the minimills initiative.³⁴

Resources

ECAT used a combined total of approximately four FTEs per year (including approximately two FTEs per year for the project leads) during the first two years, and is still using legal resources to resolve enforcement actions.³⁵ In addition, ECAT paid approximately \$50,000 from a RCRA sampling fund for a contractor who assisted with inspections and helped conduct the initial review of self-audits.

The average resource commitment to respond to a self-disclosure was approximately 80 hours of EPA staff time (over the course of a year).³⁶ But ECAT conducted several inspections, and dedicated a much higher level of resources to coordination and communication than had been expected.

Facilities that chose to conduct self-audits reported in-house resource expenditures ranging from 80 to 1000 work hours per audit, along with contractor expenses ranging from \$23,000 to \$67,000.³⁷ Those figures, however, are difficult to interpret for two reasons. First, it is unclear what resources the facilities would have expended if EPA had, alternatively, conducted inspections at all of them. In addition, an industry source noted that minimills were moving toward environmental management systems (EMSs) at that time anyway, so it may be difficult to attribute those costs solely to the initiative.

Regulated community relations

One EPA staff member noted that because of the industry's history of compliance violations, as well as EPA's history of an aggressive enforcement approach, trust between EPA and the sub-sector had been quite low before the initiative. But EPA staff members also believe that relations with the regulated community improved significantly because the agency "did what we said we would" and because interactions at Iron & Steel Society conferences led industry to see EPA staff as people, rather than just regulators.³⁸ One industry representative noted that—while several facilities conducted self-audits and did not submit results because they did not trust EPA—EPA increased trust by not throwing the hammer at self-disclosing facilities. In addition, four of the six self-auditing facilities whose staff responded to an ECAT survey about the initiative gave at least a moderately favorable review.³⁹ One facility responded that the initiative was "a refreshing reprieve from the normal command, control, and response approach."

When we tried to arrange interviews, however, we noted a continuing climate of distrust. Industry representatives mentioned fears of EPA retaliation—particularly at a time when the agency is undertaking a national enforcement action against one of the largest minimills. In fact, we were able to arrange an interview with only the Steel Manufacturers Association. The survey also offers a glimpse of negative facility sentiment. One respondent asserted that the initiative added little to existing management systems. Another felt the agency was drawing too much on industry resources at a time when the steel industry was also an example sector for the Sector Facility Indexing Project.

Current status and next steps

Ten facilities submitted self-audits and self-disclosures under the initiative, with two other facilities submitting just self-disclosures. Facilities self-disclosed violations in five different regulatory categories: Clean Air Act, Clean Water Act, Resource Conservation and Recovery Act, Spill Prevention Control and Countermeasures, and Emergency Planning and Community Right to Know Act. By July 1998, the initiative team had resolved all but one self-disclosure—all without penalties.⁴⁰ EPA staff commented that the violations were of the kind that typically would not generate penalties even if discovered during an inspection. For example, of approximately 100 self-disclosed violations, over half related to

incomplete monitoring, reporting, and recordkeeping.⁴¹ Because of the minor nature of violations, EPA staff reported that they did not have to utilize penalty mitigation available under EPA's audit policy.

EPA and/or the participating states ultimately inspected all 12 of the facilities that did not submit evidence of a self-audit. By January 2000, the region had initiated enforcement actions at six facilities, and more are possible. The region has settled four of the existing enforcement actions.^{42,43} Inspections at two facilities revealed no significant violations. In addition, as mentioned above, several inspected facilities—including two that had “clean” inspections—may have conducted self-audits, choosing not to submit the results.⁴⁴

Regional staff consider the initiative a good investment. They do not have evidence that self-auditing facilities are now in full compliance, but staff members feel that the initiative increased compliance in the sector. For example, at a minimum, the self-disclosing facilities now conduct better reporting—an indirect environmental benefit. Survey responses from industry also indicate that the initiative led to increased or improved self-auditing or management systems in most cases, which EPA views as a positive outcome.⁴⁵ In addition, EPA expects that the four resolved enforcement actions (and associated SEPs) will result in significant environmental benefit: reductions in particulate emissions of at least 100 tons/year; decreases in hazardous dust releases of at least 10 tons/year, and reduction in the risk of PCB releases due to replacement of PCB capacitors.⁴⁶ At the same time, EPA used fewer resources than would be required to inspect 22 facilities—and particularly to follow-up with legal action (assuming higher rates of non-compliance without the auditing). The initiative may even have had a bit of a national deterrent effect, as staff received numerous calls from facilities outside the region requesting materials—out of fear that the initiative would become a national effort.

POTW MOM Initiative

The POTW MOM self-audit initiative in Region 4 is aimed at prevention of sanitary sewer overflows (SSOs), which are overflows of raw sewage from wastewater collection systems into streets or basements. SSOs, which are violations of the Clean Water Act, are a major public health and environmental concern. However, it is difficult for EPA to determine a proper enforcement approach for them because they occur at nearly every publicly owned treatment works (POTW). Region 4's approach to the SSO issue has been to emphasize prevention of overflows through improvement of utilities' management, operations, and maintenance (MOM).

According to the project's web page, its goal is to “bring one hundred percent (100%) of the publicly owned treatment works handling domestic wastewater in Region 4 into compliance with the ‘proper operation and maintenance’ provision in their associated National Pollutant Discharge Elimination System (NPDES) permits by the year 2011.”

Background

The POTW MOM self-audit program grew out of several traditional enforcement cases against POTWs in the early 1990s. The first such case, the 1992 Miami/Dade case, raised the region's awareness of what a large problem SSOs pose. Other similar enforcement cases reinforced that concern.

While the approach of suing major POTWs was effective, the region had only enough resources to conduct one such case each year. At that pace, it would take 2000 years to reach all 2000 POTWs in Region 4. In 1998, the water enforcement coordinator proposed using an audit approach to address the SSO issue at more utilities in less time.

Administration and coordination

Region 4 has implemented the program in a series of iterations targeting selected watersheds. The region has focused on watersheds that have existing water-quality problems, or are vulnerable to stressors such as pollutant loadings and population growth. Watersheds are selected in each of the Region 4 states. In each iteration of the project, the region follows a six-step process:

- It sends a letter to targeted utilities notifying them of the project.
- It hosts a “watershed meeting” to follow up on the letter and answer questions.
- Within a week of the meeting, the invited utilities confirm or reject participation in the self-audit portion of the initiative. Those utilities that decide not to conduct a self-audit are audited by Region 4 enforcement personnel within a few months.
- Within six months of the meeting, participating utilities must conduct a detailed self-audit of their MOM programs.
- Within seven months of the meeting, participants must submit a certified Self-Audit/Self-Disclosure Report to the region. Each report includes the audit results, any improvements that can be made, and the utility’s schedule for making improvements.
- The region reviews the audit reports and follows up on them, working with participants to schedule needed improvements. EPA will try to minimize penalties for self-reported violations using both the EPA Audit Policy and the National Municipal Penalty Policy (which allows mitigation based on the size of the municipality in question).

The initiative requires coordination with the water and enforcement offices of Region 4, but that has not been difficult because the water enforcement program is already jointly housed in both offices. The regional administrator and EPA headquarters have also been supportive.

The region has also attempted to communicate and coordinate with states, letting them know what is happening with the program, and offering them the opportunity to partner with EPA. The level of state involvement has varied from state to state, depending on individual state interest.

Resources

The water enforcement office has five full-time staff working on the initiative. Region 4 staff have estimated that the POTW MOM program involves about the same resources as a lawsuit against one large POTW. Thus they consider the self-audit approach a potentially useful way to leverage enforcement resources to reach many more municipalities than the traditional approach would. However, the long-term cost-effectiveness of the MOM approach is still unclear. The large lawsuit being used for

comparison here involved actual capital improvements to the system in question, while MOM has so far only involved development of maintenance plans. In addition, the region has not yet completed the settlements or court cases for POTWs that did not choose to participate in MOM. The region is just beginning to address construction needs through the MOM approach, and to develop cases against MOM invitees who did not participate. In a few years, once those activities are fully under way, a better comparison of the long-term cost-effectiveness of MOM will be possible.

EPA staff believe that the MOM audits will save utilities resources in the long term. They expect that the money utilities spend on prevention will be saved in their not having to contend with the emergencies that overflows cause. POTW representatives that we spoke with agree that taking the MOM approach is a net benefit even though it involves some up-front costs. One utility, for example, called MOM “an excellent approach” and cited both direct maintenance cost savings and decreased violations.

Regulated community relations

EPA Region 4 interviewees report that the relationship between the region and participating POTWs has become less adversarial and more comfortable as a result of the project. While the regulators and regulated community still have disagreements, the nature of those disagreements has become more professional and less personal. They attribute that change to better communication and to the personal connection created by factors such as regional staff speaking at trade association meetings.

The POTW representatives that we spoke with expressed some concern with the threatening nature of the region’s letter of invitation to utilities, which states that EPA will audit all facilities that do not choose to self-audit. They say that tone has created a poor starting point for state-utility relations. Those same POTW managers have, however, during the course of their participation, found EPA to be fair and reasonable. Both EPA and POTW interviewees say that EPA’s handling of self-disclosure cases in the near future will set the tone for future relations; if EPA keeps its word and does not take enforcement actions against participants, it will engender trust from the regulated community.

Current status and next steps

To date, Region 4 has commenced three rounds of audit requests. In the first two rounds, which included POTWs in Alabama, Kentucky, Mississippi, Florida, South Carolina, and Tennessee, 68 POTWs were invited to participate, and 59 agreed. All the participants have submitted self-audits. EPA has audited all non-participants and is currently reviewing the self-audit reports received from the participants.

In Round 3, in Georgia and North Carolina, Region 4 has invited utilities to participate, but has not yet conducted follow-up meetings or set a deadline for self-audits.

EPA staff say it is too early to see environmental or compliance outcomes from the MOM program, but that they have seen evidence of new MOM activities at utilities. The audits EPA has received show an acknowledgement of existing problems and setting of goals to correct them; our POTW interviewees concur that participation has led to improved compliance. The region is even seeing evidence that it has reached POTWs that were not asked to participate: some POTWs are doing self-audits before they are targeted because they don’t know if EPA will be coming to them in Round 4 and they want to be prepared. Even consultants, such as Tampa Bay Engineering, are marketing MOM services.

There is also evidence that the MOM process may facilitate traditional enforcement lawsuits. For example, one current case that EPA had to pursue because of a citizen lawsuit involves a self-audit participant. Because it has conducted a MOM audit, the utility being sued will be able to offer EPA a technical solution to the problem right at the start of the case. Since the technical solution is the most important aspect of the case from EPA's point of view, having a potential solution to work with should make the case go more smoothly.

The region's long-term goals are to have the MOM approach institutionalized, and to make good MOM a normal business practice for POTWs. In addition, the concept has also received national attention. A federal advisory committee that has been looking at SSOs since 1996 has agreed on a policy of having MOM be part of the NPDES evaluation process, thus taking MOM out of the enforcement arena and making it more of a standard practice.

National Refineries Initiative

Unlike the other initiatives examined for this report, the National Refineries Initiative was not focused on the self-audit policy or on providing compliance assistance. Rather, OECA's Office of Regulatory Enforcement (ORE) intended that the initiative would increase EPA's expertise in refineries, and disseminate to the regions an improved method of targeting and actively policing what EPA regards as a complex and highly polluting industry. In 1997, OECA launched the effort, which focused on building expertise, and on targeting investigations to the most significant pollution problems at all facilities. OECA has also utilized other tools, such as "enforcement alerts" and a recently finalized "compliance partnership." The office originally hoped the initiative would improve compliance rates against a 1997 baseline by 50 percent, and reduce emissions, discharges, and releases by 20 percent.⁴⁷

Background

After its inception in 1995, OECA made refineries a national enforcement priority in regional memoranda of agreement (MOA), because of high emissions and high non-compliance rates. Refineries had the highest number of enforcement actions per inspection of any industry. But OECA's management was not satisfied with national progress on refineries, and decided to try a new approach. In summer 1997, OECA issued a MOA guidance announcing a renewed national refineries effort, with which the regions agreed to cooperate. OECA staff believed that EPA had not been an effective, credible deterrent because of a lack of expertise, and sporadic facility inspections. EPA considered such inspections necessarily superficial and ineffective because of the high level of complexity of today's refineries. Consequently, EPA wanted to emphasize "focused investigations" of significant issues, instead of routine inspections.

In large part, the initiative was built upon the success of some regions in targeting inspections at refineries. A prime example was the Petroleum Refinery Workgroup in Region 5, which contains approximately 10 percent of the country's refineries and 15 percent of national refining capacity.⁴⁸ The region's Air and Radiation Division formed the workgroup in 1991 to develop expertise in refinery processes with significant air emissions, and to ensure that those processes were in compliance. The workgroup began by enforcing continuous emissions monitoring (CEM) requirements related to fuel gas combustion devices (FGCDs), leading to a significant downward trend in related excess emissions.

Further analysis of CEM data, a mapping of refinery processes and expertise gained from refineries training opportunities led the workgroup team to identify fluid catalytic cracking units (FCCUs) as refineries' most significant source of particulate emissions, as well as an important source of sulfur dioxide and carbon monoxide emissions. The workgroup investigated and enforced against compliance problems with FCCUs, and subsequently pursued other process-specific compliance problems (such as with sulfur recovery units).⁴⁹ As of 1998, the workgroup had conducted more than 60 investigations over its eight-year history, resulting in 48 Findings or Notices of Violations, 12 Administrative Penalty Orders, 3 Administrative Orders, and eight referrals to the Department of Justice (with seven pending). The actions had resulted in a total of \$1.6 million in penalties (plus \$900,000 in Supplemental Environmental Projects and \$7 million in injunctive relief), with hard reductions of sulfur dioxide, volatile organic chemicals, particulate matter, and carbon monoxide.⁵⁰ In addition, the settlement of a case led by Region 5 against three Ashland refineries in FY 1999 resolved violations of requirements under several different statutes and resulted in a \$5.85 million penalty, \$12 million in injunctive relief, and \$14.9 million to be spent on five supplemental environmental projects (SEPs).⁵¹

Administration and coordination

In January 1998, to better define the focus of the initiative and to benefit from combined institutional knowledge, OECA convened a meeting of HQ/Regional/DOJ staff who had dealt with refineries in the past. Approximately 50 people attended, and many gave presentations on effective tools and approaches.

The group determined three “marquee” issues upon which regional investigations ought to be focused: non-compliance with New Source Review (NSR) and Prevention of Significant Deterioration (PSD) requirements, particularly at FCCUs; VOC emissions related to non-compliance with standards for leak detection and repair (LDAR) and “no visible gap” requirements for storage tanks; and non-compliance with the NESHAP for benzene in wastewater. OECA's management shared those goals with regional management, and negotiated mid-year corrections to the regional MOA to implement the strategy, with minimum requirements for investigating marquee issues.

To facilitate continued team learning, the office initiated workgroups comprising staff-level EPA and DOJ experts for each of the three marquee issues. OECA also organized teams of trainers—EPA experts from the more advanced regions, headquarters, and NEIC—to make training visits to regions. In addition, upper-level enforcement managers from across the regions and headquarters convene frequently to discuss the initiative, and the HQ lead continues to reconvene national meetings.

Originally, OECA staff had envisioned the initiative as a multimedia one, but the need for cross-media coordination never arose. Air program staff dominated attendance at the first meeting, indicating the lack of priority refineries held for other media programs in the regions. That level of interest reflects EPA's estimate that 75 percent of refineries' toxic releases are to air—and that 4 percent of the country's refineries were in significant non-compliance of air regulations in 1999.⁵² The National Refineries Initiative has largely focused on air issues, because the regions generally determine what inspections are done. As the initiative progressed, EPA identified—and is now addressing—other non-compliance issues. Those include excess emissions (including sulfur dioxide) from flaring operations, as well as non-compliance with RCRA waste and air emissions requirements.

At least one region communicated the initiative's goals to states in advance, and incorporated goals into the enforcement MOUs of those states that chose to participate. That region also coordinated with its

states to minimize inspection overlap. Another region, however, did not involve its states in the investigations, feeling they lacked the capacity and desire to address important issues.

Resources

OECA has dedicated approximately two FTEs to refineries since 1997, a slight increase from prior levels. However, the project lead noted that the increase cannot be solely attributed to the initiative, because OECA intended to devote more resources to refineries whatever its approach. Nonetheless, EPA dedicated more resources to coordination than it might have otherwise. In addition, OECA intends to dedicate approximately \$200,000 for training and technical/investigations support to contractors for the initiative.⁵³

Interviewees in the two regions contacted both stated that planning, coordination, and communication related to the initiative had taken significant staff time. On regional contact felt the time spent had reaped benefits in improved inspection efficiency—with investigations requiring about half the usual staff resources yielding greater impacts. But a contact in another region felt the national coordination and communication lost value when the focus switched from a sharing of regional knowledge to the dissemination of national strategies. That person felt those activities took too much away from the region's direct work on refineries.

An industry representative stated that refineries are spending hundreds of thousands of dollars responding to EPA's information requests—termed as “fishing expeditions” by the interviewee. The representative also asserted that resources related to responding to the initiative are drawing from a limited pool that would otherwise be applied to other EPA priorities, such as upgrading facilities to meet Tier II sulfur standards.

Regulated community relations

For the most part, EPA staff we contacted felt that the initiative had increased the agency's enforcement credibility with the industry, which reportedly had previously believed that EPA could never understand refineries. An OECA manager noted that the initiative has also raised the profile of the major compliance issues, in part because EPA has formally publicized them through “enforcement alerts.” As EPA's website notes, “The information contained in each [[Enforcement Alert](#)] should help the regulated community anticipate and prevent violations of federal environmental laws and applicable regulations that could otherwise lead to enforcement action.”⁵⁴

EPA staff have heard refineries express a high-level of concern about the investigations, and refineries have informally noted to EPA staff that they are taking proactive steps to improve compliance. Staff in one region reported that one refinery has started reporting potential industry compliance issues to them, and that another refinery recently submitted a self-disclosure, a historically unusual occurrence. OECA management also noted that, nationwide, EPA has received three or four self-disclosures, none of which has yet been resolved. A regional interviewee also reported the recent settlement of an enforcement action with much less of a challenge than usual.

EPA staff and management attribute those developments to increased technical credibility of enforcement personnel, as well as the overall public effectiveness of the new approach. An interviewee in another region noted that regional staff are engaging in informal, less adversarial discussions with refineries, and

that understanding between the region and refineries had increased and improved. In addition, OECA management highlighted a “compliance partnership” with the petroleum and chemical industries, finalized in April 2000.⁵⁵ OECA management hopes the approach will expedite installation of devices to reduce VOC emissions from slotted guidepoles in storage tanks—an important component of EPA’s VOC marquee issue. Resulting from lengthy negotiations with trade associations and individual companies, the “partnership” allows regulated entities, within time limits, to self-identify a lack of controls and install controls without facing penalties from EPA. The approach is distinct from EPA’s Audit Policy, because self-identifying regulated entities will *not* be accepting EPA’s interpretation that lack of controls represents a violation of Clean Air Act requirements. (At the same time, EPA maintains its position that lack of controls is non-compliance.) The agreement appears primarily intended to achieve compliance—while avoiding a possibly long and costly legal battle—although both sides have noted that the controls are very cost-effective (perhaps even profitable, through reduction of product losses).

Despite some apparent limited improvement in the working relationship, however, refineries largely appear to hold a continuing distrust of EPA enforcement staff. It seems in large part based upon what the industry regards as EPA enforcement staff reaching beyond their expertise to re-interpret regulations and penalize the industry.⁵⁶

Current status and next steps

According to an EPA manager, EPA has completed 58 investigations under the national initiative, with 52 more in progress. EPA has referred 19 cases (at 13 different facilities). It may refer as many as 30 more within the next 6 months, but hopes that the agency’s now-stronger hand will lead to quicker resolution of cases. (Only two complaints had been filed at this writing.) Those numbers represent what EPA staff consider an excellent “hit rate” (i.e., enforcement actions per investigations) of 85 percent. The figure is comparable to previously hit rates for the sector, but the project lead noted that the current number is more significant, for two reasons. First, OECA management describe the referrals as being of fundamentally higher quality than previous referrals, in part because they deal with marquee issues that were not previously addressed significantly. In addition, previous referral numbers were reportedly inflated, because referrals were often returned by DOJ for lack of substance.⁵⁷ Second, OECA reports that actual enforcement numbers are higher than those listed, because the agency is still taking enforcement actions against refineries on other issues. The project lead could not provide precise data, but estimates that total referrals (of both marquee and non-marquee issues) are 50 percent higher than before the initiative.

OECA management also points out that enforcement numbers are not the only measures of success. But no enforcement cases have yet been concluded, so no hard data on environmental outcomes are available. In the absence of outcome data, OECA estimates the initiative will lead to a reduction in national emissions of tens of thousands of pounds of nitrogen oxides, sulfur dioxides, VOCs and other pollutants. Furthermore, notable improvements in EPA compliance efficiency may become apparent if EPA successfully leverages its resource investment in investigations, referrals, and outreach into increased self-disclosures and company-wide and industry-wide resolution of compliance issues. The latter are the current emphasis for the initiative. For example, the storage tank compliance partnership has now enrolled more than 100 refineries and other tank owners, and may indeed lead to faster compliance than otherwise possible. In addition, the agency is currently engaged in negotiations with several companies to reach agreement on a schedule for controlling numerous sources of “marquee” emissions. According a

senior OECA manager, EPA and participating companies hope those negotiations will lead to a comprehensive consent decree that would resolve past violations, and would position the companies to comply on time and more cost-effectively with new standards that are expected to take effect over the next four years. At the same time, the agency and the companies would avoid expending the significant resources associated with a more investigative and litigious approach.

Telecommunications Initiative

The Telecom Initiative is an audit initiative of the Multimedia Enforcement Division (MED) in the Office of Regulatory Enforcement (ORE). The initiative, an open-ended invitation to self-disclose targeted at the telecommunications industry, has focused on Emergency Planning and Community Right-to-Know Act (EPCRA) reporting and Spill Prevention Control and Countermeasure (SPCC) Plan violations. The initiative is intended to increase industry compliance with those regulations.

Background

In early 1996, GTE initiated an audit of approximately 10,000 facilities that resulted in the disclosure of 600 violations at 314 telecommunications sites. The violations, disclosed under the audit policy, were discovered in the course of a multimedia self-audit conducted in conjunction with a centralization of the company's environmental compliance functions. The audit uncovered reporting violations of EPCRA and the SPCC Plan requirements of the Clean Water Act. Under EPCRA, GTE had failed to notify state environmental agencies and local fire departments of the presence of hazardous substances at some wireless relay stations and telephone switching center sites (specifically, sulfuric acid in lead-acid batteries and diesel fuel in storage tanks). GTE had also failed to develop SPCC plans for some wireless relay stations and telephone switching center sites that stored diesel fuel for back-up generators. GTE paid a penalty of \$52K, which recaptured the economic benefit gained by its delayed compliance. Gravity-based penalties, potentially totaling about \$2.38M, were waived under the terms of the audit policy. As a result of GTE's disclosure, ORE believed it possible that similar violations were common within the telecommunications industry-

Given the potential for widespread noncompliance, an ORE response was indicated. Three factors combined to suggest an approach centered on education and invitations to self-disclose:

- the violations did not involve releases to the environment
- the industry seemed to be largely unaware of the regulatory requirements in question
- ORE resources were limited, particularly as the telecommunications industry was not a national priority sector.

Such an approach could, in principle, leverage limited EPA resources to reach a broader portion of the regulated universe, and, for both EPA and the regulated community, allow quicker and cheaper resolution of individual cases than a traditional enforcement approach.

Implementation

Accordingly, ORE sent letters to the environmental affairs officers of the top-10 telecommunications companies (excluding GTE) in January 1998. The letters described the violations GTE had disclosed, as well as the settlement that was reached under the audit policy. Essentially, ORE issued an open-ended invitation to audit: no penalty caps or deadlines were introduced. Response to the letters was low: two companies disclosed, and ORE received one tip from an employee inside a company that the company had likely violations.

In May 1998, ORE sent similar letters to a second group of 19 companies: those with annual revenues greater than \$500M, and with principal operations in the identified telecommunications industry Standard Industrial Classification (SIC) codes. In June of that year, ORE sent between 35 and 40 letters to trade publications and trade associations describing the GTE settlement, encouraging them to communicate the settlement and the audit policy to their constituencies. During that period, ORE sent an information request letter to the company from which the tip was received.

In July, a follow-up letter was sent to the chief executive officers of those “top-10” companies that had not responded to the January 1998 letter. By September, most of the initial group of 10 had responded and two companies in the second group had self-disclosed. A meeting was held in early September at EPA headquarters with several industry and trade association representatives to discuss telecommunications compliance issues and the audit invitation. In communications with companies, ORE emphasized that a single point of contact existed for the program, and that ORE was committed to quick resolution of cases.

On the whole, those involved with the program in MED feel that the trade publication and trade association outreach effort met with only partial success: the net response rate was about 15 percent. Trade associations themselves played no role in facilitating disclosures, which may reflect the fragmented nature of such associations in the highly competitive telecommunications market.

The initiative involved some coordination between MED and the Oil Spill Program Office, the SPCC and EPCRA enforcement program offices, and regions. Few issues arose with either the program offices or the regions, as the initiative demanded little in program or regional resources.

Little coordination was needed with the states, as the large majority of disclosures are not in delegated programs. A few late-period disclosures have fallen under the Clean Air Act—in cases where facilities did not have permits to install, or approved exemptions for, back-up generators. Because EPA is collecting only economic benefit penalties, which are small, it seems unlikely that states will be displeased over EPA enforcement activities within a delegated program. Most states will likely view the permits to install in those cases as minor violations of a SIP.

Resources

During the initiative, ORE has dedicated about one FTE—somewhat more than was expected. As noted below, both duration and effort level for the initiative has exceeded ORE expectations.

Telecommunications companies availing themselves of the audit policy have paid a total of \$178,727 in penalties. Those penalties capture economic benefit: the intent is to prevent violators from obtaining an unfair advantage over their competitors. Under the terms of the audit policy, companies have received a

100-percent waiver of the gravity-based penalties, potentially totaling more than \$6 million, that otherwise could have been assessed. Beyond the penalties collected, the companies reported costs of approximately \$600,000 to return to compliance.

Current status and next steps

The initiative is ongoing. 15 regulated entities have responded to the invitation to audit letters—seven of the initial nine, and eight of the subsequent 19, of which 13 disclosed violations. To date, the agency has reached 12 final settlements under the audit policy with 17 companies that voluntarily disclosed and promptly corrected violations. The settlements cover more than 2,000 environmental violations involving EPCRA, CWA, and CAA that occurred at more than 600 facilities. The companies have ensured that 156 facilities now have SPCC plans in place. They have reported to emergency responders and planners more than 1 million pounds of diesel fuel, 482,000 pounds of sulfuric acid, and 410,000 pounds of lead present at their facilities. MED will be distributing information regarding the initiative to the regions, whose enforcement personnel may choose to follow up on companies within the sector that have not disclosed violations to the agency.

ORE staff and managers involved with the initiative feel that it has been successful from a compliance perspective. In their view, response to ORE's initial outreach efforts, investigations, and subsequent self-disclosures has indicated that GTE's compliance problems were indicative of industry-wide non-compliance. As a result of the initiative, a large number of facilities within the industry have come into compliance with SPCC and EPCRA reporting requirements—and all in an area in which EPA once had no knowledge of preexisting and widespread noncompliance.

The initiative has taken longer than ORE initially expected, however. While the response rate was high—probably in part because the industry had little previous interaction with EPA—it was also fragmented, and involved extra transaction costs. In the absence of previous interactions which might have established a basis for trust, and probably in part because EPA's enforcement office was sponsoring the initiative, most of the respondents engaged outside counsel, and approached ORE individually. The highly competitive telecommunications market, along with the fragmented nature of the trade associations, probably prevented the industry from acting collectively.

Universities Initiative

Region 1's colleges and universities initiative aims to address compliance problems and promote “beyond-compliance” environmental performance at New England colleges and universities. Colleges and universities have a large number of environmental compliance requirements because they engage in a wide range of regulated activities, from vehicle maintenance to water treatment to operation of chemical labs. Because it is difficult to keep up with all those requirements, colleges and universities often run into problems. It is hard for them, for example, to keep track of hazardous waste materials in their laboratories.

Region 1's Office of Environmental Stewardship, which includes both enforcement and compliance assistance teams, has taken a collaborative approach toward compliance assurance at universities, using stepped-up enforcement activities in combination with compliance assistance. Initially, the region's

increased enforcement activities resulted from the discovery of significant compliance issues at a few universities inspected as part of other initiatives. The enforcement office then decided to bring compliance assistance into the mix because colleges and universities seemed to be a fertile ground for such initiatives. Unlike some industrial sectors that consist mostly of small operations, universities were perceived as having the resources and expertise to participate in assistance activities—and to use what they learn to work toward compliance. As one enforcement manager said, colleges and universities “should know how to comply because they have some of the greatest minds in the world.”

Background

The universities initiative grew out of two changes in enforcement focus at the region in the mid-1990s. One was a move towards more geographically targeted enforcement aimed at sensitive areas. The other was a move from focusing on industrial targets to inspecting new kinds of sites such as municipalities and universities.

The first indication that compliance at universities was an issue came when the region inspected Yale University as part of its environmental justice activities in New Haven. EPA staff discovered many violations on the campus, leading to a major enforcement case that drew a good deal of attention. Later inspections at other universities found problems as well.

In the course of conducting the enforcement cases, agency staff realized that part of the reason for the problems was that colleges and universities did not have a clear understanding of the requirements for compliance. To address the issue, the enforcement office contacted NEEAT (the New England Environmental Assistance Team) in the compliance assistance office to develop an integrated enforcement and compliance assistance strategy for colleges and universities.

Administration and coordination

The initiative has involved significant coordination between the enforcement and compliance assistance programs at Region 1, which had previously worked fairly independently. Enforcement and compliance assistance staff collaborated on two compliance assistance conferences attended by 385 college and university representatives, for example. Because most compliance issues at universities are related to hazardous waste, the bulk of activity has involved the RCRA program, but air and water staff have also been involved in both inspections and compliance assistance activities.

Coordination with states has been less of a focus. While EPA has maintained communication with each state regarding EPA activities in the state, it has not worked jointly with states in targeting, inspecting, or providing compliance assistance to universities.

Resources

The enforcement program is currently devoting about 0.15 FTE to compliance assistance and 1.5 FTE to inspections at universities. In the compliance assistance program, 1.33 FTE is being used for the universities project. In addition, about 1.5 FTE of legal staff is involved.

Because they reach many institutions and individuals, managers see compliance assistance activities as worth the resources. Traditional enforcement at universities, on the other hand, is resource-intensive

because of the size and complexity of the campuses: at one university it took seven inspectors five days to conduct an inspection.

For the universities, the initiative has led to an increase in resources dedicated to compliance.

Regulated community relations

Both EPA and university interviewees say that relations have improved as a result of the effort. Both parties have attained a better awareness of the issues faced by the other: universities have been educated on compliance requirements, while EPA staff have come to better understand the complexity of compliance issues for universities.

Through the initiative, NEEAT has developed a very good relationship with the regulated community. University staff feel comfortable calling EPA to ask questions.

The universities are still, however, “scared of” EPA’s enforcement program, which is fine with the enforcement staff. They like the idea of fear as an incentive to compliance.

Current status and next steps

Because Region 1 is using almost every compliance tool available for the initiative, it has been a significant learning experience. Region 1 interviewees say the initiative has helped the agency develop a toolbox from which it can pick combinations of approaches for other projects. Some examples of particularly unique approaches that have been used with the universities are:

- **Announcing a compliance assistance program and an enforcement action at the same time.** EPA announced its first major compliance assistance conference for universities at the same time as it announced the fines being proposed for the University of New Hampshire as a result of an enforcement action there. The information on the enforcement action got the attention of other schools, who sent hundreds of representatives to the conference.
- **Using a focus group to guide compliance assistance activities.** Several months ago, Region 1 conducted a focus group in Boston with representatives from universities to identify important issues. The region will use the results to develop its strategy for the compliance assistance program. For example, a website being developed for colleges and universities will focus on program-specific compliance information rather than on pollution prevention or waste minimization, because focus group participants said they wanted practical information on how to comply.
- **Having EPA officials meet with university presidents.** A key obstacle in bringing colleges and universities into compliance is an academic culture that does not see environmental issues as a priority. By working directly with university presidents, EPA hopes to foster more high-level support for environmental compliance.
- **Using press releases on enforcement cases as a deterrent.** Because public image is important to colleges and universities, EPA’s use of press releases to publicize fines against universities has caught the attention of other schools, increasing their interest in compliance.

Region 1 hopes the initiative will result in lasting changes in environmental practices at colleges and universities. So far, EPA inspectors have not seen results from the compliance assistance program in their inspections of universities, but the program has been underway only a year. EPA interviewees say the better indicator of results is the increase in consciousness of, and attention paid to, environmental issues at universities. And they do see evidence of those changes in university activities such as:

- conducting environmental audits
- hiring full-time environmental compliance specialists,
- working to form alliances to share information and strategies,
- attending EPA compliance assistance events
- calling EPA with compliance questions.

For the next few years, EPA will continue to target universities with both inspections and compliance assistance. The compliance assistance program will taper off in a few years, with some portions perhaps being sustained by partners such as trade associations and consultants. Inspecting universities will continue to be a regular part of the region's enforcement activities.

Chapter 5. Conclusions and analysis

General conclusions

We judge the integrated compliance assurance initiatives examined for this study to have been generally effective. This conclusion is not unexpected, as the initiatives were selected in part on the basis of perceived success. In general, integrated approaches to compliance assurance—approaches that combine enforcement, compliance assistance, and/or compliance incentives—are strongly indicated by the best current knowledge regarding sources of non-compliance. EPA’s stated position that integrated approaches depend for their success on a credible threat of enforcement is supported by current scholarship, our interpretation of the case studies, and, indeed, all the stakeholders interviewed for this project.

Effectiveness is measured here in terms of compliance outcomes, and the cost-effectiveness of obtaining these outcomes. Environmental outcomes are more difficult to assess. It is true that some of the initiatives addressed so-called “paper violations”—failures to meet reporting and disclosure requirements—and that direct environmental impacts are likely to be minimal. However, it should be noted that regardless of the data and methods employed in the particular initiatives, overall, OECA makes a strong effort to target compliance assurance activity to environmental problems. Further, “paper violations” are violations of regulations established in response to real public policy concerns, such as the integrity of national environmental data systems, effective responses to spill incidents, and childhood lead exposure. Particularly when faced with evidence of violations, OECA must address compliance in those areas. Nevertheless, even in cases where the violations can be characterized as “paper violations,” OECA’s expectation was that they were widespread and, the integrated initiatives discussed here that address such “paper violations” seem to be cost effective approaches to doing so.

We underscore that the six integrated initiatives studied here are atypical—a majority of the work conducted by OECA and regional enforcement managers and staff is focused on more traditional enforcement activities. Further, the initiatives do not engage EPA in the essential issue of fostering and rewarding innovative approaches to compliance assurance by the states, which are responsible for the large majority of compliance assurance activity. They do, however, demonstrate that innovative, integrated approaches to particular compliance problems are being designed and implemented, both at the headquarters and the regional level. And, rather than standing alone as “reinvention” or “pilot” projects, such initiatives are a part of the day-to-day work of EPA’s compliance assurance functions.

Given EPA’s stated commitment to broader use of integrated approaches, the case-study initiatives should provide valuable learning to EPA, beyond those direct compliance assurance goals they are intended to serve. The initiatives provide in many cases models that merit wider duplication; they also illustrate the measurement and organizational challenges EPA must meet. The analysis and discussion that follows is intended to facilitate such learning.

Common themes

While the case studies represent a broad range of integrated approaches, a number of common observations and issues emerged from our documentation review and interviews. Those themes are the subject of this chapter, and form the basis for our recommendations.

Note that the six case study initiatives exist in—and are affected by—the larger context of EPA’s compliance assurance activities, and by the history of interaction between EPA and specific regulated entities and sectors. However, we restrict the analysis here to issues of *particular and specific relevance* to integrated approaches.

Credibility

EPA’s *credibility* emerged as an essential component to the success of self-disclosure initiatives particularly, but of integrated compliance assurance approaches more generally. Credibility has several aspects:

- **Creating a sense of jeopardy.** OECA’s position has generally been that the success of self-disclosure initiatives depends on creating a “sense of jeopardy”—that is, the belief within the regulated community that failure to self-disclose violations incurs a substantial chance of the violations being discovered and penalized. Targeted invitations to self-disclose are generally phrased to imply such an outcome, whether or not a self-disclosure window is explicitly specified.

OECA’s position is a source of some misgivings in the regulated community. Members of the regulated community expressed concern that “voluntary” actions should indeed be voluntary. However, our interpretation of the case studies generally supports OECA’s view: a credible enforcement threat seems important to achieving a meaningful incidence of self-disclosure. Beyond self-disclosure, a sense of jeopardy is essential in creating a business atmosphere in which compliance is a priority. Further, entities participating in self-disclosure initiatives (and thus incurring penalties) may well feel cheated if those who do not participate are not subject to increased regulatory scrutiny.

Creating a sense of jeopardy requires not only sufficient inspection resources on EPA’s part, but also sector-specific expertise sufficient to discern violations. (The refineries initiative, for example, was, in large part, targeted at building such expertise with the agency.) Outside of certain categories of major sources (which tend to be inspected regularly), interviewees noted that sectors with which the agency has had little sustained interaction tend to respond with greater alacrity to initiatives—precisely because they have greater wariness of EPA’s enforcement arm.

- **Establishing trust.** Our interviews also indicated that the success of self-disclosure and compliance assistance-based initiatives requires that a sense of jeopardy be matched by a sense of trust in EPA’s enforcement and compliance assistance functions.

A decision by a regulated entity to self-disclose is a decision to move from a condition in which EPA *may* at some future point discover a violation to a situation in which EPA has *certain knowledge* of a violation. And, in having knowledge of a violation, EPA has also acquired a “foot

in the door” to issue information requests and search for additional violations. Thus, regulated entities must believe that EPA will not engage in unreasonable fishing expeditions, and that EPA will treat violations in the promised manner—and not actively seek “technicalities” upon which to disqualify disclosures made in good faith. And while EPA cannot overlook additional violations that come to light in the process of a self-disclosure, it can give entities the option to include those violations in their self-audit disclosures. That approach to self-auditing was essentially underscored at the national self-audit policy meeting held at EPA headquarters in late 1999.

Similar reasoning applies when entities are not disclosing to EPA, but are taking advantage of compliance assistance resources. Entities must be confident that inquiries and questions will not be used as a source of tips for enforcement follow-up.

There is no indication from our case studies that EPA has used self-disclosures as a basis for enforcement actions, or has abused its compliance assistance functions so as to create distrust of agency motivations. It is also clear, however, that neither has EPA yet established the *national track record* required to achieve the full potential of the audit policy. The case studies indicate, unsurprisingly, that establishing trust is more difficult when: a sector has a historically adversarial relationship with the agency; or a sector has had little or no previous interaction with the agency. Further, some regulated entities apparently perceive that taking advantage of compliance assistance might invite regulatory scrutiny—though again there is no evidence of that in fact.

- **Quick and consistent resolution.** Self-disclosure and other integrated approaches are intended to leverage limited EPA resources—but are also intended to represent a more efficient and productive means for the agency to interact with the regulated community. Regulated entities will be discouraged from engaging with the agency if: resolution under such initiatives is excessively prolonged; or treatment of cases is inconsistent from region to region. Each of those points is addressed below with specific regard to the audit policy.

Consistency. In our case studies, we did *not* observe difficulties with inconsistent treatment of audit policy cases across regions. In several, cases, however, the effort EPA expended to achieve consistency was significant and higher than anticipated. In part, that reflects EPA’s inexperience with the audit policy at the time the case study initiatives took place. Maintaining consistent resolution nationally will depend on continued coordination among and between regions, and will be facilitated by further development of guidance materials—as well as by the agency’s increasing experience with the policy itself.

Quick resolution. Achieving quick resolution of audit policy cases has proven more problematic for the agency. Quick resolution depends on resource availability (see below) and on the existence of established procedures, so that each new initiative does not become an exercise in administrative reinvention. As EPA’s experience with the policy grows, such procedures are beginning to become institutionalized.

Resources

As in all areas of the agency, resources to pursue integrated approaches are at a premium. There are several characteristics of self-disclosure and other integrated approaches, however, that present unusual obstacles to resource planning:

- **Self-disclosure initiatives can “spill” across regions.** An initiative deployed by one region can engender disclosures in another. Firms disclosing violations at facilities in the initiative’s “home” region may elect to disclose violations at facilities in other regions. That can create unexpected resource demands in other regions. If such demands are not met expeditiously or cases resolved quickly, agency credibility suffers, and transaction costs for the regulated community increase.
- **Initiatives can result in an unexpected number of responses.** Self-disclosure initiatives may engender a large and unexpected number of self-disclosures, or the disclosures may be more time extensive than anticipated. Compliance assistance requests or activities may be more numerous or more resource-intensive than expected.

For those reasons and others, our case study initiatives generally incurred a larger resource commitment than their planners anticipated. In part, that outcome reflects the nature of enforcement, which must be, in part, opportunistic. Enforcement activity occurs in response to tips and complaints, and to unpredictable and sometimes dramatic spills or incidents. But because integrated initiatives often put EPA in the position of being responsive and reactive to the regulated community, control over the number, timing, and extent of interactions is reduced, and the difficulty of resource planning increases. A commitment to integrated initiatives requires flexibility in the resource planning process—the ability to revisit and revise commitments made, and to make tradeoffs over the course of a fiscal year or years.

Unsurprisingly, the case studies indicate that such flexibility is far easier to obtain when initiatives are confined within regions, rather than when initiatives “spill” between regions, involve coordination with states, or are devolved from HQ to regions. Similar reasoning applies when an initiative is confined within a single office, rather than requiring multioffice coordination.

The MOA process formalizes compliance assurance resource allocations, representing the regions’ commitments to OECA. Currently, advance planning for integrated initiative resource allocations within the MOA process seems minimal.⁵⁸ OECA’s Office of Compliance notes that the FY 2002/2003 MOA guidance to the regions addresses that point. “[the guidance] will more explicitly promote the integrated strategy approach as new national priorities are selected.”⁵⁹ The office also notes the existence of a mid-year MOA adjustment process, which is intended to allow resources to be moved to cover unanticipated costs.

Cost effectiveness

A major goal of integrated compliance assurance in general is to use resources cost effectively. That is, integrated approaches are intended to provide more compliance improvement per dollar spent by the agency. Traditional enforcement activities, such as inspections and court cases, tend to be very resource-intensive, and as a result can be used to target only a limited number of facilities each year. Integrated approaches attempt to use resources more effectively by:

- Reaching more facilities each year through the use of self-audit incentives
- Reaching more facilities each year through compliance assistance
- Targeting priority sectors or issues in inspections and
- Addressing less-significant violations through less-expensive means

Each of those sources of efficiency is discussed individually below. The large majority of federal and state project staff and managers that we interviewed believe that integrated approaches are using resources more effectively than traditional enforcement alone. Similarly, most of those individuals also believe that the integrated approaches used in these case studies produced more cost-effective results than would have occurred if compliance assistance had been employed without a regulatory “hammer.”

In some cases, in addition to the efficiencies described above, there have been other, less-expected impacts, such as non-targeted regulated entities’ deciding to conduct self-audits or EPA’s adopting a region’s compliance assurance approach nationally. Those impacts are also discussed below.

It is difficult to quantify all the efficiencies because of the difficulty measuring compliance outcomes in general, but EPA staff nevertheless say they are seeing evidence of cost effectiveness. Several of the enforcement experts we interviewed concur that the new approaches can save resources, but some also stated a belief that large traditional enforcement cases can be cost effective in that they attract attention and raise awareness in the regulated community.

Self-audit incentives

Several program managers indicated that their choice of a self-audit approach was intended to leverage limited enforcement resources. In traditional enforcement cases, EPA must bear the cost of inspecting the facility, building evidence, and either negotiating a settlement or trying the case in court. For example, in Region 4, EPA was only able to handle about one major POTW lawsuit per year. In contrast, when facilities self-audit and self-disclose, EPA staff has only to review the facility audit reports, and determine an appropriate settlement based on them.

EPA interviewees did, indeed, find themselves able to reach significantly more of the regulated community through the audit approach. Interviewees from the Region 4 POTW MOM program and the Region 5 Minimills initiative indicated that not having to inspect facilities that submitted self-audit reports led to significant gains in resource efficiency. For example, Region 4 staff estimated that the resources needed to reach out to 79 MOM invitees were about the same as those needed for one major lawsuit against a POTW. That is not to say that MOM could replace traditional enforcement activities; in fact, part of the initiative’s success can be attributed to the strong enforcement presence in the sector. Also, as noted in the case study, MOM cannot be directly compared to a lawsuit because it involves different types of violations and responses, and because it is not far enough along in implementation to understand its long-term costs. However, the comparison does illustrate that, for purposes of raising awareness of a particular issue, a self-audit approach can be used to leverage enforcement resources and reach out to more of the regulated community.

Due to the significantly decreased cost per facility, programs such as the MOM project and the minimills project allow EPA to interact with a much larger segment of the regulated community each year than it would be possible to inspect.

Compliance assistance

Similarly, Region 1 undertook the compliance assistance portion of its universities program as a way of leveraging resources to reach more of the numerous universities in Region 1 than it had in previous years. Inspections of colleges and universities are resource-intensive because of the variety of regulated activities taking place at each school. As we mentioned, it can take many inspectors many days to conduct one RCRA inspection. In addition, though, it can take six to 12 months after an inspection to complete and enforcement case.

The compliance assistance program, on the other hand, has reached many more people. There were 230 people at the conference held in Boston, and 130 at the one in Kittery, Maine. While that kind of outreach does not necessarily lead directly to improved compliance, it does raise awareness, something EPA saw as a priority with universities. For that purpose, conferences were much more efficient than trying to reach each school individually. Region 1 has coupled its compliance assistance efforts with one to two inspections per year to ensure that universities are motivated to apply what they learn through compliance assistance.

Targeting sectors or issues in inspections

Refineries initiative staff cited increases in resource efficiency as a result of focusing on a particular issue in one sector. One of the issues behind the refineries initiative was a concern that EPA had not been an effective deterrent in the sector because of its limited technical expertise, and because standard facility inspections were ineffective at complex facilities like modern refineries. Consequently, the initiative has involved EPA enforcement staff learning more about the industry and how to focus inspections on significant compliance concerns for the sector. As interviewees in Regions 5 and 6 pointed out, although the number of referrals for enforcement action has not increased under the program, the effectiveness of referrals has, because inspections have been targeted at the significant violations.

Addressing less-significant violations through less-expensive means

An advantage identified by telecommunications initiative staff, that may apply to other cases as well, is the use of less expensive means (such as self-audits) to address less significant violations. Many of the violations addressed in the telecommunications project have been minor, reporting errors, for instance. EPA did not want to invest in full enforcement actions for such small transgressions, but did want to bring about compliance with regulatory requirements. EPA anticipated that the telecommunications sector would be responsive to a proactive initiative using the self-audit policy, which resulted in a large response in exchange for a relatively small investment on EPA's part.

Self-audits in non-targeted regulated entities

In addition to their effectiveness in reaching targeted entities, the case-study programs have sometimes had impact beyond their scope, influencing behavior in facilities outside the targeted group or even outside the region.

Region 4 staff note that some POTWs are now performing self-audits even if they haven't yet been targeted, because they want to be prepared for the possibility. And some consultants are even marketing MOM services to POTWs. Likewise, in Region 1 consultants have shown an interest in providing more compliance-related services to universities. Refineries and minimills program staff mentioned an increased interest in compliance on the part of facilities outside their regions that want to be prepared if the initiatives are implemented nationally. All of those added effects increase the cost-effectiveness of these programs by increasing their reach.

National adoption of a regional compliance assurance approach

Regional initiatives can be a useful source of ideas for national implementation. Two of the initiatives studied here started at the regional level and inspired national initiatives. The national refineries initiative has been partly based on the experiences of Region 5's National Refineries Workgroup. Based on the success of the Region 4 POTW MOM project, the Federal Advisory Committee on Sanitary Sewer Overflows is recommending that EPA adopt the MOM approach as part of standard practice nationally. In those cases, approaches that have proven themselves on the smaller regional scale have aided decisionmakers in finding appropriate ways to handle priority areas nationwide.

Proactive targeting

In all six cases we examined, EPA staff attempted to improve resource efficiency and environmental outcomes by carefully targeting their efforts and choosing appropriate compliance assurance tools based on characteristics of the targeted community. The type of targeting varied, but four methods are common to the several of the initiatives that we examined:

- Targeting based on sector
- Targeting based on characteristics of individual entities
- Targeting particular violations
- Targeting based on opportunity.

The first subsection below, "Choosing Where to Focus the Initiative," offers an explanation and examples of how such targeting was applied, as well as mentioning other potentially useful targeting methods. It is followed by a subsection describing the criteria EPA staff used in choosing tools appropriate to targets.

Choosing where to focus the initiative

EPA staff in many of the initiatives used a combination of the targeting methods described below. Such an approach to compliance assurance is substantially different from a more traditional approach to enforcement, in which targeting may not have moved beyond picking priority sectors and inspecting all major facilities within sectors or sub-sectors. Agency staff we interviewed felt that, by and large, effective targeting was crucial to any success that can be attributed to their initiatives. The management of one ongoing initiative, recognizing prior success with targeting, intends to spend \$15,000 on contractor support specifically to improve existing targeting tools.

- **Targeting based on sector.** In most cases we examined, staff chose to target integrated initiatives at sectors (or sub-sectors) in which compliance had been lagging and/or EPA's enforcement presence had been found wanting. That includes sectors such as telecommunications, where EPA staff felt an initiative would be worthwhile, even though the sector had not been a priority. It also includes such sectors as refineries, which had long been a priority enforcement sector with a high enforcement to inspection ratio, but in which staff felt that EPA had built only limited deterrence credibility.
- **Targeting based on characteristics of individual entities** After choosing a sector, EPA staff in some of the cases further targeted their actions to particular regulated entities—relying upon previously available information and/or information accumulated as a result of the initiative's learning process and use of integrated tools. For example, as mentioned earlier, Region 5 air program staff used continuous monitoring emissions data and facility mapping to target discrete compliance problems at specific refineries. Under the telecommunications initiative, headquarters staff targeted their first wave of letters at the ten largest telecommunications firms based upon information in a national magazine. Meanwhile, Region 4 water enforcement program staff have targeted POTWs within problem watersheds through an innovative analysis of both discharge monitoring report data (which does not specifically address SSOs) and information on water-quality impairment. Finally, while the iron and steel sector has long been a priority for compliance assurance, Region 5 enforcement staff chose to focus on the minimills subsector in part because of rapid economic growth in the sub-sector, as well as because of concerns about potentially significant violations (discussed below).
- **Targeting based on suspected violations.** EPA staff in several of the cases—such as POTWs and refineries—targeted particular violations within particular sectors. In shaping the initiative, or in its early stages, enforcement staff conducted what some have called a “root cause analysis”—in order to understand how EPA resources could have the greatest effect. For example, in the Region 4 POTW case, water division staff recognized that SSOs caused many Clean Water Act violations in the region, and that the only way to effectively address the issue was by forcing POTWs to improve their MOM programs. Similarly, in their investigative approach to refineries, enforcement staff have attempted to focus on the discrete technical violations that most significantly impact emissions. In the Minimills case, as mentioned above, staff chose to focus on the sub-sector in part because they believed facilities might have significant violations of Clean Air Act standards relating to new sources of emissions (i.e., New Source Review/Prevention of Significant Deterioration standards).
- **Targeting based on opportunism.** A reader might take the discussion above to indicate that the initiatives studied here reflect foresight and planning throughout their development and implementation. But it is important to note that, within the targeting framework, EPA staff frequently exhibited important capacities for flexibility and opportunism. For example, the headquarters staff originally intended the National Refineries Initiative to reflect a multimedia approach. However, they shifted it to an air-focused program when staff of other programs failed to demonstrate a strong interest (in part, at least, because the most-significant refineries compliance problems relate to air). In another example, OECA staff had not included the telecommunications firms in their strategic plans, but reacted to an opportunity when GTE submitted a self-audit. Furthermore, Region 1 staff had been

targeting enforcement on geographic and environmental justice criteria, but decided to target universities when they noticed that schools presented greater compliance problems than initially understood.

- **Other methods of targeting.** One can envision other methods of targeting that may be appropriate and effective in different situations. For example, we are aware that EPA headquarters is currently developing one initiative that targets efforts based upon TRI data related to a particular pollutant, and another that will target problematic corporations (rather than facilities). EPA must attempt to understand the challenges of the newer forms of targeting.

Selecting appropriate tools

After choosing the target, enforcement personnel in many cases picked compliance assurance tools to fit the situation. The selection was typically based upon an informal evaluation of the approach that would be most effective in terms of resource allocation and outcomes. Many staff we spoke with felt that “sizing up” their targets—using these and other criteria—played an important role in any positive impact of their initiatives. Using best professional judgment, staff considered multiple factors, including:

- **The complexity of the industry.** For example, the complexity of refineries issues led EPA staff to focus on an approach that emphasized building expertise and investigating discrete problems, as opposed to providing compliance assistance and continuing to conduct traditional inspections. With the lead and universities initiatives, on the other hand, EPA has been able to concentrate upon sharing its expertise with the regulated community.⁶⁰
- **The nature and severity of violations.** OECA staff felt that the expected telecommunications violations would only relate to reporting and did not deserve high prioritization. However, they decided that the initiative was worthwhile because it could bring a formerly overlooked industry into better compliance. As such, it merited only a low-resource, letter-based, audit approach. Alternatively, given that iron and steel was a priority sector and that Region 5 staff suspected significant violations at minimills, they decided to explicitly commit to inspections of non-auditing facilities. Obviously, the availability of resources for the sector helped enable that kind of decisionmaking, and plays an implicit role in many of the other considerations listed in this section.
- **The sector’s perceived attitude toward compliance and compliance history.** For example, Region 1 staff felt that universities want to comply but are hindered in ways that compliance assistance could at least partially ameliorate. Region 4 staff felt that an auditing approach would be effective among the POTW community because a shared interest in clean water creates a more trusting atmosphere between regulators and POTWs. OECA personnel believed that letters alone might effectively “scare” the telecommunications industry, which had not before been regulated. On the other hand, staff associated with the National Refineries Initiative believed that the refinery sector’s history of malfeasance indicated that at least some facilities might be intentionally non-compliant. As a result, they felt EPA needed to enhance its traditional enforcement credibility prior to augmenting it with other compliance assurance approaches.

- **The extent to which auditing is being done in the industry.** Some interviewees hoped that one outcome of applying the audit policy might be increased self-regulation. To that extent, for example, one minimills interviewee suggested not conducting such an initiative in sector already highly engaged in auditing, because the outcome would not be as significant. While spurring greater self-auditing practices is a valid goal, the self-audit program may also conceivably work well with ongoing, industry-led efforts at improved environmental management systems—perhaps even improving the quality and quantity of self-disclosures.⁶¹ In fact, many of the minimills facilities that self-audited appeared to have been auditing already, but claimed the initiative had improved their auditing.⁶²
- **The geographic dispersion and population size of the target.** Staff planning the lead and POTW initiatives focused on compliance incentives and assistance in part because dispersion and population size made a concerted enforcement approach unlikely to be widely effective. Alternately, Region 5 enforcement staff in the minimills case believed that a 20 to 25 facility population was just the right size for their three-pronged initiative.

Measurement

Anecdotal evidence

Most EPA staff we interviewed judge the initiatives with which they were involved effective. For example, agency personnel involved with the telecommunications initiative believe a large portion of the industry has come into compliance with the targeted regulations. Interviewees from other programs likewise believe compliance levels are improving. Representatives from the minimills and POTW MOM programs believe their programs have increased compliance not just among participants, but also among non-self-disclosers.

Often the results cited by program staff are changes in attitude or understanding on the part of the regulated community. For example, Region 4 staff say that facilities' audits indicate an increased willingness to acknowledge compliance problems and correct them. In Region 1, interviewees cite results such as increased calls from universities regarding compliance issues, as well as interest from consultants in starting university compliance-based services. Refineries staff note that, although the number of referrals for refineries has not increased, the cases being pursued now address more-significant compliance problems. In all the cases, although they have not observed quantifiable improvements in compliance rates, staff believe the results indicate success for their programs.

Difficulty measuring compliance outcomes

While anecdotal evidence of the success of integrated programs abounds, it is difficult to find more-thorough measures. There are several inherent difficulties in measuring the success of compliance assurance activities. The first of these is the challenge of defining "success." Ultimately, the goal of any environmental activity is improving *environmental outcomes*—that is, measurable environmental results such as improved air quality. However, measuring environmental outcomes is extremely difficult both because of the technical difficulty of gathering accurate data on environmental conditions, and because it is difficult to attribute changes in environmental conditions to any one activity. For example, factors such

as the state of the economy and the weather conditions can affect air emissions, making it difficult to determine whether or not a change in emissions reflects a change in environmental practices.

As noted previously, given OECA's mandate to ensure compliance, it is reasonable to instead use *compliance outcomes*, or changes in rates of compliance with environmental laws, as a measure of success for compliance assurance activities. However, being certain of compliance rates is also difficult because it requires extensive, expensive inspections. That difficulty is aggravated in the case of integrated initiatives.

For example, determining compliance rates is particularly challenging in programs where more of the regulated community is reached through compliance assistance or self-audits than through inspections. Likewise, most self-audit-based initiatives inspect only non-participants. In other programs, the regulated community is large and EPA inspects only a few facilities each year. In all of those cases, the few inspections conducted do not provide an indication of compliance levels for the entire sector—or even for all participants in the program.

Until recently, the issue of connecting compliance assurance activities to compliance or environmental outcomes was not addressed in OECA's performance measurement framework. Performance measures, which EPA HQ and Congress used to evaluate regions' enforcement programs, were primarily *activity measures*, such as the number of facilities inspected, and the number of cases settled or brought to trial. Such measures have a weak connection to the actual results seen even when applied to cases in which only traditional enforcement is used. They are inadequate for taking into account activities such as compliance assistance and self-audits, which are meant to bring companies into compliance without engaging in enforcement activities. Consequently, integrated approaches are not given full credit when success is measured through enforcement activity measures. More outcome-based measures are needed to assess the success of integrated approaches.

Metrics must reward integrated approaches

OECA's National Performance Measures Strategy (see Chapter 2) represents a shift in focus toward more outcome-based measures of program performance, including the performance of integrated initiatives. EPA has published a Guide for Measuring Compliance Assistance Outcomes and made changes to the Reporting for Enforcement and Compliance Assurance Priorities (RECAP) report to regional officials.

However, those changes to compliance assurance metrics are relatively new. The clear message conveyed by regional program staff in our interviews was that EPA still perceives traditional enforcement activity measures (e.g., numbers of inspections, enforcement actions, and referrals to the Department of Justice) as the most quantifiable and "solid" measure of the performance of compliance assurance efforts. Integrated initiatives are disadvantaged if regional staff fear that headquarters will judge them based on performance measures that do not reward resources invested in integrated approaches, or do not capture the compliance outcomes of such efforts.

While EPA and OECA are under significant pressure to quantify program results, failure to institutionalize the new measures—and to give credit to measures that are less quantifiable than are enforcement activity counts—will disadvantage integrated initiatives in the long run.

Coordination Issues

Because integrated initiatives draw on multiple functions within the agency in addition to enforcement, they often demand increased efforts and resources for coordination. In almost all the cases we examined, those demands exceeded the expectations of initiative staff and managers. As detailed in Table 3, we observed three dimensions of coordination needs: within EPA, with other agencies, and with other external agencies.

Table 3: Coordination needs in the case-study initiatives

| Within EPA | With other agencies | With other external agencies |
|---|---|---|
| Between headquarters and the regions | Between EPA and other federal agencies (Department of Justice, HUD) | Between EPA and industry trade associations |
| Between OECA and program offices | Between EPA and states (leadership and staff level) | Between EPA and political figures |
| Between compliance assurance and program staff (in regions) | Between EPA and local agencies (Departments of Health) | |
| Between compliance assurance and public affairs | | |
| Between enforcement and compliance assistance staff | | |
| Among single-medium programs (for multimedia initiatives) | | |

Regulator relations with individual regulated entities are not considered “coordination” for the purposes of this analysis.

- EPA managers responded to coordination needs in three ways: assigning dedicated staff to the initiative (e.g., telecom); and/or assigning enforcement staff to the project on a part-time basis (e.g., lead, minimills, POTWs)
- creating workgroups to facilitate coordination (e.g., minimills, refineries)
- having staff from different agency programs juggle existing responsibilities and those associated with the initiative (e.g., refineries, telecommunications).

Coordination requirements (and thus resources required) scaled with the complexity of the initiatives, where complexity is driven by several factors: the technical complexity of violations; the degree of coordination necessary in any or all of the three dimensions; and the geographic distribution of regulated entities and other actors. Prior experience and skills in cross-program and other coordination, however, reduced coordination costs and difficulties. Effective planning and management of integrated initiatives appears to be facilitated by understanding and accounting for those factors. They are discussed below.

Technical complexity of violations

Increased complexity of targeted violations—including whether the initiative was multimedia—added to administration and coordination resource needs. The National Refineries Initiative, for example, dedicated significant resources to technical knowledge sharing among various regional and headquarters

staff on complex compliance issues. It also required increased internal coordination within regions, where previously staff had worked primarily alone

Degree of interaction required with other government programs The extent of interaction with other government actors was a clear driver of coordination costs In the telecommunications case, for example, EPA headquarters staff faced little need to coordinate among different levels of government because the initiative was focused largely on non-delegated programs, and because it was run directly from headquarters. However, coordination costs increased expectedly for EPA initiatives that explicitly attempted to engage participation of other government actors:

- For example, in trying to actively involve states in the multimedia minimills inspections, the Region 5 coordinators had to contact more than 80 state-level staff—in part because some states do not have multimedia contacts, and some divide inspection responsibilities into sub-state districts or regions.
- Coordination costs (and potential benefits) also appear to increase to the extent that EPA attempts to incorporate such initiatives into strategic planning for regional-state enforcement agreements. While some state contacts felt that kind of planning would result in greater resource effectiveness (through reduced duplication and improved targeting), one EPA manager felt that trying to incorporate integrated initiatives into planning processes would be entirely too unwieldy.
- National initiatives that involve regions require a certain level of coordination between headquarters and regional staff. Regional initiatives that “spill over” to other regions (as, for example, when a firm has facilities in multiple EPA regions) create unexpected coordination demands.

Need to coordinate with external entities

Obviously, coordination demands increase with the increased involvement of other external actors, such as the Department of Justice, legislators, and industry trade associations (although their involvement may save resources in other areas, too). Different factors can influence the extent of coordination with external actors. For example, the need to coordinate with external actors can be increased by the extent to which an initiative is considered a novelty—or a political football. As part of one of the first EPA self-audit initiatives, Region 5 managers and staff took care to provide advance notice of the minimills initiative to federal legislators, especially given the particularly sensitive political nature of the audit policy at the time. Alternatively, the Michigan DEQ expressed strong concerns that Region 5 had not apprised high-level DEQ staff of the minimills initiative well in advance, and declined to cooperate in the effort.⁶³ Other actors, such as Department of Justice, might be a particularly crucial element of certain initiatives. EPA staff might need, for example, to ensure that the Department of Justice is able and willing to allocate adequate resources to deal with increasing prosecution needs, in a manner that is both timely and consistent with the overall compliance assurance goals of the initiative.

Geographic dispersion of other agencies

Finally, coordination difficulties appear to increase with geographic dispersion of the actors involved. For example, Region 4 water enforcement staff (and one state regulator) expressed their understanding that state-regional coordination was easier when the state contact is nearby. In addition, a Region 5 minimills coordinator noted that several state regulators face restrictions on overnight trips outside their

states—perhaps limiting state participation in a multimedia inspections training event offered by the region.

Prior experience and skills with coordination

Coordination was facilitated when regional staff had experience coordinating across programs, and when organizational structures existed to facilitate that coordination.

- For example, the director of the Water Enforcement Program led Region 4’s POTW initiative. That director is accountable to managers in both the water and enforcement divisions. That facilitated coordination of programmatic and enforcement resources and priorities.
- Region 5 management decided to place implementing responsibility for the minimills initiative in the hands of a public affairs staff member, whose communications skills facilitated easier coordination and complemented the region’s past experience with multimedia planning.
- Alternatively, one initiative manager reported that the existence of different forms of regional organization created coordination difficulties. This interviewee offered three examples of varied organizational structures that complicated implementation: state-by-state organization, limiting sectoral expertise; separation of inspectors and case developers, in which “the handoff creates a nightmare;” and varying locations of enforcement lawyers, from an office of regional counsel to an enforcement division. Other interviewees (both in industry and EPA) suggested as well that the separation of programmatic and compliance assurance functions into different offices creates difficulty in harmonizing goals and activities.

Chapter 6. Recommendations

Based on the conclusions and analysis presented in the previous chapter, we make the following recommendations to EPA:

- 1. Continue and expand the use of integrated approaches.** As noted in our conclusions, we found the integrated initiatives we studied to have been effective uses of EPA's resources. In general, integrated approaches to compliance assurance—approaches that combine enforcement, compliance assistance, and/or compliance incentives—are strongly indicated by the best current knowledge regarding sources of non-compliance. Further, EPA's stated position that integrated approaches depend for their success on a credible threat of enforcement is supported by current scholarship, our interpretation of the case studies, and, indeed, all the stakeholders interviewed for this project.

Thus, we recommend continued and expanded use of integrated initiatives, under the conditions outlined by the remainder of our recommendations.

Some of the initiatives we studied were conceived and implemented opportunistically. Others represented strategic responses to compliance assurance priority sectors or issues. In general, however, we also found that advance planning for integrated initiative resource allocations within the MOA process is currently minimal. One approach to expanding use of integrated initiatives would be to formalize planning for them as part of EPA's annual process of identifying compliance assurance priorities. OECA does note that its forthcoming FY 2002/2003 MOA Guidance "will more explicitly promote the integrated strategy approach as new national priorities are selected."

The initiatives we studied do not engage EPA in the essential task of fostering and rewarding innovative approaches to compliance assurance by the states, who are responsible for the large majority of compliance assurance activity. Neither state initiatives nor the state-federal relationship were the subject of this study. However, our earlier research on the National Environmental Performance Partnership System (NEPPS) made clear that there is significant tension between state and EPA enforcement personnel regarding what types of innovative compliance assurance approaches are appropriate. Indeed, many state personnel have the perception that EPA is not supportive of *any* innovative state activity in the area. EPA should clearly communicate principles for the design of integrated approaches, and reward such activity by the states.

- 2. Assure flexibility in the design and implementation of integrated initiatives.** The success of integrated initiatives depends substantially on three key factors: the appropriate selection of tools; the application of those tools to an appropriate target population; and the commitment of adequate resources. EPA must assure that essential flexibility is available in each area to those designing and implementing integrated approaches:
 - Choice and adaptation of compliance assurance tools.** Integrated initiatives are defined by their target populations, as well as their particular choice and use of enforcement, compliance assistance, and/or compliance incentives tools. A credible enforcement threat *is* an essential component of those initiatives—however, the specific and appropriate balance and mix of tools is highly situation-dependent. We can offer no specific recommendations regarding those choices. We emphasize, however, the importance of maintaining flexibility in the design of these

initiatives, allowing those with the best understanding of the compliance problem to balance issues such as the nature and complexity of the industry, nature and severity of violations, compliance history, sophistication of environmental management systems, and geographic distribution and size of the target universe.

- **Resources.** By their nature, integrated initiatives—and particularly self-disclosure initiatives—often impose variable and unpredicted resource demands. Response to an audit initiative can be unexpectedly large, requiring more review time than expected; disclosures can occur outside the EPA region initiating the initiative, causing unexpected costs for those other regions. Alternatively, response to the initiative may be unexpectedly low, requiring more inspections of non-participants than anticipated. Maintaining essential credibility requires that initiatives have the resource flexibility to meet those needs; such flexibility was in fact vital to the success of several of the case study initiatives. On a national level, that may imply maintaining reserve resources to cover unexpected costs to either regions or headquarters.

OECA's Office of Compliance notes that the need for such flexibility is met at least in part by the mid-year MOA adjustment. Though that mechanism and others, EPA must ensure that adequate flexibility to meet the resource demands of integrated initiatives exists in states' and regions' annual compliance assurance program commitments and resource allocations.

- **Targeting.** Effective targeting is essential to the success of integrated initiatives. The basis of effective targeting is appropriate flexibility in regional implementation of national compliance assurance priorities. That implies a more consultative process of regional goal setting than has been employed historically. Targeting may be based on priority environmental issues, on sector, on characteristics of the regulated entities, on suspected violations, and on opportunity.

The Office of Compliance states that OECA has made significant progress towards such flexibility: "in FY 2000/20001, in close consultation with regions and states, OECA dramatically reduced the number of national priorities to allow Regions the flexibility to pursue Regional and State areas of concern. . .the MOA process has [thus] been changed to allow for much more regional goal setting than has been employed historically."⁶⁴

3. **Continue efforts to institutionalize the audit policy.** OECA issued the audit policy in 1996, and disclosures under the policy have increased since that time. While the policy is a central compliance incentive tool for EPA, it is only now being perceived—both within the agency and without—as more than a novelty or pilot. Over the past year, EPA has taken steps towards better institutionalizing the policy: establishing a national audit policy coordinator position; holding the first national audit policy meeting; developing model protocols; and beginning to track audit disclosures on a test basis in EPA's central enforcement database. However, EPA's release of the revised audit policy in April 2000 presents the agency with a valuable opportunity to further institutionalize and mainstream the policy. EPA must assure that regional offices are trained in the revised policy, and that policy guidance resources, including additional model protocols, are well developed.

EPA should also work to improve the regulated community's awareness of, and access to, the policy. The audit policy represents an important change in the nature of EPA's interaction with the regulated community: the principle that violations assiduously discovered and forthrightly disclosed are treated very differently than those concealed deliberately or by neglect. However, for those sectors not specifically targeted by EPA in self-disclosure initiatives, the audit policy is relatively obscure—certainly far more obscure than compliance assistance information. While OECA does publish an audit policy newsletter, as well as interpretive Q&A guidance, and does maintain a public document of settlements under the policy, the office should more prominently portray the policy. For example, EPA should *prominently* feature self-disclosure information on the OECA and EPA websites—preferably including a button or link labeled: “I want to disclose a violation.”

- 4. Commit convincingly to new measurement metrics.** OECA has developed revised metrics and guidance to better measure the effectiveness of compliance assurance activities—including integrated initiatives. However, those changes to compliance assurance metrics are relatively new, and regional staff still have a strong perception that headquarters is judging their performance based on traditional enforcement activity measures. While it is difficult to define outcomes quantitatively, and while EPA and OECA are under significant pressure to quantify program results, OECA must institutionalize these outcome-based measures. Failure to do so disadvantages integrated initiatives.

In the longer term, we recommend further research into outcome measurement and compliance verification technologies to address some of the barriers to outcome measurement.

- 5. Focus on effective coordination and communication.** As their name implies, integrated initiatives usually require close coordination between more than one agency function, or between the agency and other actors. Initiative management must coordinate effectively among single-medium programs, between compliance assurance and program offices, between enforcement and compliance assistance programs, across EPA regions, and with states.

Coordination is facilitated within an organizational culture or structure that readily supports it (such as the closely related enforcement and media programs in Region 4 or the coordinated enforcement and compliance assistance programs in Region 1). However, our cases also illustrate several approaches that seem to effect better coordination, with or without that foundation.

- defining in advance communication needs and protocols for a particular initiative
- using dedicated initiative staff with specific communication and coordination duties
- communicating “early and often” to avoid later problems (because of the experimental and public nature of many of the initiatives, that may include maintaining contact with high-level EPA staff and federal legislators)
- involving individuals with public affairs skills in integrated initiatives, because communications with the regulated community must convey both a credible enforcement threat and a willingness to work with the regulated community.

Initiatives should emulate those models, or employ appropriate substitute mechanisms.

Towards Integrated Approaches to Compliance Assurance

In the cases we studied, EPA has successfully used integrated approaches to address a number of compliance concerns in an innovative and cost-effective way. Our recommendations should provide guidance as the agency pursues its stated commitment to integrated compliance assurance, making such approaches typical rather than atypical of the work of the agency.

Appendix A: List of Interviewees

1. Bagnoli, Peggy, environmental engineer, New England Environmental Assistance Team, EPA Region 1. 1/25/00; Personal interview.
2. Cohen, Mark, associate professor of management, Owen Graduate School of Management, Vanderbilt University. 4/6/00; Telephone interview.
3. Coleman, Sam, director, Office of Compliance Assurance and Enforcement, EPA Region 6. 2/2/00; Telephone interview.
4. Cope, Grant, staff attorney, U.S. Public Interest Research Group. 4/6/00; Telephone interview.
5. Crowe, Alice, attorney, Office of General Counsel, American Petroleum Institute. 3/27/00; Telephone interview.
6. Curtis, Cynthia, EPA Region 5 Air Program. 1/19/00; Personal interview
7. Danjczek, Tom, president, Steel Manufacturers Association. 4/4/00; Telephone interview.
8. Dart, Denny, interdisciplinary expert/team leader, Air Program, EPA Region 1 (formerly of Region 5)). 1/11/00; Personal interview
9. Daugavietis, Andre, attorney, EPA Region 5 Office of Regional Counsel. 1/19/00; Personal interview
10. Deamer, Eileen, customer service/EMPACT manager, EPA Region 5 Office of Public Affairs). 1/18/00; Personal interview
11. Deria, Mohamed, Connecticut Department of Environmental Protection RCRA Enforcement Program. 4/14/00; Telephone interview.
12. Domike, Julie, partner, Wallace King Marraro & Branson, PLLC. 4/11/00; Telephone interview.
13. Fitz-Henley, Gwen, EPA Region 4. 1/31/00; Telephone interview.
14. Gallo, Dan, lead enforcement coordinator, EPA Region 3. 2/10/00; Telephone interview.
15. Garner, Gordon, executive director, Louisville/Jefferson County Metropolitan Sewer District. 1/10/00; Telephone interview.
16. Gordon, Scott, chief, Water Programs Enforcement Branch, EPA Region 4. 1/13/00; Personal interview
17. Griffin, Joe, Harvard University Environmental Health & Safety Department. 3/22/00; Telephone interview.
18. Herwig, Roy, EPA Region 4. 1/13/00; Personal interview
19. Hudson, Mike, Maine Department of Environmental Protection. 4/7/00; Telephone interview.
20. Hyde, Tinka, leader, Enforcement Coordination Office, EPA Region 5. 1/19/00; Personal interview

Towards Integrated Approaches to Compliance Assurance

21. Jackson, Jim, attorney/advisor, EPA HQ, Mobile and Stationary Source Branch of OECA ORE Air Enforcement Division. 2/1/00; Telephone interview.
22. Jonesi, Fran, OECA/Office of Compliance. 2/11/00; Telephone interview.
23. Jorquera, Mario, chief, EPA HQ, Mobile and Stationary Source Branch of OECA ORE Air Enforcement Division. 2/17/00; Telephone interview.
24. Keith, Kathy (Environmental Engineer, EPA Region 5 Air Program). 1/19/00; Personal interview
25. Kelley, Rosemarie (ORE/MED). 1/27/00; Personal interview.
26. Kidd, Keith, Tufts University. 3/23/00; Telephone interview.
27. Kuefler, Patrick, environmental scientist, serving as inspector/enforcement officer, EPA Region 5 RCRA Program. 1/18/00; Personal interview.
28. Kuehne, Robert, visiting professor, University of Michigan Law School. 4/6/00; Telephone interview.
29. Kunce, Ed, Massachusetts Department of Environmental Protection. 4/5/00; Telephone interview.
30. Liszewski, Chris, associate regional counsel, EPA Region 5 ORC. 1/18/00; Personal interview
31. Maloney, Martha, environmental liaison, American Petroleum Institute. 3/27/00; Telephone interview.
32. Mangrum, Linda, environmental protection specialist, EPA Region 5 OECA. 1/18/00; Personal interview
33. Marks, Nancy, senior attorney, Natural Resources Defense Council. 4/5/00; Telephone interview.
34. McAuliffe, Mary, associate regional counsel, EPA Region 5 ORC. 1/18/00; Personal interview
35. McCoy, Patric, environmental scientist, EPA Region 5 Air Program. 1/19/00; Personal interview
36. McGhee, Mike, director, Water Management Division, EPA Region 4. 1/13/00; Personal interview
37. McGinley, Anne, Texas Natural Resources and Conservation Commission. 4/10/00; Telephone interview.
38. Milton, Philip, ORE/MED. 1/27/00; Personal interview
39. Nicklas, Beth, Massachusetts Department of Environmental Protection. 4/5/00; Telephone interview.
40. Orvin, Roy, executive director, Western Carolina Regional Sewer Authority. 3/29/00; Telephone interview.
41. Papetti, Lisa, environmental engineer, RCRA Compliance, EPA Region 1. 1/25/00; Personal interview
42. Pollins, Mark, ORE/MED. 1/27/00; Personal interview
43. Pontius, Anne, OECA/Toxics and Pesticides Enforcement Division. 1/27/00; Personal interview

Towards Integrated Approaches to Compliance Assurance

44. Rota, Ken, director, RCRA Compliance, EPA Region 1. 1/25/00; Personal interview
45. Sisk, Steve, senior project manager, National Enforcement Investigation Center. 4/7/00; Telephone interview.
46. Somerville, Jim, Environmental Protection Division, Georgia DNR. 1/24/00; Telephone interview.
47. Stuart, Eric, Steel Manufacturers Association. 4/4/00; Telephone interview.
48. Stuart, Ralph, University of Vermont. 4/5/00; Telephone interview.
49. Talley, Mазzie, lead coordinator, EPA Region 7). 2/9/00; Telephone interview.
50. Trofatter, Glenn, director, Compliance Assurance Division, Bureau of Water, South Carolina Department of Health and Environmental Control. 1/26/00; Telephone interview.
51. Walker, Claude, attorney, OECA/Toxics and Pesticides Enforcement Division). 1/27/00; Personal interview
52. Wittenborn, John, counsel, Steel Manufacturers Association. 4/4/00; Telephone interview.
53. Wojciechowski, Ed, environmental engineer, iron and steel expert, EPA Region 5 Air and Radiation Division, Air Enforcement and Compliance Assurance Branch. 1/18/00; Personal interview
54. Zугger, Paul, director, Environmental Assistance Division, Michigan Department of Environmental Quality. 3/31/00; Telephone interview.

Appendix B: Interview Questionnaire I

(for individuals associated with case studies)

BACKGROUND—info from background documents

This section should be written prior to conducting interviews, from examination of background documents and initial phone interviews.

1. Authority for the initiative
2. Goal(s) and objective(s) of the initiative
3. EPA Program/Region Responsible
4. Scope (national or regional)
- 5.
6. Duration
7. Current status
8. Participation
 - Number of eligible regulated entities
 - Number of targeted regulated entities
 - Number of participating regulated entities
 - Number of regulated entities with final closure
9. Statute/regulation(s) covered
10. Nature of the violation
11. Compliance assurance approach(es)/tool(s) used (e.g. self-audit, capped liability, targeted enforcement) – refer to attached list.
12. Existence of any formal or informal evaluation/mid-course corrections of the initiative
13. Coordination with other levels of government or other federal agencies.
14. Coordination with trade associations or other stakeholder organizations

RESULTS

This section should, as much as possible, be based on quantitative measures, with interpretations being used as a substitute when necessary. Documentation prior to interviews is preferable.

1. Environmental Outcomes
 - Achieving compliance
 - Going beyond compliance.
2. Industry participation and responsiveness
3. Completed settlements
4. Comparison of compliance results to comparable results for conventional enforcement
5. Agency and regulated entities' costs and cost savings
6. Costs compared to conventional enforcement
7. Measurement tools used (both new and old)
8. How was the targeted regulated community made aware of the initiative?

AGENCY EXPERIENCES — from interviews

1. What is the history of the initiative (who, what, why, when and how)?
2. Was the regulated entity a “priority” for reasons other than this initiative?.
3. Why was it thought that this regulated community was “ripe” for such an initiative?
Administration and coordination
 - What programs and individuals had lead responsibility?
 - What internal coordination efforts were needed? Did this coordination go well?
 - What types of coordination with other levels of government and other federal agencies were involved? Did this coordination go well?
 - For regional initiatives, what type of coordination with EPA headquarters was involved? For HQ initiatives, what coordination with regions?.
 - What supporting programs were involved (legal staff, compliance assistance staff, etc.)?

- coordination with states

4. Resources

- What was the anticipated level of resources?
- What was the actual level of resources needed for the initiative?
- What was the source of resources?
- What tradeoffs were made to obtain resources?
- Does the agency consider this particular initiative a “good investment?”

5. What was the agency’s relationship with any trade associations as part of this initiative? What was the association(s) role and influence?

6. How were non-participating targeted regulated entities handled?

7. Does the agency have any understanding as to why some regulated entities did not participate in the initiative?

8. Characterize the interaction of the agency with this regulated community prior to and subsequent to the initiative?

9. How different was this initiative from “business as usual,” both in terms of internal operations of the agency and external interaction with the regulated community?”

10. What positive and negative feedback was received from the regulated community?

11. Lessons learned

- What worked well and what did not? What would you do differently?
 - For what type of situations would this sort of initiative serve as a model?
 - For what situations would this sort of initiative NOT serve as a model?
 - Are there any parts of this initiative that should become standard practice in compliance assurance policy?

12. Have any “lasting” changes been made to compliance assurance in the agency as a result of this initiative?

13. What is the agency’s assessment of environmental and compliance outcomes as a result of this initiative?

14. Did the agency measure or “sense” any positive or negative impacts on the agency’s ability to establish a strong enforcement presence in this regulated community or to create a deterrent effect?

EXPERIENCES OF SELECTED PARTICIPATING REGULATED ENTITIES AND TRADE ASSOCIATIONS

1. Why did they participate in the initiative? What did they expect to “get out of it?”
2. Why would a regulated entity consider not participating in this initiative?
3. What violations and other environmental practices did they discover/disclose/change?
 - Where there changes in knowledge of environmental regulations?
 - Where any organizational practices changed as a result of the initiative?
 - Did overall environmental performance change?
 - Did the company’s compliance status change?
 - Was there disclosure/identification of other environmental problems other than the violations targeted by this initiative?
 - What other factors besides this initiative may have affected changes at the regulated entity?
4. What impact, if any, did the initiative have on overall corporate environmental culture/ethic?
5. What resources, in addition to resources already allocated for environmental management, were needed to participate in this initiative?
6. What cost savings did the company identify both in terms of achieving compliance and in comparison to its experience with traditional enforcement approaches?
7. Overall, was participation in this initiative seen as a net benefit or net cost?
8. What was the importance of the trade association in their decision to participate in this initiative?
9. What was their previous relationship with the regulatory agency?
10. Did participation in this initiative create any change in their relationship with regulatory agencies?
11. Do you think this initiative was applied in a fair manner?
12. What improvements are needed to enhance this type of initiative?
13. What were the specific strengths and weaknesses of this initiative?
14. Are there any parts of this initiative that should become standard practice in compliance assurance policy?

15. Given their experience, would they participate again? Why or why not?

Appendix C: Interview Questionnaire II

(for individuals not associated with case studies)

1. What do you think are the most pressing environmental enforcement policy issues facing EPA today?
2. Have you seen changes in EPA's enforcement policies and practices since the establishment of OECA?
3. What do you think the goal of any given enforcement action should be (e.g. achieving compliance, deterrent, etc.)?
4. EPA is sometimes criticized for revising its rules through its enforcement practices rather than through formal rulemaking. This is the result of rules sometimes being open to interpretation. Do you have any thoughts on how this criticism can be addressed?
5. What are your thoughts as to the balance of approaches (e.g. traditional enforcement, compliance assistance, incentives, self-auditing, etc.) that should be struck to result in the most effective assurance of compliance.
6. We've heard from industry that there is oftentimes inconsistency between EPA regions as to how a rule is enforced. Do you have any thoughts as to how this criticism can be addressed?
7. We've heard from various industry representatives that they think that EPA should involve them earlier on in developing enforcement initiatives. For example, we've heard that some associations think EPA should consult with them early on to define which industry sectors are targeted in an enforcement initiative or the specific violations that may be pinpointed in an enforcement initiative. Do you think this would be a productive approach for EPA to take?
8. Do you feel that different types of enforcement approaches should be employed for different types of regulated entities?
9. What policies and practices do you think are essential for EPA to maintain and/or develop to promote a deterrent effect?
10. What types of issues do you think regulatory agencies need to consider when determining what approach to take as part of an enforcement action?
11. How do you think EPA should prioritize its enforcement and compliance assurance resources?
12. What is your reaction to EPA initiatives in which proactive use of the self-disclosure policy is employed?
13. What do you think the role of industry associations should be in working with EPA on enforcement issues?
14. Do you see benefits or drawbacks to EPA proactively pursuing certain violations that are thought to be common in a particular sector?
15. What do you think are the strengths and weaknesses of EPA's self-disclosure policy?

16. What incentives do you think should be offered by regulatory agencies to promote compliance?
17. Measuring the environmental benefits of less traditional compliance approaches (e.g. self-audits, compliance assistance) is difficult because these approaches may, in fact, prevent non-compliance. How can such benefits be considered?

For state and EPA Regional representatives:

- Do you think the nature of disagreements between EPA and states regarding enforcement issues is more about enforcement philosophy or more about control of decisionmaking?
- What are some specific examples of where states and EPA disagreed over the substance of enforcement policy?
- Have you seen improvements in EPA and state relations over the last several years regarding enforcement?
- Are you aware of any successful joint actions or planning efforts between EPA and states on enforcement?
- What specific actions do you think need to take place to improve relations between states and EPA on enforcement issues?
- We've heard from industry that there is oftentimes inconsistency between EPA regions and various states as to how a rule is enforced. Do you have any thoughts as to how this criticism can be addressed?

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- National Council of State Legislatures. *State Environmental Audit Laws and Policies: An Evaluation*. Washington, DC: NCSL, Environment, Energy and Transportation Program, 1999.
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Endnotes

¹ EPA Strategic Plan, 1997, EPA/190-R-97-002.

² In practice, OECA sometimes refers to such approaches as “integrated enforcement.”

³ The issue of environmental enforcement and the state-federal relationship has been discussed in a number of studies:

- In the context of NEPPS: Herb, J. et al. *The National Environmental Performance Partnership System: Making Good on its Promise?* National Academy of Public Administration: Washington, DC. 2000.
- Markell, David L., 2000. “The Role of Deterrence-Based Enforcement in a ‘Reinvented’ State/Federal Relationship: the Divide Between Theory and Reality.” *Harvard Environmental Law Review*. vol 24 no 1.
- Kuehn, Robert R, 1996. “The Limits of Devolving Enforcement of Federal Environmental Laws” *Tulane Law Review* vol 70 no 6.

⁴ A fourth contentious instrumental issue in the area of integrated approaches, and one particularly embroiled in issues of federalism, is *the degree to which audit immunity creates an incentive to comply (or fails to do so)*. Many states have attempted to promulgate policies offering businesses immunity from prosecution and penalties for compliance violations discovered during self-audits, ostensibly to persuade greater implementation of self-audit in the regulated community. That is based on the perception that businesses fail to self-audit because of a fear of audit materials being used against them. EPA leadership, on the other hand, asserts that wholesale protection of audit information would greatly undermine enforcement efforts, and possibly citizens’ ability to sue as well. To that end, EPA policy carefully limits the protection for facilities discovering violations during audits—and requires that those facilities reveal their violations in order to benefit from protection.

Because this study examines only initiatives under the EPA audit policy, rather than conducting a comparative examination of self-disclosures under alternative audit regimes, the issue of audit immunity cannot be addressed. However, see: National Council of State Legislatures, 1999. “State Environmental Audit Laws and Policies: An Evaluation.” NCSL, Environment, Energy and Transportation Program: Washington, DC.

⁵ NEPPS: Herb, J. et al. *The National Environmental Performance Partnership System: Making Good on its Promise?* National Academy of Public Administration: Washington, DC. 2000.

⁶ OECA’s presentation of those activities are in its report *Protecting Your Health and the Environment through Innovative Approaches to Compliance: Highlights from the Past 5 Years* (OECA, January 1999. EPA 300-K-99-001.)

⁷ “Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violations,” *Federal Register*, 22 Dec 1995. vol 60 # 246, pg 66706.

⁸ 60 FR 20621; 26 April 1995

⁹ Herman, Steve. Memorandum: Operating Principles for an Integrated Enforcement and Compliance Assurance Program, 27 Nov 1996

¹⁰ EPA 300-K-99-003

¹¹ Measures of enforcement activity contained in the CPMs have proven controversial to some state environmental agencies, whose management generally adopts the position that enforcement is simply a means to an end (compliance), and thus that under a “true” performance-based management regime, CPMs should not include measures of enforcement activity

¹² OECA, 1999; EPA 300-K-99-001

¹³ Description of compliance assistance centers, OECA website; April 2000.
<http://es.epa.gov/oeca/main/compasst/compcenters.html>

¹⁴ EPA’s Compliance Information Project generated an extensive list of compliance-related literature, and provides summaries of a select group. (US EPA, “Compliance Information Project: Literature Summaries.” EPA 300-R-99-002; April 1999). Cohen provides an extensive review of the theoretical and empirical literature in his chapter “Monitoring and Enforcement of Environmental Policy,” in *International Yearbook of Environmental and Resource Economics*. (Vol III; Tietenberg, T and H Folmer, eds. Edward Elgar Publishers, 1999.)

¹⁵ Strict economic reasoning dictates that such an optimal level of compliance would also vary across firms—firms with high costs of compliance would comply less than firms with low costs of compliance. From the perspective of a regulatory agency, pursuing such a policy would likely be seen as rewarding bad actors, to the detriment of deterrence, .

¹⁶ For summaries of economic perspectives on non-compliance, see:

- Cohen, Mark, 1999. “Monitoring and Enforcement of Environmental Policy.” in *International Yearbook of Environmental and Resource Economics*, Volume III. Tietenberg, T and H Folmer, eds. Edward Elgar publishers.
- Heyes, Anthony, 1998. “Making things stick: enforcement and compliance” in *Oxford Review of Economic Policy* vol 14 no 4, p 50-63.

¹⁷ Institutional or organizational perspectives are typified by the *EPA/CMA Root Cause Analysis Pilot Project—An Industry Survey* (EPA 305 R 99001, 1999).

¹⁸ Heyes (1998) summarizes the “excess compliance” result.

¹⁹ For a summary of current research on voluntary approaches see:

- Stoughton, Mark; Karen Shapiro and Dima Reda, 2000. “Do Voluntary Mechanisms Work? An evaluation of current and future program performance” (a report by Tellus Institute for the Michigan Great Lakes Protection Fund). Tellus Institute, Boston.
- Harrison, Kathryn, 1999. “Talking with the Donkey: Cooperate Approaches to Environmental Protection” in *Journal of Industrial Ecology* vol 2 no 3
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(Note that this literature is largely devoted to efforts to achieve *beyond compliance* actions from economic entities. Some results are specifically applicable to compliance by regulated entities, however.)

²⁰ For example, analysis by Morganstern and Al-Jurf supports claims of efficacy for voluntary programs based on subsidizing information regarding environmental technologies. (Morganstern, RD and S Al-Jurf, 1997 “Do Information Subsidies Accelerate the Diffusion of New Technologies?” Resources for the Future: Washington, DC.)

²¹ Harrison compares compliance in the Canadian and the American pulp and paper sectors. In Canada, non-compliance has typically been addressed by negotiations between the regulatory agency and the regulated entity designed to achieve a schedule for returning to compliance. Punitive enforcement actions were almost never resorted to. Harrison argues that Canada’s approach results in lower compliance rates than does the more adversarial American approach. (Harrison, 1995).

²² Case studies of integrated compliance assurance efforts include:

- Krahn, Peter G., 1998. “Enforcement vs. Voluntary Compliance: An Examination of the Strategic Enforcement Initiatives Implemented by the Pacific and Yukon Regional Office of Environment Canada.” DOE FRAP 1998-3
- Jodi Perras, "Reinventing EPA New England: An EPA Regional Office Tests Innovative Approaches to Environmental Protection," in Learning from Innovations in Environmental Management: Research Papers, National Academy of Public Administration, Washington DC, June 2000.

²³ ORE’s focus is enforcement and compliance incentives, OC’s is compliance monitoring (inspections and development of guidance for inspectors) and coordination of compliance assistance activities. OPPT is responsible for regulatory development and implementation of the rule as that relates to compliance assistance and outreach activities.

²⁴ One of the regions documented the effectiveness of the compliance assistance inspections by returning to real estate offices and property management firms that had been previously visited. The follow-up inspections revealed that the compliance assistance visits markedly improved compliance with the rule.

²⁵ §1018(b)(5) of the Residential Lead-Based Paint Hazard Reduction Act of 1992 specifies that failure or refusal to comply with §1018 or its implementing regulations is a violation of TSCA §409, making violators subject to TSCA §16 penalties, up to \$10,000 per civil violation. Knowing and willful violation, per TSCA §16b, may engender criminal penalties of \$10,000 per violation

²⁶ The minimills are also known as electric arc furnace-based steelmaking facilities, which frequently have more than one electric arc furnace (EAF).

²⁷ Based upon an estimate by an EPA iron and steel expert of approximately 85 minimills nationwide.

²⁸ Hans, M., *et al.* “Environmental Self-Audits and Enforcement in Steel Minimills – An EPA Initiative.” *I&SM: Iron & Steelmaker: A Publication of the Iron & Steel Society*. January 1998.

²⁹ That is, CAA standards for Prevention of Significant Deterioration (PSD), New Source Performance Standards (NSPS), and New Source Review (NSR).

³⁰ US EPA Region 5. “Questions and Answers Regarding EPA’s Mini-Mill Initiative.” From Region 5 website. Last updated June 24, 1998.

³¹ US EPA Region 5 project plan. “Iron and Steel Sector (Electric Arc Furnaces) (Sponsors: George Czerniak and Eric Cohen).” No date.

³² Interviews with Region 5 staff. ³²

- ³³ U.S. EPA Common Sense Initiative. CSI Homepage. <http://www.epa.gov/commonsense/bckgrd.htm> (May 2000).
- ³⁴ Data were not readily available to determine if duplication of inspections occurred in Illinois. In Michigan, the state conducted an inspection of a minimill in late March 1998—very near the end of the initiative’s actual (not planned) inspection period. It is not clear whether the state inspection was duplicative.
- ³⁵ Estimate by one of the project leads.
- ³⁶ US EPA Region 5. “Measures Analysis Report: Minimill Initiative.” No date.
- ³⁷ Based on a follow-up survey of self-auditing minimills, to which six minimills responded.
- ³⁸ No representatives of the Iron & Steel Society agreed to interviews for this report, so we are unable to evaluate the veracity of the latter statement.
- ³⁹ Only six of the facilities that self-audited responded to Region 5’s post-initiative questionnaire for self-auditing facilities.
- ⁴⁰ The remaining self-disclosure awaits resolution while the company responds to an agency request for more information.
- ⁴¹ From graphs provided by EPA staff showing the number and characteristics of self-disclosed violations.
- ⁴² Source for the above figures is a confidential Region 5 document entitled “Mini-Mill Status for Inspections and Cases,” January 25, 2000.
- ⁴³ EPA National Audit Meeting Notes.
- ⁴⁴ This assertion is supported by comments from both an industry representative and EPA staff. The latter heard of such behavior from a consultant who conducts audits. **[[one epa staffer or several staff members??]]**
- ⁴⁵ An industry source suggested that the increase in self-auditing must be understood in the context of growing self-auditing and environmental management systems at the time.
- ⁴⁶ Based upon case conclusion information provided by Tinka Hyde of EPA Region 5. Because estimates were not available for two cases, estimates of pollution reduction amounts are probably low.
- ⁴⁷ EPA. “Summary of Petroleum Refining Sector Strategy,” provided by Mario Jorquera, EPA. No date.
- ⁴⁸ Information provided by Jim Jackson, EPA.
- ⁴⁹ Region 5 Petroleum Refinery Workgroup (Keith, K., *et al.*). “Compliance Investigations & Enforcement of Existing Air Emission Regulations at Region 5 Petroleum Refineries.” Submitted to the National Petroleum Refiners Association Environmental Conference. October 15-17, 1995.
- ⁵⁰ EPA Region 5. Slide entitled, “Region 5 General Stats,” provided by Cynthia Curtis. circa 1998.
- ⁵¹ Data representing overall pollution reduction are not readily available for most of the cases, because case conclusion reports were not required until 1998. In addition, case conclusion outcome data on the Ashland settlement were not available before publication.
- ⁵² EPA OECA. *Final FY 2000/2001 OECA Memorandum of Agreement (MOA) Guidance*. April 1999.
- ⁵³ Jim Jackson, memo to Bruce Buckheit. November 17, 1999.

⁵⁴ <http://es.epa.gov/oeca/ore/enfalert/>

⁵⁵ Officially known as the “Storage Tank Emission Reduction Partnership Program,” the approach was finalized in the April 13, 2000, edition of the *Federal Register*. Pages 19891-7.

⁵⁶ For example, an industry source suggested that OECA uses enforcement alerts to try to address “fair notice” issues related to new interpretations of regulations. OECA management holds, however, that enforcement alerts are intended to emphasize what are already fairly noticed interpretations.

⁵⁷ One interviewee noted that EPA enforcement staff frequently sends weak referrals to DOJ at the end of the year, in order to increase referral numbers for their performance evaluations.

⁵⁸ The Refineries Initiative is an example of an initiative in which MOA commitments were revisited and adjusted to accommodate resource needs.

⁵⁹ Office of Compliance comment in reviewing an earlier draft of this report.

⁶⁰ Some interviews reveal that EPA may have initially underestimated the complexity and diversity of the regulated community in the Universities Initiative, but it appears that EPA is appropriately adapting its strategy to accommodate new information.

⁶¹ One expert interviewed explicitly agreed with this interpretation, stating that EPA is likely to get “more bang for the buck” when auditing is already being practiced by businesses.

⁶² Based upon a survey conducted by Region 5 staff of self-auditing facilities, to which 6 of 11 facilities responded.

⁶³ Harding, Russell. (Director, Michigan DEQ) Letter to Valdus Adamkus, EPA Region 5 Administrator. February 12, 1997.

⁶⁴ Office of Compliance comment in reviewing an earlier draft of this report.