

TESTIMONY OF
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BEFORE THE
HOUSE COMMITTEE ON GOVERNMENT REFORM
SUBCOMMITTEE ON ENERGY POLICY, NATURAL RESOURCES, AND
REGULATORY AFFAIRS
HEARING ON EPA AND STATE ENFORCEMENT OF WATER LAWS
OCTOBER 14, 2003
IPSWICH, MA

Chairman Ose, Congressman Tierney, and members of the Subcommittee:

Thank you for the opportunity to appear before you today. My comments today focus on a critical but sorely under-developed aspect of the environmental protection system – the management of environmental information. I will address specifically information that could be used to increase compliance with environmental laws and motivate facilities to take environmentally protective actions beyond those required by law. Simply stated, we do not make enough use of readily available or affordably obtainable information to find environmental problems, assess their severity, set priorities, gauge the effectiveness of actions taken to address the problems, communicate choices, and motivate environmental improvements. As a result, we miss opportunities to make the environmental protection system more protective, effective, and efficient.

In recent years, there have been promising developments in this area in EPA and several states. They are the exception, however, rather than the rule. That needs to change. EPA and states, with wholehearted and bi-partisan support from Congress, need to make the generation, collection, analysis, and dissemination of environmental and program performance information a priority, providing that information not only at the national or statewide level, but broken down into enough detail that performance variations can be seen. Finding these variations is critical to program improvement,

because they point to successful program interventions worthy of replication, as well as problem areas needing adjustment or increased attention.

The Environmental Compliance Consortium. My statement today reflects insights I have acquired as the director of the Environmental Compliance Consortium, a collaborative effort among state environmental protection agencies to find better ways to measure, manage, and communicate the performance of their environmental protection programs. The Consortium focuses primarily on environmental compliance and enforcement programs because measurement issues have so long plagued this aspect of environmental protection. I share with you today my personal views, not the official views of the Consortium.

The Problem of “Enforcement Beans.” The Environmental Compliance Consortium was started in 1998 to tackle what is often described as the “enforcement beans” problem. EPA and states have long been taken to task, sometimes for good reason, when their enforcement numbers drop. Declining numbers of enforcement actions should indeed trigger concern when they result from falling inspection levels or inadequate responses to violations. Declining enforcement may also indicate the opposite, however, that a program has achieved a high level of compliance.

The “enforcement bean” problem is complicated when agency management or external watchdogs closely monitor enforcement numbers as the primary indicator of program performance. When that is the case, even when enforcement targets are not formally established, agency staff tend to assume they must meet or exceed the previous year’s enforcement levels. This can create a pressure to find enforcement cases just to meet the target, causing cases that might have been handled more appropriately without enforcement to get an enforcement response. An analogy can be made to highway departments that count traffic tickets issued or fines collected as performance indicators. Traffic tickets, we know, can rise at the end of each counting period in the push to meet actual or implied quotas. And at the same time, the drive to reach a target number of tickets can divert resources from other efforts that might advance program objectives,

such as reducing the costs and consequences of accidents, in a more cost-effective manner.

Despite widespread recognition of the limits of “enforcement beans,” they have remained remarkably persistent over the years as a dominant indicator of the performance of environmental regulatory agencies. Why? For one thing, tracking enforcement actions can trigger valuable follow-up questions, when sudden declines occur, to determine whether the decline reflects progress or a problem. When the tracking is done at the regional level, it can reveal variations that may need management attention, especially if they reflect differences in the enforcement proclivities of individual inspectors that create inequities among regulated parties. Also, declining enforcement levels can have a negative signaling effect on the regulated community, prompting some to relax their attention to compliance.

The Need for “More Nutritious Beans.” But the main reason enforcement beans persist is that it is difficult to replace something with nothing. Efforts to determine whether or not drops in enforcement activity suggest a problem have long been impeded by the absence of a complementary or alternative set of indicators that more accurately reflect regulatory performance. When the Compliance Consortium began, neither EPA nor the states could provide compelling data to demonstrate when sliding enforcement levels reflected program progress. In creating the Consortium, states joined together to tackle the “enforcement beans” problem by identifying and developing more accurate and useful indicators for the performance of their compliance and enforcement programs.

In recent years, both states and EPA have identified a number of “more nutritious beans” they can use to provide a much more accurate sense of program progress and problems. These include information about environmental conditions; emissions, releases, and discharges; findings of non-compliance; environmental incidents and accidents; inspection coverage and findings; and data about the practices of both government and the regulated community. We have also honed our understanding of how this information can be analyzed to strengthen an agency’s diagnostic ability, enabling it to pinpoint problems, assess their severity, and gauge the effectiveness of program interventions. Some of these insights are described in an article in the

March/April 2003 issue of the Environmental Law Institute's *Environmental Forum* magazine.

Enhanced Use of Information. Government use of this information to guide program decision-making is still, unfortunately, more a possibility than a common practice. Often, key information is already collected, but not organized, analyzed, or disseminated in a format that makes it easy to use. As a consequence, much of the potential value of the information is never realized.

Nor, in most cases, is it made available in a manner that can be easily interpreted. Its inaccessibility prevents a broader range of people – vendors seeking to sell value-adding products to government and regulated parties, academics, the regulated community, interest groups, and even other parts of the same agency or other government organizations – from applying their diverse perspectives and experience to use the information to improve environmental quality. Information inaccessibility also weakens its ability to motivate improved performance by both the regulators and the regulated.

Part of the problem is that much of the collected information resides in paper files or on antiquated computer systems that do not give up information easily, especially in the sort of flexible formats that support diagnostic analysis. Another part of the problem is that, with a few noteworthy exceptions, environmental agency managers have not made information management – its collection, analysis, and dissemination – a strategic priority. Nor has the potential power of information caught the interest of many elected officials, either in the executive or legislative branch. Yet the revolution in information technology calls for a complementary revolution in the way environmental agencies use their information. What was once an intriguing idea that proved too costly to implement now presents itself as a way to achieve, simultaneously, more protective, effective, and efficient environmental programs.

Noteworthy Developments. Some noteworthy developments have occurred over the past few years, in states and some parts of EPA, that suggest the enormous potential of better information management in the compliance and enforcement area. Pennsylvania paved the way, in 1997, when it posted all of its inspection data on-line. EPA

subsequently created ECHO. ECHO not only posts environmental compliance history on the web, it also makes it easy to get answers to several commonly asked questions about the data. Illinois, one of the first states to sign a Performance Partnership Agreement with EPA, issued its first environmental self-assessment in 1996. The report has been issued annually since then, and now includes maps that begin to show the relationship between environmental conditions and program requirements. One set of maps, for example, lets the reader see how compliance levels in the wastewater program might be linked to ambient water conditions and the quality of drinking water from wells. Connecticut also issues annual reports, reporting environmental and compliance trends to the public and describing action taken to try to improve them. Delaware now allows interested parties to register, on-line or in a low-tech manner, to be alerted immediately after potentially harmful environmental releases (in excess of permit allowances) occur. Oklahoma has made great progress analyzing and managing its complaints.

I want to draw your attention to three especially promising developments in EPA and the states that illustrate the power of an information-rich approach to environmental decision-making:

- the Clean Charles 2005 initiative,
- the way New Jersey is reaping enormous gains from an integrated data management system, and
- a pilot performance analysis focusing on the National Pollution Discharge Elimination System program carried out by EPA's Office of Enforcement and Compliance Assurance.

Clean Charles 2005 initiative.

In 1995, following a series of enforcement actions involving facilities discharging into the Charles River in Boston, the New England office of EPA decided to break from its case-by-case approach to compliance assurance and shift its attention to improving the river's water quality. In making this shift, the agency did not pull back from its enforcement and compliance assurance responsibilities; instead, it discovered how intensive use of information helped it improve the environment in a far more protective, effective, and efficient way. With this outcome-focused approach, EPA aggressively

used enforcement when needed, but it also made extensive use of other tools that would never show up in enforcement bean counts – including the threat of enforcement actions, compliance assistance, consultants, memoranda of agreement, convening meetings to encourage learning and brainstorming among peers, and publicity.

EPA set a goal that the Lower Charles River would be swimmable within 10 years. To achieve that goal, EPA realized it needed to know how clean the water already was. EPA did not itself, however, gather water quality data. The state, as part of its watershed planning program, monitored the river's water quality every five years. This information was helpful, but not as "actionable" as EPA needed to meet its ambitious goal. EPA found other data it needed on-line, produced by the Charles River Watershed Association (CRWA.) The watershed association had been knocking on agency doors for years to raise money for monitoring efforts and had finally secured enough funding from EPA, the state, the local treatment works, and its own membership to collect water quality data for 37 points along the eighty-mile stretch of the river every month. It began gathering the data in early 1995, and posted what it gathered on-line soon after its collection.

EPA studied the watershed association's data as soon as it came out each month. The geographic frequency of the data greatly facilitated the agency's search for problems. When a downstream monitor showed a worse reading than the one upstream and it could not be explained by a permitted discharge between the two, it narrowed EPA's search for water quality problems to the area between the two monitors. EPA or the local jurisdiction could then "walk the pipes" to find the cause of the unexplained poor water quality reading.

Soon after it began using this approach, EPA found several illegal hook-ups to the storm sewer system and "grease-balls" clogging the juncture between the storm and wastewater system. Both problems were routing untreated wastewater flows directly to the river. After it found several illegal hook-ups, suggesting a pattern, EPA called on riverside cities and towns to lift storm drain caps on dry days to look for water flows.

The results of this information-intensive approach are telling: in 1995, when the Charles River goal was established, the river was swimmable 19 percent of the time. Five years later, it was swimmable 65 percent of the time. It is estimated that eliminating

illegal hook-ups and juncture blockages cut a million gallons of raw sewage flowing into the river every day.

Had EPA followed its more typical approach to compliance assurance, it would never have found these problems. Typically, EPA and state agencies send their inspectors out to permitted facilities to look for non-compliance problems; few look for those who should hold permits but neglected to obtain them. They are harder-to-find, although probably more egregious violators. By studying geographically and temporally frequent environmental data, EPA found un-permitted violators and it improved water quality.

The ability to look at data each month also allowed EPA to determine if actions it had taken to address the problems it was finding actually increased water quality. When it did, EPA could quickly encourage replication of effective interventions.

Focusing on water quality rather than enforcement levels freed EPA to employ a much broader range of tools to deal with the problems it encountered, without giving preference to one tool over another. The availability of a compelling and credible performance indicator lessened concern about changes in enforcement levels. This freed EPA to match its choice of response tools to the situation at hand. In 1998, EPA sent letters to 200 facilities notifying them that they had been identified as likely sources of pollution (often leaking underground oil tanks and faulty storm drains.) EPA gave them two months to fix the problems. During that two-month period, EPA and the state offered to help the polluters understand how to fix their problems, no questions asked. After that, however, if the problems were not fixed, the sources could expect a visit from inspectors and lawyers. EPA's notification received headline coverage in the paper. Seeing the story, several consultants called EPA and requested the list. EPA was initially reluctant to provide it, but changed its mind. It realized that its small inspection effort had successfully leveraged private sector assistance to promote compliance and environmental gains.

The Clean Charles 2005 initiative is unquestionably a model worthy of replication. It relies on a clearly established and ambitious environmental performance goal, and combines it with credible, fresh, and frequent measurement of progress toward the goal. Also, it regularly reports to the public on its progress, as well as the actions it

has taken or intends to try. This information-rich approach allows EPA to integrate enforcement fully with other compliance enhancing tools. Yet despite a watershed grant initiative launched by former EPA Administrator Whitman, few in EPA or the states have applied the lessons of the Charles in other areas.

Let me make two final observations about the Clean Charles 2005 initiative. First, great gains were realized using water quality data collected by volunteers. These volunteers were trained to follow quality-control procedures, but they were not professionals. Still, the data they gathered provided enormously valuable insights. Information need not be perfect to be useful. Even imperfect measurements can reveal informative performance variations. Former Postmaster General Marvin Runyon recalls when he set up his performance measurement system at the USPS, "My folks said, 'It won't be accurate. There could be a forty percent error rate.' I said, 'That's fine. It will at least show me where there is a really bad problem, and we can go to work on that.'"

Second, despite early gains resulting from the identification and correction of previously unknown problems, progress on the Charles has leveled off over the last three years. Interestingly, this has not created a political problem, even among the activists most vocal about cleaning up the Charles. EPA's continued and visible commitment to the goal partially explains public acceptance of the slowed rate of progress. The region has also taken an exceptionally transparent approach to its management of the initiative, producing and broadcasting not only an annual grade for the river but also lessons about experiments tried and whether or not they worked, as well as plans for the next steps to be taken. This transparency not only informs the public, it engages their assistance and enlists their expertise.

New Jersey Environmental Management System.

In 1995, the head of the New Jersey Department of Environmental Protection (DEP), Robert Shinn, recognized the need to catch up with the information revolution. He made a strategic decision: information would be central to the way the agency did business. The state, with support from the regulated community, invested in an overhaul of the department's information system. It invested in a database that integrates nearly all the information the department collects. The New Jersey system links data about

facilities, permits, monitoring records, inspections, violations, enforcement actions, and remediation efforts. It accepts permit applications and monitoring data over the web. Data can be viewed spatially through GIS, together with ambient data for air and water.

The ready availability of information is enabling New Jersey to make changes it has long wanted to make. Prior to system integration, the department couldn't determine how facilities and permitted activities affected a watershed or the areas of greatest noncompliance without querying a dozen databases. When it finally arrived at an answer, it didn't trust it.

Today, New Jersey can generate reports on its most common violations and violators. It can calculate compliance rates and inspection rates for every one of its programs, and for individual sectors in its programs. It is looking at inspection and compliance trends. It has used this analysis to identify sectors needing more attention. It is also looking at whether compliance and inspection rates vary by communities, to determine if it has unintended environmental justice problems. As Sherry Driber, the department's information manager says, "Until now we relied on limited data and instincts to tell us where these problems were. Now we will have the data to confirm or refute these instincts as well as pinpoint new areas of concern and focus our resources accordingly." Driber also notes that "the change achieved a major management goal of having staff develop a greater sense of responsibility for, and control over, the outcome of their inspections."

The *Environmental Forum* article referenced above includes more detailed information about the New Jersey system. Much of the description provided here draws on the section of that article written by Sherry Driber, the department's information manager.

EPA, Performance Analysis, and the Watch List.

Finally, I want to touch briefly on EPA's efforts to generate a watch list and, more generally, its February 2003 pilot performance analysis. This is terrific. It is a giant step in the right direction. Hopefully, it is the first of many steps toward an increasing role EPA will begin to play analyzing state data and returning it to the states and the public with value-adding information.

On June 6, 2003 the Washington Post ran a front page article “EPA: Few Fined for Polluting Water.” The article was based on a February 2003 EPA analysis of the performance of large wastewater treatment operators. In addition, J.P. Suarez, the current Assistant Administrator of OECA, has announced his intent to create a “watch list.” It is my understanding that this list will identify both recalcitrant violators and the regions and states with the highest number and percentages of those violators. If I am not mistaken, the “watch list” is part of Suarez’s overall “smart enforcement” strategy, as is the pilot performance analysis.

EPA deserves great commendation for its pilot performance analysis. It is just the kind of analysis EPA should be doing – gathering national, regional, and state data, then slicing and dicing it to find stories the data tell. EPA is using these data to trigger useful follow-up questions, look for patterns, and hopefully, identify effective intervention strategies. It is also using them to motivate performance improvements from those on the “watch list.” These analyses build on other analyses OECA has conducted over the past several years, including companion efforts to develop better compliance and enforcement performance metrics.

Unfortunately, to date, OECA has produced these analyses for internal use only. Limiting distribution of the analyses creates huge opportunity losses. It limits its value, because few who might benefit from the analyses can get a copy of it. It limits its usefulness because it prevents others – from elsewhere in EPA, in the states, in the regulated community, and in the public – from adding their own insights, expertise, and experience. And keeping the analyses internal prevents OECA from learning from external critiques, to help it improve subsequent iterations.

I can appreciate EPA’s reluctance to make the analyses public. Problems will undoubtedly arise when the data are first released. Errors will inevitably be found that unfairly embarrass those cited for poor performance – whether regulated parties or the regulators. Even more likely, significant differences in the way regions and states define certain terms and enter data into the systems EPA taps for its underlying data may cause inaccurate findings. States cited this problem when several citizen groups issued reports ranking state performance using data in EPA databases. Moreover, opinions will vary about the appropriate criteria for good performance.

None of these problems are likely to be fixed, however, without routine (at least annual) public dissemination of the analyses. Making the analyses public is likely to speed data corrections and analytic improvements. Early public versions can clearly be released as drafts, explicitly inviting corrections and suggestions and cautioning the media about probable errors. EPA has followed this model in the past.

For ideas about how to move forward, EPA might look to the Federal Highway Administration (FHWA) and the National Highway Traffic Safety Administration (NHTSA) and the successful way they have long handled state data. Building on road surveys begun in the first half of the twentieth century, the FHWA began publishing an annual compendium of *Highway Statistics* in 1945, providing detailed information for each state about the ownership and use of motor vehicles; receipts, expenditures, and road funding mechanisms; and the extent, characteristics, and performance of public highways and local roads. To facilitate more accurate comparisons across states, the FHWA includes in the annual *Highway Statistics* report a section entitled "Selected Measures for Identifying Peer States."

FHWA also works with the states to build computerized management systems that help states harvest the content of their performance measurement databases to serve state and federal planning needs. Pavement management systems, dating back to the 60's, help states evaluate alternative investment strategies for specific projects, rank projects for funding based on road conditions, schedule preventive maintenance work, and determine project replacement requirements. In the late 1970's and early 1980's, with funding from FHWA, Texas contracted with a vendor to develop a more sophisticated road management system to help it manage its roads. The system is now used in many other states and the successor software is owned by the American Association of State Highway and Transportation Officials. In 1991, FHWA funded a demonstration project for a bridge management system to serve the states.

FHWA plays a role few others could play standardizing data reporting elements, collecting performance information from all the states, organizing the information for easy access by other states, analyzing it in ways that add value beyond what an individual state might learn studying its own experience, and supporting collective state ventures to

enhance state analyses of the information. FHWA has built an information-rich partnership with the states designed to drive continual performance improvement.

NHTSA has built a similarly robust system to improve traffic safety. NHTSA gathers information from every state from police crash reports, coroner's reports, registration data, and other relevant sources to create a complete national database on highway fatalities. To identify effective government interventions, NHTSA studies state-to-state variations in programs and performance. It can, for example, identify states that have the highest percentage of fatalities from drivers running off the road and those with a high rate of fatal accidents from right-angle crashes. Based on the evidence it gathers, NHTSA identifies the strategies most likely to reduce fatalities and injuries, and can also fund and test the effectiveness of new strategies. It routinely and aggressively shares its knowledge with the states. For example, when several states adopted seat belt laws in the early 1980's, it allowed NHTSA to track how those laws affected fatalities. Its analysis revealed that state laws that allowed police to pull people over to check seat belt use resulted in higher seat belt usage and lower fatality rates than those that only allowed police to check for seat belt use when they stopped drivers for other reasons.

Both FHWA and NHTSA have established themselves as expert resources for state and local governments. They collect and disseminate written materials on state practices and progress. They identify more effective practices worthy of replication. Compilation of state information in an easy-to-find and easy-to-use format; analysis tailored to meet the needs of specific audiences – especially the states and others whose actions directly affect the rate of progress; problem and success identification; aggressive packaging and dissemination of raw information, analyses, and materials supporting programs demonstrated to be effective characterize the FHWA's and NHTSA's successful work with the states.

These examples illustrate how EPA and states can harvest greater value from information they already collect or can affordably obtain. Examples such as these are still far too rare. That needs to change. Both EPA and states need to strengthen their skills in using and communicating information about environmental and compliance

conditions. An emphasis on information can no longer be peripheral to the work of the agencies. It needs to be central.

Also, EPA is uniquely positioned to enhance the value of the information states collect. It can do this by continuing the important work it has already started with the states to standardize data definitions, then monitor and assure state adherence to the standards. EPA is also uniquely well-suited to gather and organize information states collect, to make it easier for states and others to study. EPA should also carry out its own examination of the data to identify problems needing attention and successes deserving replication. Further, it should share its analyses broadly, so others can use it to make better decisions. Congress should encourage EPA to carry out these information-enhancing tasks with adequate funding.

Finally, I would like to add two cautionary notes. First, information does not need to be perfect to be useful. Congress and others should not insist on perfection in EPA's handling of information. If Congress, the regulated community, the media, or others lambast EPA and state environmental agencies for imperfect analyses or some data inaccuracies, especially in their early efforts, it threatens to quash promising developments. Second, over the last decade, numerous bi-partisan groups have called on EPA to adopt a performance-focused, information-driven environmental protection system. An effective information-driven system, however, depends on the availability of information; efforts to reduce regulatory reporting are seriously counter-productive to this way of doing business. They should be resisted.

I thank you for this opportunity to share my views with you, and hope you will strongly encourage EPA and the states to make more skillful use of their environmental and compliance information.