By Linda K. Breggin

Embracing Technology

Information and data gathering technologies are front and center for many states as they seek to update and improve their environmental programs. Nowhere is this more evident than in the E-Enterprise for the Environment initiative. The collaboration between the Environmental Council of the States and the federal Environmental Protection Agency seeks to modernize environmental programs in part through adoption of advanced information and monitoring technologies.

Information technologies include advanced data sharing among states and EPA and mobile computing capabilities. Monitoring technologies include those that will increase the sources and amount of data, such as cell phones that serve as miniature monitoring stations, real-time streaming of water-quality data, and cameras that can detect otherwise invisible toxic emissions.

These technologies can play a role in many facets of state environment programs and may benefit states, EPA, and the public. For example, information and data gathering advances can facilitate understanding of ambient conditions, resource allocation, program effectiveness , compliance and enforcement activities, and communication with the public. All this is in addition to providing increased opportunities to reduce industry's reporting burdens.

Thomas Burack, commissioner of the New Hampshire Department of Environmental Services and former president of ECOS, explains that the use of new technologies coupled with new programmatic approaches marks a "paradigm shift." According to Burack, "Human creativity and innovation is really the limit — we have only begun to tap what is possible — but it starts with working together as co-regulators and moving beyond traditional approaches."

E-Enterprise comprises not only new projects, but also serves as an umbrella for ongoing technology-related efforts. A principal new project is a portal that will enable regulated entities to register online to receive tailored information about regulations and compliance status, apply for permits, seek compliance assistance, and report emissions.

The portal will improve transparency and public access to information and enable citizens to provide regulators with environmental data gathered though smart phones and other means. The portal also will enable states and EPA to share information more easily.

Another new project focuses on developing a field collection, evidence management, and reporting system for compliance inspections. In addition, the current Safe Drinking Water Information System, which contains information about public water system drinking water violations, would be replaced with a new system that would foster electronic data exchange among states and EPA.

Several technology-based initiatives already underway will affect state environmental programs. They include proposed regulations that would require electronic reporting under the Clean Water Act's National Pollutant Discharge Elimination System program, hazardous waste shipment e-manifests, and the Cross-Media Electronic Reporting Regulation that sets standards for state systems that receive electronic reports.

The initiatives will generate large amounts of data and represent a major change in the way data are collected. Alexandra Dunn, executive director of the Association of Clean Water Administrators, recognizes the opportunities for efficiency and transparency gains. She notes, however, under the proposed NPDES reporting rule, information will be placed in a common database that states and EPA can access and this may require "a renaissance of cooperative federalism" to delineate respective responsibilities and ensure that state delegation is not "watered down."

Recent programs reflect a direction states have been moving in for years. For example, in 2011, Massachusetts announced its Information Technology Transformation Initiative, which seeks to provide a model for the use of technology in environmental protection. And, a decade ago, the National Association of Clean Air Agencies and the International Council for Local Environmental Initiatives developed software that states use to assess the benefits of pollution control scenarios for greenhouse gases. NACAA Executive Director Bill Becker explains, "The more data the smarter the decisions" that can be made.

In fact, many states are in the technology game. ACWA reports that its recent survey indicates "many states are applying the benefits of technology to bring water programs into the 21st century and are piloting innovative tools in clean water protection." A key factor motivating states is the need to use limited resources effectively in times of fiscal constraint. More than half of the states that responded utilized technology in the inspection and permit application processes and to communicate with the public. Technologies used ranged from field computers to automated notices of permit limitations.

Although initiatives are still a work in progress, it appears that states are entering a new era

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