
INFORMATION SYSTEMS TO SUPPORT COMPLIANCE AND ENFORCEMENT

GALLOWAY, CAROL R.

Chief, Data Management Branch (2222A), Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, 401 M Street S.W., Washington, D.C. 20460, USA

SUMMARY

A general overview of the types of information and information systems that support the United States' compliance assurance and enforcement programs at the national, regional and state levels including the need for national information and national systems, typical data, evolution of enforcement systems and public access to the data.

1 REGULATORY ENFORCEMENT FRAMEWORK IN THE UNITED STATES

Environmental protection is implemented through three major groups in the United States. These groups are the States, the Environmental Protection Agency's (EPA) ten Regional offices, and the Headquarters office of the EPA. In most environmental programs, EPA's Headquarters office sets national goals and objectives, and establishes policies and general performance expectations. Headquarters offices are also often closely involved with the formulation of new environmental bills by Congress. EPA is responsible for national compliance monitoring and enforcement of environmental laws and for communicating information about these programs to the public.

The majority of Federal environmental statutes are eventually delegated to the States for implementation. In these cases, individual state environmental agencies implement the enforcement program (i.e., conduct inspections, monitor compliance and take enforcement actions). States may also implement additional state-specific statutes and may be more stringent than the Federal statutes and regulations. States are often subdivided into regions or districts within a State, and these districts are sometimes semiautonomous units that implement enforcement programs in their geographic area.

EPA Regions oversee implementation by the States and attempt to ensure consistency among States. Where States have not yet been delegated an environmental program (e.g., a State may have approval to implement the wastewater enforcement program but not the sludge control portion), the federal EPA through one of its ten Regions will implement the program directly. Thus, both the State and EPA may be implementing separate parts of a program at the same facilities. The Regions negotiate with the States to set performance targets for key activities such as inspections and enforcement response.

2 THE IMPORTANCE OF INFORMATION

Information is critical to the work of all three groups; EPA Headquarters, EPA Regions and States. The types of information required by each group however, do vary to some degree. In general, the States (and EPA Regions where they implement programs) will require the

most detailed information, including a variety of data on individual regulated facilities. The Regions will require less detail and more summarized information useful to their role in oversight and performance evaluation. This summarized information might include numbers of inspections conducted, numbers of administrative orders issues etc. EPA headquarters relies heavily on summarized information, however, it too uses facility-specific information as will be described below.

2.1 Basic types of information

2.1.1 Inventory

Information on the number, size, location, and character (i.e., an inventory) of the regulated universe of facilities is critical to understanding which facilities are subject to specific laws and regulations. It is important to keep the inventory up to date as facilities shut down, start up, move, change ownership or type of operations. It is often useful to compare and contrast different types of regulated facilities. For example, operators of small printing shops may be characterized by limited resources and educations and may require special outreach to foster understanding of environmental requirements. While large printing businesses may more typically have specific staff trained to follow environmental issues and requirements.

2.1.2 Location

It is vital that the regulators know specifically where facilities are located. This information is used not only to enable the regulators to visit the site, but to understand the possible impact the facility may have on nearby populations or surrounding ecosystems. Locational information is needed when selecting sites for inspections, and for targeting outreach and education efforts to support geographic initiatives. The State may target a specific watershed for priority action, and it is necessary to understand which facilities are located within or contribute to that watershed. Thus, it is useful to know not only where the “front door” is located, but also where the emission points are (e.g., air stacks, wastewater outfall pipes). Many of EPA’s data systems contain several sets of locational information including the mailing address, the plant addresses and the location of the emission points.

2.1.3 Compliance and enforcement history

Information on facilities’ compliance histories is critical in targeting “bad actors” and to minimize potential risk. Information on violations also facilitates deciding on an appropriate and consistent enforcement response. States and EPA must maintain accurate and up to date records on enforcement actions taken against a facility so that the regulator can ensure proper escalation of actions if the violations are not corrected in a timely fashion. It is also important to know what actions have historically been taken at a facility to anticipate what level of action may be appropriate to respond to subsequent violations.

2.2 Importance of automated information

It is possible to implement compliance and enforcement programs using non-automated methods using paper copies and careful filing. However, automating the key information described above provides ease of access, quicker response and flexibility in analyses. Even a small State program may have thousands of regulated facilities so finding and compiling even simple requests for information can take a significant amount of staff time. Aside from the physical limitations of working with paper copies, automating compliance and enforcement

information allows the analyst to compile, compare and to correlate large amounts of data. For example, automated programs can be created to generate inspection targets based on a complex set of conditions including size, types of pollutants, compliance history, and geographic location. Data can be sorted by industry category, by emissions, by proximity to sensitive ecosystems, etc. Tables 1, 2 and 3 illustrate the types of complex reports which can be produced using automated data systems. Table 1 shows compliance by media program, numbers of enforcement actions, and numbers of facilities by Region and by industry type. Table 2 shows a breakdown of populations served by different sources of drinking water. Table 3 illustrates the multi-media picture for facilities showing whether the facility is a “significant violator” under any media programs.

2.3 Typical reports

Automated systems allow compliance and enforcement managers to generate periodic reports useful in managing their resources. Included are sample printouts of reports from some of EPA's major compliance and enforcement data systems to illustrate typical reports which are generated. Table 4 shows the usefulness of maintaining inventory data. It identifies which wastes are produced, quantities, who exports, transports and who receives wastes. Table 5 shows a typical inspection report showing the facilities which have received inspections, when the facility was inspected, the type and who (State/EPA) conducted the inspection. Table 6 is a typical enforcement action report showing that status of active civil judicial actions, that is, where the case is in the judicial process. Finally, Table 7 shows a multimedia picture of a facility indicating types of violations, inspections and enforcement actions.

3 KEY DATA TYPES COMMON TO ENFORCEMENT SYSTEMS

Much of the compliance and enforcement information found in State and EPA's systems is similar and falls into the following types:

- facility descriptors;
- compliance monitoring data;
- types of enforcement and other action;
- results of actions on compliance; and
- environmental results of actions.

3.1 Facility descriptors

Nearly all of EPA's compliance and enforcement databases are “facility oriented”. The major exception is the Enforcement “Docket” system which is “enforcement case oriented”. Of the facility oriented systems, some or all of the following information is usually found in each database.

- facility name;
- physical location (street, city, county, State, zip code);
- mailing address (street, city, county, State, zip code);
- latitude and longitude of physical address (including method, scale, and code of accuracy);

- watershed (hydrologic unit code);
- permit or other identifying number;
- Standard Industrial Category (e.g., petroleum refining, animal feedlot etc.);
- name, phone number of plant operator;
- name and address of owner;
- type of facility (varies by program e.g., major/minor, direct/indirect discharger, private/public water supply, etc.);
- status code (active/inactive); and
- unique facility-specific information (e.g., seasonal facility).

3.2 Compliance monitoring data

Compliance monitoring data includes inspection data and where applicable self reporting data. These data elements may include the following types of data:

- type of inspection conducted (e.g., sampling, records review);
- date of inspection;
- responsible organization (State, EPA or joint inspection);
- date inspection report is submitted;
- result of the inspection (violations found);
- date self monitoring report received;
- parametric data from self monitoring; and
- violations detected based on self monitoring data.

3.3 Types of enforcement and other actions

Enforcement action data describes the nature of the response to violations detected. EPA's databases vary in their capability to link specific violations to corresponding enforcement actions. Some systems do not have any linkage so it is impossible to verify which violations were addressed by an enforcement action, and often whether the noncompliance was resolved. The following data is typical in describing enforcement actions:

- enforcement action proposed (e.g., proposed administrative order);
- enforcement action issued (e.g., warning letter issued, judicial referral, administrative order issued);
- date of enforcement action;
- responsible organization (State, EPA);
- proposed penalty amount (\$);
- final penalty amount (\$);
- date administrative hearing requested;
- date appeal filed; and
- date action concluded.

3.4 Results of actions

Enforcement actions often include schedules the violator must follow to return to compliance. These schedule milestones are also included in the databases. In addition, there may be other conditions or supplemental environmental projects that are included in the conditions associated with an enforcement action. These may include restoration activities to cleanup damage to the environment, research activities relevant to the environmental problems at the site (e.g., research into biological affects of a pollutant spill or discharge), or compliance promotion activities such as development of advertisements to educate the regulated community and/or the public on the importance of compliance with environmental laws. The data associated with these types of activities varies widely and may include:

- schedule requirements and milestone dates (e.g., when phases of construction are to be completed, when status reports are required); and
- supplemental environmental projects (type and monetary value).

Recently, EPA has developed “measures of success” to monitor the environmental results of our enforcement actions. The data associated with these measures includes:

- type of injunctive relief required and value (\$);
- amount of pollution prevented through the action;
- compliance promotion activities; and
- impacts (e.g., reduced worker/population exposure).

4 EVOLUTION OF DATABASES TO SUPPORT ENFORCEMENT

Most of EPA's major databases were developed as national environmental programs were first being implemented in the late 1970s and 1980s. These databases were developed by EPA headquarters but with regional and state implementers in mind. The systems were developed to fulfill information needs at all three levels; national, regional and state.

EPA chose to design systems to meet all needs for several reasons. First, in the beginning of most environmental programs, EPA regions were the only implementers. Programs were delegated to States only after the States met certain standards and were approved by EPA. Thus, EPA needed these systems to operate the programs themselves. Second, designers believed that if the implementers used the systems, this would provide an incentive to keep the data accurate and timely. This approach resulted in highly complex, large, varied systems. To the credit of the system designers, while very complex, many of the systems actually fulfill most of the needs at these three levels. Unfortunately, other systems found that state variability made it impossible to have one system that would meet all states' needs as well as those of EPA headquarters and regions, and these systems are undergoing major redesign.

There is currently considerable debate over the role of national information systems especially in light of movements to reduce budgets, and to relax federal oversight of state programs. Some believe that EPA should not have access to state data and have built two level databases in which only core data is uploaded from the state systems to the national system. Clearly, this is a complicated issue, and one can argue that it is more efficient to have national systems than to have each state develop its own. In addition, federal oversight must rely on information to

ensure the effectiveness of state programs which argues for the availability of more, rather than less information. Depending on the outcome of these philosophical debates, the databases may need significant revision and redesign to reflect the chosen approach.

Enforcement databases were designed to support media-specific enforcement programs (e.g., wastewater, drinking water, hazardous waste). Since these were designed at different times, by different offices, they are not compatible in terms of hardware, software, design, data standards, or definitions. The evolution of media databases has made integrating data extremely difficult (as discussed below). EPA recognizes that significant improvements should be made to many of the major databases to facilitate integration, and to make better use of modern technologies. Unfortunately, EPA's regulatory framework and organization by media makes significant, Agency-wide improvements extremely difficult to achieve. Within media-specific systems, however, there is evolution and constant improvements to the data systems.

4.1 Flagging noncompliance

Many of EPA's compliance databases record that a violation was detected, but do not record the supporting data explaining the nature of the violation. While this approach is effective in identifying facilities needing action, it does not facilitate tracking trends in violations. This trend information can be valuable in designing compliance assistance activities and in designing a flexible enforcement response plan.

In some systems, once a facility is flagged in the system as being in noncompliance, a facility remains in this status indefinitely, even if the violations are resolved. This may be caused by the lack of a linkage between violations and enforcement actions. If facilities remain identified as violators for long periods of time, the usefulness of the information to target actions and to monitor compliance rates diminish significantly.

4.2 Detecting noncompliance

Some systems are able to track underlying compliance data and identify noncompliance determinations. In these systems it is relatively easy to designate violating facilities based on the data in the system and to record a return to compliance as well. The linkage between the underlying data and the status of the facility (in compliance or in violation) makes the system effective in generating periodic lists of enforcement targets and in monitoring compliance trends over time.

4.3 Facility linkages, multi-media

EPA has discovered that the independent development of individual, media-specific information systems has led to great difficulty in linking information among systems for an individual facility. Many facilities (although a minority overall) are multi-media, meaning that they are regulated under more than one program. Information on these multi-media facilities is therefore found in more than one database. In many cases the name of a given facility varies from system to system along with address and other key information. The Agency has devoted significant resources to linking facilities and assigning key identifier numbers, but this effort has not been completely successful and linkages remain incomplete.

EPA has shifted much of its enforcement focus from a media-specific orientation to a multi-media and industry sector approach. Under this enforcement approach EPA must generate a full compliance picture at specific facilities or groups of facilities. This information is used to

generate multi-media risk and trend information for national targeting of compliance and enforcement actions. As a result of these shifts in enforcement, there is even greater pressure to accurately link data among the systems.

The issue of facility linkages has been raised to the highest levels of the Agency and was chosen as the most significant Agency information resources management issue for 1995 and beyond. An Agency-wide effort has begun to redesign the way facilities report information to EPA with an eye to providing one key identifier number to each facility. In the short term, EPA is attempting to use all available linking mechanisms to facilitate generation of multi-media compliance information.

4.4 Technology shifts

Many of EPA's compliance databases were developed in the 1980s and were built using the software and hardware technologies then available and supported at EPA. In the intervening years, significant changes have clearly occurred in software and hardware. Both lack of funds to keep data systems current and the inertia involved in changing databases used by hundreds of EPA and State users acted to slow modernization of many systems. As a result, several key enforcement databases including the Enforcement Docket, the Permit Compliance System, the Resource Conservation Recovery Act (hazardous waste) Information System and the Air Facility Subsystem have not been modernized in recent years. These systems are all currently maintained on the Agency's mainframe computer.

These mainframe systems are relatively difficult to access when compared to the desktop personal computer. And, the software on the mainframe is non-intuitive making it more difficult to use. The software often requires the user to understand some programming and a great number of codes. The latest user-friendly features we are coming to expect on the desk top such as windows, help functions, and graphical user interfaces are not available on these mainframe applications. The EPA is moving toward non-mainframe, client server technologies and many system managers are currently examining the feasibility of this approach. The challenge is to use the power and capabilities of the PC while still operating an effective system on an appropriate server. Unfortunately, lack of funds is slowing this modernization process.

5 HOW INFORMATION IS REQUIRED AND ENTERED INTO DATABASES

Reporting to the national databases comes from both the regulated entities and from the EPA and/or State regulators. Information submitted by the regulated facilities is required through separate legislation e.g., Clean Water Act, Clean Air Act. These statutes require either national reporting requirements or reporting through individual or group permits under the statutes. The information submitted by the facilities includes information about the facility, such as location, name of plant operator, industrial classification (SIC), numbers and locations of pollutant discharge points. These types of information are usually submitted initially in a permit application and updated only if facility conditions change over time. This information is usually submitted in written form to the EPA or State and entered into the databases manually.

In some programs, periodic reports are required from facilities. These may be status updates or progress reports on predetermined schedules. The State or EPA will record and enter into the database the date the reports were received to monitor and record any late submittals.

5.1 Self monitoring data

In addition to information about the facility, facilities may be required to submit information on actual discharges. Where statutes and/or permits require self monitoring and reporting of discharge information, this compliance information is submitted on a periodic basis e.g., annual to monthly reports may be required. Where compliance data is self generated and reported, compliance monitoring can be done off-site. Where the regulatory agency receives self monitoring data, the EPA or State enters the data into a database and compliance is calculated automatically.

5.2 Inspection data

Self reporting of compliance data is not required under many EPA programs and compliance monitoring is done solely through inspections by the regulators. In addition, inspections are conducted to supplement and verify self monitoring data. Information about the inspection such as when it was conducted, the type of inspection (records review, sampling etc.), and the results of the inspection are generated by the inspector and are eventually entered into the national database.

5.3 Technology shifts in data entry

While the majority of data from facilities is still entered manually by EPA or State staff, EPA is moving quickly to use more cost effective approaches. Other technologies are being employed to save resources and time, and to increase data quality. These techniques include use of optical character readers which scan documents and automatically upload the data into an electronic file which can be uploaded to a database. This technique requires the use of standardized forms and typed submittals.

Another major improvement in data entry is electronic data interchange. This technique allows the facility to directly transfer data electronically from their computer to the national database. Many States currently achieve electronic transfer through the use of computer disks which they often send to the facility preformatted to receive specific, required information and which are then mailed back to the State for uploading to State databases. EPA is developing standard formats, security procedures and establishing the infrastructure to handle electronic submittal of large amounts of data into national systems. After the initial configuration and mapping are established at a facility, this approach will greatly reduce the resources needed by the facility to generate the required paper reports and significantly reduce the resources needed by EPA and/or State to enter the data by hand.

6 MAINTENANCE AND ENHANCEMENT OF SYSTEMS

Many of EPA's compliance systems have hundreds or even thousands of users at the States and in EPA's Regional offices. With user communities of this size and users who have different needs and desires, EPA 's systems must establish and use formal processes for making changes to the databases. These "change management" processes involve both State and EPA users and management in nominating desired changes and then voting on the final changes.

6.1 Role of user communities

Most of EPA's compliance and enforcement systems were developed to support both State and EPA users across the country. In the case of the Permit Compliance System for example, the user universe is about 1,000 strong and located in all States across the country.

6.2 Enhancement, change processes

The extent of user involvement in the decision-making process varies among systems and in most cases, EPA program and system managers hold effective if not official veto powers. In most cases, program managers divide the funds available for system enhancements into “required” changes and “user specified” changes. The “required” changes may include enhancements to incorporate new regulatory requirements (e.g., to include sludge facilities in the water program database) or Agency required data elements (e.g., facility latitude and longitude were mandated by the Agency for all systems.) There may also be required changes to enable the system to operate more efficiently or to fix software problems (e.g., to allow dates after the year 1999).

User specified changes are those actually suggested by the State or EPA users to make the system more usable, or to provide codes or functionality to support user-specific conditions or initiatives (e.g., to allow users to distinguish facilities targeted in a compliance outreach activity). These changes are usually nominated, described and discussed in user conference calls or meetings and then voted on by the user community with the most widely supported changes enacted within budget constraints.

6.3 Modernization efforts

Much like system enhancements, system modernization efforts usually involve representatives from all major user communities. Modernization projects vary widely with various system managers using different tools and analytical frameworks. In some cases, the effort to modernize the information system begins with a comprehensive look at the entire regulatory program. One such effort, in the hazardous waste program, is currently examining what information is needed to operate the program and will eventually translate these information needs to data and system requirements. These projects usually take several years and several million dollars to conduct; some modernization efforts at EPA have taken nearly 10 years (e.g., Office of Water’s STORET system modernization has taken over 5 years and will not be completed for several more years).

7 THE ROLE OF NATIONAL SYSTEMS IN A DECENTRALIZED SETTING

The EPA Headquarters has a unique role in information management to support compliance and enforcement efforts even though most actual implementation occurs at the State or EPA Regional level. EPA maintains national information systems to:

- promote a nationally consistent environmental protection;
- provide national environmental information to the public; and
- target environmental efforts.

7.1 Promote national consistency

Access to national data helps EPA promote national consistency and ensure minimum standards of environmental protection are provided to all Americans. These efforts seek to protect the public by discouraging/removing economic incentives for pollution; minimizing interstate transfer of pollutants; and creating a “level playing field” for U.S. business. EPA’s responsibility is to the citizens of the United States, not just a particular area of the country.

EPA needs national data to ensure that national environmental goals are achieved. While the specific information required from states may change over time, baseline nationwide data is necessary to identify when national standards are not being met and to appropriately direct federal involvement. More flexible oversight approaches, such as the Performance Partnerships, will continue to rely on sound state-by-state data.

7.1.1 Evaluate state actions

Effective and uniform enforcement relies on compliance information. EPA systems collect information on permit limits, inspections conducted, violations cited and enforcement actions taken. Comparisons of this data highlights areas where states may need federal assistance; bringing their performance in line with national standards.

7.1.2 Implement flexible oversight

The new “Performance Partnership” approach to EPA/State agreements will be driven by performance based indicators, relying directly on data summarized from the national databases to evaluate results against state commitments. Efforts are also underway to reward complying facilities by reducing reporting requirements. The absence of credible compliance data will jeopardize this effort.

7.1.3 Identify environmental justice communities

The need for national consistency is perhaps best highlighted in the case of environmental justice communities. Minority or low-income communities should not bear a disproportionate share of the adverse environmental consequences resulting from public and private activities. This data provides the knowledge and power which local communities need to protect themselves. Without national data EPA could not identify and address these concerns. For example:

- One EPA Region identified locations with a hazardous waste facility where the average number of people of color and low-income populations are greater than the state average to better target compliance monitoring and assurance efforts.
- EPA is conducting a hazardous waste study to reevaluate sites originally listed in the mid-1980s and is adding new sites, identified by native American tribes, to the cleanup list.

7.1.4 National analysis of sectors

EPA identifies candidates for compliance assistance and enforcement based on analyses of national trends in data such as pollutant emissions/releases, compliance, and inspection and enforcement frequency.

7.2 EPA provides national environmental information to the public

EPA serves as the focal point for providing environmental information to the public, Congress, and other stakeholders. Data in the national systems allow EPA to serve as a direct source for information on national environmental issues, a service which Congress and the public expect. Seeking this same information on a state-by-state basis would be nearly impossible.

7.2.1 Answer information requests and Congressional inquiries

Office of Enforcement and Compliance Assurance receives hundreds of Freedom of Information Act (FOIA) and Congressional requests each year. These requests serve a wide variety of needs for national or multi-state information. For example:

- Public Information Research Group annually requests and publishes a list of all facilities in significant noncompliance, focusing on trends in the quality of the nation's water.
- Environmental companies request lists of permitted facilities for marketing purposes.
- The Sierra Club's Environmental Justice Task Force requested pesticides information to educate their members and the public.
- Environmental compliance information is requested by loan companies, insurance companies, and bond companies to set bond ratings (which determine borrowing interest rates) for municipalities, counties, etc.
- The EPA's Inspector General and the General Accounting Office routinely seek access to our national databases to assess the quality of EPA programs.

7.2.2 Provide public access

Much of the compliance and enforcement data is available to the public. One delivery mechanism, the Envirofacts system, which provides data from several national databases is accessed, via the Internet, approximately 100,000 times per month. For detailed descriptions of enforcement data available to the public, refer to section 10.2 of this paper.

7.2.3 Analyze trends

- Sound environmental decision making requires that trend data be available to policy makers and others who wish to enter the national debate. Information from national systems is used to establish base lines and then to show results over time. Also, the Science Advisory Board's recent "Futures" report recommends that the Agency spend as much attention to avoiding future problems as to controlling current ones, requiring a broad-based data system. Efforts in this area include:
- The Office of Water is currently tracking reductions in toxins and oxygen demanding pollutants as part of their environmental measures.
- Publication of Toxic Release Inventory data, coupled with the 33-50 Project, has resulted in significant declines in industry's reported emissions.
- OECA annually publishes the Enforcement Accomplishments Report and the State-by-State Enforcement Summary, both of which provide trend data for EPA and State enforcement and compliance activities.

7.2.4 Supply data to other agencies

EPA data is used by other federal agencies for analysis and distribution to the public. For example, publications include NOAA's National Coastal Pollution Discharge Inventory, and the Council on Environmental Quality's Annual Report on Environmental Quality.

7.3 EPA develops approaches to target environmental efforts

Using the national systems, EPA plays a leadership role in developing more effective approaches to direct scarce public resources toward the most critical environmental needs.

National data is essential for targeting on an industrial, corporate or media basis. In addition, wide-ranging national data is essential for supporting the objectivity of the Agency's decision making. The national data can be reviewed by all interested parties, helping to prevent an appearance that EPA has acted arbitrarily or on unsupported assumptions.

7.3.1 Conduct case and corporate screening

Compliance/enforcement profiles of historical data are frequently prepared to support enforcement case development or are reviewed prior to government officials interacting with a company:

- Before an enforcement action is taken, two profiles are developed: a cross-media search of Agency compliance and enforcement databases for the specific facility(s) involved in the complaint, and a corporate-wide profile. Both of these profiles require access to EPA's national data systems as well as the Integrated Data for Enforcement Analysis data integration capability.
- Frequently the EPA Administrator's Office requests information from the national systems on the compliance status of various companies that the Administration wishes to interact with for environmental and policy reasons (e.g. the President's Toxic Release Inventory System and budget announcement at the Bethlehem Steel plant in Baltimore). The Administrator needs to know if the company should be praised for its compliance record, or whether they have had significant compliance problems.
- Target Industrial Sectors: The FY 1996 MOA proposed national priority sectors were identified after evaluating national toxic pollutant release, compliance and enforcement data from Toxic Recovery Inventory System, AIRS Facility System, PCS and Resource Conservation and Recovery Act Information System. The sectors selected are all significant noncompliers with high TRI releases and a significant trans-Regional impact.

7.3.2 Target corporations

Single media noncompliance at a few facilities in one Region developed into multi-Region, multimedia judicial case after Region VIII requested a national IDEA search for Louisiana Pacific facilities. The data collection took about 30 minutes. This can be contrasted with the development of a corporate profile for Exxon Corporation after the Exxon *Valdez* incident: data was collected directly from the Regions and took about four weeks.

7.3.3 Analyze pollutant loadings

Emissions data from AIRS Facility Subsystem and effluent data from PCS can be analyzed to determine ambient effects and for targeting the most significant sources. For example:

- PCS data is being used to analyze pollutant loadings trends in the Great Lakes. Coupled with Permit Compliance System compliance data, this information is supporting a multi-state effort to ensure consistent enforcement for persistent toxic substances under the Great Lakes Enforcement Strategy.

7.3.4 Target ecosystems

Integration and analysis of environmental data moves environmental efforts beyond single-media statutory mandates toward ecosystem protection. National system data is being used to:

- Prepare basic background inventories of air, NPDES, and RCRA facilities, as well as TRI release and transfer loadings, for the counties abutting the Mississippi, Missouri and Ohio Rivers;
- Identify sources of nutrients draining into the Gulf of Mexico, causing a 6,000 square mile oxygen depleted “dead zone”; and
- Identify vulnerable national wildlife refuges across the country.

7.4 Other uses of EPA’s national information systems

7.4.1 EPA operates non-delegated environmental programs

National data provides EPA information needed to directly implement federal statutes which are not delegated to states and tribes. Through EPA efforts, citizens in states and tribal lands which do not have the resources, technical expertise, or political will to assume environmental programs will still be protected.

EPA must collect and maintain the information required to operate non-delegated programs across the country and to run programs which are carried out at the federal level. At least for the present, no Region has fully delegated programs within all of its states.

Conduct Non-Delegated Programs: EPA’s direct implementation responsibilities include for example: environmental programs on most tribal lands; and the wastewater permitting and enforcement (NPDES) program in 12 states.

Fulfill Federal and International Responsibilities: EPA has primary responsibility for administration of several federal programs including: many aspects of the toxic chemical regulation program, the pesticide program, tracking potentially responsible parties at hazardous waste sites, and the hazardous waste Import/Export program. National data is also essential for global management including the negotiation of agreements with other countries (e.g. the Great Lakes Agreement with Canada and the NAFTA Agreement with Mexico and Canada).

Support Regulatory Development: Accurate national data is essential to support Agency regulatory decision-making and to minimize concerns and criticism resulting from Agency actions.

7.4.2 EPA supports state information resource management capacity

EPA’s national data systems provide state, local and tribal partners access to the EPA information, and the computing infrastructure, which strengthens their efforts to protect human health and the environment.

States use the national databases as an information reference tool, locating relevant information on other state programs to use in their compliance and enforcement efforts.

Set Permit Limits: States review the detailed information on permit limits set by other states for similar industries as they set their own permit limits and as a resource to supplement their own expertise. For example:

- Great Lakes states in three Regions use the national databases to determine pollutant loadings and opportunities to tighten permit limits.

Share Violator Information: Nationwide data systems provide compliance information which other states use for targeting their own activities, determining compliance of a facility they are interested in or determining interstate impact. For example

- Many asbestos contractors operate nationwide. The Agency's tracking system is available to communities or school boards to aid in contractor selection. States also use the systems to target contractor inspections.

8 NEED FOR AUTOMATED NATIONAL SYSTEMS

8.1 Efficiency

EPA's national data systems provides delegated states with access to a computer application specifically designed for environmental program management. Replicating these services across 50 states would be both inefficient and very expensive. Similarly, maintaining separate systems on several different platforms (the inevitable result of Regional systems) is both inefficient and more costly than a central national system.

Provide Computer Applications: For example, approximately 27 NPDES delegated states use the Permit Compliance Systems (PCS) as their primary data system and 35 delegated states use the air system (AFS) for managing their programs.

Support Computing Capability: Through the national systems, States have direct access to the national application, the computing power of EPA's computer hardware (mainframe and LANs), user support services, training and ongoing system O&M and development. Even states without expensive, state-of-the-art desktops can access these systems.

Supply Consistent System Modifications: As revisions to the national laws are enacted or new programmatic initiatives are undertaken the national systems are updated and, in turn, state programs are kept current and consistent. For example:

- Revisions were made to PCS to track new Clean Water Act requirements for the stormwater, sludge, pretreatment and Combined Sewer Overflow (CSO) programs which are then used by the states.
- If the national systems did not provide this service to the states, some states would increase their budgets to modify their systems while others would delay and ultimately fail to update their systems.

Develop Efficient Data Transfer Methods: The centralized communications infrastructure of the National Computing Center (NCC) provides opportunities for developing innovative data exchange methods to reduce the burden associated with collecting and reporting data.

- For example, EPA is in the process of developing Electronic Data Interchange (EDI) technology for submission of Discharge Monitoring Reports into Permit Compliance System (PCS) which will increase data quality and reduce costs for both states and the regulated community.

Manage Data for Non-Delegated Programs: The national systems provide the data storage and retrieval mechanism necessary to carry out EPA's direct implementation responsibilities.

Manage Data for Federal/International Programs: EPA has primary responsibility for several systems which support administration of federal programs including: Section Seven Tracking System (SSTS)/PRES/ LISA/NCDB for Toxic Substance Control Act (TSCA), Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and Emergency Planning and Community Right Act (EPCRA) requirements; Site Enforcement Tracking System (SETS) for potentially responsible parties for Comprehensive Environmental Response Compensation and Liability Act (CERCLA) sites; and Import/Export to track hazardous waste transported across U.S. borders.

8.2 Provides structure to data

The existence of national databases imposes an overall structure on the environmental data collected. This structure facilitates consistent data collection and interpretation.

Consistent Data Collection: Definitions are developed for nationally reported data elements (such as significant noncompliance). Lacking these definitions make comparisons among states difficult if not meaningless. Additionally, through the national systems a minimum set of data elements is established which is critical for complete comparisons.

Consistent Data Interpretation: Standardized reports with standardized selection criteria help to make valid comparisons of the data (e.g. the quarterly noncompliance report). These reports are available to all users in an easily accessible and consistent format.

8.3 Timeliness of analyses and responses

National systems are the most efficient way to provide timely responses to requests for information.

Provide Prompt Responses: The Freedom of Information Act requires EPA to respond to requests within 10 calendar days. Congressional requests must sometimes be answered that same day to influence committee or floor debate.

Decrease State/Regional Reporting: Contacting each state or region to provide information from their systems would not only increase processing time substantially, but would also add a significant reporting workload to state and regional staff (i.e. 50 different states providing answers instead of a single computer retrieval).

8.4 Relationships with other databases

The automated national systems provide access to the data in a format which allows regular data updates to systems such as Integrated Data Enforcement Analysis (IDEA) which integrates data from many separate systems and creation of data sets which support other Agency targeting tools.

Support Data Integration Efforts: Enforcement and compliance data from 11 of EPA's national databases are accessed by Integrated Data Enforcement Analysis (IDEA), allowing data analysis across media on multiple targeting scenarios. Demographic data and risk based models are also being added to the system so that users can better evaluate queries. Over Office of Environmental Compliance Assurance's (OECA) first year, someone started an Integrated Data Enforcement Analysis (IDEA) session every 27 working minutes. This system provided a report, handled a query or produced an analysis every 9 minutes.

9 ROLE AND RELATIONSHIP OF STATE SYSTEMS TO NATIONAL SYSTEMS

As discussed, most environmental programs are largely implemented by State agencies rather than directly by EPA. And, in many cases, the scope of State programs go beyond and may be more stringent than is required under national laws. This decentralized, flexible regulatory approach poses a challenge in terms of maintaining and developing national databases. Two basic options are available: national systems can be developed as tools for States and a subset of information is used for national reporting; or national systems can be developed solely to support national reporting.

EPA has had experience with both of these models and has encountered significant difficulties in terms of ensuring that complete and accurate data is entered into the national systems. Our basic finding is that in order to have reasonable data quality, the users of the system must perceive a benefit. The criticism leveled at some systems is that the State and/or Regions are required to “feed the monster” but do not receive any benefit once the data is entered; that the system is not useful in managing their activities. Where systems have been developed that are perceived as useful and that are actually used in implementing programs, poor data quality and missing data do not appear to be significant issues.

10 PUBLIC ACCESS TO EPA'S ENFORCEMENT DATABASES

10.1 EPA's approach to public access

In general, there are two approaches to accessing EPA data; through the Freedom of Information Act process and through assorted avenues EPA has voluntarily chosen to make information available.

10.1.1 Freedom of Information Act (FOIA) process

EPA is required by law under the Freedom of Information Act to provide information requested by the public within 10 days of receipt of the request. This law covers written documents as well as data contained in EPA's databases. The law provides that EPA is not be required to create new materials in order to satisfy the request. For enforcement data in national systems, however, EPA has taken the approach that it is appropriate to generate reports and queries from the databases that are specific to the requester's needs. This information can be requested from EPA on hard copy, but is most usually provided on magnetic tape or on 3.5" computer disks. In some cases where the database is small, a requester can receive a copy of an entire database, but more often, specific types of data regarding a geographic area or specific type of facility is requested. One of the limitations to using the FOIA process is that the requester must understand what specific information to request. If the requester finds the information is not sufficient, he or she must go through the process again, and write to EPA to request the additional information.

10.1.2 Publicly accessible information

A great deal of EPA's compliance and enforcement data is currently available to the public through a variety of mechanisms. EPA has not taken a consistent approach to public access and as a result, each program office has historically chosen what data to make available and through what delivery mechanisms. These include making hard copies of summary data available through public information centers, relying solely on Freedom of Information Act requests, granting access directly to the databases, and most recently, making information available through the Internet.

Of the major enforcement databases, the following are available to the public:

- Enforcement Docket (Federal judicial and administrative enforcement cases) is available electronically from the National Technical Information Service (NTIS can be reached by phone on 703-487-4650).
- Permit Compliance System (wastewater permitting and enforcement program) is available electronically from this information service including on-line access.
- Site Enforcement Tracking System (Superfund potentially responsible parties notified under Comprehensive Environmental Response Compensation Liability Act (CERCLA) is available from the service on tape, disk or CD ROM.
- Resource Conservation Recovery Act (RCRA) (hazardous waste) system is available through these reports and reports are available on the Internet.

Some database managers at EPA were originally reluctant to release information to the public because they believed the data quality was not sufficiently high and the data contained errors. In the case of compliance and enforcement data, database errors can mistakenly represent facilities as being in violation when they are in fact, in compliance. While the data in the databases unquestionably does contain some errors, EPA's current approach is to make the data widely available to promote improvements to data quality. It is our belief that if the public and the regulated facilities begin to use the data and to do analyses, they will find errors and that this process will lead to an increase in data quality.

The Agency's experience with the release of Toxic Release Inventory (TRI) data has shown that the public is very interested in environmental data. Simply releasing this inventory data has resulted in facilities voluntarily decreasing emissions. EPA believes that making compliance data available may result in both greater community involvement in compliance monitoring and voluntary compliance by regulated facilities.

While this approach sounds simple, the decentralized regulatory setting makes releasing national data a more complicated matter. The States are the primary source of the data in the national systems and in fact, the States do most of the data entry. However, once the data is in the national systems, accountability for data quality seems to be diffused. For example, a public interest group recently requested a national list of significant violators under the wastewater program. The group planned to and eventually released a report which received national and regional media attention. EPA alerted its Regions and the States to the request so that they could correct any data entry errors prior to the generation of the list. When the report was released to the national press and some facilities complained that they had wrongfully been listed as having been a significant violator, several States disavowed any responsibility and claimed the information had "all come from Headquarters".

10.2 Description and availability of specific EPA enforcement databases

EPA has chosen to focus public access activity on making information from its Integrated Data for Enforcement Analysis system (IDEA). This system is EPA's tool to integrate compliance and enforcement data from key Agency systems. It contains data on State and Federal compliance and enforcement activities under the wastewater, air, hazardous waste, emergency response, pesticides, and toxics programs. These systems are described below. On-line public access to this system will be available beginning in Spring of 1996 through the National Technical Information Service (NTIS). This service will establish a billable account for users to access this system on EPA's mainframe. Documentation will also be available from the information service. Information on this system and instructions concerning gaining access will also be available on the Internet

through EPA's homepage. EPA's long-term public access strategy includes implementing a toll-free telephone number for information about this system, a simplified graphical interface available on the Internet and an on-line Windows-based version for public access.

IDEA contains information from the following databases:

- Aerometric Information Retrieval System (AIRS) Facility Subsystem - AFS contains emission, compliance and permit data for major stationary sources of air pollution.
- CERCLIS - Contains information on compliance and enforcement activities at Superfund sites under the Comprehensive Environmental Response, Compensation and Liability Act.
- Enforcement Docket - Tracks EPA civil judicial and administrative enforcement actions including violations, defendants, penalty information.
- Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)/Toxic Substance Control Act (TSCA) Tracking System - FTTS tracks compliance with FIFRA, TSCA and Emergency Preparedness and Community Right to Know Act (EPCRA) EPCRA inspections, enforcement actions and settlement terms. Uploaded to a national database called NCDB. (FIFRA is the Federal Insecticide, Fungicide and Rodenticide Act, TSCA is the Toxic Substances Control Act.)
- Permit Compliance System - PCS contains permit and compliance and enforcement information on all major wastewater dischargers (facilities with greater than 1 million gallons per day of flow or that pose a significant risk to a water body) and many minor facilities.
- Resource Conservation Recovery Information System - RCRIS tracks activities related to facilities which generate, transport, treat, store or dispose of hazardous waste including permit notification, compliance, inspection and corrective action activities.
- Site Enforcement Tracking System - SETS contains information on Potentially Responsible Parties notified under the Comprehensive Environmental Response, Compensation and Liability Act (Superfund).

SAFE DRINKING WATER INFORMATION SYSTEM
 FACILITIES AND POPULATION SERVED BY PRIMARY WATER SUPPLY SOURCE
 PART OF AN 87 REPORT - EPA REGION VIII COMMUNITY ACTIVE SYSTEMS IN THE CURRENT INVENTORY

GAHM
 APRIL

POPULATION	PURCHASED												TOTAL	
	SURFACE		GROUND		GROUND-101		SURFACE		GROUND		GROUND-101		TOTAL	
	FAC	POP	FAC	POP	FAC	POP	FAC	POP	FAC	POP	FAC	POP	FAC	POP
Under 101														
NUMBER	47	3	931	56	0	0	116	3	37	2	0	0	1,131	65
PERCENTAGE	1.5	.0	29.7	.7	.0	.0	3.7	.0	1.2	.0	.0	.0	34.6	.8
101-500														
NUMBER	70	22	836	205	0	0	100	20	50	16	0	0	1,075	271
PERCENTAGE	2.2	.5	26.4	2.4	.0	.0	3.4	.5	1.9	.2	.0	.0	34.2	3.2
501-1,000														
NUMBER	42	34	206	153	0	0	30	30	20	13	0	0	306	229
PERCENTAGE	1.3	.6	6.6	1.8	.0	.0	1.2	.3	.6	.2	.0	.0	9.7	2.7
1,001-2,500														
NUMBER	76	126	192	305	0	0	30	52	0	13	0	0	306	694
PERCENTAGE	2.4	1.9	6.1	3.4	.0	.0	1.0	.6	.3	.2	.0	.0	9.7	5.0
2,501-3,500														
NUMBER	15	43	30	111	0	0	3	9	1	3	0	0	57	167
PERCENTAGE	.5	.9	1.2	1.3	.0	.0	.1	.1	.0	.0	.0	.0	1.8	2.0
3,501-5,000														
NUMBER	18	76	37	156	0	0	11	48	0	0	0	0	66	276
PERCENTAGE	.6	.9	1.2	1.8	.0	.0	.4	.4	.0	.0	.0	.0	2.1	3.2
5,001-10,000														
NUMBER	32	261	30	210	0	0	22	169	0	0	0	0	84	624
PERCENTAGE	1.0	2.9	1.0	2.5	.0	.0	.7	2.8	.0	.0	.0	.0	2.7	7.3
10,001-50,000														
NUMBER	37	895	25	405	0	0	26	531	0	0	0	0	88	1,771
PERCENTAGE	1.2	9.8	.8	4.7	.0	.0	.8	6.2	.0	.0	.0	.0	2.8	28.8
50,001-75,000														
NUMBER	9	530	1	55	0	0	1	65	0	0	0	0	11	678
PERCENTAGE	.3	6.5	.0	.6	.0	.0	.0	.8	.0	.0	.0	.0	.4	7.9
75,001-100,000														
NUMBER	5	441	1	60	0	0	2	160	0	0	0	0	8	606
PERCENTAGE	.2	5.2	.0	1.0	.0	.0	.1	2.0	.0	.0	.0	.0	.3	8.2
Over 100,000														
NUMBER	0	3,836	1	225	0	0	0	0	0	0	0	0	9	3,261
PERCENTAGE	.0	35.6	.0	2.6	.0	.0	.0	.0	.0	.0	.0	.0	.3	38.2
TOTALS														
NUMBER	359	5,616	2,290	1,964	0	0	357	1,104	125	67	0	0	3,129	8,931
PERCENTAGE	11.4	63.5	73.2	23.0	.0	.0	11.4	12.9	4.0	.6	.0	.0	100.0	100.0

7/14/95

ANNUAL REPORTS FOR SGL CT STATE: AR
FOR 1993

GENERATOR I.D. NO.: AR0091691261 YEAR OF REPORT: 93

GENERATOR NAME : ARKANSAS STEEL ASSOCIATES
ADDRESS : 2001 VAN DYKE ROAD
NEWPORT, AR 72112

TRANSPORTER 1 I.D. NO.: MO0006960101

TRANSPORTER 1 NAME: MISSOURI PACIFIC RAILWAY CO.

TRANSPORTER 2 I.D. NO.:

TRANSPORTER 2 NAME:

RESIGNEE I.D. NO. : NC0000000001

CONSIGNEE NAME : ZINC NATIONAL SA

WASTE NO. : 1

WASTE DESCRIPTION: FINE DUST, IRON OR STEEL CONTAINING ZINC
EPA WASTE NO. : K061 DOT HAZARD CLASS : 9
QUANTITY : 3,591,800.00 P
NO. OF SHIPMENTS : 20

GENERATOR I.D. NO.: AR0075656454 YEAR OF REPORT: 93

GENERATOR NAME : GND INCORPORATED
ADDRESS : 4115 SOUTH ZERO STREET
FORT SMITH, AR 72903

TRANSPORTER 1 I.D. NO.: MO0054126164

TRANSPORTER 1 NAME: FREEMOLD CARTAGE, INC.

TRANSPORTER 2 I.D. NO.:

TRANSPORTER 2 NAME:

RESIGNEE I.D. NO. : NC0000000034

CONSIGNEE NAME : NOVA PB INC.

WASTE NO. : 1

WASTE DESCRIPTION: LEAD BEARING MATERIALS P/BATTERY MFG
EPA WASTE NO. : 0008 DOT HAZARD CLASS : 9
QUANTITY : 344,267.00 P
NO. OF SHIPMENTS : 9

03/17/95
NFISJ1

QUICK LOOK REPORT
 CONSOLIDATED DOCKET ENFORCEMENT SYSTEM
 ALL CIVIL FILED CASES - PART I - FOIA
 SORTED BY CASE NAME

CASE NUMBER	CASE NAME	LAW ALL	SECTION ALL	VIOLTY ALL	POLLUTANT ALL	CIV FILED COURT	CIV CONCL	FINAL ASSESSED FEDERAL PENALTY	FINAL COST RECV AMOUNT	N S I T
00-05-0011	A & C BRYARRE (NILES MO	TCOA	2015							
05-02-0019	A & F MATERIALS ET AL	CERCLA RCRA	106 7003			9/10/89 9/30/89	11/21/85 2/14/83	2,400		L C
09-00-0009	A & J MATERIAL CO. (WREE	CERCLA CERCLA RCRA CER CER	306 107 7003 309 311	SPILL DRO	PCB, VOLATILE ORGANICS, METALS	9/03/88	10/10/89	8,000		C
07-07-0501	A & M MANUFACTURING CO	CAA	110	SIF	VOC	5/16/80	9/13/89	80,000		C
06-04-0024	A J MACKAY COMPANY	CAA	112	MESHAP	ARB	10/22/80	2/13/86	30,000		C
10-77-0001	A M LOGGING ET AL	CAA	309			11/04/77	4/04/78	17,000		C
07-05-0019	A. A. PACTAL CO. AND RA	CAA	112	MESHAP	ASBESTOS	8/22/89	3/10/93	126,000		C
06-92-0196	A. P. GREEN INDUSTRIES,	CAA	501	MESHAP	DIRT & GREASE IRON MANGANESE MANGANESE SILICA COB MUR TOC TDS ATRIENIA	9/07/93	2/10/96	450,000		C
02-74-0005	A. W. CROSS	CAA	111			1/16/79	4/08/80	10,000		C
01-74-0024	A.B. CHANCE COMPANY	CAA	400			3/17/80	5/19/80	6,000		C
06-90-0103	A.B. HIRSCHFELD PRESS I	CAA	119	ADYIOL	ORGANIC COMPOUNDS PHYS IMPO	4/02/91	9/08/91	5,900		C
05-02-0010	A.H.-D.S. COAL CORP - B	CERCLA	107	OSP REP	MERCURY LEAD CYANIDE COPPER CHROMIUM CADMIUM BERYLLIUM SULFURIC ACID SULFONATES CALCIUM	12/20/83	8/23/88			01
04-04-0011	A.L. TAYLOR SITE/VALLEY	CERCLA CAA	107 311	SPILL		4/11/86	10/30/91		1,254,000	CM
04-04-0171	A.M. GENERAL	CERCLA	109A							
03-90-0109	A.N. REITZLOFF CO. ILOX	CAA CERCLA CERCLA	PART B 107A 107B	MSR	VOC	6/30/87	8/21/90	1,110,000		CP

U.S. ENVIRONMENTAL PROTECTION AGENCY

03/08/95

INTEGRATED DATA FACILITY-SPECIFIC COMPLIANCE PROFILE REPORT 1A

FINDS Id: A00007257487 Fac. Name: ALASKA PULP CORPORATION SITKA City: SITKA State: AK
 Address: 9400 SANDHILL CREEK RD Zip: 99830 Lat: 57.041 Long: 135.297

OCRES Handler Id: A0000222487 Year No. Viol. No. NOVs No. AAs No. JAs
 Name: ALASKA PULP CORP SITKA MILL CY92 1 1 0 0
 ISO Facility Status: NPV? NO CY93 3 0 0 0
 Owner Operator Type: P Exist. Date: 1957/11 CY94 0 0 1 0

MS Permit No: AK0000931 Issue Date: 1983/04 Year All Viol. Eff. Viol. Inspections No. NOVs No. AAs No. JAs
 Fac. Name: ALASKA PULP CORP CY92 0 0 1 0 0 0
 Active Major Discharger CY93 1 1 1 0 0 0
 Expired Date: 1990/05 CY94 1 0 0 0 0 0

PCS Permit No: AK0004957 Issue Date: 1990/03 Year All Viol. Eff. Viol. Inspections No. NOVs No. AAs No. JAs
 Fac. Name: ALASKA PULP CORP CY92 0 0 0 0 0 0
 Active Minor Discharger CY93 0 0 0 0 0 0
 Expired Date: 1995/04 CY94 0 0 0 0 0 0

OSRC/ISO Site Name: ALASKA PULP CORP Cal Year: 1991 1992 1993 1994
 NPV Status: M No. Admin. Actions: 0 0 0 0
 Site Classification: NO No. Judic. Actions: 0 0 0 0

Civil Docket	Case Name	Case Number	Type	Class	Law	Overall Sts.	Initiated	To DOJ	Filed	Concluded
	AK LUMBER-PULP CO	18-79-0091	CIV	CMA	CMA	CASE LITIGED	1979/06	1976/05	1976/05	1976/05
	ALASKA PULP CORP - CIC	10-88-001	CIC	CMA	CMA	CASE CLOSED	1983/03	1985/03		1985/07
	ALASKA PULP CORP	18-86-0098	CIV	CMA	CMA	CASE LITIGED	1986/04	1986/05	1986/06	1986/09