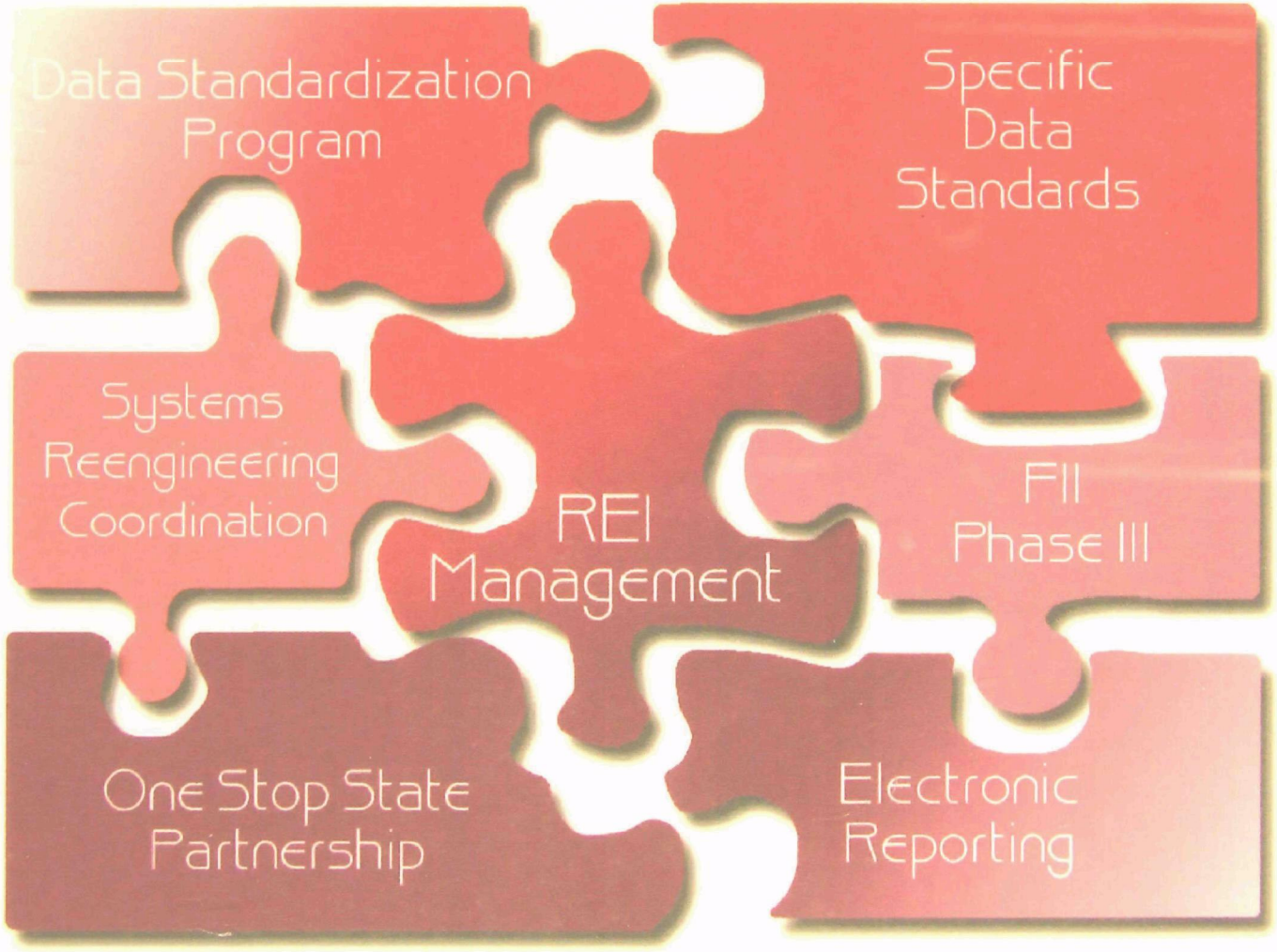
Q3/FY 1999
REI Integrated Program Management Plan

REINVENTING ENVIRONMENTAL INFORMATION

"Putting the Pieces Together"



EPA United States Environmental Protection Agency

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QUARTER 3/FY 1999 REINVENTING ENVIRONMENTAL INFORMATION INTEGRATED PROGRAM MANAGEMENT PLAN

"Putting the Pieces Together"

I. INTRODUCTION

EPA's Commitment to Reinvent Environmental Information

In July of 1997, the EPA Administrator and Deputy Administrator directed the Agency to advance and accelerate efforts to reinvent environmental reporting, strengthen its capacity to use information effectively to manage environmental programs, and enhance the public's access to the information they need to make decisions about their health and environment. More specifically, the Administrator and Deputy Administrator committed EPA to adopt formal data standards, provide universal access to electronic reporting, reengineer the Agency's national data systems, and to invite all 50 States to join in this process through the One Stop program.

With assistance from the Common Sense Initiative (CSI) Council and other stakeholders, an Agency work group developed the *Reinventing Environmental Information (REI) Action Plan* to translate these commitments into a detailed plan of action. The *REI Action Plan* is focused on building a critical foundation for the Agency - a foundation that will enable better data quality, burden reduction for reporters, enhanced public access, more coordinated systems modernization/reengineering, and data standardization throughout the Agency. Specifically, the *Action Plan* commits EPA to the following:

- *Data Standards*—EPA will issue interim standards for six key data types by the end of Fiscal Year (FY) 1999 and incorporate these standards in all EPA national systems by the end of FY 2003. Data standards establish a common language among users of environmental information.

- *Electronic Reporting*—All parties reporting to EPA shall have voluntary access to electronic reporting by the end of FY 2003.

- *State Partnership*—REI must be implemented in partnership with States if it is to succeed. The One Stop program and the State/EPA Information Management Work Group provide opportunities for EPA and States to set goals for improving and sharing information and agree on policies and programs to achieve these goals.

- *Systems Reengineering Coordination*—EPA national data systems shall incorporate all data standards and provide access to electronic reporting by the end of FY 2003.

FY 1999 REI Implementation—"Putting the Pieces Together"

FY 1999 is a pivotal year for REI. Efforts in FY 1998 have focused on developing pieces of the infrastructure necessary to reinvent information management at EPA. As completion of this infrastructure draws near, the focus of REI will shift toward implementation in the systems and States. Whereas most FY 1998 tasks were performed by REI teams working independently, the project teams must now work closely together to ensure that their pieces are integrated to support Agency-wide REI goals. The FY 1999 commitments and FY 1998 accomplishments are described briefly below:

- *Data Standards*—The data standards program is on schedule to finalize standards and business rules in Calendar Year 1999, and begin implementation in National and State systems. Currently, two final standards and business rules have been finalized, (date (Y2K), and Standard Industrial Code/North American Industrial Classification System (SIC/NAICS)); and four interim standards have been approved (Facility Identification Initiative (FII), Latitude/Longitude, Biological Taxonomy, and Chemical ID).

- *Electronic Reporting*—The electronic reporting (ER) group will complete Electronic Data Interchange (EDI) standards development in FY 1999 and move toward implementation by resolving core legal policy issues. The ER group will also begin pilot tests of Internet and digital signature technologies and work through specification and pilot tests of Agency electronic reporting infrastructure components.

- *State Partnership*—One Stop continues to award grants to additional States, and is taking a larger role in coordinating State involvement in the development and implementation of various REI commitments. Through FY 1998, a total of 21 One Stop grants have been awarded to participating States, and EPA plans to award up to eight new One Stop grants in FY 1999. EPA's goal is to invite all States to join One Stop by FY 2003. The focus in FY 1999 is to provide technical assistance to States and conduct a number of pilot projects in selected One Stop States to "test-implement" aspects of the REI program.

- *Systems Reengineering*—Systems reengineering coordination efforts will shift toward beginning implementation of data standards; providing a forum for systems managers to discuss key issues, such as electronic reporting; and working closely with States to coordinate reengineering/modernization activities. Successful implementation of REI commitments in the national systems requires coordination among REI project team leads, States, and systems managers. During FY 1999, the systems

reengineering coordination team will help ensure that all stakeholders are able to successfully work together to implement REI commitments.

1999 will also be a landmark year for EPA because it is reorganizing its Information Resources Management (IRM) functions. In a December, 1998 memorandum, Administer Browner announced a reorganization of the Agency's information management activities around three new offices: Information Policy and Collection; Information Technology and Services; and Information Analysis and Access. REI components will be integrated into the Information Policy and Collection office. In the transition to the new information office, REI leaders are poised to work closely with the Agency to support this new structure for providing effective management of environmental information. This focus on providing quality environmental information is a strong affirmation of EPA's commitment to "Protect human health and to safeguard the natural environment—air, water, and land—upon which life depends" (EPA Strategic Plan, 1997). Many REI activities have already begun to address issues highlighted by the reorganization; as such, REI will pave the way for ongoing improvements in the way the Agency handles environmental information collection, management, and access.

Coordinated Action Through an Integrated Program Management Plan

During this second year of REI implementation, all Offices responsible for implementing REI have developed a section of this REI Integrated Program Management Plan. The Plan describes the FY 1999 activities that these Offices will pursue toward meeting their independent REI commitments, and outlines tasks that they will coordinate with other REI project teams to meet REI commitments as a whole. In this way, the Program Management Plan demonstrates how REI teams are working together to achieve common Agency information management reform goals.

The Program Management Plan is considered a work plan for completing REI tasks during FY 1999 and a "living document" that may be amended and updated following the quarterly meetings of REI team leads to ensure the Agency meets its commitments. The Plan includes task commitments in the following areas: Agency-Wide REI Management, Data Standardization Program, Specific Data Standards, Facility Identification Initiative (FII) Phase III, Electronic Reporting, One Stop State Partnership, and Systems Reengineering Coordination.

Through a series of quarterly and monthly team lead meetings, the REI team leads continue to meet to discuss coordination opportunities and make commitments to work together. These commitments are presented in two ways:

- First, each task area has a "Tasks and Milestones" matrix. Every task in the matrices has been assigned an "intelligent"[1] task number to help identify related tasks that will require coordination with other REI teams. A "Coordinating Task #(s)" column at the far right of each matrix notes these tasks so the reader can refer to their relevant sections of the Plan. For example, the following table indicates that Data Standards task 3 (DS 3) must be coordinated with One Stop task 4 (OS 4), and Systems Reengineering task 9 (SR 9):

Task #	Tasks/Milestones	Start Date	End Date	Deliverable	Responsible Organization	Coordinating Task #(s)
DS 3	Create concepts for and architectural view of Agency data	11/30/98	3/31/99 ✔	Architectural views published in EDR	OIRM, EIMD, Larry Fitzwater, Marian Cody, Beverly Hacker	OS 4 SR 9

A reader can gain insight on the task interrelationships by referring to the Plan section for each task. Tasks which have been completed are indicated with a check-mark (✔) next to the end date.

- A second way this Plan helps integrate REI activities across projects is by including a matrix that cross-walks all integrated commitments to their related project areas (attached as Appendix A: Integrated Project Commitments). Reading from left to right, the matrix shows the interdependencies of the REI project teams (the project named on the left leads the coordination activity with the projects listed across the top).

Following approval of the final draft of the Quarter 3, FY 1999 Program Management Plan, the Quarter 2 Timeline will be updated to display the REI commitments and tasks described in the text below, including denotation of the party responsible for each task, all due dates, and an indication of completed tasks, and tasks that have missed their target completion date. The timeline is also envisioned as a "living" product that will be updated quarterly to facilitate the tracking of REI progress.

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[1] "Intelligent" task numbers mean that the task area name has been abbreviated to precede the task number (e.g., REI Management = RM1, RM2...; Data Standards = DS1, DS2...; Facility Identification Initiative = FII1, FII2...; Electronic Reporting = ER1, ER2...; One Stop = OS1, OS2...; Systems Reengineering = SR1, SR2...).

REI Annual Performance Measures

At the June 16 and 17 quarterly meeting of REI team leads, the REI team developed short and long-term performance measures for each of the project teams. The team developed these performance measures as a way of determining the effectiveness of REI in meeting its goals, demonstrating progress, and helping to guide future performance improvements. The short-term performance measures and are intended to measure performance for FY 1999 goals, while the long-term measures will apply to performance for FY 2000 goals and beyond. Information is provided on the performance area to be measured, the type of data that will be collected and measured, and the target performance goal (number or percentage) that the measurement results should achieve. Performance measures are detailed in each team's section of the Plan, following the Tasks and Milestones matrix.

The Program Management Plan as a Communications Tool—Many Audiences, Many Messages

As a communications document, the Plan speaks to at least four audiences. First, the Plan includes task, deadline, and responsible party information to help project managers communicate and coordinate across projects. Second, the Plan provides a thorough, readable overview of all REI activities to inform senior managers and engage them in the important decisions upon which progress will depend. Third, the Plan offers a road map of EPA activities to State stakeholders who are already in the process of implementing information management and information technology reforms that must dovetail with the Agency's evolving framework. And finally, the Plan clarifies for national systems managers the tasks and schedules for data standards, electronic reporting, and other REI work that will provide the tools for their modernization and reengineering efforts.

In addition, this plan compliments the communications efforts of the REI components. All of the REI teams are working to communicate with the broader Agency IRM community and with stakeholders. For example, the REI management team has developed Internet and Intranet sites to help communicate REI information to the broader Agency and stakeholder community and the systems reengineering coordination team has developed a status booklet for the systems managers to communicate about REI progress. These and other tools are all relevant to the integrated plan and help enable achievement of the REI commitments.

II. Task Commitments

Task Area A: Agency-Wide Reinventing Environmental Information Management

Lead Office: Office of Information Resources Management
REI National Program Manager: George Bonina
Project Manager: Barbara Chancey

Background and Status

The REI program requires a comprehensive management process for monitoring project progress, continually reviewing and updating task plans, allocating budgets and staff, and analyzing and resolving difficult management issues as they arise. During FY 1998, the first year of REI progress, the REI management team implemented several management strategies to supplement existing processes (e.g., Investment Review Process) and structures (e.g., the Systems Modernization Fund) to ensure that REI commitments were met. Some of the strategies launched last year included:

- Actively involving and supporting senior management—The REI management team supported and reported to the REI Subcommittee (REI SC) of the Executive Steering Committee (ESC) for IRM, the body of senior Agency managers responsible for overseeing REI. The REI SC is led by the Chief Information Officer (CIO) with support from the Assistant Administrator for the Office of Policy (OP) and the Associate Administrator for the Office of Reinvention (OR).

- Establishing the role of the National Program Manager—The NPM built consensus among stakeholders; developed task recommendations; maintained and reviewed project priorities, schedules, budgets, and staff; and identified policy and technical issues for resolution.

- Communicating REI activities to internal and external stakeholders—The management team designed and developed Internet and Intranet Web sites for REI and completed four progress reports to update stakeholders on REI commitments.

These management strategies helped clarify the lines of authority, enabled the early identification and resolution of issues, enhanced communication among all parties, and supported team contingency planning. As year two of REI implementation is underway, the REI management team recognizes there is still much work to be done.

Implementation Strategy

The management team's approach for FY 1999 includes rigorous use of this Program Management Plan as a management tool, the scheduled release of quarterly progress reports, the provision of administrative support where needed, streamlining of the Directives Clearance Process, and expansion of the REI Internet and Intranet Web sites. In addition, the management team will coordinate with the Office of Information Transition and Organizational Planning (ITOP) to ensure proper placement of REI components in the new organization.

First, the team will use the Program Management Plan as a tool to communicate to senior managers the status and progress of the national systems in implementing REI commitments. The Plan also provides a work plan for meeting important FY 1999 REI milestones. Second, the team will publish quarterly progress reports containing critical early warning information on tasks experiencing difficulty. This reporting mechanism will allow REI project managers to pro-actively manage schedule slippage by conducting resource and contingency planning to ensure accomplishment of REI commitments. The progress reports, like the Program Management Plan, also will serve to communicate accomplishments, goals, and issues for resolution.

On a third front, the team will provide administrative support to key areas of the REI management infrastructure by producing reports; presenting briefings; and managing REI meetings, including overseeing meeting logistics and the recording of minutes. Fourth, the team expects that the continued modification and streamlining of the Directives Clearance Process will facilitate prompt resolution of policy and technical issues; it also will accelerate the current data standardization process and the development of electronic reporting capabilities. The team plans to closely track the evolution of the new clearance process to ensure its proper role in REI implementation. And finally, the management team will expand and enhance the REI Internet and Intranet sites. Such site development activities, in addition to the production and distribution of brochures, papers, "flash cards," and briefings, will dramatically improve communication to many internal and external stakeholders.

Tasks and Milestones

FY 1999 REI Project Management Plan—*Agency-Wide REI Management*						
Task #	**Tasks/Milestones**	**Start Date**	**End Date**	**Deliverable**	**Responsible Organization**	**Coordinating Task #(s)**
RM 1	Support REI SC, ESC for IRM, and CIO	Ongoing		n/a	OIRM, George Bonina, Barbara Chancey	All; see note below.
RM 2	Develop pre-briefings	Ongoing		Pre-briefings	OIRM, George Bonina, Barbara Chancey	All
RM 3	Develop issue papers, pre-meeting materials, and presentations	Ongoing		Issue papers, pre-meeting materials, presentations	OIRM, George Bonina, Barbara Chancey, Suzanne Annand	All
RM 4	Coordinate REI SC meetings; record notes; and distribute meeting notes		Q1/FY1999 ✔ Q2/FY1999 ✔ Q3/FY1999 ✔ Q4/FY1999	Meeting minutes	OIRM, Barbara Chancey, Suzanne Annand	All
RM 5	Ensure REI communication to internal and external stakeholders	Ongoing		Presentations, papers, & briefings	OIRM, George Bonina, Barbara Chancey, Suzanne Annand	All
RM 6	Develop REI FY 1999 Integrated Program Management Plan and quarterly updates	9/1/98	Q2/FY1999 ✔ Q3/FY1999 ✔ Q4/FY1999	Quarterly Integrated Program Management Plan for meeting all REI commitments for OIRM, OR, & OP	OIRM, Barbara Chancey	All
RM 7	Develop REI FY 1998 Accomplishments and FY 1999 Commitments Report, and FY 1999 Accomplishments and FY 2000 Commitments Report	9/1/98 9/1/99	12/15/98 ✔ 10/7/99	Accomplishments and Commitments Reports	OIRM, Barbara Chancey	All

FY 1999 REI Project Management Plan—*Agency-Wide REI Management*						
Task #	**Tasks/Milestones**	**Start Date**	**End Date**	**Deliverable**	**Responsible Organization**	**Coordinating Task #(s)**
RM 8	Draft REI Quarterly Progress Reports	Quarterly	Q1/FY1999 ✔ Q2/FY1999 ✔ Q3/FY1999 ✔ Q4/FY1999	Quarterly Reports	OIRM, Barbara Chancey	All
RM 9	Develop Intranet Web site	12/1/98	3/28/99 ✔	Produce Web site	OIRM, Barbara Chancey	All
RM 10	Maintain Intranet Web site	Ongoing		Update Web site	OIRM, Barbara Chancey	All
RM 11	Develop Internet Web site	8/1/98	12/30/98 ✔	Produce Web site	OIRM, Barbara Chancey	All
RM 12	Maintain Internet Web site	Ongoing		Update Web site	OIRM, Barbara Chancey	All

Note: This task area does not include "Coordinating Task #(s)" as it is assumed that each Agency-wide REI management task involves coordination across all REI project areas.

Performance Measures

Performance Measure	Data Collected	Performance Goal
Short Term		
1. REI project teams receive timely information and coordination support from REI management that is needed to complete efficient and effective development of their individual components	Annual customer satisfaction survey	Ninety percent of customers satisfied with support received
2. Senior managers receive timely and useful information from REI management about REI projects to make critical decisions	Annual customer satisfaction survey	Ninety percent of customers satisfied with support received
Long Term		
1. REI management provides the communication and coordination support necessary to help REI projects implement individual components	Annual customer satisfaction survey	Ninety percent of customers satisfied with support received

Issues/Challenges

- *Responsiveness of REI SC and ESC.* Second-year commitments are especially critical for the long-term success of REI; therefore, the REI SC and the ESC must be prepared to make timely decisions to advance the process.

- *Decentralized IRM Community.* One of the most significant challenges is to establish among all EPA IRM managers and professionals a sense of shared goals and a unified management infrastructure to achieve those goals. The Agency must move from a culture of individual programs with disparate IRM goals to a culture where all parties are working to achieve common goals.

- *REI Communications.* All the REI components will be communicating and coordinating with their stakeholder groups. The REI management team must ensure that REI messages are coordinated to ensure consistency across the REI program.

Resources

This task area is led by the REI National Program Manager, George Bonina, and supported by OIRM staff who are experts in the management of REI. Successful management of REI requires that the management team work closely with REI project teams from the Office of Policy, the Office of Reinvention, Program Offices, States, and organizations such as the Environmental Council of the States (ECOS) and the Common Sense Initiative (CSI) Council. Although the management team is responsible for coordinating REI activities in all project areas (e.g., data standards, electronic reporting, national systems reengineering), it is primarily responsible for REI implementation oversight, support to the Agency's senior IRM management bodies, and communication across the project areas.

The REI management team employs contractor support for several of its tasks, including support to the REI SC, development of accomplishments and quarterly reports, and the development and maintenance of its Internet and Intranet sites.

Task Area B: Data Standardization Program

Lead Office: Enterprise Information Management Division, Office of Information Resources Management
Project Manager: Marian Cody

Background and Status

Data standardization is the process of developing agreed-upon formats and definitions for the common data the Agency collects and stores in its information systems. Data standards are essential building blocks for data quality because they enable data comparability among and between information systems. The goal of the data standardization program under REI is to set into place a formal management process that will effectively deal with data problems resulting from inconsistent data definitions and formats in Agency information systems. The program will enable EPA to efficiently and effectively obtain, use, and reuse accurate documentation, standards, data, and other information to fulfill IRM and Agency missions. It lays the foundation for data integration and sharing, a foundation critical to sharing environmental data internally as well as with State partners and consumers outside the Agency. This foundation will help establish EPA's information and data resource environment of the future.

Once data standards are established, they are recorded in various reference tools to make them more meaningful and accessible to users and to facilitate data sharing. The Agency has created the Environmental Data Registry (EDR) as its primary reference tool for recording data standards. The registry's purpose is to register and standardize computer-stored data to make it shareable among EPA, the States, private industry, and the international community. The EDR contains definitions, formats, concepts, representations, and sources of information about environmental data. In the future, the EDR will group data elements into logical entities, facilitating the development of information systems that use and reuse standard data formats and definitions. The EDR is operated by an EPA Data Registration Authority within the Enterprise Information Management Division. The Data Registration Authority helps formulate business rules for information and data management, and is responsible for certifying the metadata procedures for information management. The data registry system will be built in phases to maintain the flexibility to support emerging information management policy, procedures, and technology.

Implementation Strategy

The primary focus in FY 1999 will be to expand the foundation and institutional framework for the data standardization program. This framework includes developing formal processes and business rules to help strengthen the Agency's efforts to integrate data standards into everyday business practices. Under REI, the Agency will develop formal processes to register the many different ways Agency systems represent environmental data and reach consensus on preferred common representations for data used across multiple

information systems. Through data registration and standardization processes, EPA plans to integrate the use of standards into its everyday business practices. A critical independent task is to communicate the need and benefits that accrue from the use of data standards. This task must happen early in the program development process so that Agency personnel understand that data standards are important and can be applied easily through the use of the EDR. A second critical task is to establish a Data Standards forum for all relevant stakeholders (e.g., States, program offices). This forum will focus on obtaining feedback and guidance on the development and direction of the data standardization program. The effective use of this forum will help ensure the acceptance of the new data standardization process throughout the Agency.

A third critical task is to develop a data standardization prioritization process. Initial analyses indicate that there are a number of data elements that are shared across program systems. As a result, a large number of data elements will need to be standardized, a process is needed to help prioritize which standards are given priority. Finally, to further encourage adoption of the data standardization process across the Agency, the EDR will be enhanced to make it more accessible and a more integral part of program systems. One such enhancement is an interface for regulation writers, which will facilitate the use of standard environmental terminology in future Agency regulations and the systems supporting the implementation of these regulations. Incorporating standards into regulations will ensure that the programs that evolve from these regulations will carry standardized data from the beginning.

The data standardization team will also be coordinating with a number of different REI teams to meet REI commitments. The team will work with the Facility Identification Initiative (FII) team to coordinate the final FII standard with Facility Registry System (FRS) requirements and the transfer format protocol. The data standards team will also coordinate with the Electronic Reporting/Central Receiving Function (ER/CRF) team to conduct EDI-related data analyses to build the capacity to house EDI transaction sets in the EDR and incorporate standards within EDI transaction sets. The One Stop team will play a pivotal role in the data standardization process. Since States play such a critical role in implementing Federal environmental laws, it is essential that States are partners in the data standardization process. Both the data standardization team and the Electronic Reporting team will need to work with the States to ensure the utility of their work for the States. The data standards program will also work with the Systems Reengineering coordination team to keep systems informed about the progress of data standards promulgation and what will be required of them to implement standards, as well as identifying needs for tools to aid implementation of standards in the systems.

Tasks and Milestones

FY 1999 REI Project Management Plan—*Data Standardization Program*						
Task #	**Tasks/Milestones**	**Start Date**	**End Date**	**Deliverable**	**Responsible Organization**	**Coordinating Task #(s)**
DS 1	-Capture data and meanings from EPA systems in the EDR -Reconcile and clean up conflicting data -Standardize meanings & formats for certain categories of EPA data (e.g., OW for harmonizing STORET/SDWIS/NODC)	Ongoing	Ongoing	-Reconciled and cleaned up data from 2 systems -3 groups of harmonized data published	OIRM, EIMD, Marian Cody, Larry Fitzwater; Each system will be assigned staff liaison	FII 18 SR 6, 11, 12
DS 2	-Capture scientific metadata in EDR -Establish DQI workgroup -Register elements in EDR -Conduct analysis of what is meant by scientific metadata -Develop FY 2000 work plan	1/1/99	Ongoing Q2/FY1999 ✔ Ongoing Ongoing Ongoing	-Data Quality Indicators (DQI) workgroup established to validate QA elements and definitions -Reconciled data quality elements published in EDR -Work plan developed for other metadata elements	OIRM, EIMD, Tom Maloney	n/a
DS 3	Create concepts for and architectural view of Agency data	11/30/98	3/31/99 ✔	Architectural views published in EDR	OIRM, EIMD, Larry Fitzwater, Marian Cody, Beverly Hacker	OS 4 SR 9
DS 4	System enhancements (pilot active link between EDR and program system)	Ongoing	Ongoing	n/a	OIRM, EIMD, Larry Fitzwater, Bruce Bargemeyer	n/a
DS 5	Enhance EDR ability to link standard data elements with non-standard data and enhance access, interfaces, and search functions	Ongoing	Ongoing	Integrated terminology function in EDR search engine	OIRM, EIMD Larry Fitzwater, Bruce Bargemeyer	FR 11 SR 6

FY 1999 REI Project Management Plan—*Data Standardization Program*						
Task #	**Tasks/Milestones**	**Start Date**	**End Date**	**Deliverable**	**Responsible Organization**	**Coordinating Task #(s)**
DS 6	Develop, maintain program-specific systems (Chemical Registry System—CRS, Biological Registry System—BRS)	10/01/98	Ongoing	Web-accessible sites	OIRM, EIMD, Larry Fitzwater	SR 6
DS 7	Develop regulation writer interface (develop requirements and select an Agency regulation to pilot)	FY2000	FY2000 (*)	Regulation writer requirements	OIRM, EIMD, Larry Fitzwater, Bruce Bargemeyer, Beverly Hacker	n/a
DS 8	Rationalize reporting by identifying requirements for forms registration, registering one form in EDR	1/30/99	9/30/99	Forms published in EDR	OIRM, EIMD, Larry Fitzwater, Geoff Steele	SR 6
DS 9	Refine IDM program policies: -Update Data Standards policy -Create information stewardship policy -Assess need for data registration /data registrar policy	Ongoing Underway 11/1/98 Q3/FY2000	Ongoing May/FY99 ✔ FY2000 (+) (*)	-Revised chapter for data standards policy -New manual chapter for information stewardship policy -Issue paper on need for data registration / data registrar policy	OIRM, EIMD, Marian Cody, Beverly Hacker, Tom Maloney	SR 6
DS 10	Market the IDM Program, the EDR, the importance of data standards, and the concept of data stewardship (establish ongoing communications with related offices—electronic reporting, data quality)	Ongoing	Ongoing	-Briefings -IDM Intranet site -Status reports	OIRM, EIMD, Marian Cody, Tom Maloney, Beverly Gregory	RM 5 ER 17 OS 21, 23 SR 11, 19
DS 11	-Establish forum for data standardization process -Create electronic discussion group & hold meetings for standards	10/01/98	Ongoing	-Forum established -Electronic discussion group created	OR, John Sullivan	FII 1 FR 10 OS 8, 21 SR 2, 6, 13

FY 1999 REI Project Management Plan—*Data Standardization Program*						
Task #	**Tasks/Milestones**	**Start Date**	**End Date**	**Deliverable**	**Responsible Organization**	**Coordinating Task #(s)**
DS 12	Coordinate final FII standard with FRS		Ongoing	Final FII standard incorporated in FRS	OIRM, EIMD	FII 6-10, 19, 20 SR 13
DS 13	Coordinate data standards and transfer format protocol with the FII/FRS team		Ongoing	Transfer format protocol and data standards coordinated with FRS	OIRM, EIMD	FII 16 ER 10, 12
DS 14	Coordinate data standards development with EDI-related data analyses		Ongoing	Completed data standards coordinated with EDI analyses	OIRM, EIMD in partnership with OP	ER 1, 10
DS 15	Incorporate EPA data standards in EDI transaction sets and build the capacity to house in the EDR		Ongoing	EPA data standards incorporated in EDI transaction sets, and included in the EDR	OIRM, EIMD in partnership with OP	ER 11
DS 16	Develop data standards in partnerships with States		Ongoing	Data Standards that include Agency and State input	OIRM, EIMD in partnership with OR	OS 11, 21, 25
DS 17	Provide technical expertise to the standards development process including to State stakeholders		Ongoing	n/a	OIRM, EIMD in partnership with OR	OS 22
DS 18	Provide and administer the EDR as the standard and transaction set registry for use by EPA and States		Ongoing	EDR established as transaction set registry for EPA and States	OIRM, EIMD in partnership with OR	FII 18 OS 23
DS 19	Keep systems informed about progress of data standards promulgation and what will be required of them to implement standards		Ongoing	Up-to-date documentation of progress of data standards and what is required for system managers to implement them	OIRM, EIMD	SR 2, 11, 12

FY 1999 REI Project Management Plan—*Data Standardization Program*						
Task #	**Tasks/Milestones**	**Start Date**	**End Date**	**Deliverable**	**Responsible Organization**	**Coordinating Task #(s)**
DS 20	Work together to identify needs for tools to aid implementation of standards in the systems		Ongoing	Identification of needs for system implementation tools	OIRM, EIMD	SR 2, 6, 11, 12

Key from above: (*) Other priorities are taking more time than anticipated
(+) Stewardship policy development is more complex than anticipated

Performance Measures

Performance Measure	Data Collected	Performance Goal
Short Term		
1. Number of standards released as final with business rules	Final standards with business rules	The remaining four REI standards approved as final
2. Number of national systems with applicable data registered in the Environmental Data Registry (EDR)	Answers to standards questions contained in the Application Review Process	Eight national systems with data registered in the EDR
3. Number of data groups harmonized in EDR	Statistics from the EDR	Three groups of harmonized data recorded in the EDR
Long Term		
1. Number of national systems implementing all applicable standards	Random, periodic program system compliance assessments	All thirteen REI systems with successfully implemented applicable standards within the time frames established in the REI Action Plan
2. Percentage of new or revised Agency information collection instruments using data standards	Statistics from the Agency information inventory and central receiving function	Seventy percent of new and revised information collection instruments use data standards

Issues/Challenges

Throughout this implementation process, the REI staff will face a number of issues and challenges. Many of these issues have already surfaced as a result of the initial attempts to standardize some data elements. Each of these challenges is articulated below:

- *Coordination with States.* Because most data comes to EPA through States, working with States is the key to good data standards. The challenge is to establish an appropriate mechanism for States to participate in developing standards and business rules.

- *Stewardship Assignment.* Success of the data standards program is predicated on individual Program Offices accepting stewardship responsibilities for their data and actively participating in the standardization process. The viability of the standards program would be at risk if Program Offices perceive this role as being excessively burdensome or contrary to their interests. The challenge for the data standards program is to articulate clearly the multiple levels of data stewardship and gain Program Office acceptance and buy-in of this role.

- *Confidentiality/Security Issues.* Although data standardization is a tool to promote the sharing of information, issues of confidentiality and security must be recognized. OIRM staff will ensure that any system that is developed adequately addresses these issues.

- *Adequate Resources.* Improving data management can lead to a number of benefits for the Agency. However, these benefits are often difficult to articulate and measure. Data management is like any other management—immediate return on investment is not always easy to quantify. However, the results of bad management have long term consequences. Because funding and other resources are increasingly dependent on proven success, the Agency must develop indicators of success and communicate the benefits of achieving their objectives to Agency personnel. An additional challenge is to help the Agency understand that a data standards program carries with it a cost beyond systems development. The costs of ensuring coordination and building consensus among stakeholders must be accommodated within funding structures.

Resources

OIRM staff will oversee the development and implementation of a formal Information and Data Management Program with recognizable registration and standardization processes as well as continued enhancement of the EDR as the program's primary support tool. EPA Program Offices will assume data steward responsibilities for data pertinent to their programs.

Contractor assistance to provide data management expertise will be available to support EDR operations. To develop and maintain a viable standards program, the Agency must ensure the integrity of the EDR by retaining the established expertise, building on the experience gained, and perpetuating an environment of technological excellence within the context posed by Federal contracting procedures.

Task Area C: Specific Data Standards

Lead Office: Enterprise Information Management Division of the Office of Information Resources Management
Project Manager: Marian Cody

Background and Status

The *REI Action Plan* identified six types of data that are common to many Agency systems and noted how standardization would facilitate data sharing and system integration. These standards will be approved under the new standardization process. The REI priority standards are: facility identification, latitude/longitude (location), SIC/NAICS, date, biological taxonomy, and chemical identity.

EPA has begun work on standardizing data. For instance, a standard for calendar date was established in July, 1997. In 1990, the Agency finalized its Locational Data Improvement Project (LDIP) to ensure collection and documentation of accurate, consistently formatted latitude and longitude coordinates for points of environmental concern. EPA is also partnering with U.S. and Canadian Federal agencies, State agencies, academic institutions, museums, and non-governmental organizations to develop and maintain the Integrated Taxonomic Information System (ITIS), which provides the biological taxonomy data standard called for in the *REI Action Plan*. Another project, the Key Identifiers Project, was an effort to establish standards for facility and chemical identification data. In December, 1997, the Facility Identification Workgroup agreed upon a set of facility data elements that have been approved as interim data standards. In 1987 EPA established the Chemical Abstracts Service name and registry number system as the data standard for chemical identification. Inconsistent program implementation and evolving program needs have necessitated that this standard be revisited. The Agency has also taken steps to recognize the Standard Industrial Classification (SIC) and the North American Industrial Classification System (NAICS) as standardized codes for the identification of economic classifications and to accommodate the transition from (SIC) to (NAICS). In establishing these standards, the primary role of the REI staff is to ensure the widespread use of these data standards and encourage the movement to standards-based approaches for managing information. While it is clear that progress has been made on establishing standards, the Agency has had limited success in enforcing these data standards, and none has been adopted consistently across Agency systems.

Implementation Strategy

Establishing the REI priority data standards involves not only developing and promulgating standards, but also a number of other activities to support their widespread and ongoing use. Successful implementation requires constant communication with EPA's partners in environmental regulation, including the States and other Federal agencies.

The Environmental Data Registry (EDR) will be the primary tool used to facilitate the Agency's routine use of these data standards across systems. As outlined in Task Area B, the use of EDR will be promoted and its capabilities will be enhanced so it can be accessed easily and made more available. This will ensure that data standards are widely incorporated into Agency business practices.

Information and Data Management program staff will participate in standard setting and coordination organizations, including the Environmental Data Exchange Network. This participation will help in establishing a common environmental vocabulary across government agencies and other organizations.

IDM program staff and Program Offices will also will need to make systems changes. EDR and other data management systems will need to be enhanced as these standards continue to evolve. Agency personnel will need to be kept informed and offered training on the EDR and how to create good metadata.

Implementation of these tasks will promote the adoption of a standards-based approach for interaction with the Agency's State partners in environmental regulation. Specifically, IDM Program staff will be coordinating with State partners to address language differences in State statutes that impact the priority data standards.

Tasks and Milestones

FY 1999 REI Project Management Plan—*Specific Data Standards*						
Task #	**Tasks/Milestones**	**Start Date**	**End Date**	**Deliverable**	**Responsible Organization**	**Coordinating Task #(s)**
DS 21	Establish REI priority standards, business rules, and related infrastructure	Ongoing		REI priority standards and business rules established	OIRM, EIMD, Marian Cody, Larry Fitzwater; Program Offices	FII 1, 2 OS 22 SR 2, 6, 11
DS 22	Date (Y2K) Standard: -Approve final business rules -Approve final standard; publish in EDR	Q1/FY99	 12/17/98 ✔ 12/17/98 ✔	Standard and business rules published in EDR	OIRM, EIMD, Geoff Steele	n/a
DS 23	Facility ID: -Publish interim business rules -Collaborate on phase III -Draft final business rules -Submit to REI SC; publish final standard		 11/30/98 ✔ Q2 & Q3 ✔ Q4/FY1999 9/30/99	 Final standard finalized	OIRM, EIMD, Beverly Hacker	FII 1-2, 16, 19, 21-22 OS 21, 24-26 SR 13
DS 24	SIC/NAICS: -Finalize business rules, submit to REI SC -Finalize standard, submit to REI SC	Ongoing	 12/17/98 ✔ 12/17/98 ✔	Standard and business rules published in EDR	OIRM, EIMD, Linda Spencer, Beverly Gregory	n/a
DS 25	Lat/Long: -Approve interim standard -Develop business rules -Submit final standard and business rules to REI SC; finalize final standard	11/98	 12/17/98 ✔ 6/30/99 Q4/FY1999 9/30/99	 -Interim standard published -Final standard published in EDR	OIRM, EIMD, Robert Lewis	n/a
DS 26	Biological Taxonomy: -Develop interim standard -Submit to REI SC -Develop business rules -Submit final standard to REI SC -Publish final standard	6/30/98	 1/30/99 ✔ Q3/FY99 ✔ Q4/FY99 Q1/FY2000 12/31/99	 -Interim standard published -Final standard published-Interim Standard	OIRM, EIMD, Larry Fitzwater (EIMD)	n/a

FY 1999 REI Project Management Plan—*Specific Data Standards*						
Task #	**Tasks/Milestones**	**Start Date**	**End Date**	**Deliverable**	**Responsible Organization**	**Coordinating Task #(s)**
DS 27	Chemical Identification: -Develop interim standard -Submit to REI SC -Develop business rules -Submit final standard and business rules to REI SC -Finalize final standard	10/97	1/30/99 ✔ 6/30/99 ✔ Q4/FY99 Q1/FY2000 12/31/99	-Interim standard published -Final standard finalized	OIRM, EIMD, Tom Maloney	OS 7
DS 28	LDIP: -Provide contract/grant support to Regions after an approved project plan -Gather locational values of documented origin -Expand the Web documentation of locational values in Envirofacts	1/1999 4/1999 1/1999	8/1999 9/1999 6/1999 ✔	-Commitment notices -Total of 500,000 values of data documentation -All Lat/Long values results in EF Queries will have documentation	OIRM, Pat Garvey	n/a

FY 1999 REI Project Management Plan—*Specific Data Standards*						
Task #	**Tasks/Milestones**	**Start Date**	**End Date**	**Deliverable**	**Responsible Organization**	**Coordinating Task #(s)**
DS 29	ITIS:					
	-Hire Director	4/98	7/99		USGS	SR 6
	-Establish interagency management structures to ensure accountability	Ongoing	9/99	Management structure	USGS	
	-Expand partnership to meet goals of NPR *Access America*	Ongoing	Ongoing	-Additional partners	USGS	
	-Increase number of names meeting highest credibility rating by 25,000		9/99	-Database content update	DDT*	
	-Test alternative database development approach	5/99	7/99	-New, documented approach	DDT and NODC	
	-Identify 6 new data contributors (Stewards)	1/1999	9/1999	-Involvement of additional expert taxonomists as ITIS "Data Stewards"	Barbara Lamborne	
	-Update of Taxonomic Workbench		1/1999 ✔ & 8/1999	-Updated Taxonomic Workbench	USDA	
	-Redesign of Web site	3/1999	12/1999	-Enhancements to ITIS Web site	USGS/DDT/USDA	
DS 30	Participate in standards setting/coordination organizations	Ongoing	Ongoing	n/a	OIRM, EIMD, Bruce Bargemeyer, Linda Spencer, Larry Fitzwater	OS 8, 21
DS 31	Establish a standards-based approach for interaction with partners in environmental regulation	Ongoing	Ongoing	-Terminology Reference System (TRS) built out -TRS populated with common environmental terms -Requirements identified for a "reg writer" interface	OIRM, EIMD, Bruce Bargemeyer, Larry Fitzwater, Linda Spencer, Beverly Hacker	OS 22

Performance Measures

The performance measures detailed under Task Area B, Data Standardization Program, will also be used to measure performance under Task Area C, Specific Data Standards.

Issues/Challenges

The issues and challenges the REI staff faces under this task area are similar to those described in Task Area B, and include the following: Stewardship Assignment; and Adequate Resources. The role of Program Offices as data stewards continues to be critical to the successful establishment of these six initial data standards and the incorporation of data standards into ongoing business practices. This has proven to be especially challenging in the development of the initial priority data elements because they are elements that appear in multiple program systems. Because the systems were developed independently, each system represents similar data differently. System managers may perceive that compliance with data standards will mean significant changes to their systems. As is already evident from the limited success of facility ID, SIC/NAICS, and Lat/Long elements, this perception must be addressed through outreach, training, and communication of the benefits of the data standards program and explication and clarification of appropriate approaches and techniques to comply with standards requirements in cost effective ways. Finally, the challenge of characterizing existing data standards and incorporating these old standards into new standards also remains an issue.

Resources

OIRM will provide the staff support to establish and manage the standardization process, to participate in ongoing dialogue with our environmental trading partners (including the States), and to interact with national and international standard-setting organizations. There will be contractor support available for data management expertise, to further develop and refine the EDR capability, to augment EPA representation with national and international standard setting organizations, and to provide other technical and logistical assistance as needed. As in Task Area B, EPA Program Offices must assume data steward responsibilities for data pertinent to their programs for the standardization process to be successful.

Task Area D: Facility Identification Initiative Phase III

Lead Office: Office of Information Resources Management
Project Manager: Mike Holman

Background and Status

In 1995, EPA's Executive Steering Committee (ESC) for Information Resources Management (IRM) established the Key Identifiers project to address developing a common approach to identifying facilities in individual media-specific environmental information systems. This project established an interim set of standard data elements to identify facilities and provided the capability to link facilities across EPA's media-specific information systems. This phase of the project was successfully completed with the release of an interim Facility Identification Data Standard in February 1998 and the October 1998 release of the Facility Linkage Application that identifies and links facilities across multiple programmatic information systems. In October 1998, the REI Subcommittee of the ESC established a revised set of goals for facility identification and evaluated the project's success against these new goals. The Subcommittee determined that a new phase, which builds on the previous phase's success, was needed to meet all the goals. The four goals for facility identification established by the REI Subcommittee in October 1998 are:

- Reduce the reporting burden on the regulated community
- Create an authoritative, up-to-date source of facility data for EPA, the States and the public
- Improve the quality of facility identification data
- Provide an "anchor" to link facilities, manage electronic reporting, and accept integrated data from States and industry

The Agency has made considerable progress in implementing the project. EPA has established an Interim Facility Data Standard (to provide an objective measure by which data quality can be measured), created a Facility Linkage Application (FLA) in Envirofacts to link facilities, and established a network of Regional and State data stewards to clean up facility linkages. The REI Subcommittee of the ESC has assessed progress, reassessed the goals of the project, and determined that the Agency needs to move from the Facility Linkage Application to a Facility Registry System (FRS) to ensure that all project goals are achieved.

The FRS will help manage the integration of the Agency's facility data by ensuring facilities are properly identified and linked to their environmental information. The FRS will establish a central information resource of definitive facility information, assigning each facility with a unique Facility Registry Identifier, which will ensure accurate linkages, enable electronic reporting, central receiving

and integrated reporting. The FRS information will use the existing FLA to provide linkages to media-specific program information. The FRS is being built in full conformance to the Facility Identification Template for States (FITS) model.

Implementation Strategy

Based on discussions since its initial release, the draft Interim Facility Data Standard requires updates to the list of data elements and the definitions of those data elements to meet the REI goals for the Agency. Input will be incorporated to update the standard by engaging Regions, Program Offices, States, and other interested stakeholders. The updated Facility Identification Data Standard will be used in the development of FRS to ensure that FRS will be able to map to the Program Office systems and State data systems as they implement the standard.

The FLA is in production and is currently being used by the data stewards and OIRM to create and update the facility linkages. This linkage effort will continue to support the establishment of a high quality reconciled database of facility linkages. The FLA also will undergo updates during the year to provide functionality needed by the data stewards, respond to the needs of Freedom of Information Act (FOIA) coordinators, and improve the functionality of the application and its ability to manage facility linkages. It is possible that with further study by Enterprise Technology Services Division (ETSD) of Internet security issues, new requirements will be placed on Internet applications to respond to new EPA policy.

FRS development consists of requirements gathering, design, and development and testing of the application. It will support Program Office needs as they are identified and prioritized. Supporting documentation will be made available on the FRS Web site to help keep the community informed of major milestones and development details. This includes a strategy paper that addresses the need for data quality criteria, overall requirements, and potential data sources. The FRS development team will work closely with ETSD to provide necessary documentation and other resources to successfully implement FRS in an EPA environment.

The team will coordinate its efforts with the Facility Identification Data Standards team to submit data element definitions and relationships for population of the Environmental Data Registry (EDR) and to provide information about FRS requirements for finalization of the Facility Identification Data Standard. The team also will work with the Electronic Reporting/Central Receiving Facility (ER/CRF) team to ensure that FRS requirements are consistent with ER/CRF requirements; with One Stop and the States to develop and implement a facility registry system that is FITS-compatible; and with the systems reengineering team to communicate with programs/systems managers about what is required to incorporate the Facility Identification Data Standard, clean up facility linkages and data, and implement FRS.

Tasks and Milestones

FY 1999 REI Project Management Plan—*Facility Identification Initiative (FII) Phase III*						
Task #	**Tasks/Milestones**	**Start Date**	**End Date**	**Deliverable**	**Responsible Organization**	**Coordinating Task #(s)**
FII 1	Establish forum for finalization of the Facility Identification Data Standard; hold national workshop including public comment period to finalize standard	Ongoing	6/1999 ✔	National workshop	OIRM, George Bonina, Marian Cody	DS 11, 21, 23 OS 8, 25 SR 2, 13, 14
FII 2	Complete Facility Identification Data Standard (draft, review with OECA, program systems, finalize, approve and publish)	In progress	9/1999	Final Facility Identification Data Standard	OIRM, Marian Cody, Beverly Hacker, Mike Holman	DS 21, 23 SR 2, 13
FII 3	Improve facility linkages by supporting Data Stewards, establishing procedures, and enhancing the FLA		Ongoing	Improved facility linkages	OIRM, Mike Holman	SR 2, 13
FII 4	Validate linkages by establishing criteria by which Data Stewards can validate linkages and by enhancing the FLA	5/1999	Ongoing	Linkages in Facility Linkage Application with validated flag set	OIRM, Mike Holman	SR 2, 13
FII 5	Continue to maintain the FLA by releasing updates on time, responding to Data Steward requirements, and adding data quality reports	1/1999	Ongoing	New releases of the Facility Linkage Application	OIRM, Mike Holman	SR 2, 13
FII 6	Meet with stakeholders to gather requirements for FRS; provide briefings, and develop meeting agendas and minutes and refer users to the FRS Web site		Completed for 1/1999 FRS Release ✔	Briefings, meeting agendas and minutes—leading to FRS requirements	OIRM, Mike Holman,	DS 12 ER 13 OS 26 SR 2, 13
FII 7	Develop FRS Requirements Document (prioritize requirements, develop Data Model for FRS Application, distribute to ETSD, and post on FRS Web site)	10/1998	6/1999 ✔	FRS requirements	OIRM, Mike Holman	DS 12 ER 13 OS 26 SR 2, 13, 23

FY 1999 REI Project Management Plan—*Facility Identification Initiative (FII) Phase III*						
Task #	**Tasks/Milestones**	**Start Date**	**End Date**	**Deliverable**	**Responsible Organization**	**Coordinating Task #(s)**
FII 8	Develop Strategy for registry development and operation	1/1999	3/1999 - Initial Delivered; ✔ Ongoing Updates	Strategy paper for registry development and operation	OIRM, Mike Holman	DS 12 ER 13 OS 26 SR 2, 13
FII 9	Define data quality criteria for FRS	2/1999	12/1999	Validation rules for data elements	FRS Workgroup	DS 12 OS 26 SR 2, 13
FII 10	Determine source for FRS facility information by reviewing available facility data and making recommendation on source for quality facility data	4/1999	Ongoing	Sources for FRS data in priority order	FRS Workgroup	DS 12 SR 2, 13
FII 11	FRS design (document "how" system is implemented, distribute to ETSD, and post on FRS Web site)	6/1999	7/1999	FRS design	OIRM, Mike Holman	n/a
FII 12	Develop and test FRS (assign appropriate development and test efforts)	4/1999	8/1999	FRS system	OIRM, Mike Holman	SR 2, 13
FII 13	Load data (TRI and RMP*Info) into FRS database; coordinate with ETSD	7/1999	9/1999	Populated FRS database	OIRM, Mike Holman	SR 2, 13
FII 14	Install production FRS system at ETSD (coordinate with ETSD as needed)	9/1999	9/1999	Operational system in production	OIRM, Mike Holman	n/a
FII 15	Identify States to work with facility warehouse data transfer		Completed ✔	Pennsylvania, Washington	OR, Mary McCaffery John Sullivan	OS 26

FY 1999 REI Project Management Plan—*Facility Identification Initiative (FII) Phase III*						
Task #	**Tasks/Milestones**	**Start Date**	**End Date**	**Deliverable**	**Responsible Organization**	**Coordinating Task #(s)**
FII 16	Finalize data transfer formats (incorporate updates based on modifications to the Facility Identification Data Standard)	1/1999	4/1999 - Initial Complete; ✔ Updates Ongoing as Needed	Data transfer formats	OIRM, Mike Holman; OR, John Sullivan	DS 13, 23
FII 17	Work with States to clarify data issues to integrate data into FLA and establish a procedure to manage and track data issues		Ongoing	State data integrated in FLA	OR, Mary McCaffery, John Sullivan; OIRM, Mike Holman	OS 11, 26
FII 18	Submit data element definitions and relationships among data elements to the data standards program for population in the EDR		Ongoing	Data elements and relationships populated in the EDR	OIRM, EIMD, Marian Cody, Mike Holman	DS 1, 18
FII 19	Provide information about FRS requirements to the data standards programs for finalization of the Facility Identification Data Standard		Ongoing	Final input to the Facility Identification Data Standard	OIRM, EIMD Mike Holman	DS 12, 23
FII 20	Coordinate requirements, design, and development of a FRS with States and ensure compatibility with FITS		Ongoing	FRS requirements, design, and development coordinated with States and ensure compatible with FITS	OIRM Mike Holman	DS 12 SR 13
FII 21	Communicate with programs/systems about what is required to incorporate the Facility Identification Data Standard, clean up facility linkages/data, and implement FRS		Ongoing	System requirements for the standard, Facility linkages/data cleanup, FRS implementation	OIRM, EIMD Marian Cody, Mike Holman	DS 23 OS 24 SR 2, 11, 12, 14

FY 1999 REI Project Management Plan—*Facility Identification Initiative (FII) Phase III*						
Task #	**Tasks/Milestones**	**Start Date**	**End Date**	**Deliverable**	**Responsible Organization**	**Coordinating Task #(s)**
FII 22	Coordinate with ER to ensure that FRS requirements are consistent with ER/CRF requirements		Ongoing	FRS requirements consistent with ER/CRF requirements	OIRM, Mike Holman, in partnership with OP and the FRS Workgroup	ER 12

Performance Measures

Performance Measure	Data Collected	Performance Goal
	Short Term	
1. Facility data standard finalized and business rules established	Final standard with business rules	The data standard and business rules approved as final
2. FRS implemented with 30,000 facilities	Reports from FRS indicating number of facility records maintained	30,000 facilities loaded into initial release of FRS
3. Number of facility linkages validated	Reports from FLA indicating the number of linkages validated	Five percent increase in number of facility linkages validated
	Long Term	
1. Number of facilities added to FRS	Reports from FRS indicating number of facility records maintained	10% increase in number of facilities added to FRS
2. Number of program systems implementing FRS	Reports from FRS showing PCS, RCRIS, and AIRS/AFS facilities in FRS	Integrate PCS, RCRIS and AIRS/AFS facilities in FRS
3. Number of States submitting quality assured data to FRS	Reports from FRS indicating State-submitted data	Integrate Washington and Pennsylvania State data in FRS

Issues/Challenges

Throughout the implementation process, the staff will face a number of issues and challenges. These issues are related to finalization of the Facility Identification Data Standard, use of and enhancements to the FLA, development of FRS, and coordination with State efforts. Some of these challenges include:

Coordinate with States. Since most data comes to EPA through State delegated programs, working with States is the key to the ability to implement the data standard in EPA's data systems. The challenge is to develop a standard that can be followed by all parties in representing facility information.

Finalize the Current Facility Identification Data Standard. While the date for the final release of the new standard is September 1999, the initial list of the new data elements and definitions must be completed within a short time frame if they are to be available to guide the development of the FRS. The challenge is to get early agreement from all interested parties. Note: The FRS System is being developed as the Facility Identification Data Standard is being revised. The major elements of the new Data Standard need to be determined by April 1999 in order to support the development schedule for FRS, which requires release in September 1999. If there are major changes to the Facility Identification Data Standard in late summer 1999, it will be difficult to incorporate them into FRS prior to the initial September release.

Encourage Active Participation of the Regions and States in the Linkage Cleanup and Validation Process. Cleaning up the linkages for the large number of facilities that exist within EPA data systems requires the commitment of resources throughout the Agency and States. The Regions and States are where the facilities are actually managed and known, therefore they have the knowledge that is necessary to support this effort. The challenge is to have them remain focused on this effort as other projects compete for their time and energy.

Determine Valid Facility Linkages. A major activity will be to mark as valid those facility linkages that have been determined to be correct. The challenge here is how to determine that a facility linkage is valid, and how to properly mark the record to document the reason for the validation. The TRI database can be used as a source for validation as facilities have reported other permits to the EPA under that program, however, other sources must be found that can increase the number of valid linkages.

Maintain the focus of the FLA. Since the release of FLA in September 1998, there have been requests to add functionality that is unrelated to the core process of managing facility linkages. The challenge is to keep the usage of the FLA focused on managing facility linkages and to prevent the linkage identifier from being used outside of the system.

*Coordinate with TRI and RMP*Info Prior to Completion of the System.* The team will need to meet with TRI and Risk Management Plan Information (RMP*Info) program office team members to gain knowledge of their data quality experience and apply those standards to FRS. In addition, the team will need to identify early on the anticipated number of records for each program system and to do an initial analysis of those facilities that are captured in both program systems.

Define Business Rules Associated with the FRS. The business rules in terms of what are the data elements, their definitions, and relationships and the "constraints on changes" to the data values need to be captured as part of the requirements gathering process and in support of the data model development. This information needs to be defined early on in the development process.

Define Business Rules Associated with the Final Facility Identification Data Standard. The business rules in terms of how the FRS is to be managed with in the Agency and the policies and procedures needed to implement the Standard.

Maintain Aggressive Schedule for the September FRS Release. Requirements need to be captured and confirmed early on. Requirements that change, or are identified as new beyond the spring of 1999, will need to be assessed in terms of the impact to the schedule. The September Release is intended to provide basic functionality, that is, creation of the "authoritative" record for TRI and RMP*Info data, search and reporting capabilities. Subsequent releases will provide an Add and Update interface and accommodate the requirements defined by the FRS Workgroup as they define the business rules for facility registration for the Agency.

Managing inconsistencies between the States Facility Lists themselves and with the FRS. The challenge is to have a Facility Identification Data Standard that is agreed to by all parties to enable facility data transfers to go smoothly as each party can completely identify the matching data in their systems. Criteria will need to be established to determine what data is included and not included as various State data issues occur. This will be resolved on a case-by-case basis.

Support of Data Stewardship. The States will need to supply the data and updates to the data to ensure accuracy and currency. The parties having an active data stewardship program concentrating on providing the highest quality data will be critical to the success of the process.

Maintain Adequate Resources. Although improving the Agency's data management through FRS will benefit EPA, State, and other stakeholders in a number of ways, these benefits are often difficult to define and measure. The challenge, then, is to develop performance measures to show the return on investment being realized due to the improved integration and management of EPA's facility data as an Agency resource. Such measures would encourage commitment of the needed resources by the EPA Offices, States, and other stakeholder groups that currently control them. This challenge of justifying and acquiring adequate resources is further compounded because long-term FRS goals require sustained resources at both the Federal and State levels.

Resources - FLA

FLA is currently being used by OIRM and the data stewards to create and update facility linkages. Cleaning up the linkages for the large number of facilities that exist within EPA data systems requires the commitment of resources throughout the Agency and the States. OIRM is working closely with the regions, States, and program offices who actually manage the facilities to leverage the expertise necessary to support this effort.

Resources - FRS

OIRM will continue to meet as needed and coordinate with the national systems managers and OECA to ensure their requirements and concerns are met (e.g., for OECA, the issue of parent company identities and economic activities for sector analyses). In addition, OIRM is coordinating efforts with the States (through ECOS and One Stop) to transfer facility data and linkages between States with developed facility systems and EPA. Resources are required from OIRM, One Stop, State and regional data stewards, and ECOS for these activities. Contractor support is being used for both the FLA enhancements and linkage support and FRS development.

Task Area E: Electronic Reporting

Lead Office: Office of Policy
Project Manager: David Schwarz

Background and Status

As identified in the *REI Action Plan*, the Agency commits to developing standards and protocols to promote consistent and universally available electronic reporting (ER) for environmental data. This REI goal will reduce the burden of environmental reporting for regulated facilities, as well as the cost to states and EPA of processing and accessing the data reported — among other things, facilitating the use of data for compliance monitoring and enforcement. ER will also improve data quality and greatly increase the speed and ease with which this data can be made available to the public. By taking a standards-based approach, the Agency will be able to foster and take advantage of marketplace solutions to the technological challenges of enabling environmental ER. While this technical infrastructure and the accompanying legal framework are being put in place, the Agency will continue to use its legacy approaches in the few cases where ER is currently available for environmental reports.

EPA can benefit from advances in electronic reporting used by other Federal agencies and by the private sector. However, traditional electronic data interchange (EDI) as currently practiced in the business community falls short of meeting EPA's needs in two respects. First, the signature and security procedures that are adequate for business transactions do not fully satisfy authentication requirements for a compliance document that may play a role in criminal proceedings (see discussion under "Issues/Challenges"). Second, EDI likely requires too much technical sophistication to be feasible for regulated small businesses, so EDI must be supplemented with "friendlier" and less costly technologies such as those offered by Internet/Web-based "smart forms." Work is under way to research and pilot more advanced approaches that may address these needs while maintaining an appropriate connection with American National Standards Institute (ANSI)-based standards and focusing on such issues as Internet/Web-based ER architectures, security, and digital signatures. The leading product of these efforts will be an EPA cross-media electronic reporting and recordkeeping rule that specifies standards and requirements for legally valid electronic submissions whether using traditional EDI architecture or the Internet.

Implementation Strategy

Coordination and supervision of the efforts to develop and finalize electronic reporting capabilities within EPA will be led by the Office of Policy (OP). Support to OP will be provided by the Agency CIO.

The following table presents the tasks that need to be completed in order to implement electronic reporting in coordination with other REI teams. The primary focus in FY 1999 will be on the completion of EDI standards development for environmental reports, resolution of core legal policy issues, pilot tests of Internet and digital signature technologies, and specification and pilot tests of Agency electronic reporting infrastructure components. ER will coordinate with the Data Standards Program, Facility Identification Initiative (FII), One Stop, and Systems Reengineering Coordination to achieve common REI goals including: standardized data elements, central receiving function (CRF) support, and ER implementation support.

Tasks and Milestones

FY 1999 REI Project Management Plan—*Electronic Reporting*						
Task #	**Tasks/Milestones**	**Start Date**	**End Date**	**Deliverable**	**Responsible Organization**	**Coordinating Task #(s)**
ER 1	Complete draft EDI standards development for all data submissions to all national systems that are not currently addressed	FY98	Q4/FY99	-Business process analysis reports for major program systems (AIRS, BRS, PCS, RMP, TRI) completed ✔ -National EDI standards/ implementation guidelines for all data submissions addressed -New EPA-specific ANSI X12 transaction set developed to support integrated, cross-media compliance reporting - Business process analysis and international standards development for trans-border exchange of hazardous waste and pesticide data	OP in partnership with system "owners"	DS 14 OS 27 SR 2, 6, 15-17
ER 2	Complete and publish interim State ER guidelines that address reporting to delegated States	FY97	Q4/FY99	Published interim guidelines	OP	OS 27-30 SR 2

FY 1999 REI Project Management Plan—*Electronic Reporting*						
Task #	**Tasks/Milestones**	**Start Date**	**End Date**	**Deliverable**	**Responsible Organization**	**Coordinating Task #(s)**
ER 3	Initiate cross-media consolidated rulemaking to provide EPA legal framework for electronic reporting	Q2/FY99	Ongoing	-Development plan	OP	SR 2
ER 4	Complete pilot tests of Internet-based implementation scenarios using software and hardware-based digital signatures and biometrics	Q1/FY99	Q4/FY99	Technical reports to serve as basis for ER signature policy	OP	OS 29 SR 2, 15-17
ER 5	Develop requirements analysis and implementation plan for Agency Public Key Infrastructure (PKI) digital signatures	Q2/FY99	Ongoing	Requirements document	OP in partnership with OIRM, ETSD	OS 27, 28 SR 2, 15-17
ER 6	Develop requirements analysis (including system security) and implementation options for Agency "central receiving facility"	Q2/FY99	Ongoing	-Requirements document -Cost/benefit analysis	OP in partnership with the NSB	OS 27-29 SR 2, 15-17
ER 7	Continue development of Agency EC/EDI testbed to prototype "central receiving facility"		Ongoing	-Data receiving facility for EDI and Internet submissions -EDI/EC software assessment report	OP in partnership with OIRM, ETSD	OS 27-29 SR 2, 15-17
ER 8	Support One Stop Program demonstration of State integrated Electronic Reporting	10/98	Q2/FY2000	Implementation setup for three EDI applications in PA	OP in partnership with OR	OS 6, 9, 17, 19, 29 SR 15

FY 1999 REI Project Management Plan—*Electronic Reporting*						
Task #	**Tasks/Milestones**	**Start Date**	**End Date**	**Deliverable**	**Responsible Organization**	**Coordinating Task #(s)**
ER 9	Coordinate with One Stop to continue support of limited State/Federal EDI implementations for NPDES, safe drinking water, hazardous waste, and air programs	Q2/99		-Air, hazardous waste, and drinking water state EDI implementations -Proposed hazardous waste ER rule -Proposed and draft final NPDES ER rule	OP, OECA, OW, and OSW	OS 27, 28 SR 15-17
ER 10	Coordinate the development of data transfer sets to include EPA data standards and well-formed EPA data elements		Ongoing	Data transfer sets inclusive of standardized data elements	OP in partnership with OIRM, EIMD	DS 11, 13, 14
ER 11	Provide data transfer sets for inclusion in the EDR		Ongoing	Data transfer sets for inclusion into the EDR	OP in partnership with OIRM, EIMD	DS 5, 15
ER 12	Develop data transfer sets to ensure that facility-based reporting includes FII standard data elements		Ongoing	Data transfer sets including FII standard data elements	OP in partnership with OIRM	DS 13 FII 23
ER 13	Participate in development for FRS to ensure that it supports central receiving	10/98	Q4/99	FRS capable of supporting central receiving	OP in partnership with OIRM	FII 6-8
ER 14	Coordinate ER/CRF requirements, regulation development, and cost benefit analysis with One Stop and Program Offices	Q2/99		ER/CRF requirements, regulation development , and cost benefit analysis	OP in partnership with OIRM	OS 6, 9, 26-29 SR 15-17
ER 15	Provide technical support and infrastructure for State/EPA exchange		Ongoing	Technical support and infrastructure for State/EPA exchange	OP in partnership with OR	OS 6, 9, 27-29
ER 16	Coordinate with One Stop in conducting State pilots		Ongoing	State pilots implementing ER	OP in partnership with OR	OS 19, 29

FY 1999 REI Project Management Plan—*Electronic Reporting*						
Task #	**Tasks/Milestones**	**Start Date**	**End Date**	**Deliverable**	**Responsible Organization**	**Coordinating Task #(s)**
ER 17	Communicate progress and what will be required of system managers to implement ER/CRF	Q1/99	Q4/99	ER/CRF progress and requirements communicated to system managers	OP in partnership with OIRM	DS 10 SR 2, 5, 6

Performance Measures

Performance Measure	Data Collected	Performance Goal
	Short Term	
1. Define and pilot test EDI transaction set formats (i.e., standard data transfer formats) for all major EPA reports related to major EPA environmental databases (these reports include: the discharge monitoring report and self-monitoring report under NPDES, the hazardous waste manifest and biennial report under RCRA, the Risk Management Plan, the Toxic Release Inventory, Safe Drinking Water laboratory reports, and one or more reports related to AIRS)	Project deliverables, (e.g., progress reports and products)	Completion of EDI transaction set format development for all major EPA reports related to major EPA environmental databases
2. Complete overall system architecture design and detailed system specifications for the Central Receiving Facility	System architecture design and detailed system specifications for CRF	Completion of all Central Receiving Facility design work
3. Prepare complete draft notice of proposed rulemaking (NPRM) for final review of the Agency's Cross-Media Electronic Reporting and Recordkeeping Rule	Draft NPRM for the Agency's Cross-Media Electronic Reporting and Recordkeeping Rule	Completion of NPRM ready for final Agency management review
	Long Term	
1. Of the data that regulated companies submit directly to EPA, the percentage of data that are submitted electronically	Electronic transaction data from CRF logs and from State and local agencies	Within the first five years of starting ER/CRF production, reach an annual electronic reporting rate of more than 50% for the universe of data submitted directly to EPA

Performance Measure	Data Collected	Performance Goal
2. Of the data that regulated companies submit to State or local environmental agencies under EPA-authorized or delegated programs, the percentage of data that is submitted electronically (This measure must be applied carefully, insofar as State implementation of electronic reporting will largely not be within the control of EPA, but the measure should provide some indication of the relative success of EPA leadership in this area)	Electronic transaction data from State and local agencies	Within the first five years of starting ER/CRF production, reach an annual electronic reporting rate of more than 30% for the data submitted to State or local agencies under EPA authorization or delegation

Issues/Challenges

- *Ability to Meet FY 2000 Goal of One ER Approach Available for Every Major Reporting Program.* From a technical perspective, given completion of EDI standards development and current availability of an EDI gateway (translator and VAN connection) managed by ETSD, it is theoretically correct to say that EPA will be in a position to receive EDI-submitted reports by the end of FY 2000. The ability to actually implement EDI by this deadline, however, is contingent on the necessary legal/regulatory framework being in place by this time. Unfortunately, EPA is unlikely to have this for all programs by 9/30/00 (see, #2 and #3, below). What may be available by then is: (1) a rule providing for EDI submission of Discharge Monitoring Reports (DMRs) with paper certification, (2) provision for EDI (and possibly Web-based) submission of safe drinking water laboratory reports, (3) provision for some Web-based submission of Toxic Substances Control Act (TSCA) forms, and (4) email submissions of the Risk Management Plan. In addition, EPA will likely be supporting some State implementations of at least EDI and/or Web-based submissions of Hazardous Waste Manifest forms and air emissions inventory reports. Finally, legacy, diskette-based electronic data collection will still be available for the Toxic Release Inventory and the Biennial Report. All of this, taken together, should be enough to claim interim success.

- *The Vehicle and Timeframe for Establishing the Agency's Legal Framework for Electronic Reporting.* The FY98 REI Program Management Plan proposed that the Electronic Reporting project—as an Agency-wide REI initiative—would provide the cross-Agency legal framework through the development and issuance of a policy statement, scheduled for release in late 1999, and that individual Program Offices would then undertake rulemaking to the extent that this was needed to supplement policy. Based on two year's experience working with the National Pollutant Discharge Elimination System (NPDES) program on its electronic reporting rule, it now appears that rulemaking will be needed in addition to policy in almost all cases where electronic reporting is introduced into a compliance program. Given this fact, and the time and effort required for program-by-program rulemaking, it is now clear that the REI goal of universal access to electronic reporting by 2003 can only be met if the REI plan includes sponsorship of a consolidated cross-program electronic reporting rule. Therefore, this FY 1999 Plan proposes that the Electronic Reporting initiative convert the current policy effort to rulemaking. This will extend the timeframe for providing the

required legal framework beyond FY 1999, likely to 2001 or 2002; however, the result will be a firm, uniform and enforceable regulatory foundation for electronic reporting across all the Agency's programs.

- *Developing Electronic Signature Approaches Acceptable to the Enforcement Community.* Currently, there is an ongoing dialogue between EPA and the Department of Justice (DOJ) – through meetings of a joint working group -- on the issue of what paperless electronic signature devices will meet the evidentiary requirements for use of electronic documents in enforcement proceedings. At least provisionally, we have agreement on at least one acceptable approach, involving the use of PINs together with digitized signature images. The next step will be to work though a corresponding agreement that involves the use of PKI-based digital signatures, which will likely have to be a key element in any Agency-wide electronic signature strategy. Ultimately, these agreements will be formalized in the Agency's electronic reporting rule.

- *Developing Viable, Cost-Effective Approaches to Electronic Archiving.* Implementation of ER will have to involve the long-term maintenance – by both EPA and regulated companies – of archived electronic copies of such things as transmission logs as well as the data submitted. Currently, there are unresolved issues on how best to assure the integrity and authenticity of such archives in the face of challenges posed by evolving systems platforms and the vulnerability of magnetic media to deteriorate over time. These issues must be addressed as a part of the Agency's electronic reporting rule.

Resources

The Office of Policy's (OP) Information Innovation Team (IIT) staff will oversee the development of the major components of the ER initiative, including EDI standards, electronic signature and associated rulemaking, central receiving architecture, and assistance/outreach to delegated State programs. For virtually all ER activities, IIT's role will largely be one providing both policy and technical analysis for key issues, together with leading and coordinating a partnership with affected federal offices/entities and State agencies, including OECA, OGC, the Department of Justice, and such Nongovernmental Organizations (NGOs) as the National Governors' Association, ECOS, and the Environmental Law Institute. Such partnerships may also involve foreign governments, where environmental compliance data moves across borders. In any event, these partnerships will be especially important to support standards development, rulemaking, and State outreach—with stakeholder workgroup processes central to each of these efforts.

In addition, for all the components of the ER initiative, IIT efforts will involve managing contractor resources. Contractor assistance will play an especially large role in EDI standards development, designing/planning for central receiving architecture, and implementing production ER. As production ER rolls out for various programs/States, stewardship for ER activities will shift from IIT to the responsible program/State managers.

Task Area F: One Stop State Partnership

Lead Office: One Stop Reporting, Office of Reinvention
Project Manager: Mary McCaffery

Background and Status

One Stop, begun in 1996, is a program to build a partnership with States and Tribes to realize the vision of EPA's new information office and the joint vision and operating principles of the State-EPA Information Working Group. It began as an initiative to demonstrate the feasibility of State data management reforms using jointly developed data standards, and as an approach to improve State/EPA data sharing, public access, and electronic reporting. Initial goals were to: reduce reporting burden on regulated communities, integrate data to support place-based and geographic solutions, enhance public access to environmental data, reduce EPA data costs, and leverage State investments on information management.

One Stop aims to develop a data-sharing partnership with each State based on common data standards and a shared vision concerning the goals and scope of environmental data management. One Stop provides one-time grants of $500,000 to help them reengineer State data management processes and systems. In addition, One Stop, working with the Environmental Council of States (ECOS), organizes State-to-State technical assistance and is responsible for ensuring that EPA data management policies and programs are coordinated with the overall vision agreed upon by EPA and ECOS. The *REI Action Plan* called for the expansion of One Stop to all 50 States, and focuses attention on primary REI program objectives. The Plan also highlights One Stop's responsibility for assisting other REI components in implementation of reforms with States.

During 1997-98, 16 additional States were awarded grants and partnered with the One Stop program. The States currently participating in One Stop are: AZ, GA, IN, MA, MD, MN, MO, MS, NH, NJ, NM, NY, OK, OR, PA, TX, UT, WA, WI, and WV. 1997-98 accomplishments include:

- Commitment from EPA to create the REI Program, which included many One Stop goals;
- Development of the Facility Information Template for States integration model;
- Framework agreement between ECOS and EPA, new State/EPA Information Management Workgroup with multiparty Action Teams;
- Prototyped data warehouse with National Systems Board, began populating with data;

Task Area G: Systems Reengineering Coordination

Lead Office: Office of Information Resources Management
Project Manager: Ruby Boyd

Background and Status

The *REI Action Plan* states that central support for national systems reengineering will be provided through the Systems Reengineering Team. During FY 1998, the National Systems Board (NSB) served as the primary mechanism for Systems Reengineering Coordination. The NSB, a technical advisory group, was created during FY 1998 and is composed of Information Resource Management (IRM) practitioners from across the Agency. The NSB membership represents 11 AA-ships and the regions.

The NSB held its first meeting on April 2, 1998. The membership decided to hold bi-weekly meetings to permit sufficient time to work on a number of high priority tasks. Using the *REI Action Plan* as a starting point, the NSB developed their list of FY 1998 tasks. Along with the tasks, the *Action Plan* identifies several REI management challenges that must be overcome to achieve success. These challenges are listed below and include a brief description of the NSB's role in overcoming them:

- *Managing for success.* The NSB is responsible for developing technical implementation solutions.

- *Applying REI management tools properly and resolving key issues as they arise.* The NSB serves as a forum for recommending solutions to technical issues as they arise during REI implementation. In addition, the NSB is committed to notifying the appropriate parties in a timely manner and providing clear options for proceeding.

- *Developing shared goals and planning for contingencies.* The NSB is dedicated to communicating with system managers to help identify and mitigate REI risk factors and schedule slippage. The NSB and National Systems Managers (NSMs) work closely to ensure implementation of REI.

- *Managing from shared goals and responsibilities.* The NSB recognizes the importance of all parties working together to achieve a team commitment to implementing REI.

Next, the NSB prioritized its tasks and selected five high priority tasks on which to concentrate their FY 1998 efforts. The tasks were selected because they are critical in addressing the REI management challenges. The five high priority tasks include:

3. Establishment and Management of the NSB;
4. Study of Central Receiving (CR) Function;
5. Study of Information Technology (IT) Architecture for Environmental Systems;
6. Analysis of National System Modernization Schedules; and
7. Incorporation of REI Commitments Into the Investment Review Criteria.

In FY 1998, the NSB worked diligently to help the Agency realize the *Action Plan* commitments. On March 16, 1999, the NSB met to review its accomplishments, discuss the future of REI related needs, and evaluate its role in supporting the evolving needs of the REI program. To clearly demonstrate the NSB's work, the NSB developed a list of their FY 1998 Accomplishments. The list maps high priority NSB tasks to specific NSB work products.

During the discussion of future REI implementation needs, the Board decided it no longer serves as the appropriate mechanism to address REI program needs. Based on the NSB's FY 1998 Accomplishments, the Board decided to declare success and retire the NSB. The NSB discussed the critical role of National Systems Managers (NSMs) in the successful implementation of REI. The NSB determined a need to establish a forum for NSMs. This forum would discuss issues and resolve REI implementation challenges.

Implementation Strategy

As the REI program enters its second year, the focus of the work is changing from planning to implementation—data standards are nearing finalization and electronic reporting protocols are already being test-piloted. NSMs have until FY 2003 to incorporate the data standards and electronic reporting into their systems. A key challenge facing the REI team is to effectively support the national systems managers in implementing the REI standards and protocols in their systems. To address this challenge and ensure successful implementation of REI, the Systems Reengineering Coordination Team will focus its on assisting NSMs. The Systems Reengineering Coordination Team is dedicated to supporting NSMs in implementing REI commitments by providing the following:

- *Communication*—Provide timely, useful information about REI implementation to help NSMs make critical decisions;
- *REI Rules and Tools*—Develop tools and communication products to increase NSM awareness of REI implementation issues;
- *Action Item Tracking Matrix*—Assist NSMs in identifying and accomplishing FY 2000 action items;
- *Quarterly NSM Meetings*—Host quarterly meetings with NSMs to exchange information, engage discussion, and request comments on REI implementation;
- *Increase NSM Visibility*—Use knowledge from meetings and interviews with NSMs to identify and raise critical cross-cutting issues to REI management; and

- *Issue Resolution*—Work with NSMs to develop recommendations and resolve issues.

The following table presents the tasks that need to be completed to successfully implement REI in the National Systems in coordination with other REI teams. The Systems Reengineering team will coordinate with the Data Standards, Facility Identification Initiative (FII), One Stop, and Electronic Reporting teams to achieve common REI goals.

Tasks and Milestones

FY 1999 REI Project Management Plan—*Systems Reengineering Coordination*						
Task #	**Tasks/Milestones**	**Start Date**	**End Date**	**Deliverables**	**Responsible Organization**	**Coordinating Task #(s)**
SR 1	Evaluate the performance and effectiveness of the National Systems Board (NSB)	Q2/FY99	7/7/99 ✔	-Decisions NSB roles/ responsibilities in REI implementation phases (e.g., changes in membership, charter) -Recommendation to REI SC on NSB realignment and specific FY 1999 tasks	OIRM, NSB members, & REI National Program Manager	n/a
SR 2	Conduct periodic sessions with the REI NSMs to maintain currency on REI activities, address issues, and develop implementation options	Q1/FY99	10/8/98 ✔ 2/16/99 ✔ Q4/FY99	-Quarterly meetings, information exchanges, and retreat with NSMs -NSMs focus groups for issues -Web site for NSMs and a discussion database	OIRM & REI NSMs in partnership with other REI components	RM 5 DS 19-21 FII 1-10, 12, 13, 21, 22 ER 1-7, 14, 17 OS 17, 18, 30
SR 3	Maintain the REI systems profiles, provide access on Internet, include in EPA Systems Inventory	Q1/FY99	12/17/98 ✔ 7/8/99 ✔	-System profiles updated -Internet access to systems profiles -Inclusion of REI systems profiles in EPA Systems Inventory	OIRM & REI NSMs	OS 17, 18, 30

FY 1999 REI Project Management Plan—*Systems Reengineering Coordination*						
Task #	**Tasks/Milestones**	**Start Date**	**End Date**	**Deliverables**	**Responsible Organization**	**Coordinating Task #(s)**
SR 4	-Analyze and update the REI systems modernization schedules -Analyze and compare NSMs' FY 1999 budget estimates to FY 1999 operational plans	Q2/FY99	7/8/99 ✔	-Diagram that shows the reengineering schedules of all the REI systems in life cycle terms; -Diagram that maps reengineering schedules of the REI systems to REI commitments	OIRM & REI NSMs	n/a
SR 5	Track NSMs progress in implementing REI commitments	Q1/FY99	7/8/99 ✔	Quarterly updates to the *Implementation Status: Highlighting National Systems Progress* booklet	OIRM	RM 7, 8 ER 17
SR 6	Develop REI toolkits and any additional tools to assist/support NSMs with implementation	Q2/FY99	Q4/FY99	-Detailed (a level below business rules) implementation guidance for each data standard and electronic reporting -Additional tools to facilitate successful implementation of in the REI systems -First set of FY99 Rules and Tools	EIMD, OIRM, in partnership OP	DS 1, 5, 6, 8, 9, 20, 21, 29 ER 1, 17 OS 4
SR 7	-Review REI-related questions and systems responses on IT Investment Review Proposals, help revise the REI-related questions, and identify issues critical to REI success) -Provide technical assistance to NSM's in completing IT investment submissions	Q2/FY99	7/8/99 ✔	Recommendations on IT Review process improvements to REI Subcommittee	OIRM	n/a

FY 1999 REI Project Management Plan—*Systems Reengineering Coordination*						
Task #	**Tasks/Milestones**	**Start Date**	**End Date**	**Deliverables**	**Responsible Organization**	**Coordinating Task #(s)**
SR 8	Review IT Systems Modernization Fund guidance and criteria	Q3/FY99	Q4/FY99	Recommendations on guidance and process to include IT Systems Modernization Fund in the IT investment review process	OIRM and IT Investment Review Team	n/a
SR 9	Develop REI architecture recommendation	Q2/FY99	Q1/ FY2000	-Architecture for REI systems documented -Recommendation to REI Subcommittee	OIRM, ETSD, Architecture Team	DS 3 OS 4, 17, 18, 30
SR 10	Develop options and analysis for central receiving function (CRF)	Q3/FY99	Q1/FY2000	Assessment of requirements for CRF	OIRM, OP, & NSM's	OS 28
SR 11	Ensure participation of programs in data standards development work, and determine what will be required of systems and when	Q2/FY99	Ongoing	Requirements for systems to implement data standards	OIRM in coordination with EIMD and OR	DS 1, 10, 11 19, 20, 21 FII 21, 22
SR 12	Support and enable implementation of standards when issued	Q2/FY99	Ongoing	Implementation of standards	OIRM in coordination with EIMD and OR	DS 1, 11, 19, 20 FII 21, 22 OS 22
SR 13	Ensure participation of the programs in ongoing development of the FII standard, facility linkage/data cleanup efforts, and development of FRS	Q2/FY99	Ongoing	Clean facility data	OIRM in partnership with EIMD and OECA	DS 1, 12, 23 FII 1-10, 12, 13, 20 OS 26
SR 14	Ensure that rules and tools for FII implementation get to the systems managers	Q2/FY99	Ongoing	Rules and tools for FII implementation	OIRM in partnership with EIMD	FII 1, 21, 22

FY 1999 REI Project Management Plan—*Systems Reengineering Coordination*						
Task #	**Tasks/Milestones**	**Start Date**	**End Date**	**Deliverables**	**Responsible Organization**	**Coordinating Task #(s)**
SR 15	Work with ER/CRF group to communicate system needs for ER and CRF	Q2/FY99	Ongoing	-Assessment of CRF requirements -Rules and tools for ER CRF	OIRM in coordination with OP and OR	ER 1, 4-9, 14 OS 28
SR 16	Contribute to the development of business process models for each system	Q2/ FY99	Ongoing	Business process models for each REI system	OIRM in coordination with OP	ER 1, 4-7, 9, 14
SR 17	Reengineer systems to implement ER and CRF	Q2/ FY99	Ongoing	Systems capable of ER/CRF	OIRM in coordination with OP and OR	ER 1, 4-7, 9, 14 OS 28
SR 18	Communicate progress of and involve States in decision-making for national system reengineering efforts with State partners	Q2/FY99	Q4/FY99 Q4/FY99	Quarterly updates to the *Implementation Status: Highlighting National Systems Progress* booklet	OIRM in coordination with EIMD,	OS 27, 30
SR 19	Coordinate systems reengineering workgroups with One Stop workgroups	Q2/FY99	Ongoing	n/a	OIRM in coordination with OR	DS 10 OS 6, 8, 9, 11

Performance Measures

Performance Measure	Data Collected	Performance Goal
Short Term		
1. Percentage of action items accomplished from the action item matrix	Collected action items from meetings with the system managers	Ninety percent of action items addressed from the action item matrix
2. Number of tools and/or communication products developed to support system manager awareness of REI implementation issues	Completed tools and/or communication products	Three tools and/or communication products to support system manager awareness of REI implementation issues

Performance Measure	Data Collected	Performance Goal
3. Percentage of system managers satisfied with support provided by the Systems Reengineering Coordination Team	Annual customer satisfaction survey	Ninety percent of system managers satisfied with Systems Reengineering Coordination support
4. Use of REI discussion database on the Intranet	Data on use of discussion database (i.e., number of "hits")	Fifty percent increase in the number of REI discussion database hits
Long Term		
1. Number of systems managers that have implemented REI commitments by the established deadlines	Information from Investment Review Proposal process regarding implementation of REI commitments	Ninety percent of system managers implementing REI commitments by the established deadlines

Issues/Challenges

- *Time.* The Systems Reengineering Coordination Team requests that NSMs attend and participate in quarterly meeting/retreats. It may be a challenge for NSMs to maintain their commitment to attending and participation in the NSM forum due to competing responsibilities.

- *NSMs Coordination.* The Systems Coordination Team has to work with and coordinate with the following entities: NSMs from multiple offices, REI Team Leads, and States (on REI Implementation); the Information Technology Management Reform Act (ITMRA) Board (on IT investment review revisions); the Infrastructure and Desktop Subcommittee (on architecture issues); Enterprise Technology Services Division (ETSD) (on the architectural vision); and Center for Environmental Information and Statistics (CEIS) (to resolve the data correction and data quality issues). While a forum for the NSMs is being established, no similar forum is being created for other focus groups.

- *Accomplishing REI Commitments.* Ensuring the REI Team members communicate unified and consistent messages is a key challenge. Both the NSB and NSMs agreed that keeping abreast of the data standard program activities are critical to ensuring system reengineering plans accomplish the REI commitments.

- *Retrofitting.* Seven REI systems are in the process of, or planning to undergo, major reengineering. Because many of the REI standards are not finalized or are not well defined enough to begin the implementation process, many systems may require

retrofitting to accommodate the final REI standards. This may potentially result in unplanned expenditures to ensure the system is compliant with the required data standards.

Resources

OIRM provides the staff to support the Systems Coordination Reengineering team. The Systems Coordination Reengineering team works closely with NSMs representing each of the REI systems. NSMs attend regular meetings supported by the Systems Coordination Reengineering team. Together, the Systems Coordination Reengineering team and NSMs strive to increase awareness of the REI program, develop tools to assist NSMs with REI implementation, and help NSMs identify and resolve REI implementation challenges. Contractor support is provided to support meetings, conduct technical system analyses, and develop REI implementation/communication tools.

III. CONCLUSION

The REI team has made a tremendous effort to integrate their planned commitments during FY 1999. REI team leads each drafted individual workplans for accomplishing their FY 1999 REI tasks, and then met for two days in February, 1999 to identify the coordination activities that are needed between teams. From this quarterly meeting of REI team leads, the FY 1999 Integrated Plan was drafted to describe the interdependencies of the REI teams and their tasks. In June, the REI team met again for two days to update the Integrated Plan for Quarter 3 based on project accomplishments, and the addition of new tasks or coordination activities. Performance measures were also developed at this quarterly meeting to help the REI team gauge its success in reaching its goals. Implementation of the commitments named in this Plan will enable the overall success of the REI program.

Despite the tremendous progress toward implementation, challenges remain. The reorganization of the information office, budget cuts, and the complex tasks the REI team is responsible for all challenge the REI team leads. At the REI quarterly meeting in September, team leads will discuss the implementation challenges they face in FY 2000, as well as the future of the new information organization. At this meeting, the team leads will also prepare and discuss FY 1999 accomplishments and FY 2000 commitments, and draft FY 2000 workplans for their individual projects. The REI team will again identify necessary coordination activities across project teams and follow up with a draft FY 2000 REI Integrated Program Management Plan. In the December timeframe, the REI team leads will meet again to update the FY 2000 Integrated Plan. Continued coordination of this kind is essential to putting the REI puzzle pieces together.

Appendix A: Integrated Project Commitments

Coordinating With:

Lead Project *	Data Standards Program	Facility Identification Initiative (FII)	Electronic Reporting (ER)/ Central Receiving Function (CRF)	State Coordination (One Stop)	Systems Reengineering Coordination
Data Standards Program	✓	- coordinate final FII standard with FRS requirements - coordinate transfer format protocol with the FII/FRS team (on hold - pending resolution of One Stop plans)	- coordinate data standards development with EDI-related data analyses - incorporate EPA data standards in EDI transaction sets and build the capacity to house in the EDR - register data elements with EDR	- develop data standards in partnership with States - provide technical expertise to the standards development processes - provide and administer the EDR as the standard and transaction set registry	- keep systems informed about progress of data standards promulgation and what will be required of them to implement standards - work together to identify needs for tools to aid implementation of standards in the systems
Facility Identification Initiative (FII)	- submit data element definitions and relationships among data elements to the data standards program for population in the EDR - provide information about FRS requirements to the data standards programs for finalization of the facility ID data standard	✓	- coordinate with ER to ensure that FRS business rules are consistent with ER/CRF requirements - participate in ER/CRF business rule process - coordinate development of ER transaction sets	- coordinate requirements of a facility registry system with States - develop and implement a facility registry system that is FITS-compatible - coordinate pilot transfer of data elements from States	- communicate with programs/ systems about what is required to incorporate the FII standard, clean up facility data, and implement FRS
Electronic Reporting (ER)/ Central Receiving Function (CRF)	- coordinate the development of data transfer sets to include EPA data standards and well-formed EPA data elements - provide data transfer sets for inclusion in the EDR	- develop data transfer sets to ensure that facility-based reporting includes FII standard data elements - participate in development of FRS to ensure that it supports central receiving	✓	- coordinate ER/ CRF requirements, reg development, and cost benefit analysis with One Stop and program offices - provide technical support and infrastructure for State/EPA exchange - coordinate with One Stop in conducting State pilots - coordinate with One Stop and OECA on PCS modernization/data translation issues	- communicate progress and what will be required of system managers to implement ER/CRF
State Coordination (One Stop)	- support State and EPA process for developing data exchange standards - provide technical assistance to States for implementing data standards in State systems	- promote use of the FITS model by States - pilot synchronization of State facility data with EPA facility data and joint management of facility data	- keep communication open between States and ER/CRF efforts to ensure that both are moving in a parallel direction - Coordinate pilot activities with ER/CRF	✓	- communicate and coordinate State reengineering/ modernization plans (e.g., data models, architectural platforms, data standards efforts) with EPA system plans
Systems Reengineering Coordination	- ensure participation of programs in data standards development work, and determine what will be required of systems and when - support and enable implementation of standards when issued	- ensure participation of the programs in ongoing development of the FII standard and development of FRS - ensure that rules and tools for FII implementation get to the systems managers	- work with ER/CRF group to communicate system needs for ER and CRF - contribute to the development of business process models for each system -help systems implement ER/CRF	- communicate progress of and involve States in decision-making for national system reengineering efforts with State partners - coordinate systems reengineering workgroups with One Stop workgroups	✓

* The matrix should be read from left to right. The project named on the left leads the coordination activity with the projects listed across the top.