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Ineffective Information Management Impedes EPA's Enforcement Mission and Cross-Media Initiatives

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Committee on Governmental Affairs
United States Senate

Mr. Chairman and Members of the Committee:

I appreciate this opportunity to testify on our ongoing
assessment of the Environmental Protection Agency's efforts to
integrate its data for enforcement purposes. At your request, we
focused on whether sound methodologies are being used to develop
information systems to meet enforcement users' needs for
information that cuts across environmental media such as air,
water, solid waste, pesticides, and toxic substances. We also
identified impediments to EPA's management of information
resources for cross-media purposes. Our observations today are
preliminary, being based on ongoing work, and as such, we will
provide more details and our recommendations in a subsequent
report.

According to the EPA Administrator and other senior officials, an
effective enforcement program is one of the agency's highest
priorities, and the means for assuring that the promise of the
nation's environmental laws and regulations is realized. EPA's
concept of cross-media enforcement expands the traditional focus
on single-media violations to identifying and addressing cases
where there are violations in more than one medium. By
aggregating violation data across media, EPA believes it can
identify enforcement priorities, develop strategies, and marshall
its resources to obtain more comprehensive corrective actions.

To better support its enforcement and management activities, EPA
is taking steps to address problems it has in bringing together
environmental data from different programs. We are concerned,
however, that sound methodologies have not been used in
developing systems intended to support cross-media enforcement.
We also believe there are information resources management (IRM)
weaknesses that will impede progress toward effective use of
cross-media information.

Today, EPA's information systems are largely independent, having
been designed to serve the needs of individual environmental
programs. As a result, to pull together information to assess
cross-media compliance of regulated facilities, corporations, or
federal agencies, EPA must use a cumbersome, labor-intensive
process that is only partially automated. For example, after the
Exxon Valdez oil spill in Alaska, it took EPA about 3 months to
assemble and verify a cross-media profile of the Exxon
Corporation to determine whether a corporation-wide pattern of
environmental noncompliance existed. The Avtex Fibers case,
cited in Mr. Hembra's statement today, is another example in
which EPA has acknowledged the difficulty in pulling together
data from different sources and systems.

EPA has found that analyzing cross-media compliance data provides
insights about violations and risks that are not obvious from
assessing compliance on a single-media basis. For example,
within the past year EPA regional offices made special efforts to
pull together data about violations from the agency's single-

respect to IDEA, we found that users' needs were not documented, alternatives were not analyzed, specifications of system performance and data requirements were incomplete, software was poorly documented, and plans for testing the system were lacking. As to the FINDS project, EPA did not specify requirements for data completeness and accuracy to address users' complaints about existing FINDS data. In addition, EPA did not adequately plan for the extensive software maintenance expected over the life of the system. These systems development deficiencies increase the risk that EPA will continue to have difficulty pulling together data for cross-media enforcement. In particular, we believe the approach used to develop IDEA raises serious concerns about its ability to serve as EPA's main system to support enforcement users' needs for cross-media information.

Senior EPA officials acknowledge that IDEA was not properly developed, but believe the system will initially provide some needed capability at a low cost. The project manager for FINDS agreed with the deficiencies I described, and said they will develop data specifications and a maintenance plan for the system.

IRM DEFICIENCIES IMPEDE ACHIEVEMENT
OF CROSS-CUTTING AGENCY MISSIONS

For several years, EPA Administrators have articulated a vision of an Environmental Protection Agency managed in a more integrated, comprehensive, and less compartmentalized fashion. The highest priority themes articulated by the current Administrator--pollution prevention, management for risk minimization across environmental threats, and a stronger enforcement program--depend explicitly on having better, more complete information from across the agency and from external sources. The Deputy Administrator, speaking for the Administrator and himself, stated that they are excited by the prospect of cross-media enforcement aimed at the various economic sectors that produce significant amounts of pollution. They hope that cross-media enforcement will encourage both pollution prevention and a more holistic approach to environmental management. They recognize that effective cross-media enforcement depends on making better use of the agency's data, both across media and on a media-specific basis.

Although EPA has long recognized the need to bring together data from its different programs, achieving this will be impeded by serious IRM deficiencies. The agency has not developed an information architecture, does not adequately manage its data for agency-wide purposes, and does not have an adequate mechanism to plan, coordinate, and budget across programs to achieve this vision.

Users of cross-media data must also contend with varying definitions of basic terms, depending on the particular environmental program. Terms such as "enforcement action" and "significant non-compliance" are defined differently by different programs. Federal Information Processing Standards provide guidelines for developing agency-wide data dictionaries so users can readily understand and evaluate different terms, definitions, and sources for data. Senior IRM officials said that while EPA is beginning to develop a data dictionary for administrative operations, there are no specific plans to develop an agency-wide dictionary for the environmental programs.

While users of single-media and cross-media data continue to complain of problems with the accuracy and completeness of data in agency information systems, senior IRM officials acknowledge that they have not often used their authority or devoted resources to assure the quality of data on an agency-wide basis. They said they intend to pursue this more aggressively in the future.

Cross-media Planning and Budgeting Processes Not Developed

Currently, each program office in EPA plans and budgets for its own IRM activities without effectively incorporating cross-media initiatives. IRM plans and budgets from across the agency are accumulated and centrally reviewed by the Office of Information Resources Management. However, the budget director for this office acknowledged that there is still no effective mechanism to provide for IRM planning and budgeting to support cross-media initiatives.

Building a continuing capability to pull together data from across the traditionally independent environmental programs will require management processes to establish plans for cross-cutting data initiatives, coordination among program offices for data sharing and integration, and budgeting to accomplish cross-media activities. Senior IRM officials agree that these management processes are needed to accomplish the agency's data integration goals. Although EPA does not currently have such processes, it is beginning to take some action. IRM officials told us that they are developing a plan for data integration. In addition, an assistant administrator was recently designated as the national program manager for data integration to ensure that fiscal year 1993 budget planning for data integration does not fall through the cracks.