

Environmental, Safety, and Health Issues At EPA Laboratories

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CHAPTER 1 INTRODUCTION

OBJECTIVES

In July 1993, an EPA laboratory paid a \$2,500 fine to a state environment department, as a penalty for violations of the Resource Conservation and Recovery Act. Since 1991, at least one other EPA laboratory has been issued Notices of Violation of RCRA regulations, but corrective actions were taken and no sanctions applied. Not adhering to its own environmental regulations could be costly to EPA, both financially and, more importantly, in the way the Agency is perceived by the community which it regulates. Therefore, we initiated an audit of EPA's Safety, Health, and Environmental Management Program to:

1. assess the effectiveness of the environmental, safety, and health program at selected EPA laboratories; and
2. assess the effectiveness of ESH audits conducted by the Safety, Health, and Environmental Management Division, especially as they relate to identifying and correcting program deficiencies.

BACKGROUND

Dating back to the 1970's, there have been a number of laws enacted and Executive Orders issued which establish requirements for environmental programs in Federal agencies. Executive Order 12088, Federal Compliance With Pollution Control Standards, dated October 13, 1978, assigned responsibility to each

Executive agency head to take pollution prevention, control, and abatement actions, as well as comply with applicable pollution control (environmental) regulations. On August 3, 1993, Executive Order 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements, assigned responsibility to the head of each Federal agency to take all necessary actions for preventing pollution at agency activities and facilities and to comply with right-to-know provisions of the Emergency Planning and Community Right-to-Know Act and the Pollution Prevention Act. Also, in 1992, the Federal Facilities Compliance Act was passed, amending the Solid Waste Disposal Act (including RCRA) to allow the application of certain requirements and sanctions to Federal facilities, including levying fines. As a result, EPA is subject to the environmental regulations that it is responsible for promulgating and enforcing, and is liable for sanctions for violations covered under the Federal Facility Compliance Act.

Federal agencies are also responsible for maintaining internal safety and health programs. Part 19 of the Occupational Safety and Health Act of 1970, and Executive Order 12196, Occupational Safety and Health (OSH) Programs for Federal Employees, dated February 26, 1980, assigned responsibility for an effective and comprehensive OSH program to the head of each Federal agency.

EPA published an environmental auditing policy statement in the July 1986, Federal Register. This policy was issued to encourage industry and Federal agencies to establish an environmental auditing program to increase compliance with environmental regulations. In the same year, EPA began an intra-Agency review of its facilities to determine the status of its own compliance with environmental regulations. The one-time review resulted in the establishment of an Agency environmental auditing program, which was then combined with its existing safety and health program. SHEMD administers these programs for the Agency. In this report, we will refer to the Safety, Health, and Environmental Management Program as the environmental, safety, and health program in order to distinguish it from the Headquarters division which manages it, SHEMD.

SHEMD establishes Agency ESH policy, performs ESH program audits of all EPA facilities, provides technical assistance and/or access to a technical assistance contract for addressing ESH problems at Headquarters and field facilities, and runs the Headquarters ESH program. SHEMD personnel indicated that ESH audits are conducted at all EPA facilities at least once every three years. The facilities are responsible for taking corrective actions and reporting corrective actions status to SHEMD. SHEMD uses an automated system to track corrective actions. In 1993, SHEMD introduced follow-up audits to increase oversight of facilities considered to be at risk for ESH problems. During the follow-up visit, SHEMD reviews the status of corrective actions completed since the previous audit.

The Assistant Administrator for Administration and Resources Management has the overall responsibility for EPA's occupational safety and health program. He has redelegated this, through the Director, Office of Administration, to the Assistant Administrators, Regional Administrators, General Counsel, Inspector General, the Director of SHEMD, and the Directors of Administration and Resources Management in Cincinnati, OH, and Research Triangle Park, NC. Authority delegated is to be exercised in accordance with policy issued by the Office of Administration and Resources Management, and can be redelegated further. The responsibility for the local OSH program, including addressing SHEMD audit corrective actions and its resources, rests with the Regional or program offices.

We could not identify a formal delegation of environmental program responsibility. In general, environmental regulations are written so that they are applicable at appropriate locations, and formal delegation of authority is not necessary to establish local responsibility for meeting environmental regulations.

SHEMD provides technical assistance as necessary and is available to address local facility ESH issues, but does not have the authority or the funds to address all ESH problems and deficiencies at the local level. For example, when ESH corrective actions require buildings and facilities funding, the auditee is responsible for applying for those funds through the Facilities Management and Services Division of OARM. The Facilities Management and Services Division consults with SHEMD in setting priorities for funding for relevant safety,

health and environmental corrective actions. Also, when corrective actions are related to General Services Administration (GSA) leases, the facility is responsible for initial coordination with GSA and for contacting Headquarters when further assistance is necessary.

Generally, the Office of Research and Development and the Regions have the most visible ESH programs because of the number of their laboratory operations and employee field visits to industrial and government facilities, Superfund and other environmental clean-up locations, and other sites for functions such as regulatory inspections. OAR and OPPTS also have laboratory operations. The use, storage, and disposal of toxic chemicals during the course of normal laboratory operations require knowledge and compliance with both OSH and environmental regulations. In contrast, Regional field operations are generally more focussed on safety and health issues. OSH and environmental operations are equally important at EPA office facilities, but the risk associated with the ESH program at office facilities is usually less than with laboratory and industrial operations.

ORD included ESH as a material weakness in its internal fiscal 1994 Federal Managers' Financial Integrity Act (Integrity Act) report, and has been doing so since 1992. ORD has begun actions to establish an ORD-wide ESH program, which will include internal ESH auditing, to address its ESH problems.

SCOPE AND METHODOLOGY

The audit was conducted from October 1994 through February 1995. Because EPA has combined the administration of the environmental program with its safety and health program, we decided to audit the program as a whole. During this audit, we visited Region I's New England Regional Laboratory in Lexington, MA; EPA facilities and ORD laboratories at Research Triangle Park, NC; the Region VII Laboratory in Kansas City, KS; the ORD Environmental Research Laboratory in Gulf Breeze, FL; and Region III's Central Regional Laboratory in Annapolis, MD. We interviewed management, ESH personnel, and ESH Committee members at the laboratories, as well as Regional ESH officials. We observed laboratory operations related to environmental, safety, and health actions and reviewed the status of corrective actions based on the latest ESH audit of the facility. We also reviewed local environmental, safety, and health policy and procedures documents, including management and internal control guidance. Finally, we interviewed selected SHEMD employees and reviewed the SHEMD audit program and protocol documents and other policy and guidance documents.

We conducted this audit in accordance with the 1988 Government Auditing Standards issued by the Comptroller General of the United States. Our audit included tests of management and related internal controls, policies and standards. No other issues came to our attention which we believe were significant enough to warrant expanding the scope of the audit.

CHAPTER 2 **THE ESH PROGRAM AT EPA LABORATORIES IS INADEQUATE**

For several years, many EPA managers have identified weaknesses in the Agency's ESH program and recognized that the Agency needs to do more to strengthen it. In fiscal 1989, the Agency declared ORD laboratories and facilities as a material weakness in its Integrity Act report to the President. Occupational safety and health requirements concerning fire protection and life safety were considerations in naming this material weakness. The Agency continued to report this issue as a material weakness in its fiscal 1994 Integrity Act report to the President. Additionally, ORD has declared its entire ESH program a material weakness as part of its internal Integrity Act program since 1992. ORD proposed that its ESH program be identified as an Agency-level weakness in fiscal 1994, but the Agency decided that ORD should continue to address the weakness internally in ORD only ([footnote 1](#)). Office of Management and Budget (OMB) Circular A-123 of August 4, 1986, defines material weakness as:

a specific instance of non-compliance with the Integrity Act of sufficient importance to be reported to the President and Congress. Such weakness would significantly impair the fulfillment of an agency component's mission; deprive the public of needed services; violate statutory or regulatory requirements; significantly weaken safeguards against waste, loss, unauthorized use or misappropriation of funds, property, or other assets; or result in a conflict of interest.

We found that there was general support among laboratory managers and ESH personnel that the Agency should have more than just an adequate ESH program. Given the fact that EPA has created the environmental regulations, and enforces compliance at Federal and private laboratories, who better should set the standard for excellence at its own laboratories than EPA. In fact, Executive Order 12856 states that:

. . . the Federal Government should become a leader in the field of pollution prevention through management of its facilities, its acquisition practices, and in supporting the development of innovative pollution prevention programs and technologies.

As part of our audit approach we attempted to identify a model ESH program, to which we could compare those at the different laboratories. We did not find a consensus among ESH personnel on the definition of a model program. While there was support for the model program concept, we saw resistance by some laboratory personnel to being held responsible for any requirements beyond regulatory requirements. We believe that the Agency will need to clarify its ESH program goals in order to formally define a model program.

In order to assess the status of the Agency's ESH program at certain of its laboratories, we developed a matrix that provides criteria to distinguish between model, adequate and inadequate ESH programs. The matrix and its elements were developed based on OIG visits to one ORD/OARM/OAR combined facility (containing three ORD laboratories), one ORD stand-alone laboratory, and three Regional laboratories. We believe that an inadequacy in any one element of the matrix can make the laboratory vulnerable to ESH problems and potential regulatory violations. SHEMD audit management has reviewed our matrix and indicated that they could support this matrix as a general overview for ESH programs at EPA laboratories. The matrix is presented in Table 1 on the next page.

In a later discussion, SHEMD audit management clarified their support for the matrix, stating that SHEMD will not change its present ESH audit protocol to use the matrix. OIG did not intend that the matrix replace the SHEMD audit protocol, but believes that the matrix could be useful as an additional management tool in assessing the Agency's ESH program.

Table 1.
Elements of an ESH Program

PROGRAM ELEMENT	MODEL PROGRAM	ADEQUATE PROGRAM	INADEQUATE PROGRAM
Industrial Hygiene Support	Full-time; on-site; training completed.	Locally available from EPA or government personnel or contract support.	Not available locally.
Building and Fire Safety Support	Full-time; on-site; training complete (if large building or more than one building). Locally available from EPA,	Available locally from EPA, other Federal, or contractor personnel; or part-time laboratory personnel with required training completed (for large building or more than	Not available locally.

	other Federal, or contractor personnel; or part-time laboratory personnel with required training completed (if one building).	one building).	
Environmental Management Support	Full-time; on-site; training completed (if the lab has a RCRA permit, is a large quantity generator, or has a history of NOVs or fines). Otherwise, available locally from EPA, other Federal, or contractor personnel; part-time with required training completed.	Available locally from EPA, other Federal, or contractor personnel; or part-time laboratory personnel with required training completed (if the lab has a RCRA permit, is large quantity generator, or has a history of NOVs or fines).	Not available locally.
Facility ESH Self-Inspection Program	Performed at least monthly; written report and corrective action plan; corrective action plan status is tracked locally. All required regulatory inspections are completed and documented fully.	Performed at least quarterly; corrective actions are usually taken. Informal reporting and local tracking. Required regulatory inspections are completed.	Not performed at least quarterly; reporting and tracking are inadequate. Corrective actions are not pursued.
Building and Facilities Support	Established procedure for ESH program interface with Building and Facilities personnel to determine prioritization for building and facility corrective actions; formal tracking and documentation of coordination with Agency Headquarters office, GSA, or other involved parties for corrective actions related to contract, leases, or Agency building and facilities funding.	Coordination of ESH program and Building and Facilities personnel is not formally established; corrective action prioritization and tracking is informal; coordination with Agency Headquarters offices, GSA, or involved parties is informal with sporadic documentation.	ESH program and Buildings and Facilities personnel coordination is informal; prioritization is occasional and rarely documented; coordination with Headquarters, GSA, and other involved parties is sporadic and rarely documented.
ESH Committee	Meets at least monthly; minutes are written and distributed; management response is written and corrective actions tracked; participates in facility self-inspections.	Meets at least quarterly; minutes are written; management provides only verbal response; corrective action tracking is informal; occasionally participates in self-inspections.	Committee does not meet regularly; management response is limited; corrective action tracking is sporadic; does not participate in self-inspections.
Management	Management participates in	Management receives	Management receives

Support and Involvement	self-inspections and in Safety, Health, and Environmental Committee work; responds to committee and self-inspection corrective actions; participates in priority setting for ESH program; promotes integration of ESH program into daily tasks; all managers share accountability for ESH program success; ESH objectives are reflected in performance standards and in Integrity Act controls.	reports from self-inspections and ESH Committee; responds to corrective actions requests; management is not consistently held accountable for implementation of ESH program.	sporadic input from self-inspections and ESH Committee; does not give consistent responses to corrective action requests; management attitude is that ESH program is a deterrent to meeting mission of facility; management is not held accountable for its part of ESH program success.
ESH Professional and Best Management Practices	Program established to incorporate professional and best management practices for applicable ESH requirements (goes beyond regulatory requirements because actions will contribute to pollution prevention and improved safety and health operations); ESH program oriented to anticipate areas of improvement and to institute corrective actions.	Establishes professional and best management practices on occasion; program is not consistent; works only to meet regulatory requirements.	Does not address professional or best management practices; does not consistently meet regulatory requirements.
Contractor Monitoring and Interface	Consistently monitors that contract ESH requirements are met; coordinates with contractor to ensure contract issues related to ESH are corrected; interfaces with contractor for mutual "lessons learned" in ESH matters that will help to improve ESH program.	Monitors that contract requirements are met in safety, health, and environmental area; occasional coordination with contractor to ensure contract issues with safety, health or environment are corrected.	Rarely monitors that contract requirements in safety, health, and environment are met.
Training	Formal training and tracking program established for all employees; safety, health, and environmental specialists, committee members, management, and other personnel receive required training; "train the trainer" concept utilized to maximize training for local personnel.	Training requirements for safety, health, and environmental specialists, committee members, management and other personnel are monitored and met.	No systemic means to track training requirements; does not ensure that all training requirements are met.

Based on the above criteria, we have assessed the laboratories we visited for each of the program elements. Our assessment considered the status of the program elements at the time of our visit to each laboratory. SHEMD audit personnel generally agreed with these assessments, which are shown on Table 2 on the next page.

Table 2.
Assessment of ESH Program at Selected Laboratories

ELEMENT	LEXINGTON	RTP	KANSAS CITY	GULF BREEZE	ANNAPOLIS
Ind. Hygiene Support	In-Adequate	Model	In-adequate	In-adequate	In-adequate
Building Fire and Safety Support	Adequate	In-adequate	In-adequate	In-adequate	In-adequate
Environ. Mgmt. Support	Adequate	Model	In-adequate	In-adequate	Adequate
Self-Inspect. Program	Model	Model	Adequate	In-adequate	In-adequate
Bldg. & Facility Support	Adequate	In-adequate	Adequate	In-adequate	In-adequate
ESH Committee	Model	In-adequate	Adequate	Adequate	Adequate
Mgmt. Support & Involvement	Model	In-adequate	Adequate	In-adequate	Adequate
Contract Monitor and Interface	Model	Adequate	Adequate	In-adequate	Adequate
Profes-sional and Best Mgmt. Practice	Adequate	Adequate	Adequate	In-adequate	In-adequate
Training	In-adequate	Model	Adequate	In-adequate	Adequate

Individual Laboratory Assessments

Overall, we have seen some improvement in the ESH program at EPA laboratories which we reviewed. Several facilities have seen the need for the program and have taken steps to assign more personnel to perform ESH duties. However, while managers have dedicated resources to establish full or part-time ESH positions, they have not always filled these positions with people who have the most needed skills or the highest technical expertise. As Table 2 shows, all facilities which we reviewed were rated inadequate in at least two elements. We believe an inadequate rating in any element leaves that facility vulnerable. Therefore, EPA's ESH program, while improving, is still inadequate overall.

The current situation, as well as the general direction of the ESH program, vary from laboratory to laboratory. For example, we believe that the program at the New England Regional Laboratory has shown the greatest improvement since the last SHEMD audit. An additional person has been assigned to the program part-time and management has demonstrated its support of the ESH program by initiating and participating in weekly ESH inspections. On the other hand, because of recent personnel changes at the Region VII Laboratory and at Research Triangle Park, there has been a loss of experience and technical excellence that will, at least temporarily, negatively affect the ESH program at both locations. Region III's Central Regional Laboratory in Annapolis has begun taking actions to improve the ESH program, but overall the program appears to be

maintaining "the status quo." Finally, one major fire and one minor fire occurred at ERL Gulf Breeze in 1994, and we found a RCRA violation during our visit to the facility. Although management has taken some actions to improve its ESH program, the facility remains at risk. A more detailed assessment of the status of the ESH program at the individual laboratories that we reviewed is provided below.

Lexington

We found that the New England Regional Laboratory has made great strides in improving its ESH program since its last SHEMD audit. These strides were set in motion by the SHEMD audit and a subsequent OIG/Agency investigation concerning the environmental program at the laboratory. Since these two occurrences, laboratory management has realized the seriousness of its ESH program weaknesses and has taken not only corrective, but proactive, steps to strengthen the program.

Laboratory management has become more actively involved in the ESH program. They are participating in weekly ESH "walk throughs" of the facility, and an additional person has been assigned part-time to increase oversight of the environmental program. The weekly formal inspections, the most frequent we observed at laboratories we visited, are comprehensive and last one to two hours. The ESH manager, the part-time environmental manager, the laboratory section chief, the technical branch chief, and occasionally a senior manager, usually the Deputy Director of the Environmental Services Division, participate in the weekly inspections. Once a month, a representative of the ESH committee also participates in the inspection.

The laboratory is not without its problems. Specifically, it has had a problem with mercury leaching from the existing wastewater system. This has resulted in the laboratory operating as a "dry" laboratory with all sinks closed and wastewater collected in drums for analysis and proper disposal for the past three years. A new wastewater system will allow the laboratory to operate as a "wet" laboratory with sinks connected to tanks. The content of the tanks will be analyzed to determine whether direct sanitary sewer or waste disposal is appropriate. Subsequent to our visit, we were advised that installation of the new wastewater system had begun.

Long-term corrective actions, such as the wastewater conveyance system, are being pursued, tracked, and documented. One long-term action which has been implemented is an automated chemical inventory system, including bar coding, which will be used to track chemicals in storage, in use, and to disposal. Based on our observations and discussions with laboratory personnel, only four out of 75 corrective actions have not been completed from the most recent SHEMD audit. This was the lowest number of incomplete corrective actions for the laboratories we visited.

The Region I ESH manager, an Industrial Hygiene and Safety Manager, is located at Region I offices in Boston. He told us that he is responsible for the three Region I facilities: the Regional office, one other office building in Boston, and the laboratory, which is located approximately 20 miles away. There is a part-time ESH manager at the second office building in Boston. The Regional ESH manager stated that he is also responsible for the medical monitoring and ESH training for all employees, including laboratory personnel. His medical monitoring duties include arranging appointments, and his training duties include modifying training courses and contracting for courses. According to the Region I ESH manager, the laboratory handles most of its own ESH issues, including facility issues, and tends to be parochial about these functions. He also noted that the laboratory ESH manager reports not to him, but to laboratory management.

The laboratory has one full-time ESH position, a safety and occupational health specialist, and one part-time position, a senior environmental engineer. Laboratory management stated that they received some support from the Regional ESH manager, although he visits the laboratory infrequently. Laboratory ESH personnel interface with the Regional ESH manager on medical monitoring and training for laboratory personnel.

Since the Regional ESH manager, an industrial hygienist, is not located at the laboratory and visits infrequently, we considered the industrial hygiene support for the laboratory inadequate. The laboratory environmental

engineer is receiving industrial hygiene training in conjunction with occupational safety and health training. In subsequent OIG and SHEMD discussions, SHEMD audit management indicated that given the efforts that have been taken, they would now consider the industrial hygiene training for the Lexington laboratory staff to be adequate.

Another inadequate element that we observed concerned training. This weakness is related to a SHEMD audit finding -- lack of health and safety training for supervisors. Once this training is completed, and the training program updated to monitor completion of all required training, it should be adequate.

Since our visit to the laboratory, we have been advised that the supervisory training has been completed. If audited now, we believe that Lexington's ESH program would be rated at least adequate in all program elements.

Research Triangle Park

We reviewed RTP as a single EPA facility, even though multiple program offices operate, for the most part, independently of each other. OARM serves as "landlord" and ORD and OAR are "tenants" at RTP. An ESH Program Memorandum of Agreement (MOA) has been signed by the three program offices. ORD has primary responsibility for chemical management, the chemical hygiene plan, hazardous waste, waste minimization, protective equipment and radiation safety. OARM has primary responsibility for fire safety and facility safety. OAR, with mostly office facilities and a small number of employees at RTP in comparison with ORD and OARM, has fewer responsibilities in the MOA (fire drills and records, safety manual, and accident and training records for OAR employees). When SHEMD audits the ESH program at RTP, they evaluate all program offices in all EPA facilities in the RTP area. We agree with this audit protocol. Similarly, we believe that the media and the public would view the RTP facility as a single EPA facility, not an ORD laboratory or an OARM or OAR office, in the event of accidents or incidents related to the ESH programs.

As indicated in the MOA, ORD holds the facility permits for RCRA research and development, air, and industrial wastewater discharge, as well as three separate hazardous waste generator numbers. RTP had been issued two NOV's since 1991 for RCRA violations related to recordkeeping requirements. The violations were corrected with documentation provided to appropriate authorities. No sanctions were applied.

The Office of the Senior Official for Research and Development has two full-time ESH personnel, an industrial hygienist with fire safety expertise and a health physicist, who address the ESH program for all three ORD laboratories at RTP. A senior industrial hygienist who works for ORD Headquarters is also located at RTP and will continue to be available to the RTP personnel for consultation and advice. ORD at RTP had the highest level of on-site industrial hygienist support of all the laboratories that we visited. ORD has access to the national SHEMD technical assistance contract for full-time contractor support for its ESH program and also contracts for hazardous materials and hazardous waste program support at RTP.

At the time of our visit to RTP, OARM had one full-time safety and occupational health manager. However, she left her position in November 1994. This individual had been hired to improve coverage of fire and facility safety issues. Of all the facilities which we visited, fire and facility safety inspections performed by this individual were the most comprehensive. Because this individual was a former Occupational Safety and Health Administration inspector, she was excellent at problem identification related to these issues. Although the ORD ESH program at RTP has two industrial hygienists currently on-site, OARM management selected another industrial hygienist to fill the vacant safety and occupational health position. While OARM management believe that the industrial hygienist will be able to address fire, facility safety, and other ESH problems at RTP, we do not believe that OARM will get the same level of excellence in fire and facility safety problem identification that they previously had. Whatever facility-wide industrial hygienist, and possibly fire safety, support that OARM needed could have been obtained through coordination with ORD. ORD ESH personnel admitted to us that their technical expertise was not strong in the area of electrical hazards, an area that they said

was well covered by the former OARM safety manager. Not having a fire and facility safety expert at OARM to fulfill its MOA requirements, negatively impacts the ESH program at RTP.

OARM management at RTP disagreed with our assessment. They stated that SHEMD management had been consulted during the selection process and that SHEMD highly recommended the industrial hygienist, who was working in SHEMD at the time of the selection. OARM management stated that the present safety manager has extensive experience in fire safety and can consult with two electrical engineers on OARM staff at RTP about electrical hazards. They believe that any negative impact on the ESH program from personnel changes is only temporary.

Although the OARM ESH manager works in the Facilities Management and Services Division of OARM, we believe that the buildings and facility support for the ESH program should be strengthened. We could find some documentation of discussions concerning prioritization for ESH issues, but we could not easily determine what the final decisions and plan of corrective actions were related to ESH issues. In addition, there were findings from the SHEMD audit that were marked complete because a GSA health and safety review for lease renewal did not cite the same problem. GSA is not responsible for the health and safety of EPA employees -- the Agency is. RTP needs to consult with SHEMD to confirm that the lack of a GSA cite negates the SHEMD audit finding.

ESH Committee operations at RTP were inadequate. Although ORD had an active ESH Committee, OARM and OAR did not have their own ESH Committees, and their relationship on ORD's committee was that of an invited guest, rather than a member. OARM and OAR need to ensure that their program-specific ESH issues are represented with an ESH Committee. We would strongly urge that the one facility concept be championed with the ESH Committee, and that the program offices coordinate to provide an RTP facility-wide ESH Committee, with provisions for program subcommittees to address specific program office ESH issues if needed. This proposal would allow the successful ORD ESH Committee to continue operating as a subcommittee of the facility-wide ESH Committee, while enhancing the ability of the program offices to improve their coordination and cooperation in addressing facility-wide ESH issues.

Participating on the ESH Committee would also be a way for management to increase its involvement in and support of the ESH program, another area needing strengthening at RTP. While OARM and ORD management were aware of the ESH program and were making efforts to improve the program, we did not find that management involvement and support were adequate. With the involvement of three program offices, the laboratory operations, the numerous facilities, and the RCRA research permit that ORD holds at RTP, management needs to develop a stronger and more visible presence in the ESH program.

Kansas City

The Region VII laboratory holds a RCRA Part B permit from the State of Kansas to allow hazardous waste storage beyond time frames established in hazardous waste regulations. The permit was originally obtained because the laboratory was dealing with dioxin wastes when there were no dioxin disposal options available. Although dioxin waste disposal is now available, the laboratory has retained the permit for two reasons: the possibility that dioxin disposal options may cease in the future, and the flexibility it gives emergency response personnel to have hazardous waste delivered to the permitted hazardous waste storage area if necessary. The permit includes requirements for specific plans (such as waste analysis and closure), records, training and internal inspection schedules, as well as semi-annual inspections by the state.

The Region VII laboratory is undergoing personnel changes that have, at least temporarily, weakened its ESH program. The industrial hygienist who had handled the program is now working in another Region VII position. Laboratory management indicated that this individual will continue to assist in running the laboratory environmental part of the ESH program, which includes the RCRA permitted operation. However, as the individual becomes more involved in her new position, there may be less time available for running the

environmental program. In addition, a proposed Region VII reorganization would remove the individual from laboratory management supervision, and possibly from the laboratory itself, lessening the likelihood that the individual will remain involved with laboratory environmental operations. Should problems occur in the environmental program with its RCRA permitted operation, the laboratory is vulnerable to both sanctions, including fines under the Federal Facilities Compliance Act, and embarrassment to the Agency.

The laboratory has replaced the industrial hygienist with an occupational safety and health coordinator. The coordinator was the former Regional Administrator's Executive Assistant and does not have a background in ESH or laboratory operations. Although the coordinator assisted the former laboratory industrial hygienist and, according to laboratory management, has received 15 to 20 hours of college level training, we believe that additional extensive training will be required for the individual to become familiar with the ESH program, regulations, and policy.

We found that much of the coordinator's experience as the assistant to the laboratory industrial hygienist was related to organization of records, recordkeeping, and scheduling. Recently, the coordinator had completed training so that she could provide respirator fit testing, and she expressed an interest in continuing her ESH-related training. But at the time of our visit, we found that the coordinator still had limited knowledge and understanding of the overall ESH program.

Region VII has an industrial hygienist assigned for the Regional ESH program, but she does not support laboratory operations directly. The Regional Industrial Hygienist is responsible for medical monitoring and training. She often teaches the training classes herself, because funding for training is difficult and she has a teaching background. In the past she has not provided much support to the laboratory, but as her workload permits, she is willing to help if asked.

Laboratory management recognized that there were weaknesses in the ESH program, and intensified the involvement of two laboratory personnel who were performing collateral ESH duties, one as chemical hygiene officer and one as hazardous waste coordinator for laboratory waste. There is also an active ESH Committee. Laboratory management stated that they want the ESH program run at the "lowest" level possible in the organization; for example, the laboratory hazardous waste coordinator should sign the hazardous waste manifest for laboratory-generated hazardous waste and be held accountable for any problems associated with that shipment of hazardous waste. The laboratory occupational safety and health coordinator would be responsible for auditing to ensure that the hazardous waste program is handled correctly. Laboratory management stated that the Region VII industrial hygienist is the occupational safety and health officer, who, as noted above, will be available to assist the coordinator as the industrial hygienist's workload permits.

The current ESH program support, provided by several people who either need training or are assigned ESH functions as a collateral duty, is not as effective as having a full-time industrial hygienist serving as ESH manager. Collateral duty assignments are usually not heavily weighted in employees' performance appraisals. Managers cannot expect these individuals, dedicated as they may be, to neglect their principle assignments in order to thoroughly perform collateral ESH duties. Therefore, we could not rate the Region VII laboratory adequate for any of the personnel support elements in Table 2.

SHEMD audit management supports Region VII's position that the laboratory should be considered adequate for the environmental management support element of the ESH matrix. Region VII stated that although the ESH program had been negatively affected by a change in personnel, the effects are temporary and the program still meets regulatory requirements. The safety and health coordinator and the two laboratory personnel have received training to support the environmental management program. Additional expertise is available from in-house experts and regional support for unusual occurrences.

During the OIG on-site visit, one laboratory employee responsible for part of the environmental management program indicated that he had received environmental training, but believed that additional training would be

beneficial. We were also informed that the in-house environmental expertise would not be readily available after a regional reorganization and relocation. Additional documentation provided by laboratory management indicated that the safety and health coordinator had attended a one-day RCRA training course provided by Region VII and other indirectly related environmental training. Without additional documentation of training and support, we would not consider the environmental management to be adequate for an EPA laboratory with a RCRA Part B permit. However, if SHEMD has received additional documentation to support its finding, the environmental management program of the Region VII laboratory would now be considered adequate.

Annapolis

Support for the Region III Central Regional Laboratory's ESH program is provided by both Regional and laboratory personnel. The Regional Safety and Health manager, who works in Annapolis in a location separate from the laboratory, stated that he provides support to the laboratory an average of one day per week and conducts the annual safety and health inspection for the laboratory. The Regional Industrial Hygienist, who is located in Philadelphia, PA, provides support to the laboratory four to six days per month. The Regional Industrial Hygienist recognized that the laboratory probably needed more direct support from him, but said that travel dollars restricted his ability to be at the laboratory more often. At the laboratory, a safety designee and a part-time environmental manager handle the day-to-day ESH program operations. Laboratory management has discussed providing full-time environmental management. We did not find that the part-time support from the Regional Safety and Health manager or the part-time safety designee adequately provided for fire and facility safety.

The Region III Central Regional Laboratory has begun corrective actions for problems identified in the last SHEMD audit. However, many of the problems that the laboratory has not been able to address are facilities problems that must be coordinated with the lessor and GSA. Laboratory management indicated that the plans for the laboratory to move to a new facility at Fort Meade, MD, in 1998 contribute to difficulties in dealing with building and facility issues. Historically, the lessor has not been responsive to correcting problems identified with the facility, and now that the move is getting nearer, he is even less willing to make costly changes. According to laboratory management, the situation with the lessor has become so difficult since our visit that GSA has directed the laboratory to address all lease issues to them and they will contact the lessor.

The laboratory, by and large, described the status of corrective actions related to building and facility issues either as being referred to GSA or as a problem that would be corrected with the laboratory's move to a new facility. Laboratory officials believed that these explanations were adequate status reports, and provided documentation of laboratory and Region III efforts to correct problems through GSA and the lessor. SHEMD was provided a corrective action status report from the laboratory which addresses the actions referred to GSA. Laboratory personnel understood that SHEMD accepted the referral of corrective actions to GSA as an adequate laboratory action. We did not find a formal response from SHEMD on the actions referred to GSA. Furthermore, we found it difficult to document what actions GSA had taken to address laboratory concerns, or to determine if Headquarters assistance had been requested concerning GSA and lessor problems.

Given this situation, it is not surprising that we found that the ESH audit recommendations had the least effect on this laboratory of all the facilities in our sample. Although we recognize the impact that all of these issues have on addressing ESH problems, we again stress that EPA, not GSA, is responsible for the health and safety of EPA personnel. For these reasons, we found building and facility support for the laboratory to be inadequate.

Region III questioned two specific matrix elements found to be inadequate; the facility ESH self-inspection and the ESH professional and best management practices. Region III stated that the laboratory's ESH self-inspection program matrix element should be considered adequate, based on inspections conducted quarterly by the laboratory safety committee and annually by the regional safety and health officer. Corrective action plans are developed and monitored for deficiencies. We did not find adequate documentation of the quarterly inspections during the OIG on-site visit. We found safety committee meeting minutes that referenced some observed ESH

problems and corrective actions taken. However, for the period from January 1994 to the time of our site visit (January 1995), we found minutes for only two safety committee meetings (March 30 and September 15, 1994). If SHEMD has been provided documentation for quarterly inspections and finds the self-inspections to be adequate, the laboratory's ESH self-inspection program would no longer be considered inadequate. Also, the OIG did not find evidence that the laboratory was implementing professional and best management practices in its ESH program. Therefore, we found that matrix element to be inadequate at the time of the OIG visit. As previously noted, with documentation and an adequate finding by SHEMD, the laboratory would not longer be considered inadequate for this matrix element.

Gulf Breeze

We are particularly concerned with the environmental, safety, and health situation at ERL Gulf Breeze. Although laboratory management has begun taking corrective actions, such as appointing a full-time environmental manager, we believe that the facility is still at risk. As noted previously in Table 2, we found that ERL Gulf Breeze was adequate in only one element, the ESH Committee. All other elements were considered to be inadequately covered.

The Gulf Breeze laboratory is located on a small island at Pensacola Beach, FL, and is surrounded by a residential neighborhood in a resort area. The island has been used by various Federal agencies since the early 1900s. Many of the 25 buildings on the island are small, old wooden buildings. Laboratory management stated that the salt air atmosphere and humidity in the area contribute to a deterioration rate of facilities and equipment that is more rapid than most other EPA facilities.

The present fire suppression system is not assured of providing complete coverage due to inadequate water pressure for the system to operate properly. Since the local water authority was replacing water lines in the area of the laboratory, the Agency has been working with the water authority to see if the water pressure problem will be solved by water line replacement before the Agency takes additional actions.

ERL Gulf Breeze experienced one major fire and one minor fire in 1994. A fire in Building 20, constructed in 1977, caused extensive smoke damage, and was determined to be the result of equipment problems. There was also a smaller fire caused by a Bunsen burner, which damaged a small amount of material around the burner itself. We did not find evidence of fires of any size at any other laboratory that we visited.

The occupational safety and health program is the responsibility of a quality assurance and safety specialist. A former laboratory scientist holds this position. This individual performs occupational safety and health duties part-time. He stated he attempts to conduct safety and health inspections quarterly, but admitted that he was not always successful in meeting the schedule. We accompanied the quality assurance and safety specialist on a safety and health inspection of several laboratory buildings. Among the findings from this inspection was a container of expired ethyl ether, which if maintained for long periods after expiration may form peroxides with the potential for violent reactions in certain situations. Deteriorating chemical containers were also found in the same building. We also accompanied the specialist when he responded to a fire alarm in one of the contractor-occupied trailers. While responding, we observed obstructions in the aisle and near the exits. Fortunately the alarm was false.

Although there are numerous older buildings, rapid deterioration of facilities and equipment, a history of fires, and an inadequate fire suppression system, laboratory management has not yet appointed a full-time safety and occupational health manager. Therefore, we could not find that ERL Gulf Breeze had adequate building and fire safety support. Since our visit, the laboratory director has stated that he expects to be able to appoint a full-time occupational safety and health manager soon.

ERL Gulf Breeze has also had a history of RCRA-related problems. The laboratory was fined \$2,500 by the State of Florida for RCRA violations in July 1993. The final consent decree was based on a meeting between

State of Florida Department of Environmental Regulation (DER), the Gulf Breeze laboratory director and environmental manager, and the present ORD ESH program manager. During the meeting, the DER inspection and corresponding penalties for violations were discussed and the parties agreed to final penalties. The meeting concluded with a decision to fine the laboratory \$2,250 for accumulating hazardous waste over the 180-day accumulation time limit, and \$300 for not properly labeling drums of hazardous waste after the 55-gallon limit for satellite accumulation was reached. DER agreed to drop three other concerns:

- a violation on improper storage of hazardous waste with documentation of the chemical "adoption program to be provided to DER;"
- a violation on land disposal restrictions record keeping when records were provided DER at the meeting; and
- a potential violation on weekly inspections not being "sufficient to reveal serious violations" as stated in DER's inspection report, since regulations only require that inspections be performed to determine if corrosion, deterioration, or leaks have occurred.

The final consent decree from DER recognized that the facility had taken corrective actions, but required payment of \$2,250 in civil penalties to complete settlement of violations and \$250 to reimburse DER's costs, for a total of \$2,500. We understand that the laboratory director was offered the option of providing community service, with an accompanying newspaper announcement, rather than paying a fine. He chose to pay the fine to avoid the newspaper announcement that would accompany the community service.

During this time, a full-time environmental manager was appointed at the laboratory. The environmental manager is an ecologist who managed the part-time environmental management program from 1986 to 1991, while supervisor of the Research Support Staff. He is also a Certified Hazardous Materials Manager. There is no industrial hygienist assigned to the laboratory.

Despite the assignment of a full-time environmental manager, more frequent inspections of satellite accumulation and hazardous waste areas, and more detailed tracking systems, we found another RCRA violation while on-site at Gulf Breeze on Monday, December 5, 1994. A five-gallon container of hazardous waste in the hazardous waste storage locker had an accumulation storage date of January 28, 1993. Based on that date, the hazardous waste had exceeded the maximum 180-day storage time allowed under the State of Florida's hazardous waste regulations.

The environmental manager's satellite accumulation area records indicated that the waste had been stored in a satellite accumulation area in Building 20 and was there at the time of the Building 20 fire. He said that the date on the container's hazardous waste label would have been the date that satellite accumulation started. This satellite accumulation container dating practice had been used by the laboratory prior to its present practice of dating for satellite accumulation in the upper right hand corner of the label. In the prior dating system, a new label and date were applied when the satellite accumulation container was full and moved to hazardous waste storage; with the present system, the accumulation date is filled in when the container is moved to hazardous waste storage.

The tracking record for containers in the Building 20 satellite accumulation area showed that the waste was removed from Building 20 on March 14, 1994. The environmental manager stated that after the Building 20 fire, all hazardous materials and all hazardous waste in the satellite accumulation area of Building 20 had to be removed. Since a new hazardous waste storage area was under construction, some of the satellite accumulation area waste was stored with hazardous materials in an area normally controlled by contractors, until disposal could be arranged. The satellite accumulation area tracking system and the more frequent inspections were inadequate since they did not include the contractor-controlled space, which the environmental manager considered inaccessible because he was not given a key to access it. Therefore, laboratory officials did not discover that the hazardous waste had not been disposed of properly until

December 2, 1994. Only when the container was found did anyone realize that the hazardous waste was still at the laboratory.

An employee of the contractor responsible for warehousing material for ERL Gulf Breeze, stated that while storing hazardous material on Friday, December 2, 1994, the container was found in the hazardous material storage area. The contractor employee called the environmental manager, who was not at the laboratory on December 2, 1994. The contractor employee did not contact any other government employee. The contractor employee told a co-worker to put the container in a specific hazardous waste satellite accumulation area. However, the co-worker put the container in the unlocked hazardous waste storage locker (a small metal building built to meet hazardous waste storage requirements), which is marked as hazardous waste storage.

We checked the hazardous waste storage locker on Tuesday, December 6, 1994, to determine what actions had been taken by the ERL Gulf Breeze environmental manager after discovering the problem the prior day. The hazardous waste container was gone and a 55-gallon drum of the hazardous waste substance was now stored in the locker. The accumulation start date on the drum was December 6, 1994. The environmental manager stated that he had poured the five-gallon container into a 55-gallon drum and labeled the drum with a new hazardous waste label with an accumulation start date of December 6, 1994.

Accumulation time frames for hazardous waste were adopted to ensure that hazardous waste containment does not lose its integrity, creating the potential for a leak, and that proper disposal actions are taken. Changing accumulation start dates on hazardous waste once it is in storage violates hazardous waste regulations. When this problem was pointed out to the environmental manager, he took action to correct the problem and began the procurement process to obtain hazardous waste disposal.

Both the environmental manager and laboratory director downplayed the RCRA violation, stating that the violation was an administrative violation and that there was no release of any hazardous substance to the environment. We cannot agree with this assessment. While the violation may not be serious by itself, this is a repeat finding found in both previous SHEMD audits and previous state RCRA inspections. In addition, the laboratory was informed in an October 13, 1993, Region IV RCRA inspection report that accumulation dates were not required on satellite accumulation containers until full. The report recommended that if the laboratory wished to record the date that waste was first placed in the satellite container, it should consistently be recorded in the upper right hand corner of the hazardous waste label. The laboratory began the recommended satellite accumulation container dating practice as it replaced containers, but did not correct labels on containers already in the satellite accumulation areas. During our visit, we observed that there were still satellite accumulation containers in use which were incorrectly labeled 14 months after the RCRA inspection report was received. This container dating practice, while not violating regulations, contributed to the RCRA violation we observed.

The environmental program records and tracking systems, while improvements from previous systems, are still not adequate to accomplish their main purpose: meeting environmental regulations in order to protect the environment. And the actions of the environmental manager to handle the violation once discovered indicate an inadequate understanding not only of hazardous waste regulations, but also of the intent of the regulations. We could not find that there is adequate environmental management support at ERL Gulf Breeze.

In 1994, all of the laboratory branch managers received an outstanding or exceeds fully successful performance appraisal that includes critical job elements for supporting people, programs and Agency policies that mention safety, but not occupational health or environmental requirements. While the ESH personnel are responsible for the ESH program, the implementation of the ESH program remains the responsibility of all managers, supervisors, and employees. With two fires in 1994, the performance ratings indicate that management is not being held responsible for the ESH program. We did not find an overall facility-wide commitment to the ESH program.

The laboratory's unique environment -- numerous small, old, wooden buildings on an island having low water pressure and therefore an inadequate sprinkler system; and salt air and high humidity accelerating the rate of structural deterioration -- increases the need for a strong ESH program. However, we did not find that ESH efforts at ERL Gulf Breeze met this need. Of all the facilities we reviewed, this one had the weakest ESH program. In summary, we found a RCRA violation, as well as potentially volatile expired chemicals and deteriorating chemical containers. None of these conditions were observed at any other facility visited. No matter how diligent the environmental manager and the part-time safety specialist become, we do not believe they can overcome the natural conditions, as well as the lack of involvement and commitment on the part of laboratory management and employees to develop an adequate program with the present level of support. The inadequacy of the ESH program at ERL Gulf Breeze jeopardizes the health and safety of EPA employees and possibly that of the nearby residential community as well.

EPA Laboratory ESH Program Is An Agency Weakness

ORD has identified its ESH program as a material weakness in its Integrity Act reports since 1992. In 1994 the ESH program was proposed as an Agency-level weakness in the Agency's fiscal 1994 Integrity Act process. However, Assistant Administrators and Regional Administrators agreed that ORD should continue to address the weakness internally. The strongest action that ORD has taken to correct the problem has been the appointment of a full-time industrial hygienist to develop and manage an ORD-wide ESH program. Plans for the program include technical assistance and an audit process, modeled after SHEMD's process, to provide more frequent evaluations of ORD laboratories. ORD's industrial hygienist plans to coordinate closely with SHEMD to ensure that the two ESH programs complement, rather than duplicate, each other. For example, the ORD ESH program may be able to complete corrective action follow-up reviews for ORD laboratories as identified by SHEMD during the SHEMD audit process.

Although only ORD has declared its ESH program a material weakness, our audit has confirmed that program inadequacies are not confined only to ORD laboratories. We did not observe any major differences in the implementation of the ESH program at EPA laboratories, regardless of whether the laboratory belonged to ORD or a Region. Furthermore, SHEMD's audits are performed in the same manner at Regional and program office laboratories, and the types and number of findings are similar.

As explained in Chapter 3, SHEMD regarded the ESH audit process as a tool for the local facility to use for their protection. Therefore, SHEMD audits focus on specific problems and related corrective actions at each facility. SHEMD has not used its audit process as a means to address the vulnerability of the Agency as a whole. While ORD has assessed the overall vulnerability of all of its laboratories, the Agency as a whole has not. ORD is taking actions to correct their weakness, but those actions have no effect at non-ORD laboratories (Regional, OAR, and OPPTS), which account for over half of all EPA laboratories. Furthermore, other actions will be necessary to improve the ESH program Agency-wide. We believe that the ESH program at laboratories is an Agency-wide, not just an ORD-wide, weakness.

Managers at Regional laboratories voiced their frustration at having to staff ESH positions "out of hide." While all recognized the need for the function, they noted there were difficulties in getting funding for positions not associated with a media-specific EPA program, even when the requirements were placed on them to perform the functions ([footnote 2](#)). SHEMD personnel indicated that a .7 full-time equivalent (FTE) position was provided to each Region to manage the ESH program approximately five years ago. In the three Regions which we visited, laboratory management pointed out that this position was assigned at the Regional office, rather than at the Regional laboratory, even though the environmental risks were always greater at the laboratories, due to the continuous handling, storage and disposal of hazardous materials and wastes. Laboratory managers indicated that they received little ESH support from Regional ESH management.

All laboratories which we reviewed were expending more than .7 FTE to perform ESH functions. In fact, only one laboratory was spending less than 1.5 FTEs (all positions combined). FTE allocation for this function is

inadequate, and in the case of the Regions, we believe the allocation has been misplaced at the Regional office, rather than assigned to the laboratory facility.

Technical expertise and skill mix is a critical component to having a model, or even an adequate, ESH program. Yet we have observed at two facilities (RTP and Kansas City) that skill mix was not given due consideration when filling ESH vacancies. It is much more important to cover all the bases (environmental, safety, and health) than it is to cover one base more than once. ESH personnel told us that it was too much for one person to be an expert in all of these areas. We agree, and we believe SHEMD can assist laboratories in the identification and selection of needed skill mix and qualified personnel. As ESH laboratory vacancies occur, SHEMD should provide guidance to managers about how the vacancy should be announced (classification series) so as to best meet the facility's needs. SHEMD could also act as subject matter expert for applications received, and/or assist in the actual selection of the individual to fill the vacancy.

RECOMMENDATIONS

We recommend that the Deputy Administrator:

2-1. Declare EPA's ESH program, at a minimum, an Agency-level weakness during the 1995 Integrity Act process, unless immediate actions result in major program improvements.

Agency Response

The Deputy Administrator agreed to direct senior managers to discuss the ESH programs as an Agency-level weakness during the 1995 Integrity Act process. In addition, OARM has automated its ESH management audit process and will report quarterly to senior management on the status of corrective action plans for audit findings.

OIG Response

We agree with the Agency response to this recommendation.

2-2. Require OARM, in conjunction with the program offices, to develop a model environmental program which also adequately addresses occupational safety and health requirements to provide a management overview as a supplement to present ESH audit protocol. Establish clear expectations and ensure that the program is implemented at all Agency laboratories (Regional, ORD, OAR, and OPPTS).

Agency Response

The Deputy Administrator noted that the present ESH audit protocol provides ESH managers the necessary flexibility to develop program to meet their needs, and in many cases, model programs are already in existence. SHEMD already provides technical workshops, and the Agency assigns a high priority to safety, health, and environmental management in managing its repair and improvement budget. SHEMD is not allocated resources to correct local audit deficiencies.

OIG Response

Based on the generality of the Agency response, we revised the specific actions which we think will be necessary to improve the program. The following recommendations are different from the draft.

a. As needed, OARM should make improvements to the program element matrix contained in this report and use it as the basis for an ESH report card to be completed by SHEMD officials at the time of their facility audit or annually if ESH conditions warrant.

b. OARM should work with program and Regional offices to develop corrective action plans to address report card weaknesses and improve the ESH program.

c. Regional Administrators should be instructed to reassign the ESH allocated resources (.7 FTE per Region) to the regional laboratories unless compelling written justification is provided by the Regional Administrator, concurred in by SHEMD, and approved by the Assistant Administrator, OARM.

2-3. Instruct ORD and OARM to take immediate action to reduce ESH risks at ERL Gulf Breeze and document completed actions.

Agency Response

SHEMD has monitored ESH actions at ERL Gulf Breeze and has noted actions that have been taken to lessen ESH risks. SHEMD will continue to monitor the ESH program at ERL Gulf Breeze and keep OARM management apprised of progress.

OIG Response

We agree with the Agency response to this recommendation. We do suggest that SHEMD also provide copies of the status report concerning the ESH program at ERL Gulf Breeze to ORD management as well.

2-4. Ensure that ORD coordinates with OARM so that ORD's ESH program complements, rather than duplicates, the Agency's program.

Agency Response

SHEMD indicates that quarterly meetings are held with the ORD ESH program manager to coordinate the programs.

OIG Response

We agree with the Agency's actions for this recommendation.

2-5. Instruct OARM to identify and prioritize specific laboratories' ESH needs in determining ESH position requirements to best complement laboratories' ESH programs.

Agency Response

SHEMD stated that staff requirements are addressed in the Management Systems review in its ESH audits. SHEMD will offer counsel on knowledge, skills, and abilities for hiring ESH personnel, but is not requesting oversight of position descriptions and qualifications of local managers.

OIG Response

We do not agree with the Agency response. The actions addressed in the response will continue to address ESH personnel issues as in the past. We did not find that these actions adequately addressed ESH personnel

qualifications as observed during the OIG audit of the ESH program. We have rewritten the recommendation to address OIG concerns more specifically.

a. Require SHEMD to make a written recommendation to the facility director on how best to advertise and fill full-time ESH vacancies. The recommendation should indicate what skill mix will most improve the report card ratings.

b. SHEMD concurrence on the experience and expertise of ESH position selectee must be obtained prior to filling the ESH position.

2-6. Instruct OARM, in conjunction with applicable program offices, to develop and implement a plan to improve coordination at facilities where program offices are co-located, such as RTP and Cincinnati, so that there is a facility-wide ESH program which covers all operations and addresses facility weaknesses. Incorporate review of plan and its implementation into SHEMD audit protocol.

Agency Response

The Agency stated that written agreements exist at locations where several EPA programs are co-located. The Office of Administration of OARM met with OARM-RTP and OARM-Cincinnati to address ESH issues at multi-tenant EPA facilities and to take appropriate actions to ensure that a Facility Safety Committee is created and to work with other EPA program offices in implementing this action.

OIG Response

Although we agree with the Agency response to this recommendation, we did change the recommendation to include a requirement that the SHEMD audit protocol include review of the coordination plan and its implementation at applicable locations.

CHAPTER 3

OARM NEEDS TO IMPROVE THE ESH AUDIT PROCESS AND ITS VISIBILITY TO MANAGEMENT

In July 1986, EPA released a policy statement on environmental auditing, with a restatement issued in July 1994, which said:

The Agency clearly supports auditing to help ensure the adequacy of internal systems to achieve, maintain, and monitor compliance. By voluntarily implementing environmental management and auditing programs, regulated entities can identify, resolve, and avoid environmental problems.

The environmental auditing policy notes that explicit top management support for the auditing and commitment to follow-up on audit findings will likely be needed for an effective environmental auditing system. We believe that these observations are applicable to both environmental, and safety and health audits. Our review of EPA's ESH audit process found that weaknesses in the process itself, a lack of visibility of the audit results to top management, and a less than full commitment to follow-up of audit findings diluted the audits' effectiveness.

Current Audit Process

The SHEMD audit program manual states that each facility will be reviewed every five years; however, SHEMD personnel are now working to establish a three-year review cycle. ESH audits are accomplished by a SHEMD technical expert serving as team leader and a contractor team of two to five experts. The audit team

performs a thorough review of facility compliance with ESH Federal, state, and local regulations and Agency policy, in visits that are normally completed in three to five days. In addition, professional practices (procedural or engineering enhancements to assure compliance with regulatory requirements) and management systems are also addressed by the audit team. At the conclusion of the site visit, the audit team provides an exit briefing to discuss major findings with facility management. A change was recently made to this process. SHEMD personnel stated that they have begun to provide a written summary of preliminary findings and recommendations at the exit briefing so that the facility can begin taking immediate corrective actions.

After completing the site visit, the contractor has 12 working days to provide the draft audit report to SHEMD. Although the audit program manual states the draft will be provided to SHEMD and the audited facility for comments, normally SHEMD reviews and comments on the draft prior to its release to the facility. When SHEMD approves the draft report, it is sent to the audited facility for comment. SHEMD does not presently set any comment due dates on the auditee. When facility comments are received, SHEMD, in conjunction with the contractor review team, determines the applicability of the comments to the final report. The contractor review team has another 12 working days after receipt of comments to provide the final report to SHEMD. The final report is issued to one management level above laboratory management. The time limits set for completion of the draft and the final reports apply only to the contractor review team, rather than to the actual issuance to the Agency.

SHEMD maintains an automated system which tracks corrective action and contains facility profile and other audit information. However, the tracking system is available to SHEMD only. None of the audited facilities can access the system to review information nor can they input updated corrective actions. The facility must provide corrective actions status reports to SHEMD in order for the audit contractor to update the system. SHEMD is addressing the issue of expanding access to the system.

SHEMD has established a corrective action follow-up review, which is often called a "follow-up audit," for facilities requiring additional oversight. The need for additional oversight is determined by assessing the number of findings at the facility that present a risk of exposure to EPA if not immediately mitigated, the complexity of the recommended corrective actions, and the opportunity for SHEMD to provide technical support in implementing the facility's corrective action program. This repeat site visit is applicable for facilities reviewed in the current or previous annual cycle, and focuses on determining the status of corrective actions whether additional technical assistance will be needed to implement the corrective actions.

Audit Concerns Identified

EPA laboratory management were united in their criticism of the current ESH audit process. Among the concerns that laboratory management had with the process were the following.

Use of contractors to perform the audit.

Treating professional practice findings and recommendations in the same manner as regulatory findings and recommendations.

Less than timely release of draft and final audit reports.

Inadequate consideration given to laboratory response to issues addressed in the draft report.

Many laboratory managers were critical of SHEMD's overdependence on contractors, whose lack of knowledge of EPA's background, history, and operations laboratory managers believed adversely affected the audits themselves. At one laboratory, management indicated that the contractors lacked an historical perspective of laboratory operations, as well as an EPA perspective. Laboratory managers believed that contractors did not effectively assess long-term problems or assist in developing long-term strategies to address these problems. In

one case, a laboratory director also questioned the contractor's technical expertise, asking how contractor personnel could review compliance with regulations related to radioactive material when the contractor personnel did not understand the term "half-life," a basic concept involved in any operation with radioactive material.

In discussing these issues with us, laboratory management indicated a willingness to provide laboratory ESH personnel to participate in SHEMD audits of other Agency facilities, though some travel expense support would be needed from SHEMD. If this audit support could be worked out, the audit participant would acquire training and a greater understanding of the audit process, while the audit process and the audited facility would benefit from the experience of the participant.

SHEMD management stated that SHEMD requested that its program be considered for "contractor conversion" to bring more ESH expertise in-house. This request was not approved. SHEMD has agreed to consider including other Agency ESH personnel in the audit process to increase Agency involvement in it.

Another audit concern of laboratory management is SHEMD's decision to address professional practice findings and recommendations in the same manner as regulatory findings and recommendations. Although the audit process would assign different priorities to the two different types of findings, both types of findings were counted as problems and required corrective actions. The managers believed that professional practice findings and corrective actions should be considered in a more flexible manner than the findings and corrective actions related to regulations.

SHEMD redefined its audit findings prioritization process in its September 1994 audit program manual. Priority A applies to findings that pose a significant threat to human health or safety, EPA facilities or equipment, or could result in a severe regulatory enforcement action. Priority B is assigned to findings that pose an unacceptable health or safety risk or could result in a regulatory enforcement action. Priority C will be assigned to "de minimis" findings, which would have a minimal impact on the environment and human safety and health but could result in limited regulatory enforcement. Priority D will be used to note deficiencies that were corrected during the audit. In addition, SHEMD has agreed to separately address regulatory and professional practice findings and recommendations in the audit report.

Timeliness is also an issue with the audit process. The following timeline illustrates the problem.

Location	Date of Site Visit	Date of Draft Report	Date of Facility Response to Draft	Date of Final Report
Lexington	December 14-16, 1993	March 15, 1994	Initial Response March 28, 1994. Further information provided at the request of SHEMD on July 1, 1994.	Final report dated August 1994. Memorandum forwarding report to Region dated August 30, 1994.

Laboratory personnel told us that they had still not received a copy of the final audit report at the time of our field visit, October 31-November 2, 1994. SHEMD officials stated that they had sent a copy to the laboratory via Federal Express on two separate occasions prior to the OIG visit, and could not explain why the copies had not been received. SHEMD stated the problems encountered in issuing this report in a timely manner were related to awarding the follow-on contract for ESH support during this time period. Even though SHEMD indicated that this example resulted from a unique situation, other laboratories also complained about the untimely receipt of audit reports.

As previously stated, the SHEMD audit program manual cites a time frame of 12 working days for issuing draft and final reports after completing the audit and draft report comment period, respectively. However, these time frames apply to contractor personnel only. In addition, SHEMD usually returns the draft and final reports to the contractor for corrections prior to issuing them. Naturally, this further delays report release. Time taken by the contractor to incorporate SHEMD's editorial and substantive changes is not included in the contractor's 12-day requirement or the SHEMD audit program manual.

In addition, SHEMD stated that a timely return of draft report comments from the audited facility is required to provide the final report in a timely manner. Yet the transmittal memorandum for the draft report sets no specific time requirements for a response from the auditee. SHEMD is amenable to clarifying time limits for draft and final report release and establishing reasonable time limits for return of auditee comments.

We suggested that SHEMD provide a written draft report for facility comment at the exit conference for each visit. This procedure has been used with success by other Federal facility environmental auditors. Instead, SHEMD decided to have the audit team provide a written preliminary summary of findings and recommendations from the audit, which will allow the facility to begin addressing ESH problems and associated corrective actions in a timely manner. The official draft of the report will still be provided to the facility for comment at a later date.

We commend SHEMD for taking steps to improve the timeliness of the audits. However, when results of the audit are not communicated timely, needed corrective actions may be delayed. Identifying deficiencies is only a part of the audit process. Timely communicating those deficiencies to those who are in positions to take actions to correct them is also important. The following example illustrates this point. Of all the facilities which we visited, we found that at RTP, the OARM Safety and Health Manager performed the most detailed building and facility safety inspections. However, the inspection reports were not completed until six months after the inspections. Laboratory and facility managers were not aware of the deficiencies cited and, as a result, corrective actions were delayed. We noted many of the same deficiencies in November 1994 as the Safety and Health Manager found in February and March 1994.

Feedback from SHEMD about the auditee's response to the draft audit report was also considered to be less than adequate by laboratory management and ESH personnel. Although SHEMD has made an effort to respond to draft comments, the feedback process has been informal and ineffective in answering facility concerns. We explained that in the OIG audit process, we address and evaluate Agency comments to a draft report in writing in the final report itself. This type of procedure makes it clear to the auditees whether their responses to the recommendations in the draft were acceptable and complete. SHEMD management indicated that they would be willing to consider a similar format.

Distribution of the audit reports is also a concern. Presently, SHEMD audit reports are distributed only to the audited facility and its management. Laboratory management stated that they had not seen any audit reports from other facilities. They agreed that reviewing ESH audit reports from other facilities would provide additional information and probably be useful in their own program. None expressed a major concern with a wider distribution of their own audit reports.

We were concerned about the lack of visibility of the ESH audit reports to top management. ESH audit reports are issued to management one level above the audited facility. Because organizations vary, a report on a Regional laboratory could go to the Director, Environmental Services Division, the Assistant Regional Administrator who handles administrative functions, or the Deputy Regional Administrator. In the program offices, the reports are issued to the responsible office. For example, the ORD environmental research laboratories' ESH audit reports are issued to the Director, Office of Environmental Processes and Effects Research.

SHEMD provides an annual senior management summary on ESH issues for OARM and interested program offices. However, they do not presently have a standard protocol for elevating uncorrected deficiencies, potentially dangerous situations, or other serious concerns to the Administrator, Deputy Administrator, Assistant Administrator or Regional Administrator level. Therefore, top management may not be aware of the potential impact of at-risk facilities on the Agency as a whole. SHEMD management stated that they had regarded the audit process as a tool for the local facility to use for their protection, and had not thought of the audit process as a means to address the vulnerability of EPA as an entity.

As the audit program has matured, SHEMD recognized that there were problems at some facilities that they believed should be monitored more often than the three-year audit cycle. A follow-up corrective action review was established to assess the status of corrective actions for facilities defined as being at-risk in the previous or present annual review cycle. The follow-up audits do provide some additional visibility of problems simply by returning for an on-site visit to the facility. But this return visit is still only visible to the facility and to management which is one level above laboratory management. The report on the follow-up review is issued to the same level of management as the initial audit.

Finally, although SHEMD has an automated system to track corrective actions related to audit findings, the system presently is only visible to SHEMD. SHEMD personnel stated that SHEMD planned to institute a monthly process to provide reports to field facilities, as both a means to encourage field updates and ensure that Headquarters has received updates. Eventually, SHEMD would like to have the tracking system available for review through the Agency's local area network. We would encourage that SHEMD continue its efforts to increase the visibility of and access to the corrective action tracking system.

Audit Effectiveness

We reviewed the status of corrective actions identified from the latest audit report as a means of assessing the effectiveness of the audit program at the facilities we visited. There were mixed results in the effectiveness of the audits in improving the ESH program at each facility. The New England Regional Laboratory in Region I had implemented almost all of the August 1994 report recommendations, though there were a few actions related to training and long-term projects, such as the laboratory's wastewater system, that were still not totally implemented.

Region III's Central Regional Laboratory still had not corrected many of its May 1994 report recommendations related to building and facility safety. Because the laboratory facility is leased through GSA, laboratory management had provided the audit findings to GSA and stated that they believe that it is GSA's responsibility to ensure the lessor take corrective actions. In addition, a new laboratory is planned for the Central Regional Laboratory and laboratory management believes that the plans for the new building should have been considered in the audit.

We do not totally agree with Region III laboratory management's assessment. Although GSA holds the lease, the Agency, not GSA, is responsible for the safety and health of its employees. Therefore, laboratory personnel must work with GSA, requesting Agency headquarters assistance as necessary, to address facility safety issues. Since the ESH audit is conducted to identify weaknesses and assist EPA facilities in meeting its ESH requirements we do not believe that identification of problems in the laboratory should be constrained in the audit process. Plans for new facilities and equipment may influence corrective action plans and associated priorities, or requests for deviation, but should not influence the audit process.

RTP had completed the majority of corrective actions related to its September 1992 audit report, with some actions still in implementation. Since the building lease for the main RTP facility (Tech Center) was up for renewal in 1993, GSA conducted a safety and health inspection for lease renewal. RTP considered several building and facility corrective actions to be complete based the GSA review, which did not cite some of the problems identified in the SHEMD audit. We again caution that although GSA is responsible for the lease, EPA

is responsible for the safety and health of its employees. We do not believe that the lack of similar findings between GSA and SHEMD automatically negates the legitimacy of an SHEMD audit finding. RTP should consult with SHEMD to determine corrective action status considering the GSA review.

ERL Gulf Breeze had completed the majority of corrective actions for its ESH programs from the laboratory's January 1994 audit report. ERL Gulf Breeze continues to pursue long-term building and facility corrective actions, including water pressure problems that affected the fire suppression system, that continue to leave the facility vulnerable to ESH problems. While Gulf Breeze laboratory management had implemented an SHEMD management system recommendation to provide full-time environmental compliance coverage, management had not taken action to address a similar recommendation to provide full-time occupational safety and health coverage. This coverage was still being provided as a collateral duty by a laboratory quality assurance and safety specialist. ERL Gulf Breeze should complete this management system recommendation.

The Region VII laboratory had completed most of its corrective actions from its November 1991 environmental audit report and its September 1992 health and safety audit report (separate audits done prior to establishing combined ESH audits). The laboratory had been awaiting SHEMD guidance on some open actions specific to the 1992 health and safety audit report. While we were on site, ESH personnel found that the laboratory had received earlier guidance from SHEMD (dated January 22, 1993), but the guidance had been misplaced. Corrective actions had been delayed for over a year due to the misplaced guidance.

Our review of the SHEMD audit process identified several areas where changes would improve the process. Generally, these areas related to timeliness and feedback to the auditee and to top management. Most of the problem area identification was developed by listening to laboratory management. Historically, the majority of SHEMD interaction with the laboratories has been through the ESH points of contact. SHEMD interaction with laboratory management has been limited, generally occurring during on-site audits. We found that laboratory management concerns and the concerns of laboratory ESH points of contact were not always exactly the same.

SHEMD had begun to recognize that actions were needed to improve the audit process and to expand its definition of its customer base. For example, an SHEMD manager attended a Regional laboratory branch chiefs meeting in the fall of 1994, obtaining a list of ESH priorities developed by the meeting attendees. SHEMD had also begun to address some audit process problems raised by laboratory management during the September 1994 update of the SHEMD audit program manual. In addition, SHEMD has been very supportive of OIG efforts to address the ESH programs, as well as very receptive to OIG recommendations for improvement.

Eliciting feedback from all of its customers is critical in order for SHEMD to continue to improve its audit process, thereby increasing the effectiveness of the audits and the timeliness of corrective actions. Pursuing timely corrective actions is crucial to protecting the safety and health of EPA employees and the environment in some cases.

RECOMMENDATIONS

We recommend that the Deputy Administrator:

3-1. Instruct OARM to enhance the ESH audit process by involving program and Regional ESH personnel in audits.

3-2. Establish a process in OARM to elevate reports to EPA top managers when reports identify significant risk or continuing problems found during ESH audits.

3-3. Improve the OARM ESH audit reporting process by:

- a. Increasing the timeliness of audit reports and associated responses, which would include establishing response time frames for program and Regional offices;
- b. Incorporating the facility's response to the draft report into the final report, which would include an evaluation of facility comments and a clear identification of where SHEMD and the facility are not in agreement; and
- c. Improving corrective action tracking (for example, ensuring that interim actions are tracked during long term corrective actions, and providing additional accessibility of the tracking system to field facilities and top management).

Agency Response

The Agency indicated that SHEMD has taken actions to address the recommendations concerning the audit process. Among the actions are the establishment of a process improvement team to discuss the SHEMD Auditing process. The process improvement team will determine a strategy for informing senior managers of the status of their particular ESH program.

OIG Response

We agree with the Agency actions related to all of these recommendations except for elevating reports to EPA top managers when significant risk or continuing problems are found during ESH audits (Recommendation 3-2). While the process improvement team should be included in defining a strategy for notifying top management of problems, the strategy should be Agency-wide and top management should be included in defining how they will be notified.

APPENDIX II

REPORT DISTRIBUTION

Office of the Inspector General

Inspector General (2410)

Deputy Inspector General (2410)

Divisional Inspectors General

Director, Planning and Resources Management Staff, Office of Audit (2421)

EPA Headquarters

Deputy Administrator (1102)

Assistant Administrator for Administration and Resources Management (3101)

Assistant Administrator for Research and Development (8101)

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Director, Executive Support Office (1105)

Director, Office of Administration (3201)

Director, Safety, Health, and Environmental Management Division (3207)

Agency Follow-up Coordinator (3304)

Attn: Director, Resources Management Division

Audit Follow-up Coordinator, Office of Administration and Resources Management (3102)

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Regional Offices

All Regional Administrators

All Regional Audit Follow-up Coordinators

Laboratories

All EPA Laboratories

Footnotes:

1. EPA reports its most significant material weaknesses to the President in its Integrity Act reports. Agency-level weaknesses are not formally reported to the President, but are determined to be significant enough to merit the attention of the Administrator. Weaknesses which are not included in the above categories are addressed internally by the responsible program or Regional office.

2. We recognize that many components of EPA are reorganizing to better address multi-media issues, and that future funding could conceivably become less media-specific. But at the present time, funding is still media-specific.