

Audit Division

The MIT Audit Division delivers audit services through a risk-based program of audit coverage, including compliance assessments and financial, operational, and information technology (IT) reviews and audits. These efforts, in coordination with the Institute's external auditors, provide assurance to management and the Auditing Committee that good business practices and policies are adhered to, adequate internal controls are maintained, and assets are properly safeguarded.

The Audit Division was fully resourced, employing 16 professional staff (13.6 full-time equivalents) at the beginning of FY2005, with core resources operating around four functional teams responsible for distinct areas of the Audit Plan: Financial and Compliance Review, Operational Audit, Information Technology Audit, and Construction Audit. Information Technology Audit resources provide support to the other teams, thereby integrating systems expertise into the examination of business processes. The division also houses a specialized function, Professional Standards and Strategy, staffed and led by an experienced member of the division with the title associate audit manager. Working with the Institute auditor and the audit management team, this function guides the division in setting policy and direction to help us achieve our long-term goal of becoming MIT's world-class audit function.

Effective July 1, 2004, the Audit Division officially launched a new function known as the Research Administration Compliance Program (RACP). Formation of RACP was initiated by the executive vice president, who provided incremental resources in recognition of the growing external focus on research compliance and the prominence of MIT within that framework. RACP provides ongoing research administration compliance monitoring by two individuals, with automated support provided by an individual with a 50 percent appointment to this effort; all three individuals are dedicated to research compliance, reporting to the associate audit manager, Operational and Compliance Risk Management. All other audit resources are assigned to core audit work, now referred to as Audit Operations, reporting to the audit manager. At the end of the year, Audit Operations comprised 10 professional staff responsible for delivery of audit assurance and occasional advisory services.

Audit Operations underwent a shift in emphasis during the year, principally motivated by the launch of RACP. Traditional audit scope and focus called for cycle-based inspections of individual departments, labs, and centers (DLCs) for compliance with Institute and federal policies, performed by the Financial and Compliance Review team. This practice continued during the first half of FY2005 as RACP was initiated. The design of RACP will accomplish this traditional approach in a "utility" fashion (broader and more frequent coverage); consequently, Audit Operations employs resources formerly dedicated to the cycle-based inspections in process-based operational auditing. Planning for this transformation began in 2004 with process-audit training, and in 2005 the associate audit manager led an effort to develop new audit work-paper templates and formats to facilitate the process-based reviews.

RACP is designed to monitor federally sponsored research activity throughout the Institute and to review financial and administrative practices within DLCs. This program also provides guidance to individual DLCs in research compliance and internal control issues. The program is divided into two primary functions—Spot Audits/Site Visits and Institute-wide Continuous Monitoring—as well as performing special projects relative to research administration. Following is a description of the program elements.

Spot Audits/Site Visit Program. In an effort to strengthen compliance controls within individual departments, RACP staff will perform site visits on an ongoing basis. Site visits include targeted audit procedures for key compliance controls such as the monthly review of charges and certification of salary. Additionally, control assessments are performed through review of individualized compliance monitoring reports with administrative staff within the site and discussion-based review of practices to determine where practices may need strengthening or more targeted inspection might be required. During 2005, RACP staff performed four pilot site visits, selected in collaboration with assistant deans in the schools of Science and Engineering and for the vice president of research, to inform the permanent program going forward.

Continuous Monitoring Program. The Continuous Monitoring Program is being designed to identify specific exceptions, potential problems, and trend data that may be useful in assessing the effectiveness of existing internal controls relative to the Institute's research administration activity. Currently the Monitoring Program is linked primarily to the Site Visit Program. However, the goal is to implement a reporting process that will allow us to communicate potential exceptions directly to DLCs via email notification and track corrective action as applicable.

During this past year, RACP staff performed an in-depth research administration roles and responsibilities study for the Department of Mechanical Engineering. Driven by the merger of the departments of Mechanical Engineering and Ocean Engineering, this project came as a request from the director of the Office of Sponsored Programs, based on discussions with the department head and the provost. As part of this review, we interviewed approximately 30 individuals (faculty, faculty support staff, headquarters staff, and central administration staff) and documented numerous business processes employed by the department. The end product was a report that identified a series of observations and recommendations. The report is currently being used by the department in their initiative to restructure their administrative operations.

The Audit Division's scope of services is equal to the full extent of MIT's auditable activities. Allocation of audit resources across this broad spectrum is accomplished via a model for evaluating risks associated with individual units and/or operational processes, thereby determining a cycle of audit review. In 2005 the audit management team directed a comprehensive review of the audit universe and updated risk ratings for each of the 300-plus items in the universe. The resulting annual Audit Plan guides the assignment and completion of work.

As noted above, the "sunset" of the work of the Financial and Compliance Review team took place during the first half of the fiscal year. The team completed reviews in 11 DLCs

reporting to the vice president for research, with control themes echoing those of earlier audits in the schools of Engineering and Science. A major multiyear initiative to study and implement improvements in research administration commenced during 2005 to address the underlying concerns brought forward in the detailed audit work. Called the Research Administration Improvement Initiative (RAII), it encompasses development of a comprehensive training program and study of organizational designs and practices that could enhance the quality and professionalism of research administration at MIT. The Audit Division, RACP specifically, helped launch this initiative and remains involved to help integrate the goals of RAI with the work of RACP as well as provide a communication channel to the Auditing Committee, which oversees the initiative.

During FY2005, the Operational Audit team helped lead the Audit Division's transition to process-based auditing, as they have been operating under this model for the past several years. The Operational Audit team examined the effectiveness of controls over operational processes within selected areas of the Institute, including undergraduate and graduate admissions, the Registrar's Office, and Student Financial Services. Where appropriate, these audits are conducted in collaboration with the IT audit team to examine the role of system-based controls in the internal control processes. Accordingly, a comprehensive review of controls over student information systems was performed, providing a full report to management of areas to be addressed in order to strengthen controls. Controls over the Institute's procurement processes were also examined in 2005.

From time to time, the Audit Division takes on special reviews that are initiated at the request of senior management or in recognition of changing circumstances or situations that pose unusual risk to the Institute. In 2005 these included assistance to the MIT Medical Pharmacy in designing their physical inventory and an assessment of controls over purchases, cash management, pricing, and compensation for the Office of the Arts.

Construction audit activities continue on the \$1-billion-plus capital projects program. These reviews seek to verify that all costs to the Institute are legitimate, complete, and appropriate in accordance with the final contracts and all related change orders. Reviews have identified potential recoveries and questioned costs in excess of \$4 million, approximately three-quarters of which have been negotiated by management with the contractor in cost reductions. The construction audit process employs the services of several external audit firms, with both local and national presence. Selection of firms is based upon prior experience with the Institute and the project's construction management in a competitive bidding process. The division's construction audit specialist consults regularly with project managers on the status of projects and to identify areas of potential exposure that may be avoided contractually or with modifications in practices.

Throughout FY2005, our IT auditors have continued their involvement in the Systems, Applications, and Products in Data Processing (SAP) HR-Payroll module implementation by evaluating project management and pre-implementation controls, providing assistance when requested and attending sponsors' and project steering committee meetings. This provides both a high level and a detailed understanding of

the issues involved with implementing this very new technology and related business process changes. In addition to adding value to the SAP HR-Payroll development project, the IT audit team completed reviews of general controls over student information systems, application controls in the SAP module handling procurement, and general controls for selected departments' locally developed systems and databases. Through turnover, the IT audit team was strengthened with the addition of an individual with significant experience consulting and auditing SAP installations.

At Lincoln Lab, the IT audit supervisor assisted with PricewaterhouseCooper's annually recurring review of Lincoln Lab's public key infrastructure, which is a system of digital certificates, certificate authorities, and other registration authorities that verify and authenticate the validity of each party involved in an internet transaction.

The IT auditors continue to build relationships that will further enhance a cooperative and collaborative environment. Several activities illustrate efforts in this area. Since 2004, the IT audit supervisor has been an ex officio member of the Infrastructure Technology Architecture Group (ITAG). ITAG works with the community to set strategy, policy, standards, principles, and guidelines related to information technology architecture, infrastructure, and design of applications. Participation on ITAG enhances the Audit Division's ability to learn on a timely basis of the deployment of new technologies and to help ensure the timely incorporation of system controls, as well as creating another avenue to continue building relationships with Information Services & Technology (IS&T) management and Institute technologists. The same individual also assisted with the design of a consistent project management methodology for MIT, helped document the most comprehensive SAP disaster recovery test to date at MIT, and continues as a participant on the Business Continuity Management Team.

The Audit Division's expertise and assistance was also sought by management of the Alumni Association on behalf of one of the alumni groups, a separate legal entity. Services were provided as requested to analyze the organization's finances and related controls to assist in clarifying the group's financial situation.

The audit management team continues to explore and compare internal administrative practices for audit plan development, audit methodology and uses of technology to "best practice" standards, and consider opportunities to better leverage existing resources while meeting the Institute's goals for the division. Full staff and management retreats were held for the purpose of continued communication and planning toward achievement of transcending strategic goals for the division as a whole. The division continues the use of a software package enabling automation of administrative aspects of the audit process (work papers, scheduling, time tracking, and record keeping of audit findings). The current software package no longer provides the necessary functionality and advanced reporting needs. Consequently, an evaluation of its replacement was completed at the end of the year for purchase and implementation in the upcoming year. The replacement software embodies contemporary standards for documentation of control objectives, risks, and related audit testing and will fully support the division's needs.

The Audit Division is fully attentive to the support and service of its primary customer, the MIT Auditing Committee. The MIT Auditing Committee meets three times per year in accordance with its charter, which lends momentum to the Audit Division's goals for monitoring internal controls and supporting the Institute's risk management processes. Members of the Audit staff rotate in attendance at the meetings of the Auditing Committee in order to gain exposure to the discussion and emphasis taking place at that level. The Auditing Committee has enhanced its operations to include offline review with management of mission critical activities, such as RAI and the SAP Payroll implementation; this new process is supported with the assistance of the Institute auditor.

A recent development in corporate governance was the July 2002 passage into law of the Sarbanes-Oxley Act. Also, more recently in Massachusetts, the attorney general proposed legislation for Public Charities, which promotes many of the same elements as Sarbanes-Oxley. While Sarbanes-Oxley does not apply to not-for-profit organizations, institutions of higher education note that this law causes a shift in the external context of institutional best practices. The Institute auditor currently serves on a task force sponsored by the National Association of College and University Business Officers (NACUBO); this task force developed an advisory report issued by NACUBO in 2004, providing best-practice guidance for institutions of higher education within the context of Sarbanes-Oxley. The task force is now surveying NACUBO members as to their current practices in relation to the advisory report and Sarbanes-Oxley in general and will continue to stay abreast of governance trends within the profession.

We emphasize professional development on the part of all our staff. Members of the Audit staff find opportunities for training in their discipline and affiliate with industry peers through conferences, seminars, and group meetings. In 2005, peer-group affiliation was an important theme. The Institute auditor is a member of the "Little 10+" association of Ivy League and other peer institutions, which meets semiannually. The second annual meeting of the manager-level group representing the same "Little 10+" institutions took place in October 2004, paving the way for future intercollegiate collaboration among audit groups. In addition, IT staff representing the same group of institutions convened during the year. These meetings each provided a forum for the exchange of ideas, as well as determining approaches to common problem areas.

Keeping up with the latest technologies and IT auditing techniques requires constant attention to continued education and training opportunities. The IT audit team's ongoing involvement with the IT and Ed Tech Partners programs, its attendance at the semiannual security camp sponsored by MIT and Boston University, and participation in Independent Activities Period sessions and other IT seminars given at MIT and Harvard all help accomplish this goal. The IT audit team is also an active participant in annual meetings of the "Little 10+" IT auditors peer group.

One individual in the division accomplished a noteworthy personal milestone. Michael Bowers, audit manager, received an advanced degree—an MBA with a concentration in public and nonprofit management—from Boston University.

The Institute auditor is an active participant in several operating management groups. As a member of the executive vice president's Senior Management Team and the Administrative Systems Policies Coordinating Council, the Institute auditor lends expertise in risk management and control in addition to staying abreast of new developments in broader Institute initiatives. The Institute auditor is also a member of the Budget and Finance Steering Group, providing an additional link between internal operations and the oversight activities of the Auditing Committee in financial affairs of the Institute.

The Institute auditor also chairs the Central Authorizer (CA) Oversight Committee, which works with the "central authorizer" or central clearinghouse for system authorizations maintained in the Roles Database, the central system of record for certain authorizations. The CA Oversight Committee comprises members of the CA (part of IS&T's Administrative Computing organization), the Controller's Accounting Office, Human Resources, the Audit Division, IS&T, and representatives of the School of Science and the School of Engineering. The CA Oversight Committee works with the CA to facilitate and support the ongoing use of the Roles Database for maintaining authorizations and to promote the further deployment of the Roles model for other business processes' systems authorizations.

The Audit Division has taken several steps to echo the executive vice president's five broad themes for MIT administration within internal operations and audit practices. First among these is *client orientation*. Supporting our primary client, the MIT Auditing Committee, while providing value-added audit services Institute-wide, has been a long-standing commitment of the Audit Division, one that is met through careful attention to the concerns and potential exposures that face the administrative and academic staff and the faculty, researchers, and senior Institute personnel they serve.

The second theme, *collaboration*, is demonstrated in many of our audit activities, where we conform the goals of the audit process to management's objectives for good internal controls. Our efforts in system implementation projects have also been carried out through strong collaboration, a mode that advances the needs of the auditor as well those of the overall project.

Sustainability is the third theme. Business solutions to audit findings must, as a first priority, address the noted problem; to do this in a sustainable manner is the ultimate goal. Often management *accountability* (the fourth theme), reinforced through ongoing measurement, monitoring, and reporting processes, is a necessary ingredient in a sustainable solution. Improving and supporting management accountability is a goal for audit management in the upcoming year.

Professionalism is the fifth theme. Professionalism on the part of individuals comprising the Audit Division, as well as within the practices for the conduct of audit work, is an assumed standard for the internal audit function of an institution such as MIT. We recruit and retain people with professional certifications, support the ongoing maintenance of such certifications, and through communication and development nurture their understanding of their obligations as MIT internal auditors. Our ongoing

theme at the division's semiannual offsite meetings and working sessions in between is defining "Best Practices for MIT's World-Class Audit Function" and charting our course for implementing those practices. Through the dedication and professionalism of the current team, we believe this is an achievable standard of excellence.

Deborah L. Fisher
Institute Auditor

More information about the MIT Audit Division can be found online at <http://web.mit.edu/audit/www/>.