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**United States Department of State
and the Broadcasting Board of Governors
Office of Inspector General**

Report of Inspection

The International Broadcasting Bureau's Office of Engineering and Technical Services

Report Number ISP-IB-07-03, October 2006

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KEY JUDGMENTS

- The Office of Engineering and Technical Services (IBB/E) in the Broadcasting Board of Governors' (BBG) International Broadcasting Bureau (IBB) is a productive organization. Although it is no longer the technological leader it was in the heyday of shortwave, IBB/E has an enviable reputation for responsiveness and accomplishment. A number of the issues identified in this report are to some degree beyond IBB/E's control.
- IBB/E should communicate more effectively to internal and external audiences, involve its highly intelligent employees in planning for the future, and value the management and leadership skills among its supervisors. Plans and strategies should be followed and benchmarked.
- IBB/E lags behind many competitors in its use of such media as the Internet and television. IBB/E needs the resources and mandate to help the agency catch up.
- Although IBB/E welcomes innovation, it has no earnest organization-wide effort to seek technological solutions and conduct research and development.
- Too often IBB/E's talented engineers are given solutions to implement, instead of being challenged with problems to solve. The organization is not getting as much as it should from its capable staff.
- IBB/E's main mission is signal delivery. However, IBB/E's monitoring and evaluating of this differs, depending on whether the medium is the Internet, television, or shortwave or frequency modulated (FM) radio.
- Complex, technical environments, such as IBB/E's Network Control Center (NCC) and Information Technology (IT) directorate, do not have standard protocols and written standard operating procedures (SOP) to guide employees. Critical infrastructure also needs capital investment.
- After years of budget cuts, and with retirements looming, workforce planning now needs to be a priority. The use of frequent but unpredictable waivers of IBB's seemingly endless hiring freeze has sown confusion at IBB/E about the staffing plan. Staff training and the award program need BBG management's attention.
- IBB/E spends a lot of money, and its contracts and procurement are well managed. However, its training and guidelines for its procurement officials are insufficient.

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The inspection took place in Washington, DC, between April 17 and June 9, 2006.

CONTEXT

IBB/E delivers programs produced by Voice of America (VOA) and by quasi-independent grantee broadcasters to audiences in target areas around the world. This global transmission network employs 622 people and has an annual budget of \$158.9 million. It has a goal of keeping America “on the air” using radio, television, and the Internet. The number of employees at IBB/E’s Washington, DC, headquarters is 172, and the number of American nationals employed by IBB/E at transmitting stations is 96.

Besides running a 24-hour, seven-day-week network control operation, IBB/E manages capital projects such as building new antennas, provides computer network services, negotiates frequency allocations, designs and procures high-technology audio-video solutions for the broadcasters, and supports the Department of State’s (Department) American Embassy Television Network.

A 1994 Act of Congress consolidated all U.S. government-funded, civilian international broadcasting under the BBG¹ with the aim of reducing post-Cold War budgets and creating efficiencies. In 1999, the BBG was made an independent, executive branch agency² responsible for VOA, Office of Cuba Broadcasting (encompassing Radio and TV Martí), and WORLDNET television. BBG is also responsible for the so-called grantee organizations, which today include Radio Free Europe/Radio Liberty, Radio Free Asia, Middle East Broadcasting Network (Radio Sawa and Alhurra television), and Radio Farda (to Iran). The 1994 Act consolidated all transmission support activities under IBB/E, which must provide transmissions that reach a significant listening audience, offer a surge capacity in time of crisis, and constantly seek quality, cost, and operational efficiencies.³

The best programming in the world is not worth much if no one can hear it. For BBG, signal delivery is a technically more demanding task than that facing any American commercial broadcaster. The interplay of geographical, technical, and political factors within a range of technologies from short wave to television creates a challenge of unique dimensions.

¹ The U.S. International Broadcasting Act of 1994 (P.L. 103-236)

² The Foreign Affairs Reform and Restructuring Act of 1998 (P.L. 105-277)

³ The Office of Cuba Broadcasting has its own engineering capabilities.

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The structure of America's civilian international broadcasting organization challenges IBB/E. Briefly, nine Presidential appointees, meeting once monthly as a committee, act as both the board of the agency (BBG) and the de facto executive of a government agency. In practice, IBB answers to the BBG board of directors, supplies administrative and engineering support to VOA, and passes U.S. government funding through to Office of Cuba Broadcasting and the private grantee broadcasters. Each of the grantee broadcasters has its unique congressional mandate, political base, and Presidentially appointed director. There is also considerable competition for resources and audience. The competition occurs among the broadcasters, between content producers and IBB/E, and among alternative delivery systems.

IBB/E also faces challenges in overcoming geographical, political, and technical obstacles to getting signals to intended audiences. It must do so in a time when technology and the information culture are changing rapidly around the world. Podcasts, video streaming, cell phone text messaging, satellite digital radio, and other developments are rapidly supplementing and displacing IBB's mainstay medium of traditional shortwave radio, especially for younger urban audiences.

At the same time, there is a debate about the U.S. government's international broadcasting. The debate involves the merits of program formats, international versus surrogate broadcasting, whether to target elite or mass audiences, the value of shortwave transmissions, how to reach hostile or poorly informed audiences in the Middle East, and every other aspect of a broadcast engineer's environment. Furthermore, directed budget reductions from outside the agency have often prevented IBB/E's engineers from seeking more efficient, more logical solutions.

IBB/E also sometimes runs into policy hurdles. For example, it has had a major success in getting Radio Sawa programs on local FM stations in the West Bank and Gaza (Palestinian Authority-controlled areas), and listenership among Palestinians has increased. Nevertheless, the lawfulness of the contracts for these broadcasts has been called into question by the Treasury Department's Office of Foreign Assets Control as a result of the U.S. government's decision to cease funds transfers to entities controlled by the Hamas government. In other important target areas, Egypt and Saudi Arabia, governmental licensing authorities have steadfastly refused American diplomatic requests for the needed local broadcast licenses.

EXECUTIVE DIRECTION

About two weeks into this inspection, BBG announced that IBB/E's director would be promoted to deputy director of all IBB. One of the BBG's governors said, "We hope he can do for the entire agency what he has done for Engineering."

A senior Foreign Service officer with more than 35 years of broadcast and telecommunications engineering experience, IBB/E's departing director had served in that role for six years and won a reputation for leadership, quick action on priority projects, and successfully shifting gears as his organization has moved toward television, FM broadcasting, and Internet technologies.

IBB/E has four units, or directorates, that jointly work to manage and maintain the global network of transmission facilities and satellites, investigate new technologies and oversee major projects worldwide, and fulfill BBG's numerous information technology (IT) requirements. Its directorates are:

- **Engineering Operations**, which supports transmitter stations, manages frequencies and schedules, and operates the 24-hour NCC.
- **Engineering Technical**, which does engineering planning, technical development, major project implementation, and system integration for the global transmission network and the TV-radio satellite distribution system including earth terminals. The directorate also manages the Digital Broadcasting Project, Internet, and other digital applications.
- **Information Technology**, which manages all the internal and external computer networks and the systems connected to them. The directorate also tests and implements new software and hardware.
- **Engineering Resource**, which coordinates the IBB/E budget, conducts liaison with IBB offices such as personnel and procurement, and helps with international negotiations for broadcast facilities.

IBB/E is performing and accomplishing its core mission. It is also agile, mobile, and global. Although IBB/E faces difficulties, many of them are not of its making. It appears, however, that IBB/E's managers can improve performance if they are able to achieve several objectives. These include:

- inducing more internal and external communication,
- making work more predictable by adhering to plans where possible,

- encouraging management and leadership skills, and
- focusing greater attention on areas where BBG lags, such as Internet technologies and television.

OIG made recommendations with these needs in mind.

Communication

IBB/E has earned the confidence of the political-appointee Governors of the BBG and of the presidents of the grantee broadcasters, who are also political appointees. The organization has focused on the highest BBG priorities - getting FM transmitters installed for Radio Sawa, increasing television capability, and building an Internet structure capable of both Web presence and information delivery. IBB/E has a well-earned reputation for agility and responsiveness, but also is known for less predictability. Confusion about its goals and tactics could be countered by better internal and external communication.

Internal Communication -- IBB/E staff members told OIG of their uncertainty about the organization's direction and - after repeated budget cuts - even worried about IBB/E's long-term viability. A number of employees claimed that information does not flow well horizontally or vertically within the organization, that supervisors are often unable to explain decisions, and that the absence of plans and strategies inevitably results in some wasted effort and expenditures.

Several factors may contribute to poor communication within IBB/E. Compared with many similar governmental units, IBB/E has few internal mechanisms for sharing information, debating strategies, hearing suggestions, and communicating with and among employees. Although the director holds twice-weekly meetings at which information is shared with his four immediate subordinates and the Chief Information Officer (CIO), the practice is repeated only sporadically elsewhere in IBB/E. No minutes or notes of such meetings are shared with IBB/E staff. Town-hall and offsite meetings are rare, as are inclusive strategy discussions. There is no regular IBB/E staff newsletter, and the organization's Intranet web site is not actively maintained or designed for this purpose. IBB/E's only systematic means of communication is a weekly report that is distributed to all staff.

Some of IBB/E's middle managers seem not to believe that communication is important or that their subordinates care what is going on in the organization as a whole. "Most of my guys are working on their own thing, and they don't care about what's going on down the hall," said one manager.

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Several factors contribute to staff uncertainty about IBB/E's goals and tactics: First, IBB/E lives on the fault line of U.S. foreign policy and domestic politics. Foreign developments (coups, military action, policy decisions, natural disasters, and Presidential determinations) affect IBB/E's plans abruptly.

Secondly, IBB/E's work is inherently intolerant of uncertainty. Engineers live in a binary world: a transmitter is on or off; a new antenna array is funded or not.

Thirdly, some parts of IBB/E - especially those working on Internet technologies - are in fields where change and innovation occur every day. In some target audience areas, the new technology adaptation rate is faster than in North America.

External Communication - IBB/E's external communication can also be improved. Interviews with grantee broadcasters served by IBB/E revealed that they fully respect IBB/E's talents and capabilities, but are considerably mystified about how IBB/E efforts are prioritized. "It's like a black box over there (at IBB/E). Sometimes wonderful things come out of it, but you never know what's next," said one person whose broadcasts depend on IBB/E.

Many outsiders interviewed were quick to praise IBB/E's quick action on high priorities such as setting up more than a dozen FM transmitters in Afghanistan and Iraq. Most technical directors at grantee broadcasters also said they have a distant, if cordial, relationship with IBB/E. The pattern of contacts OIG identified does not lend itself to IBB/E's congressional mandate to seek economies and "ensure highest quality and cost-effective delivery [of] services."

Meetings of grantee and IBB/E senior officials are rare. Although IBB's monthly report to grantees includes a report from IBB/E, most officials at grantee broadcasters could not recall seeing any reports on IBB/E activities. Grantees have few face-to-face contacts with IBB/E, although grantee broadcasters report satisfactory communication at the working level on routine matters such as frequency changes and transponder outages. This situation is reciprocal. IBB/E managers talk as though the VOA language services are their only customers and rarely mention or include grantee broadcasters in their discussions.

IBB/E can achieve more and deliver more customer satisfaction by engaging in a determined effort to develop a communicating corporate culture. Steps toward this goal might include weekly office staff meetings, circulating informal minutes or notes of senior staff meetings, occasional townhall meetings, offsite meetings, brown bag luncheons, and broadly inclusive strategy discussions. IBB/E should also consider establishing a regular staff newsletter and a much-improved intranet web site. IBB managers agree that there is a need for a new internal web site and have

already begun the acquisition process. On the external side, an effort by IBB/E to meet periodically at senior levels with grantee broadcasters and (at least) with officials of the important VOA language services would increase these officials' appreciation of IBB/E's capabilities, minimize misunderstandings, and stimulate collaboration. In general, IBB/E should seek an open environment that encourages input from all levels, better understanding of long-term and intermediate goals, and greater customer satisfaction.

Recommendation 1: The International Broadcasting Bureau's Office of Engineering and Technical Services should develop and implement a written plan of actions to emphasize the internal and external communication of ideas, goals, and current tasks. (Action: IBB/E)

Planning

IBB/E receives remarkable praise for agility and responsiveness. This agility appears to come at the price of a clear sense of direction. This does not have to be.

A number of IBB/E employees said that - aside from urgent priorities - they are uncertain about the IBB/E core mission, where the organization is going next, what its basic priorities are, and which activities are more important than others. A number of employees sampled by OIG could not state IBB/E's mission statement and said they had never seen a mission statement nor knew where to look for it. Employees seem clear about their own jobs and offices, but are less able to fit those concepts into a larger vision. IBB/E managers pointed out that a mission statement that serves as a reference point in each employee's performance standards is posted in the director's office and on a hallway bulletin board.

Senior IBB/E managers, of course, have a vision for BBG's future and can enumerate organizational priorities and fit the pieces together. The absence of a clear understanding of strategic goals and plans at all levels of the organization, however, affects efficiency. In addition, some employees are reluctant to initiate action without extensive checking with superiors. Other employees regret the wasted time and resources they have spent on activities that were (suddenly or to their surprise) canceled or redirected.

As noted, IBB/E's work is often at the cutting edge of political decisions and newsmaking events. No one could have foreseen the sudden need for a transmitter ring around Serbia or for a crash project to establish a Tajik transmitter to send

signals to Pakistan. Technological change also affects IBB/E's work. No one - even those who work in technology - could have forecast the sudden popularity of short message service (SMS) text messaging in China.

The overall BBG strategic plan, *Marrying the Mission to the Market, 2002-2007* (available on its web site), provides the framework and guidance for the more detailed annual *BBG Engineering and Technical Services FY 2007 Performance Plan*, which is updated annually as part of IBB/E's budget submission. The most recent IBB/E performance plan received an exceptionally high score from the Office of Management and Budget.

The performance plan does a commendable job of turning the BBG's strategy statements (e.g., "a broadcasting architecture for the Twenty-first Century") into actionable steps. For example, IBB/E's latest version gets into detailed commitments such as "installation of anti-jamming antenna capabilities at Tinian" and "install a 5-kilowatt very high frequency television transmitter in Mosul." Such pledges are specific and measurable. IBB/E has proposed specific metrics for judging progress on many of its implementation strategies.

IBB/E's performance plan, however, is more vague about how IBB/E will maintain and expand the BBG's Internet presence, one of the most important and unique activities in BBG. The plan calls for IBB/E to do "continued" work on font development, "expanding" mobile content distribution, and "maintain and expand" capability for streaming radio content. None of these efforts is quantifiable, according to the plan. Indeed, performance measurement of all of IBB/E's Internet-related goals relies on an advisory group that should have finished their work in the summer of 2005.

One strategic goal is to "employ modern communications techniques and technologies." The performance plan, however, envisages just four ways to do this: combating jamming with more transmitters, increasing mass e-mailing, improving FM sound quality to take advantage of digital radio receivers, and experimenting with SMS messages on cell phones. Only the first three of these have performance measures. The performance plan, however, does not include all of the techniques IBB/E plans to use and was acknowledged by one IBB/E official as "not a comprehensive plan of what we're doing." IBB/E should have a more focused and more aggressive approach to seeking technological solutions and innovations that will deliver signals to target audiences.

Despite the intent of Congress, IBB/E does not serve VOA and grantee broadcasters equally. IBB/E's managers say it was not the intent of Congress in the 1994 Act that all IBB/E clients are served equally or that IBB/E provide all engineering

services to the grantees. Some grantees own or lease their own transmitters - some run their own Internet services - others venture into aspects of television without IBB/E's support and expertise. In addition, some IBB/E clients do better than others. For instance, Radio Free Europe/Radio Liberty's web presence is light years ahead of that of the VOA. Some technologies used by grantee broadcasters today, especially those related to the Internet, hardly existed when the law was written. The inequality in clients' service levels is taken for granted by the clients. Nevertheless, economies could be realized if there was a strong push by the board of directors to rationalize service and compensate IBB/E for supporting all BBG broadcasters at an equally high level.

These points aside, IBB/E is to be commended for having developed a reasonably detailed and measurable performance plan to implement the board of directors' strategic goals. It appears that the lack of clarity among IBB/E staff about the organization's stability and objectives could be addressed, in part, if management were to make a greater effort to involve staff in the conceptualization and assessment of the performance plan. OIG informally recommended that IBB/E convene a large working group or town meeting to discuss strategy and performance goals before IBB/E's plan is next updated. Additionally, it would be healthy periodically, perhaps on a trimester basis, for IBB/E to review with all staff the progress it has made on goals.

Corporate Culture of Good Management

During the inspection, OIG encountered many instances of supervisors who are not using good management and leadership skills. There appears to be a pattern under which some IBB/E managers rose to mid-level supervisory positions on the basis of evident engineering or technical competence. Supervisory skills were required of these managers but were not previously emphasized for promotion. Few of IBB/E's upper management vacancies have been filled from outside the organization, in part because several years of downsizing created pressures to find places for displaced, long-serving IBB/E veterans.

The IBB/E workforce is educated, skilled, and for the most part well motivated. A large percentage of the workforce has university or advanced degrees. Many employees are self-starters who need information and feedback more than specific direction, but IBB/E's management culture does not always foster giving these employees information and feedback. The preceding recommendation to improve internal communication will address this.

The just-departed IBB/E director is in fact a good manager of people and resources. He has promoted women and younger employees and has planned for smooth transitions as key employees retire. He is also a qualified engineer with field experience and has credibility with the BBG Governors for having made his organization responsive. His selection as de facto day-to-day director of all IBB operations is encouraging.

The departure of the IBB/E director to become IBB's deputy director opens an opportunity for the director's position to be filled by a well-qualified individual who has either an Internet technologies or television engineering background. BBG's future success depends on catching up on its use of television and Internet delivery systems, and this is an opportunity to acquire needed executive-level knowledge since IBB/E is already rich in radio transmission talent. OIG shared this view with BBG senior staff and governors. BBG commented that selecting a new office director based on Internet and television technology skills was too narrowly focused on future technologies. It said that the position's prime focus is finding opportunities to improve local distribution of programs, primarily in markets with limited Internet and television capability.

IBB/E's next director should take steps to develop a corporate culture that informs employees, seeks their input, rewards exceptional performance, corrects errors, and empowers the talent of the organization. It is especially important that supervisors lacking managerial skills be given the training and encouragement to improve their management of people. If employees do not see poor mid-level managerial performance being corrected, they will assume top management does not care. OIG made formal and informal recommendations in these areas.

There are two areas where IBB/E, with support from the BBG governors and IBB management, should devote greater focus. First, management should place priority on information technologies to be used with signal delivery and the Internet. Second, management should emphasize the development and acquisition of new technologies and innovations to accomplish its goals.

Information Technology

The nature of twenty-first century broadcasting necessitates that the leadership of IBB/E and indeed BBG itself focus on IT. In 2004, the board of directors agreed and responded to recommendations from the consulting company Ernst &

Young and an earlier OIG report⁴ by creating a central technology organization and consolidating it within IBB/E. This reorganization also created the positions of CIO and chief technology officer, the latter also serving as the IBB/E director. The CIO position was filled earlier in 2006 by a full-time employee. Despite the reorganization's benefits, it did not go far enough in strengthening BBG's technology focus.

IT serves the BBG by providing the customary IT support provided by desktop computers (e-mail, word processing, etc.) and by broadcasting-specific computer services such as video and audio editing, program production, and satellite network control. Many of these functions require unique, customized software to serve the complicated needs of a global broadcaster that works around the clock, every day of the week, in 44 languages.

A second way in which IT serves the BBG is by making the Internet a means of information delivery to target audiences. This is done through web pages, streaming audio and video, and new databased delivery services such as podcasting, Really Simple Syndication feeds, and VOAMobile.

The IT directorate, however, is struggling to cope with an enormous task, and is not always succeeding. All of BBG's operations in the Cohen Building in Washington, DC, depend on old and barely adequate hardware and software, much of it several generations behind current standards. The acquisition and installation of video server technology to support VOA television is overdue. IBB/E's engineers talk of putting time limits on VOA audio and video streaming to any individual listener because the organization's budget does not support the rapid growth in this demand-driven delivery method. IBB/E's efforts at podcasting and SMS messaging are experimental, although these media have become routine at other news organizations.

Despite the fact that IBB/E's senior executives say, in the words of one, that "the Internet is the shortwave of the twenty-first century," BBG's web presence is a stepchild to its traditional broadcasting efforts. VOA's radio announcers, having reinvented themselves once already as television producers, are now becoming web page editors too. VOA's Internet presence appears to lag behind most of its competitors in style, content, presentation, features and readership. VOA said its web pages have been deliberately designed to be simple and user-friendly to audiences in countries where computer users do not have access to fast Internet connections. An Internet advisory team met at BBG for a couple of years before agreeing only on standards for measuring web page visitors. IBB/E engineers report that, even when they have

⁴ Review of the Broadcasting Board of Governors' Use of the Internet and New Technologies, IBO-A-04-03, March 2004

new capabilities or services to offer VOA content producers, the latter are “too busy” to be interested. On the other hand, VOA language program directors assert that IBB/E engineers rarely come forward with new ideas and that the initiative must come from their side.

Not counting the journalists who prepare news scripts for use as web page content, only ten people in VOA and IBB/E together support all of the page design, technical support and hosting services for VOA’s web presence. Not surprisingly, that web presence has a distinctly outdated look.

BBG must engage in an organization-wide focus on the Internet and information technologies. Resources and people, as well as management’s attention, need to be realigned to make the Internet at least co-equal with BBG’s radio and television efforts. Creating an increasingly effective and modern international broadcasting system that reaches significant audiences in support of U.S. strategic interests will not happen without the Internet.

Recommendation 2: The Broadcasting Board of Governors should review the balance of effort and resources it allocates to radio, television, and the Internet and develop an action plan that will assure that all of its broadcasters are taking the best possible advantage of these technologies. (Action: BBG)

IBB/E, meanwhile, needs to pay attention to IT at the operational level. OIG assessed IT at that level and made formal and informal recommendations.

Innovation and Development

IBB/E is challenged every day to deliver radio, television, and digital information into countries worldwide. Some of those countries’ governments actively block VOA and grantees’ web sites and jam their broadcasts. At the same time, audiences increasingly have choices about where and how to get information. All BBG broadcasters depend on IBB/E to some degree to get their signal to listeners and viewers in the most attractive, easy-to-receive way.

Although years of budget reductions have left IBB/E with no research and development fund, the organization has been receptive to innovations discovered by employees in the course of their work. Managers mention that college interns have often brought the organization new ideas and perspectives. But that is not enough. Even without the dollars to commission new research and development, IBB/E can seek actively to identify new technologies, discover potential solutions, innovate, and overcome the current limitations on its capacity to deliver signals to audiences.

IBB/E should also keep in touch with U.S. agencies, such as the Departments of Defense, Homeland Security, and the National Science Foundation to learn what technologies and innovations those organizations are developing that might have relevance to international broadcasting. Similarly, it needs to make a concerted effort to keep abreast of developments in commercial communications and broadcasting, especially Internet technologies. An active partnership with one or more university schools of engineering might also prove productive. A number of businesses are turning to “crowdsourcing” - using open-source challenges to solve problems. Limited funding will foreclose some options, but there should be a search for creative thinking and applicable innovations in the research-and-development-rich environments of the U.S. government agencies, universities, research labs, and the private sector.

Recommendation 3: The International Broadcasting Bureau’s Office of Engineering and Technical Services should develop a list of steps it will take to identify new technologies, discover and test potential solutions, innovate, and overcome current limits on its ability to deliver signals to audiences. (Action: IBB/E)

Notable Achievements and Best Practice

IBB/E has made some achievements and adopted several best practices. These focus on the following areas:

Installations -- IBB/E has designed, bought, and installed scores of FM, medium wave, and television transmitters in Iraq, Afghanistan, and other politically high priority sites. IBB/E routinely gets signals delivered in austere and even dangerous locations in record time. There are virtually no simple installations in the places IBB/E must operate. Every project has its own special challenges, and usually it has an urgent, politically sensitive deadline. Despite the risks, physical hardships, or contracting difficulties, IBB/E has a commendable installation record.

Antijamming -- The governments of China and some other nations regularly jam VOA and Radio Free Asia broadcasts and are just as aggressive in trying to block their citizens’ access to VOA and Radio Free Asia web sites. The Internet is a critical component in distributing program materials to those countries that are - or are becoming - major Internet users. And China is one of the largest Internet users. The Chinese government, through a variety of official and unofficial means, blocks e-mail from VOA and Radio Free Asia’s Internet provider and prevents access to their uniform resource locators and any content deemed controversial. This is unaccept-

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able, and IBB/E has worked with some state-of-the-art experts from think tanks and industry to develop techniques to make its web sites available through proxy sites. It is also working to keep ahead of the jammers and get e-mail messages through to audiences. IBB/E has sponsored two symposiums with leaders in this area and has sponsored research on technology to defeat Internet censorship. It has also looked at how to use the cellular phone system to pass information into China and to use instant messaging systems. Some of these areas offer promise but require more work and increased funding.

Telecommuting -- Employees describe IBB/E as a progressive, family-friendly workplace. One of the principal reasons has been IBB's, and especially IBB/E's, adoption of telecommuting, which has become important in an organization that depends heavily on a maturing, highly skilled workforce and values trust, flexibility, and freedom. In many cases, an employee is the expert in his or her area, and there is no backup. To work from home or on the road, a teleworker needs robust access to his or her computer files at the office, and this is provided by IBB/E's secure telecommuting solution. With over 70 of 172 headquarters positions authorized to telecommute, IBB/E keeps the work moving no matter where the workers are.

Office of Management and Budget Program Assessment Rating Tool Rating - IBB/E's strategic plan for 2005 received a 100-percent rating from the Program Assessment Rating Tool, the only program in the U.S. government to receive a perfect rating to date. This success has given the organization justifiable pride.

Best Practice: Telecommuting

Issue: Every organization needs to attract and retain a qualified workforce. Many organizations have adopted telecommuting policies, which allow employees to work at home and facilitate employment for persons otherwise unable to work. IBB/E depends heavily on a maturing, highly skilled workforce. In many cases, an IBB/E employee is the unique specialist in his or her area.

Response: IBB/E has created a telecommuting program and has allowed wide participation in it. The program has ensured that telecommuting employees have robust access to their workplace computer files.

Result: IBB/E can complete projects with fewer interruptions because of employee absences. More than 70 out of the 172 authorized positions in its headquarters are participating in the telecommuting program. IBB/E is said to be able to retain employees who might not otherwise be able to work there. Employees describe IBB/E as a family-friendly workplace, are more content, and have better morale.

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POLICY AND PROGRAM IMPLEMENTATION

ENGINEERING TECHNICAL DIRECTORATE

The Engineering Technical Directorate (E/T), one of four IBB/E directorates, assesses appropriate technology and manages technology projects to satisfy BBG's mission requirements across its many broadcast media. The directorate has adequate resources for its responsibilities and performs its responsibilities effectively and in a timely manner.

Management and Resources

E/T has two divisions, Satellite Systems and Broadcast Technologies, and it relates to other IBB/E directorates through informal and formal means. Organization lines are not as sharp as they appear on the organization chart. Because of the interdependent nature of the work, E/T members assist various parts of IBB/E.

E/T resources are adequate for the current level of E/T operations, even with the planned reduction of two authorized positions. Staffing includes 38 authorized positions, two of which are vacant and slated for elimination, and the staff can absorb the additional work that will be caused by the loss of these two slots. Most of the staff consists of professional engineers who have long seniority and are eligible to retire now or in the next few years. Planning for a successor generation at E/T is discussed in the resource management section of this report.

E/T's FY 2006 funding includes \$38.1 million for operating expenses and \$11.8 million for capital investments. Since FY 2000, staffing has grown from 36 positions to 47 positions and then declined to 36. Operating funds also have fluctuated annually between \$20.4 million for FY 2000 and the present \$38.1 million for FY 2006. Over the period, IBB/E's capital budget went from \$26.8 in FY 2000 to \$60.4 million in FY 2003 to \$11.8 million for FY 2006. In addition, E/T manages approximately 34 satellite contracts worth about \$30 million, and manages 20 other contracts for capital projects worth about \$10 million. A large portion of E/T's professional staff engages in oversight of contractor performance, a matter reviewed in the resource management section of this report.

E/T's management has successfully conducted operations and met mission goals. Yet, during interviews with OIG, some engineers said they are too often, when assigned a project, also given the solution and told to develop a means of implementing it. This approach does not consider the professional knowledge and experience of the staff. Professional staff suggested that defining an objective and allowing them to propose potential solutions could better meet project objectives. OIG informally recommended that IBB/E management reexamine its practice of assigning projects with predetermined solutions and begin assigning projects defined by their objectives and refraining from requiring particular solutions, unless doing so is imperative.

E/T staff said there is inadequate communication from the higher levels of BBG and IBB management regarding agency and bureau plans and objectives. Moreover, mission changes regarding the choice of broadcast technology were also said to be unclear and to have produced confusion at the working level. In the past, shortwave transmissions were BBG's preeminent broadcasting medium. However, shortwave is slowly being replaced, where feasible, with mediumwave and FM broadcasting and by the Internet and television, all of which are more effective means to communicate. The staff, however, is uncertain about how, when, and where these changes are to be made.

Satellite Systems Division

IBB/E's Satellite Systems Division capably plans, implements, and manages the myriad operations of an international telecommunications network. This juggling act requires keeping many balls in the air simultaneously, and the division succeeds. Its wide-ranging responsibilities include distributing data, radio and television programs, and other communications worldwide to transmitting stations or direct-to-home services in a variety of electronic formats. The division also establishes the requirements for ground installations that range from simple television receive-only receivers to massive satellite earth stations. In addition, the division arranges for and manages dozens of space-segment contracts with common carriers that provide the necessary bandwidth to transport the many different types of communications (such as analog and digital signals).

The division currently leases transmission services on 13 satellites. The overall effectiveness of the satellite network has improved because the division has increased the bandwidth and because it is converting circuits from analog to digital. Digital transmission offers greater capacity, flexibility, and economy.

Broadcast Technologies Division

The Broadcast Technologies Division effectively plans and manages IBB/E's capital projects in various broadcasting technologies and evaluates new and emerging broadcasting technologies. The division establishes the technical performance requirements necessary to achieve a mission objective. These include the type of antenna, transmitter, and frequency combination needed to provide a useful signal level to a particular politically sensitive region. It also estimates the cost, schedule, and performance characteristics of the resulting technical project and tracks and oversees any contractual efforts to complete the project.

One major aspect of the division's work involves maintenance and repair projects at the transmitting stations and at production facilities at BBG's Washington, DC, headquarters. For FY 2007, E/T has requested \$7.7 million to address the ongoing needs of station sites and capital plant and equipment at BBG headquarters. The work includes conducting and issuing condition site survey reports that document present conditions at stations and making recommendations for projects that will upgrade and improve the facility systems. The E/T staff also oversees contracts awarded to private vendors to carry out maintenance and repairs.

Research and Development

From its inception through the 1980s, IBB and its predecessors helped conduct research and development that resulted in groundbreaking innovations, particularly in shortwave broadcasting. The Engineering Technical Directorate management is heir to this tradition and is receptive to new technologies. For example, E/T has seized upon the rapid growth of digital satellite transmission technology and modified its circuits to maximize data transmission rates and to reduce operational costs.

One concern is that the management of E/T has not focused on inhouse research and development. It has not done so for several reasons. Technical advances made in commercial broadcasting, for instance, are already available in the marketplace and have proven useful for FM, television, and the Internet. In earlier years, when shortwave broadcasting reigned supreme, research and development to take advantage of technical advances in that area was important. Now, the marketplace is elsewhere and funding is not what it was during the 1980s, limiting the resources for independent research. Staffing also has dropped during the period from FY 1994 through FY 2005, with IBB/E losing about 50 percent of its positions.

Given these realities, it does not appear feasible for IBB/E to establish a research and development group or organize committees to implement projects. Yet with minimal money and people IBB/E management could initiate innovative projects. One option would be to allow a staff member with a promising idea to devote work time to developing the idea. Another option is for E/T to partner with a university on research and development projects. OIG informally recommended that E/T develop and implement plans for targeted small-scale research and development activities.

CONCERNS RAISED OVER NEW VIDEO NEWS PRODUCTION SYSTEM

After launching its \$20-million move from analog to digital audio for VOA news production, IBB/E began in 2003 to install a digital video newsroom management system known as NewsFlow.

NewsFlow consists of off-the-shelf hardware and software that will enable VOA news personnel to record, edit, archive, research, and broadcast video news and feature content. It includes video servers, desktop editing equipment, asset management tools, and the hardware and software to support the system. It also has interfaces to existing television, radio, intranet, and computing systems. The system will allow VOA's television news editors to share digital content electronically, rather than wait for videotape to be copied and hand-carried from office to office.

Almost all television organizations - from the smallest local station to Cable News Network - use some sort of digital video server technology in place of videotape. The VOA installation, serving 44 language services in a nonstop environment, however, was at the time of the NewsFlow contract's award unparalleled in its complexity. Several officials told OIG that, when the contract was signed, everyone knew they were going into uncharted territory.

Today, however, some VOA officials question BBG's \$2.3-million contract with Technical Innovations, Inc. (TI) for NewsFlow and whether NewsFlow provides sufficient performance. Several employees said the December 10, 2004, contract is over budget and that the system is overdue and has significant shortcomings. One senior official said there was a two-year delay by the contractor in installing the system, that the system might be inadequate for VOA's current and future needs, and that IBB/E has not sufficiently pressured the contractor to perform. OIG looked into these assertions and found the contract deliverables were not overdue, and the contract is

not over budget. The TI contract has a fixed price, and its completion date is June 30, 2006. The fixed price nature of the contract means it cannot go over budget, and the fact that the completion date came after the end of the inspection means the contract could not yet be said to be overdue. In fact, the contract's chief milestones for deliverables have so far been met. There is general agreement today within VOA and IBB/E, however, that video server technology has progressed since this contract was competed. Today, there might be many more suppliers capable of providing a more robust solution.

There have also been several unforeseen technical problems in the NewsFlow system's deployment. The system was installed six months after the contract was signed, and its installation had been preceded by a demonstration for BBG at one of its sites, where the system worked well. However, during onsite deployment, glitches developed. NewsFlow, for instance, was not able to handle "feeds," the video input provided via such sources as satellites and the Internet. It also had problems with lip-synching voices with video during editing.

To document six concerns about NewsFlow, such as the lip-synching problem, BBG's contracting officer wrote a June 6, 2006, letter to TI's president, saying these matters must be resolved before BBG will grant conditional contract acceptance. In response, TI said in a June 9, 2006, letter that the problems have since been fixed and that the system meets the contract's specifications and purpose. The letter says the system "has been through formal acceptance testing (including the IBB-approved formal testing protocol executed June 27-July 1, 2005)" and its performance "has been proven." The letter also commits TI to bringing the system into compliance with the contract's specifications, if it can be shown the system does not comply.

As to whether TI was the appropriate choice to provide NewsFlow, it is important to note that the company won the 2004 contract over three competitors and that VOA had been assessing its needs for a video/audio server system since 2000. Users were fully and properly involved in developing the statement of work and in judging the potential vendors' capability. Furthermore, the contract's award was preceded by IBB/E's evaluation of the proposals of the four qualified bidders. In this evaluation, two of the four bidders were excluded because, in IBB/E's view, they scored low on technology and high on price. Subsequently, IBB determined that TI ranked higher than the other remaining bidder on technology and had a lower price.

Given that the NewsFlow contract is neither overdue nor over budget and that TI has committed to resolving any of NewsFlow's shortcomings, OIG cannot find a basis to recommend any corrective action. Furthermore, several VOA editors have seen NewsFlow demonstrated and said they liked what they saw and looked forward to its deployment.

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OPERATIONS DIRECTORATE

The Engineering Operations (EO) directorate is clearly fulfilling its mission of managing IBB's global transmission network. Although it has fewer staff than in the past and BBG is moving to new transmission strategies, EO's customers say that it performs well. OIG found that IBB needs to create formal written procedures for its NCC and that a review of occupational safety and health-related conditions was warranted.

EO includes the Spectrum Management Division, Network Support Division, and the NCC. It has 36 employees and two vacant positions.

SPECTRUM MANAGEMENT DIVISION

The Spectrum Management Division, whose director is called the program delivery director, has five employees and two vacancies. The director's new title reflects BBG's change in focus from traditional shortwave propagation toward FM and Internet delivery. The change also demonstrates IBB/E's planning and preparation of the staff and structure for its future.

The division manages the radio frequency requirements of the global transmission network. It also formulates the transmission schedule for the network by indicating which network resources (such as transmitters, antennas, and frequencies) are assigned to each broadcast program throughout the day. The schedule records the program transmissions, the stations to which they are sent, the times at which they are sent, and languages in which they are composed. Three people perform this function, but they have accepted additional responsibilities, as two vacancies in the division have not been filled. The international scheduling process requires the commitment of money and travel time so that employees may attend long, tedious meetings at distant conventions. IBB/E, however, has decided to rely on other agencies to represent it at most of those meetings. One employee spends four to five days a month at coordinating meetings, for instance. The World Radio Conference 2007 is an important meeting for its international negotiations on frequencies.

In April 2003, IBB/E created a program coordinator position in the division to increase communications with customers. Currently, the head of the division is also

performing that position's duties until the job can be filled. The program coordinator attends IBB's performance reviews and serves as a liaison for engineering matters. An IBB/E official said the liaison's mandate to work on relations with all the BBG broadcasters has improved customer relations significantly.

IBB/E is in the business of signal delivery, and yet employees said the resources dedicated to measuring success in that task are declining. Monitoring has typically been done for shortwave broadcasting, and the division directs IBB/E's technical monitoring of shortwave and mediumwave broadcasts overseas.

There is a global network of about 50 human monitors and computer-based remote stations that sends reports to BBG headquarters on the broadcast network's signal strength and quality. In addition, there are four overseas monitoring offices, which are typically staffed by two Foreign Service nationals each. The division makes its monitoring information available on the Internet to BBG's language services operations and to management. With the gradual decline in shortwave transmitters and the rise of budget restraints, monitoring has been reduced. The division recently closed its monitoring office in Bahrain and is closing its office in Accra, Ghana. About eight division employees once traveled overseas to do monitoring oversight, but now no longer do this. It will be difficult to rebuild this monitoring system.

Despite the growth in BBG's dependence on leased and owned FM transmitters and on FM affiliates that carry BBG signals, the division does not make comprehensive verification and monitoring a priority. If an FM affiliate does not receive a transmission or mysteriously goes off the air, IBB/E may hear about it through journalists or listeners on the ground - or from an irate station owner. IBB has the ability to monitor affiliate FM stations if it has monitoring equipment in that area and knows the schedules and basic information for the stations. The division, however, does not monitor TV or satellites.

The Internet is an increasingly important means of signal delivery in many target areas, but if a web page goes down, someone must call IBB/E's help desk to get attention to it. When the links on the Lao service's web site are streaming a program in the wrong language, the Lao service must take notice and call for help, if needed. The division has added the ability to monitor the Internet, which it could do anywhere that IBB has a remote monitoring station. (The division's monitoring replicates an average citizen's access level.) An IBB/E official said it is hard to use this information to make decisions, but that the information does give a flavor of what is going on in these countries. He explained that all international broadcasters are alert to whether or not their web presence is being delivered successfully. He said that it would be physically and logistically impossible, however, to monitor the experience of Internet users worldwide.

BBG management needs to reconsider the traditional definition of monitoring and assess whether shortwave, FM, television, and the Internet are equally viable and important delivery vehicles and seek ways to ensure that all signal transmissions are monitored so that remedial action can be taken quickly. Its monitoring should encompass FM broadcasting via affiliates and leased or owned stations and the use of the Internet and related technologies to deliver content.

NETWORK SUPPORT DIVISION

The Network Support Division has seven employees and provides the logistics support essential to sustaining the transmitting station system. It develops, implements, and administers logistics plans and policies, including property accountability, inventory management, and transportation management. It also is the focal point for safety-related issues and reviews and updates transmitting station instructions.

The division strives to bring efficiencies to stations. One employee monitors energy and electricity consumption and has made recommendations for savings. The division has also established good databases for tracking contracts and communicates with stations using an e-mail system that ensures that requests and questions receive responses, even if the addressee is away. That system also has a search function that facilitates management oversight.

A division official said that he is always seeking to reduce waste and save money. For example, vehicles used to be replaced at 50,000 miles; now, they are replaced at 70,000 or sometimes 100,000 miles. He said he also tries to manage the use of tubes and capacitors and makes sure there is no stockpiling. (Tubes cost from \$10,000 to \$180,000.) The division is part of a “tube bank” system under which it buys in advance a few certain types of tubes for quicker shipment when the tubes are needed. This minimizes the amount of time it takes to build a tube (usually four months) and saves on shipping costs and replacement costs if a tube does not work once it reaches the station.

When the Greek transmitting station was scheduled for closing, the division sent a representative to oversee property redistribution and management and sent other stations a list of property available for redistribution. (The most expensive items were vehicles.) IBB/E expects to save \$70,000 by reassigning a van and pickup truck from Greece to Morocco (pending Greek government approval) and by not paying for new vehicles for Morocco. IBB/E will save \$35,000 by reassigning a van from Greece to Kuwait and not buying a new one.

As BBG uses fewer shortwave transmissions and relies on AM and FM subsidiary stations, the division is expanding its support. It recently published a new Transmitting Station Instruction regarding subsidiaries. It also gives direction for shipping and property management. (IBB wants its transmitting stations to check up more often on the FM and AM subsidiary sites near them, and the transmitting stations have adjusted.) A division official said that this new support “gives the transmitting stations a mission they can evolve to.” It is hard to find money, especially for shipping, now that the division is supporting FM stations.

The division has a safety officer who visits stations. With a restricted budget, officials say, travel is one of the first things to be eliminated or reduced, and the safety program will suffer. The safety officer files monthly accident reports compiled from the stations. He monitors electrical safety and tracks power regulations. A division employee said that the Occupational Safety and Health Act of 1970 requires an organization to budget for its safety program. On an OIG questionnaire, station managers said the “centralized management of safety standards and resources could be significantly improved,” and that the front office “should be more proactive in putting out occupational safety information in the workplace.”

Network Control Center

The NCC operates the global network from Washington, DC, on a 24-hour basis and is a focal point and primary source of expertise within IBB/E regarding the operating status of IBB’s global systems. The NCC has 19 employees and two divisions, Internet streaming and satellite operations. It provides circuit switching, traffic coordination, network quality control, network performance assessment, remote monitoring, status reports, outage reports, patching and operational distribution of television, and associated audio and data feeds.

The NCC is evolving with BBG’s move to newer transmission delivery systems. The last two employees it hired were for Internet streaming. The NCC recently began using a new Internet streaming system, which is said to represent a big improvement. Management has made other changes, including moving to a 24-hour, seven-day-a-week schedule and establishing a continuity of operations facility in Maryland, which will serve as a backup facility for NCC operations. During this inspection, an NCC priority project was to set up facilities for the Middle East Broadcasting Networks’ Alhurra Europe.

Operations Cross Training

Managers and staff in EO advised OIG of their potential to use cross training. In some EO areas, there is only one person who has the specific skills for an operation. Shift work is done in the NCC, but there are sometimes not enough people to cover a shift. In the Spectrum Management Division, some employees are each doing jobs that were previously done by two people. In these cases, the employees were teaching themselves to do these jobs or were using on-the-job training. At times, IBB retirees were hired as contractors to help that division temporarily. Several technical people in that division said there was a two-year learning curve for their skills.

When asked about cross training, most of IBB/E's technical staff maintained that their assignment was too specialized for someone else to learn as a second field. In more general areas, such as the Network Support Division's policy and procedures specialty, however, staff agreed that cross training would be possible. Long-time employees said that someone else could learn their jobs, but would lack the historical and analytical perspective. In general, management maintained that employees had the training that they needed for operations, but not for learning new specialties. These statements make sense and indicate that the possibilities for more cross training are extremely limited.

Operations Directorate Challenges

The Operations Directorate faces the same management challenges as other directorates: tight budgets and dwindling staff numbers. Many employees agreed that its biggest problems relate to resources. One division official said the division "has more work to do and fewer people. It is under time pressures. People feel overworked. The situation will reach a breaking point. IBB/E will have to say 'no' more often." In such a situation, EO must attend to its workforce, and its leadership must have the necessary management skills to ensure that the dwindling work force is efficient and productive.

The NCC, meanwhile, lacks written procedures. It is a standard practice in managing sophisticated technology to have written standards to ensure that complex technical operations are conducted properly. This is especially desirable when there are large numbers of staff members and the operation is maintained 24 hours a day, seven days a week. Such procedures serve as a reference for new employees and can be of great value in unusual or emerging situations. The process of preparing written procedures may clarify problems or issues that were previously poorly understood. Written procedures also tend to clarify the expectations of supervisors, may

assist in communications between shifts (although the log maintained during shifts has been the primary means of maintaining continuity), and may facilitate the use of new equipment. Because the NCC may begin to lose staff through retirements, it is especially important to use written procedures to capture expertise before it is lost. Although there have been attempts to record the procedures, they have been unsuccessful. If necessary, IBB could hire a consultant to complete this project.

Recommendation 4: The International Broadcasting Bureau's Network Control Center should develop and implement written procedures for its operations in unusual and emerging situations. (Action: IBB/E)

IBB needs to pay more attention to workplace conditions and to correct some safety hazards. Nothing on IBB's intranet web site discusses workplace safety for the Washington premises, although the NCC has many wires and cables running across an area that employees must continually cross in the course of their work. Many of the cables no longer have any function and could easily be removed. In addition, cables protrude from the ceiling, and their weight is causing it to sag. As one employee put it, "The room keeps getting more fans, higher frequencies, and more phones." IBB/E has been forced to share its NCC with some of VOA's operations, and those responsible for this have attempted to put too much in one room.

Although VOA plans to remove the problematic operations from the NCC, the premises nonetheless are now hazardous to workers. Employees say two workplace injuries occurred inside this hazardous area. Federal occupational safety and health standards apply to federal workplaces,⁵ and IBB employees have complained about these unsafe conditions.

Recommendation 5: The International Broadcasting Bureau's Office of Engineering and Technical Services should arrange for a qualified individual or team of occupational safety and health inspectors to conduct an inspection of their Washington, DC, offices to identify unsafe or unhealthy working conditions. (Action: IBB/E)

Recommendation 6: The International Broadcasting Bureau's Office of Engineering and Technical Services should correct all conditions identified in the foregoing occupational safety and health inspection. (Action: IBB/E)

⁵ 29 U.S.C. § 668, 29 U.S.C. § 655, 29 C.F.R. 1960.

INFORMATION TECHNOLOGY DIRECTORATE

The IT directorate manages all of BBG's IT software and hardware, including desktop computers and other typical equipment and the IT necessary to perform the operations of IBB's broadcasting facilities. Positive steps have been made towards improving IT services, pursuing technological advances, and improving cooperation among the divisions. However, more needs to be done, including giving the IT directorate an effective voice in new initiatives and making it visible as the IT authority for project planning. Efforts must also be made to improve communication within the IT directorate and to include the vision and direction of the directorate in IBB/E's strategic plan. The directorate also needs to improve coordination with VOA regarding Internet web sites, address critical network infrastructure vulnerabilities, and improve project management. Additional areas for improvement include codifying work processes in SOPs and adhering to established procedures for procuring IT equipment. OIG provided counseling and made recommendations to correct these problems.

The IT directorate was formed in 2004 to consolidate disparate offices that handled IBB's computer operations. The consolidation of the various IT elements and subsequent efforts to centralize systems administration of transmitting stations networks were the foundation for the positive steps that have been taken recently.

The IT directorate originally had three divisions, but in late 2005 added two VOA divisions, Internet services and digital media. The IT directorate has a staff of 59 and is headed by a director who reports to the chief technology officer. The directorate's comprehensive computing services include network connectivity, software application development and maintenance, support for agency web sites, support for agency broadcast media applications, and user help desk services.

Although there historically had been distrust among IT elements within the agency, the IT director has fostered a more collaborative workplace and has increased effectiveness and improved overall support to customers. As is true in other federal agencies, network availability is critical to the mission. However, BBG is unique among its counterparts in having prevented overall network outages in 2005 and in ensuring that critical data was available to users. The IT directorate also persistently eliminated almost all instances of "spam" e-mails and undertook the rapid rollout of a content management system that had been modified to display web sites in over 40

type fonts, including those reading from right to left. The IT directorate has also deployed a system to track user trouble tickets centrally for all IT services and has made advances in technology, including developing a VOA-branded flash media player and web chat services in 40 languages and expanding the number of podcasts from six to 100.

The CIO interprets federal statutes on IT and develops policies for their application within IBB. The CIO reports directly to the BBG, but has an unclear organizational relationship with the IT directorate. Since the present CIO is relatively new in the job, it is difficult to assess what impact this position will have. Ideally, the CIO could use his knowledge of technology and business processes and a cross-functional perspective to become the manager most able to align the organization's technology deployment strategy with its core mission strategy. In most organizations, the CIO oversees technology purchases, implementation, and the various related services of the information systems department. A strong CIO will enhance the role of IT in BBG.

Many directorate employees see IT and the activities of the IT directorate as lacking strong advocates within the highest levels of BBG. Many of the staff also believe the directorate does not have enough clout within IBB/E to voice concerns when projects are initiated. With IT resting on a lower tier organizationally, it has been difficult to get attention to some issues, such as the limitations of existing infrastructure, and to see how that action impacts new projects. This is also the case with such mundane activities as office moves, which can affect IT resources enormously. Also, the lower profile of the IT directorate means that its authority over IT matters is poorly understood, and enforcing IT policies and procedures is a continuous challenge.

Many directorate employees do not believe they are kept well informed by management. Most of the directorate's divisions do not have staff meetings, and the IT directorate has no newsletter. Staff reported not having any clear sense of what was required or expected of them and that work requirements statements and position descriptions were often vague, too general, or outdated. Many staff claimed there is no process for assigning or tracking work assignments, and others stated that they had to find projects for themselves. In some divisions, this has led to a productive sense of independence; in others, work was not getting done. OIG counseled management on the need for improvement in these areas.

THE INFORMATION TECHNOLOGY DIRECTORATE'S STRATEGIC PLANNING

The IT directorate has no internal strategic plan, and BBG's strategic plan for 2002-2007 includes scant information regarding technology goals for the directorate. For BBG to reach its goals of "employing modern communication techniques and technologies," the IT directorate's support for these technologies requires adequate resources. There also must be agreement on what metrics will be used to judge progress toward goals. Since the IT directorate itself has no performance plan, it has difficulty providing BBG with an understanding of what is required to meet the agency's technological goals and objectives or to justify additional resources. Without adequate resources, the directorate will incur significant problems in fulfilling the agency's technology goals and objectives. The directorate has hired an employee to specialize in policy and planning, and this employee has initiated the development of a strategic plan. These efforts at strategic planning are welcome.

Recommendation 7: The International Broadcasting Bureau's Office of Engineering and Technical Services should develop an annual strategic plan for the Information Technology directorate that is aligned with the Broadcasting Board of Governor's strategic plan and Broadcasting Board of Governor's/Engineering Performance Plan and which includes specific, measurable steps toward agreed-upon goals that can be discussed, funded, and periodically reviewed by managers. (Action: IBB/E)

Internet Services

Coordination is lacking between VOA and the Internet Services division. The former provides content for the VOANews.com web site, and the latter is responsible for the delivery of content through various technologies. This lack of coordination arises in large part because of a difference of opinions over the roles and responsibilities of each office and over whether content or technology should drive decisions regarding BBG's Internet presence.

For example, Internet Services is eager to pursue new and innovative technologies for delivering content such as Really Simple Syndication, podcasting, and web sites for mobile devices (VOAMobile). Internet Services also believes that it is the driving force behind such innovation and that, without this, the VOA web site cannot evolve to keep pace with current technological trends and user demands. VOA, on the other hand, believes that content alone should drive decisions to pursue new technologies and that Internet Services is implementing technologies that VOA did not request.

Project Management

The directorate's project management does not comply with established IBB policy. IBB policies regarding project management are not being followed, as prescribed in the IBB Manual of Operations and Administration, Section 1109. The organizational culture appears to have placed little emphasis on documenting work processes and enforcing adherence to written procedures. As a result, some projects, especially software applications development, have been allowed to go past deadlines or have been dropped entirely, even after months of development. The accepted process is for developers to "try and see" what new applications they can develop in a freelance manner. Documentation of the resulting workflow processes is scant. There is no methodology for iterative applications development, such as the Capability Maturity Model Integration approach. Since the directorate is already low on funds, improperly managing projects would only further strain agency IT funds. OIG informally recommended that IBB enforce the Manual of Operations and Administration policy regarding all IT projects and their management.

Standard Operating Procedures

The IT directorate lacks the written IT SOPs required by federal guidelines. Of the five divisions within the directorate only two have written SOPs. The National Institute of Standards and Technology's Special Publication 800-12 states that SOPs are needed for assisting organizations with compliance of applicable security policies, standards, and guidelines. The lack of written protocols in the directorate leaves technical knowledge with specific individuals, which could result in a small to critical interruption in day-to-day operations if the personnel having the technical knowledge leave the agency.

Recommendation 8: The International Broadcasting Bureau's Office of Engineering and Technical Services should direct its Information Technology directorate to develop and implement written standard operating procedures for its information technology processes. (Action: IBB/E)

Information Technology Procurement

IBB is procuring computer hardware without complying with IBB policy. An office within IBB has purchased Macintosh computers without approval from the CIO. The IBB Manual of Operations, Section 1305.4, states that the CIO must approve procurements undertaken outside of established mandatory standards and that the

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ordering office must fund the support costs. These Macintosh computers can introduce security vulnerabilities when they are connected to the network and strain the IT directorate's support capabilities because it has no experts in Macintosh systems. OIG found various other examples of new technology that was purchased without coordination with the IT directorate. These offices have subsequently expected the directorate to support these technologies, thereby further straining the directorate's resources. OIG informally recommended that IBB enforce the Manual of Operations and Administration's policy regarding procurement of IT equipment.

ENGINEERING RESOURCE DIRECTORATE

The Engineering Resource directorate performs the functions, work, and special projects that enable IBB/E to carry out its mission of implementing, operating, and maintaining a global communications system. The directorate is performing well, and its new director is implementing changes to rationalize the workload and enhance cross training among staff. Relations between the directorate and the IBB Office of Management and the BBG Office of the Chief Financial Officer (CFO) are effective and productive.

MISSION AND FUNCTIONS

The resource directorate plans and implements the IBB/E budgets and provides planning, financial management, administrative, procurement, and human resources (HR) support to IBB/E Washington offices and transmitting stations worldwide. Its existence reflects the complexity and quantity of fiscal, procurement, and personnel issues in IBB/E's work and the need for staff liaison to keep IBB/E running smoothly. The resource directorate works closely with the main IBB management offices where IBB's human resource, contracting, and administrative functions are centralized. The directorate also coordinates closely with the CFO on budgets, strategic planning, and financial management.

STAFFING AND ORGANIZATION

The directorate has two sections, a strategic and capital planning unit (three employees) and a financial management and administrative support unit (10 employees). The directorate's new director is implementing changes to rationalize staffing and reallocate the workload to ensure the work is distributed equitably. The director is continuing to review operations to identify additional areas for improvement.

As part of the staff realignment, one program analyst and three administrative officers who supported other IBB/E directorates have been reassigned to the resource directorate, where they continue to support their former offices. Centralized support functions allow for consistency, flexibility, and facilitate cross training. The

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lines of reporting and supervision for the transferred employees need to be clarified and formalized. Currently, the employees receive taskings and direction from the director of the resource directorate and from the chiefs of their former directorates. Resource directorate employees said they would welcome such clarification, and the resource director agreed to address this matter and ensure that position descriptions and performance standards will be revised to reflect the changes.

The office structure of the resource directorate is unusual. As part of the “Re-inventing Government” initiative of the 1990s, IBB/E’s organizational structure was flattened and the number of deputy office director and team leader positions was reduced. As a result, each resource directorate employee in pay grades from GS-9 through GS-15 reports to the resource director, who must therefore write the annual performance evaluations for 13 employees. This also means that IBB/E’s director is each employee’s reviewing official. Although the director and the staff have not identified any adverse effects from this arrangement, the situation raises some span-of-control questions and creates an unnecessary administrative burden for the director and IBB/E chief. Additionally, by designating some positions as “team leaders,” the resource directorate would create a career mobility and development opportunity in an organization where few such opportunities exist. Engineering Resource’s director agreed to review the directorate’s office structure.

In recent years IBB/E’s annual allotments have cycled from \$155 million in FY 2004, down to \$147.7 million in FY 2005, to \$157.79 million in FY 2006. Similarly, IBB/E’s authorized American staffing has gone from 254 in FY 2004 to 268 in FY 2006. These changes occurred as IBB/E was tasked with significantly increasing satellite television distribution for Al-Hurra; installing fifty new full time FM stations in the Middle East (Radio Sawa), Africa, Iraq, and Afghanistan; adding a Cyprus medium wave relay for Radio Sawa; putting in new transmitters across Afghanistan; absorbing the IT group (\$15 million and 70 authorized full-time employees); and establishing the CIO function (three full-time employees).

RESOURCE MANAGEMENT

HUMAN RESOURCES MANAGEMENT

At the time of the inspection, 21 of IBB/E's 174 authorized positions were vacant. IBB/E plans to fill these vacancies and is reallocating the positions among the directorates to meet its workload and skills needs. The most notable effect will be in the IT directorate, which has 10 vacancies. IBB/E plans to fill these 10 positions and will transfer one additional position to the directorate. The positions are to be filled with employees who are proficient either in digital media, user support, or Internet systems and services. Although there is a BBG-wide hiring freeze in effect, IBB/E has so far received some exceptions from the freeze to fill vacant positions.

BBG's FY 2005 Performance and Accountability Report identified human capital issues as one of IBB's major management challenges. To address these challenges and its sweeping HR needs, IBB conducted a workforce review and issued a Human Capital Plan and Human Resources Strategies report in October 2005. The report contains an analysis of the current workforce; an examination of challenges facing IBB in obtaining an agile, skilled, diverse, and well-led workforce of the future; and human capital goals and strategies.

IBB/E faces these same challenges, which include a need to recruit and retain the next generation of employees, ensure that employee skills keep pace with evolving technologies, cultivate management and leadership skills, and find ways to reward and recognize employees. IBB/E is working to address these issues and should coordinate with the IBB Office of Human Resource and the BBG Office of Civil Rights to develop its strategies. Some of its efforts, however, will be hampered by continuous budget and other resource constraints.

Workforce Planning

Recruiting and retaining replacement talent is critical for IBB/E to carry out its mission. There are two related challenges to achieving this objective. First, IBB/E must deal with the effects of the wave of baby boomer retirements, which is expected over the next several years. Second, IBB/E must ensure that its workforce has the skills to deal with emerging technologies in an ever-changing multi-media environment.

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IBB has approximately 1,800 employees (about one half of them in the broadcast field) and their average age is 50.3. IBB/E's staff is even older, with an average age of 54. IBB's HR office estimates that from 2006 to 2010 approximately 63 percent of the IBB workforce will be eligible to retire, and at least 20 percent will retire then.

Reductions in force (RIF) and hiring freezes have limited IBB/E's ability to recruit and nurture the next generation of employees. Drastic IBB-wide staffing cuts in the late 1980s and early 1990s, coupled with sporadic hiring freezes beginning in the 1980s, left many IBB offices, including IBB/E, with lean staffs and little depth. The most recent hiring freeze (which applies to domestic and overseas positions) was imposed in March 2005. Additionally, at the time of the inspection, IBB was concluding a buyout period, which accelerated retirements. As of May 2006, eight IBB/E employees had submitted requests for buyouts.

The hiring freezes and buyout program aimed to address budget constraints and avoid furloughs and RIFs but are creating hardships throughout IBB. IBB/E realizes, however, that retirements present an opportunity to reshape its workforce to meet new requirements, priorities, and technologies. With the ascendancy of new media, a flexible workforce with new competencies is needed. Indeed, part of the rationale for the buyout program was to facilitate a skills adjustment throughout IBB.

The IBB-wide hiring freeze has been in effect a long time and is being misused. Instead of openly changing the staffing plan, so that coming adjustments in staffing are clear to all, IBB management seeks case-by-case waivers to the hiring freeze. Employees and many supervisors are left to puzzle over the rationale for why one vacancy is filled and another is not, and career planning for younger employees becomes filled with uncertainties. Some employees suspect that the waiver process enables the politicizing of personnel decisions. A hiring freeze should be a temporary, emergency measure.

An organizational structure review of the IBB/E, along with a position management review, would help determine the staffing needed to achieve goals and could provide information that would facilitate ending a hiring freeze.

Recommendation 9: The Broadcasting Board of Governors should review the current process for determining whether a vacant position should be filled (waivers and exceptions to the hiring freeze), identify possible improvements to expedite the process, and make the necessary changes to implement the improvements. (Action: BBG)

Recommendation 10: The Broadcasting Board of Governors within six months should conduct an organizational structure review of the Office of Engineering and Technical Services, including a position management review, to determine which positions are needed to accomplish the office's goals within projected resource levels. (Action: BBG)

Recommendation 11: The Broadcasting Board of Governors should develop and implement a new procedure to keep staffing plans up to date and use the new procedure to determine future changes in the workforce as they become necessary. (Action: BBG)

To address future needs, IBB and IBB/E are starting to identify and build the workforce of the future through recruitment. For IBB/E, this is especially challenging. For instance, a May 2006 study by the nonprofit Partnership for Public Service found that engineering students tend to be less interested in federal jobs than most other students; they take more lucrative jobs with the private sector and avoid the lengthy, cumbersome, and painful federal hiring process. IBB/E offers some recruitment incentives, though they are relatively meager compared to those of the private sector. Incentives can include bonuses (subject to availability of funds) and what are known as "advanced-in-hire rates/superior qualifications appointments," which means entering a job at a higher pay step than would normally be the case. Other incentives include a higher accrual rate for annual leave, essentially starting with six hours rather than four hours per pay period, and opportunities for alternative work schedules and teleworking.

IBB's HR staff has visited colleges and job fairs; however, budget constraints limit its efforts and the funding for travel is low. The HR staff's participation in an "e-job fair" based on the Internet was a low-cost effort. IBB/E is working to establish good relationships with the colleges whose alumni work for IBB/E. IBB/E is also using a variety of alternative hiring mechanisms, such as hiring paid and unpaid interns, Presidential Management Fellows, and coop students. These mechanisms expedite the hiring process. During the summer of 2006, IBB/E will employ five interns and one Presidential Management Fellow.

Minority Representation and Recruitment

Women and minorities are underrepresented in IBB/E, primarily for two reasons: First, women and minority engineering students have arrived late in the engineering field and are underrepresented at colleges and universities. Second, several RIFs in the past disproportionately affected women and minorities, who tend to have

less seniority than others and thus are the most vulnerable to RIFs. A few years ago, IBB hired several new employees, including women. However, with RIFs, these were the first employees let go. IBB's last RIF, however, was in 1995. Other employees left in anticipation of additional RIFs and in response to their doubts about the organization's viability.

According to the IBB Human Capital Plan, approximately 36 percent of IBB employees are women. In IBB/E, women are 25 percent of the workforce, and minorities are represented at a far lower level. The plan reports that 28 percent of IBB-wide supervisory positions are held by women; in IBB/E, as of April 2006, there were only seven women at the GS-14 and GS-15 levels. Over the years, IBB has faced legal challenges concerning gender bias and discrimination. During the inspection, OIG received no complaints about discrimination in IBB/E, and the IBB Office of Civil Rights reported no pending cases. Supervisors and managers receive mandatory Equal Employment Opportunity and diversity training.

IBB is working to increase the representation of women and minorities in the technical fields and its Office of Civil Rights is developing a comprehensive recruitment plan that will identify the pockets of under representation in BBG. IBB/E will be included in the plan, although the Office of Civil Rights' director said the major efforts will be directed at recruiting employees for IBB's language services. The plan is to be completed in the summer of 2006, and the Office of Civil Rights will track its implementation.

Recommendation 12: The International Broadcasting Bureau should complete and implement a recruitment plan that reaches out to qualified women and minorities in the engineering field. (Action: IBB)

Training and Awards

The BBG FY 2007 budget request contains a performance objective to "maintain and retain a skilled workforce with training and awards." Training and awards are also part of the IBB human capital strategy. However, the effects of budget cuts have been felt sharply in these areas, and it remains to be seen how this objective can be achieved.

OIG found widespread concern and dissatisfaction among IBB/E employees regarding the lack of training and professional development opportunities. A good training and development program enables employees to maintain technical skills,

acquire skills required by the newest technologies, and it bolsters morale. A robust training program, including long-term training, is an important component of any strategy to recruit and retain new employees.

Budget constraints have taken a toll on the BBG/IBB training budget. For FY 2006, the IBB training budget was reduced by 50 percent, from approximately \$700,000 to \$350,000. According to the IBB's HR chief, the agency's highest priority for training focuses on employees in the broadcast field. The FY 2006 IBB/E training budget was \$21,000, with the majority of funds intended for training IT directorate staff. For FY 2007, BBG is seeking \$470,000 for technical, broadcasting, and professional training (which includes engineering). The request includes a proposal to increase funds for employee training in the areas of multi-media broadcasting and technical and management training.

The IBB/E director agreed that training in job knowledge and in supervisory skills has suffered from years of under-funding. Nonetheless, the IBB HR chief and IBB/E managers said severe budget cuts have not prevented the training that is required to achieve or maintain technical certifications, and there are few denials of training requests. However, some employees said they are not encouraged to request training or choose not to submit requests because they believe the requests would be denied. Furthermore, attendance at professional association conferences, which helps employees stay current with the latest advancements and issues in their fields, has been reduced. IBB employees may take courses at the Department's Foreign Service Institute, but must pay the tuition applicable to employees of outside agencies.

Recommendation 13: The International Broadcasting Bureau should conduct an employee training needs assessment, develop Individual Development Plans for all employees, prioritize training needs, and work with its human resources office to explore all training opportunities, including in-house training and e-learning. (Action: IBB)

Supervisory, management, and leadership training. In interviews and on OIG's questionnaires, numerous IBB/E employees cited instances where managers' interpersonal skills did not match their technical skills and abilities. This lack of people skills and the resulting poor communications between managers and staff negatively affects morale for IBB/E's otherwise dedicated employees.

Employees said in interviews that the quality and performance of their leadership and management is a concern throughout IBB for broadcasters as well as tech-

nical staff. BBG HR officials said they want to strengthen leadership training. IBB/E supervisors now have management and supervision listed as a critical job element in their job-performance standards, and each supervisor is required to take at least one course in supervision. However, IBB/E officials acknowledged that refresher training is needed. According to the Foreign Service Institute, BBG employees may enroll in any of the 60 courses at the institute's Leadership and Management School.

Skills are lacking in employee relations, managing conflict, team building, mentoring, and communication. IBB/E officials should ensure that management skills are taken into account in the recruitment and promotion process, that ratings honestly and straightforwardly address this element, and that individual development plans reflect the need for management training where appropriate. For example, top management could ensure that 360-degree reviews are performed for all managers before any are selected for promotions. Most of all, top management should show that it values the high performance by managers, when working as managers, and not just when they are working as technical experts. OIG counseled IBB/E on this point.

Awards. Awards are a part of the BBG strategy for recruiting and retaining a skilled and diverse workforce. Awards can be a powerful tool to reinforce messages about strategic goals, values, and performance levels that leadership wants to see throughout an organization. Awards also are morale-boosters; especially when employees are concerned about budget cuts, station closings, and RIFs. However, as with other aspects of BBG/IBB's HR-related funding, budget constraints have diminished the traditional awards program.

For FY 2005 BBG had \$450,000 for its awards program, and these funds were allocated to each component of BBG. There was an IBB-wide awards program and an IBB/E awards program. The programs included monetary awards and quality step increases. For FY 2006, however, the agency-wide awards budget was slashed to \$100,000, and its awards program was eliminated. IBB/E received an awards budget of \$11,930 in FY 2006 and was allotted seven quality step pay increases. Monetary awards ranged from \$200 to \$300. For FY 2007, IBB is seeking \$250,000 for awards for its organization of 1,800 employees, who may also receive time-off awards and certificates of appreciation.

Faced with insufficient funds for cash awards, IBB/E senior managers need to consider alternative means of recognizing exceptional performance. OIG informally recommended some alternatives. For some highly skilled engineers, recognition among their peers (by means of an "employee of the month" parking space at the front door or a press release to engineering publications) may be more satisfying than a small amount of taxable cash. Others may welcome an opportunity to represent

BBG at a national professional conference or receiving a letter of commendation from a senior U.S. official or being asked to brief congressional staffers about a recent accomplishment. It is important, however, that any awards program - formal or informal - appear to the employees to be fair, commensurate, and appropriate; in other words, everyone must believe that awards recognize significant, relevant, and genuine accomplishment.

Contract Management

The Engineering Technical (E/T) directorate competently manages approximately 34 contracts totaling about \$30 million, and a large number of its professional employees monitor contractors' performance. Engineers in both of its two divisions act as project managers and authorized representatives of the contracting officer (ARCO). Overall, OIG found that the directorate adheres to applicable policies and procedures in the post-award administration of contracts. The directorate communicates effectively and works collegially with IBB's Office of Contracts, and its ARCOs satisfactorily accomplish performance monitoring, contract modification, negotiation, liaison, subcontract award recommendations, property administration, inspection and acceptance of deliverables, and contract closeouts. Moreover, they operate within the scope of their responsibilities. Although well versed in their duties and responsibilities, the ARCOs do not meet IBB standards for periodic training.

E/T's procurement activity varies from simple equipment purchases for affiliates to major construction acquisitions. Duties can be simple and brief or complex and time-consuming, depending on the type of contract, contractor performance, and nature of the work. The directorate uses practical ARCO operating guides that provide relevant strategies for monitoring contractor performance. Much of the contract work monitored by the directorate is performed overseas, and Washington-based ARCO oversight is often limited. However, the Washington-based ARCOs coordinate closely with ARCOs in the field to ensure satisfactory results for overseas projects. IBB stakeholders outside Washington believe the directorate's engineers are effective and appreciate their contributions. Directorate management is actively evaluating contract management processes and intends to enhance its operations with new policies and procedures.

Training Policies and Procedures for Authorized Representatives of the Contracting Officer

The training policies and procedures for E/T ARCOs are inadequate. The directorate has 22 engineers serving as ARCOs to monitor contractor performance. OIG Report AUD/PPA-03-21, *Review of Monitoring of Contractor Performance at the BBG* (March 2003), found that BBG regulations did not specify any minimum training requirements for personnel such as IBB/E's ARCOs. Based on prudent business practice, OIG recommends incorporating ARCO training requirements into the IBB Manual of Operations and Administration.

Although it did not issue the regulations in the format prescribed by OIG, IBB nevertheless established ARCO training requirements and posted them on the HR section of its intranet web site. But intranet posting is insufficient to communicate an important training standard. On the intranet site, IBB has grouped the ARCO requirements with other procurement-cycle training requirements, and the ARCO training requirement may therefore be obscured. The posting's terminology is also inconsistent with the agency's terminology. For example, those charged with contract monitoring in IBB are referred to as "ARCOs" within the agency, but their training is identified as that for "contracting officer representative" by the intranet posting. Furthermore, the posting lists the requirement of total course hours for refresher training as 16, but the true requirement is seen by many throughout IBB as only eight.

Thus, the Office of Contracts did not properly implement the 2003 OIG recommendation, which envisioned a more visible administrative announcement that would have made the training requirements obvious and could have prevented E/T's lapse in ARCO refresher training.

Recommendation 14: The International Broadcasting Bureau should incorporate into the International Broadcasting Bureau's Manual of Operations and Administration the training requirements for the authorized representatives of the contracting officer. (Action: IBB)

Training Failures

The Office of Contracts has identified and tracked ARCO training, but has done little to make certain that ARCO training is consistent with IBB guidelines. IBB

requires the following ARCO training: Contracting Officer's Representative (COR) Course (40 hours), COR Refresher (16 hours every two years), Cost Estimating (24 hours every five years), Ethics (eight hours), and IT Acquisitions (24 hours). Immediately after the 2003 report, IBB/E provided almost all ARCOs substantial initial training. Since then, however, E/T has failed to ensure necessary and required follow-up training. At the time of this inspection, 20 of the 22 ARCOs lacked required follow-up ARCO training (the COR Refresher course). Also, five ARCOs did not have cost-estimating training, and three had not had ethics training.

The directorate has not implemented a control technique to ensure that ARCOs receive refresher training in contract monitoring as required by IBB. The failure of the professional staff to engage in continuing education increases the risk that contract goals (quality, timeliness, completeness, cost, and adherence to agency mission) will not be met.

Recommendation 15: The International Broadcasting Bureau should implement the mandated refresher training for authorized representatives of the contracting officer and establish control procedures to monitor and ensure compliance with International Broadcasting Bureau training requirements. (Action: IBB)

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MANAGEMENT CONTROLS

The IBB Office of Administration, a component of the IBB Office of Management, is directed by the BBG management controls officer and prepares the annual IBB management controls assurance statement, as required by the Federal Managers' Financial Integrity Act of 1982 as amended (P.L. 97-255). IBB/E has adequate controls in place, and no weaknesses were identified during its annual review. In 2005, IBB/E staff received training on the management controls process.

Property management: In addition to maintaining the domestic inventory of its non-expendable and capital property, IBB/E maintains the inventory for overseas property at the transmitting stations. Station managers are responsible for conducting and reporting their inventory, which IBB/E reconciles and then reports to the IBB's Office of Administration, which forwards it to the CFO. The IBB/E's overseas property management system works well. The Office of Management plans to adapt the system to serve as a consolidated automated system for use throughout IBB for all property, domestic and overseas. IBB/E is also working on inventory procedures to account for cell phones.

Travel/Time and Attendance: For FY 2005, IBB/E's travel budget was \$535,000. Controls over the travel process (authorizations, vouchers, unused airline tickets, and premium travel) are in place. At the time of the inspection, IBB was converting to an electronic travel system. The controls over time and attendance, including controls over alternative work schedules and teleworking, are adequate.

Financial management: IBB/E controls its small amount of petty cash and its approximately \$8,000 in representation funds, which are used worldwide. Due to the small budget for representation funds, some requests were not funded. At the time of the inspection, OIG was completing a review of the BBG domestic purchase card program. IBB/E had identified no problems with it, and the Office of Administration was planning to issue a new IBB administrative notice on the purchase card program. IBB/E periodically reviews the status of unliquidated obligations. The CFO's office tracks unliquidated obligations and oversees the annual process to certify the obligations as valid.

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FORMAL RECOMMENDATIONS

Recommendation 1: The International Broadcasting Bureau's Office of Engineering and Technical Services should develop and implement a written plan of actions to emphasize the internal and external communication of ideas, goals, and current tasks. (Action: IBB/E)

Recommendation 2: The Broadcasting Board of Governors should review the balance of effort and resources it allocates to radio, television, and the Internet and develop an action plan that will assure that all of its broadcasters are taking the best possible advantage of these technologies. (Action: BBG)

Recommendation 3: The International Broadcasting Bureau's Office of Engineering and Technical Services should develop a list of steps it will take to identify new technologies, discover and test potential solutions, innovate, and overcome current limits on its ability to deliver signals to audiences. (Action: IBB/E)

Recommendation 4: The International Broadcasting Bureau's Network Control Center should develop and implement written procedures for its operations in unusual and emerging situations. (Action: IBB/E)

Recommendation 5: The International Broadcasting Bureau's Office of Engineering and Technical Services should arrange for a qualified individual or team of occupational safety and health inspectors to conduct an inspection of their Washington, DC, offices to identify unsafe or unhealthy working conditions. (Action: IBB/E)

Recommendation 6: The International Broadcasting Bureau's Office of Engineering and Technical Services should correct all conditions identified in the foregoing occupational safety and health inspection. (Action: IBB/E)

Recommendation 7: The International Broadcasting Bureau's Office of Engineering and Technical Services should develop an annual strategic plan for the Information Technology directorate that is aligned with the Broadcasting Board of Governor's strategic plan and Broadcasting Board of Governor's/Engineering Performance Plan and which includes specific, measurable steps toward agreed-upon goals that can be discussed, funded, and periodically reviewed by managers. (Action: IBB/E)

Recommendation 8: The International Broadcasting Bureau's Office of Engineering and Technical Services should direct its Information Technology directorate to develop and implement written standard operating procedures for its information technology processes. (Action: IBB/E)

Recommendation 9: The Broadcasting Board of Governors should review the current process for determining whether a vacant position should be filled (waivers and exceptions to the hiring freeze), identify possible improvements to expedite the process, and make the necessary changes to implement the improvements. (Action: BBG)

Recommendation 10: The Broadcasting Board of Governors within six months should conduct an organizational structure review of the Office of Engineering and Technical Services, including a position management review, to determine which positions are needed to accomplish the office's goals within projected resource levels. (Action: BBG)

Recommendation 11: The Broadcasting Board of Governors should develop and implement a new procedure to keep staffing plans up to date and use the new procedure to determine future changes in the workforce as they become necessary. (Action: BBG)

Recommendation 12: The International Broadcasting Bureau should complete and implement a recruitment plan that reaches out to qualified women and minorities in the engineering field. (Action: IBB)

Recommendation 13: The International Broadcasting Bureau should conduct an employee training needs assessment, develop Individual Development Plans for all employees, prioritize training needs, and work with its human resources office to explore all training opportunities, including in-house training and e-learning. (Action: IBB)

Recommendation 14: The International Broadcasting Bureau should incorporate into the International Broadcasting Bureau's Manual of Operations and Administration the training requirements for the authorized representatives of the contracting officer. (Action: IBB)

Recommendation 15: The International Broadcasting Bureau should implement the mandated refresher training for authorized representatives of the contracting officer and establish control procedures to monitor and ensure compliance with International Broadcasting Bureau training requirements. (Action: IBB)

INFORMAL RECOMMENDATIONS

Informal recommendations cover matters not requiring action by organizations outside of the inspected unit and/or the parent regional bureau and are not be subject to the OIG compliance process. However, any subsequent OIG inspection or onsite compliance review will assess progress in implementing the informal recommendations.

Planning: a team sport -- A number of employees said they are uncertain about IBB/E's core mission, its mid- to long-term goals, and what is coming next. Few could recall having seen IBB/E planning documents.

Informal Recommendation 1: The International Broadcasting Bureau should direct the Office of Engineering and Technical Services to make a greater effort to involve staff members in planning and that as many employees as are willing are involved in conceptualizing, writing, and assessing the progress of its performance plan each year.

Prizing Good Management - IBB/E's staff is intelligent, skilled, and mostly well motivated and includes many who need little more than clear goals and some occasional feedback. Yet, too many employees get little information, poor communication, and little chance to contribute.

Informal Recommendation 2: The International Broadcasting Bureau should direct the Office of Engineering and Technical Services to make efforts to develop a corporate culture that informs employees, seeks their input, rewards exceptional performance, corrects errors, and empowers the workforce. Supervisors should be given training and incentives to improve their management of people.

In-house Research and Development -- E/T does not have an in-house research and development unit. Technology, however, is rapidly changing, and the ways in which current and potential audiences receive news and information is also rapidly evolving. IBB/E has lost about 50 percent of its positions since the 1980's, and it appears not to be realistic to establish a research and development group or organize committees to implement projects. E/T could nevertheless perform some research and development. Options include allowing a staff members with a promising idea to devote work time to development and for E/T to partner with a university on research and development projects.

Informal Recommendation 3: The International Broadcasting Bureau's Office of Engineering and Technical Services should develop and implement plans for targeted small-scale research and development activities.

Unleashing Creativity - IBB/E's engineers said they are too often, when assigned a project, given the project's solution, and advised to develop a means of implementing the solution. This approach does not consider the professional knowledge and experience of these employees, who say that defining an objective and allowing them to propose potential solutions could provide better results.

Informal Recommendation 4: The International Broadcasting Bureau should reexamine its practice of assigning professional employees to projects having predetermined solutions and instead begin assigning them projects that are defined by their objectives, while refraining from requiring particular solutions unless they are imperative.

Enforcing Manual of Operations and Administration -- Project management within the IT directorate does not comply with IBB policy. IBB policies regarding project management are not being followed, despite the requirements of the IBB Manual of Operations and Administration, Section 1109. Clearly, the organizational culture has not placed much emphasis on documenting work processes and on enforcing adherence to written procedures. As a result, some projects, especially software applications development, have been allowed to miss deadlines or have been dropped entirely, even after months of development.

Informal Recommendation 5: The International Broadcasting Bureau should enforce the Manual of Operations and Administration policy regarding all information technology projects and their project management.

Awards -- Awards can reinforce messages about strategic goals as well as the values and performance levels that the leadership wants to see in the organization. However, as with other aspects of BBG/IBB's HR funding, budget constraints have diminished the awards program.

Informal Recommendation 6: Given the lack of funds for awards, managers in the Office of Engineering and Technical Services should develop alternative means of recognizing exceptional performance by offering awards in forms other than cash.

Compliance with Hardware Procurement Policy -- IBB/E is procuring computer hardware without complying with IBB policy. OIG found various examples of new technology purchased without coordination with the IT directorate. The offices doing

so have subsequently expected the directorate to support these technologies, thereby further straining the Directorate's resources.

Informal Recommendation 7: The International Broadcasting Bureau should enforce the Manual of Operations and Administration policy regarding procurement of information technology equipment.

Monitoring -- Despite its growth in dependence on leased and owned FM transmitters and on FM affiliates that carry BBG signals, IBB/E has not made a priority of comprehensive verification and monitoring. It verifies that signals are delivered if the signals originate from shortwave and mediumwave transmitters, and it monitors TV broadcasts at the NCC. Industry experts say outages on FM radio and the Internet seriously and immediately diminish a provider's audience share.

Informal Recommendation 8: The International Broadcasting Bureau should seek ways to ensure that all signal transmissions, including FM broadcasts and the Internet, are fully monitored so that remediation is immediate when information is not getting through.

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PRINCIPAL OFFICIALS

	Name	Arrival Date
Director of the Office of Engineering (Until June 2006)	George Moore	03/00
Director of the Office of Engineering	Vincent Nowicki, Acting	06/06
Chief Information Officer	Curt Huyser	03/06
Operations	Walter Borys, Acting	06/06
Technical	Ronald Linz	03/06
Resource	Connie Stephens	09/05
Technology	Kenneth Berman	06/04

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ABBREVIATIONS

ARCO	Authorized representative of the contracting officer
BBG	Broadcasting Board of Governors
CIO	Chief Information Officer
CFO	Chief Financial Officer
COR	Contracting officer's representative
EO	Engineering Operations
E/T	Engineering Technical Directorate
FM	Frequency modulation
IBB	International Broadcasting Bureau
IBB/E	IBB Office of Engineering and Technical Services
IT	Information technology
NCC	Network Control Center
OIG	Office of the Inspector General
RIF	Reduction in force
SMS	Short message service
SOP	Standard operating procedures
TI	Technology Innovations, Inc.
VOA	Voice of America

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of Federal programs
and resources hurts everyone.

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