

**Review of Computer Problem and Change Management Process**  
**Report No. 99-05, February 12, 1999**

**Background**

The Bureau of Information Services (BIS) handles computer related problems and changes for the RRB, however, Policy and Systems handles system problems as reported by personnel in the Office of Programs. Problems and changes can include software, hardware, procedures, and environment (e.g., heat and humidity). Incorrectly resolved problems could lead to more changes.

Computer and system users throughout the agency report their problems initially to several places. These places include Policy and Systems and four divisions in BIS.

The way computer problems and changes are resolved affects the RRB's customer service levels. The RRB's Strategic Plan for 1997 through 2002 and the Annual Performance Plan for fiscal year 2000 calls for:

- The use of information technology infrastructure to support the achievement of the agency's mission. This includes hardware devices, software tools, standards & procedures, and the appropriate organizational structure to handle computer related problems and changes.
- Effective and efficient management of information technology resources.
- Focus, direction, and consistency on all automation activities.

The RRB's mission, as stated in the Strategic Information Resources Management Plan for 1998 through 2003, is to provide increased value to the agency's business, through automated systems and technology, by enabling the RRB to achieve its strategic goals and performance objectives in the most effective and efficient manner possible. The plan provides that the RRB will reengineer and redesign the systems framework to allow for more efficient and effective system development and maintenance.

**Objective, Scope and Methodology**

The audit objective was to determine whether the computer related problem, change, and configuration management process is efficient and effective in meeting agencywide user needs. The audit scope included locations and groups that handled mainframe and personal computer related problems and changes in fiscal year 1998.

To accomplish the objective, the OIG:

- reviewed regulations and procedures governing the problem and change management process;

- reviewed the Management Control Review and Risk Assessment of Computer Services, and obtained an understanding of the procedures that BIS uses in the computer problem and change management process;
- prepared and distributed questionnaires to personnel in BIS and Policy and Systems; and
- interviewed various RRB personnel.

The OIG conducted the audit in accordance with generally accepted government auditing standards as applicable to the audit objective. Auditors performed the fieldwork at the RRB headquarters office in Chicago, Illinois from July 1998 through December 1998.

### **Results of Review**

The RRB's computer related problem, change, and configuration management process is not operating in the most efficient and effective manner in meeting agencywide user needs. The agency handles computer related problems and changes in a decentralized manner. Several groups have responsibility for recording and tracking problems, which results in a lack of controls and/or establishment of priorities. The RRB's inventory of computer configuration information is also decentralized. The current environment also does not allow for the establishment of time standards for responding to problems and changes. In addition, customer satisfaction surveys are not routinely conducted. The RRB can make changes in these areas to improve efficiency and effectiveness in meeting agencywide user needs.

### **Centralization of Problem Management**

Several groups handling computer related problems and configuration information record the data into different files. Presently, there is no system to record pertinent data and track the actual time taken to resolve computer problems. For example, four divisions within BIS handle and record computer problems independently. Each division records the computer problems differently, either through an automated system or via a manual process. In addition, Policy & Systems has its own procedures for handling and recording computer problems for the Office of Programs and the field offices.

Without a system to consolidate the information, agency management may not be aware of the number and status of reported computer problems and resources used in correcting them. In addition, individual computer users can determine the priority of computer problems and changes rather than priorities being based on agency-wide priorities. Basing priorities on each individual user's needs could lead to sub-optimization of resources where time and effort expended in one area could have been used better elsewhere. Consequently, agency resources may not be used effectively and problems and changes crucial to RRB operations may not be completed timely.

Computer configuration information, which includes an inventory of hardware and software, is also located in several different places within the agency. Hardware inventory includes such items as computer model name and number, amount of memory and hard drive space, printers, and modem name and number. Software inventory includes the application name, operating system, and other custom-developed systems.

Configuration information is needed by problem-resolving groups to effectively resolve problems and implement changes. The nature of problem resolution depends on the type of hardware and software involved in a specific application. Since configuration information is spread around the agency and maintained on paper, problem-resolving groups have to search for this information as opposed to being able to find it in a centralized location. Consequently, obtaining configuration information can be difficult and time-consuming. Also, keeping configuration information up-to-date is a difficult task when several locations are involved.

### **Recommendation No. 1**

BIS should develop a system to consolidate computer problems and configuration information in a centralized location.

### **Management Response**

We agree that, at present, there is no central system in BIS to record and track the resolution of end-user computing problems. BIS has recognized this need and has researched the subject of centralized help desk software packages as a solution. Help Desk software is listed on the FY 1999 equipment list submitted to the ADP Steering Committee in November 1998. Once approved, we will purchase and install the software and will organize our staff to work with it. Due to temporary uncertainties about the IT equipment funds for FY 1999, we may not be able to procure the software until late this fiscal year. Therefore, we are establishing a target date of April 2000 for the help desk system to be installed and functioning.

### **Time Standards**

The OIG could not determine whether BIS was handling computer related problems efficiently and effectively to meet their users' needs. This occurred because BIS has not established time standards to assess the agency's performance in this area.

The Government Performance and Results Act of 1993 (P.L. 103-62) requires agencies to "establish performance indicators to be used in measuring or assessing the relevant outputs, service levels, and outcomes of each program activity." Examples of indicators include the percent of problems completed within time standards, total number of problems handled within a time period, and the most frequent type of problems occurring.

With this type data reported, RRB management can address problem areas to prevent or

eliminate future problems, such as expectation gaps between computer users and BIS. Without standards, actual problem resolution time may be greater than what is expected by computer users.

BIS management stated that they would first establish a time standard for responding to initial problem notifications with the understanding that additional standards (e.g., actual time to resolve problems) will be developed after a significant amount of data has been collected by the new help-desk system.

### **Recommendation No. 2**

BIS should establish time standards for responding to computer related problems.

### **Management Response**

At this time, we agree to set a new standard for BIS to respond to initial notifications of end-user computer related problems. This standard will be to acknowledge the problem notification within one business day of its receipt in BIS, whether by phone, fax, mail, or other means. We will formally track our performance against this standard through the new help desk system, after it is installed and fully functioning.

### **Customer Satisfaction Surveys**

BIS management cannot determine whether the level of service provided to customers is sufficient because they do not have procedures for conducting formal and periodic customer satisfaction surveys with agency employees. Surveys would enable BIS management to determine satisfaction with timeliness and quality of problem resolution and change implementation. In the absence of formal and periodic surveys, agency management would receive partial survey data that would be of little benefit in improving services provided to agency employees.

BIS management said that surveys are now conducted in the data communications area but not in other areas of the agency.

Executive Order 12862, entitled "Setting Customer Service Standards," requires government agencies to provide service to the public that matches or exceeds the best service available in the private sector. The order requires all executive departments and agencies to "survey customers to determine the kind and quality of services they want and their level of satisfaction with existing services."

### **Recommendation No. 3**

BIS should develop procedures to conduct formal and periodic surveys of all users in the agency to determine their level of satisfaction with problem resolution and change implementation.

### **Management Response**

We do not agree that it is necessary to conduct formal surveys of “all” users in the agency, as recommended. However, we do agree to perform an electronic survey in the future, perhaps through the agency’s Intranet, of a representative sample of our Help Desk customers to determine their satisfaction with our service. This survey will be performed at least annually, with the first one to be conducted after approximately one year of centralized Help Desk operations. Therefore, the target date is April 2001.

### **OIG Comment**

The OIG accepts management’s proposal to survey a representative sample of the Help Desk customers as a method of determining customer satisfaction.