MANGEMENT REVIEW OF DIVISION OF SUPERVISION TRACKING SYSTEMS

Audit Report No. 00-002
February 16, 2000

OFFICE OF AUDITS

OFFICE OF INSPECTOR GENERAL

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FDIC
Federal Deposit Insurance Corporation
Washington, D.C. 20434

Office of Audits
Office of Inspector General

DATE: February 16, 2000

TO: James L. Sexton, Director
Division of Supervision

FROM: David H. Loewenstein
Assistant Inspector General for Audits

SUBJECT: Report Entitled *Management Review of DOS Tracking Systems*
(Audit Number 00-002)

The Federal Deposit Insurance Corporation's (FDIC) Office of Inspector General (OIG) has completed a management review of the Division of Supervision's (DOS) tracking systems. DOS employs a variety of tracking systems to support its operations. DOS officials requested the OIG's assistance in determining whether these systems were addressing the needs of headquarters, regional, and field personnel; determining the extent and impact of regional and field development of supplemental systems on DOS's national systems; and identifying experiences gained through such development that could benefit development of national systems, such as the redesign of the Banking Information Tracking Systems (BITS).

BACKGROUND

In fulfilling the FDIC's mission of contributing to stability and public confidence in the nation's financial system, DOS's primary role is to promote the safety and soundness of insured depositor institutions. In this capacity, DOS performs on-site examinations of financial institutions to ensure their compliance with federal and state statutory and regulatory guidelines. DOS maintains the Corporation's banking data repository, which includes financial, examination, and supervisory information on FDIC-insured financial institutions. Data for the repository is obtained from reports filed directly by financial institutions, information gathered during the supervisory process, and information received from other public and private sources. Access to much of this important data is provided through BITS.

BITS consists of several subsystems that are used by examiners to obtain and update information related to insured financial institutions. BITS also provides detailed and summary information for use by DOS headquarters officials. While BITS provides valuable information to its users, it was implemented in 1989 using older technology and is not as flexible and user-friendly as application systems developed using more recent technology. To promote efficiency and productivity and to provide enhanced information to its staff and management, DOS initiated a project to redesign BITS.

The Division of Information Resource Management (DIRM) develops, hosts, and maintains Information Technology (IT) systems that support the business needs of the FDIC's divisions and offices. DIRM's Business Applications Branch, DOS Software Management Section, serves as its liaison to the Division of Supervision. This section plays a principal role in the establishment and coordination of the Joint Application Design approach that DIRM and DOS have elected to use for developing functional requirements together for the BITS redesign project.

Also, we were advised that representatives of DIRM's software management section sometimes attend DOS's quarterly Regional Office Management Information Group (ROMIG) meetings to discuss IT matters of mutual concern to both divisions. The ROMIG's primary responsibility is to help identify and manage risk through the development, implementation, and maintenance of monitoring systems and the preparation of special studies, analyses, and reports for regional DOS management. The group supports regional information and automation needs, including the development and maintenance of regional information systems, coordination with DIRM on DOS- and corporate-wide applications, and the identification and acquisition of commercial software products.

In addition to national systems, the Corporation has developed regional and field-level systems to track DOS activity. The Automated Regional Information System (ARIS) is primarily a management information and reporting system designed for DOS regional office management. ARIS retrieves data from national DOS systems and stores the information in a regional datamart in summary form. Although ARIS was developed by and for the Memphis region, other DOS regions requested the application when they became aware of its capabilities. Following additional testing, DOS and DIRM management approved ARIS for release to all field offices.

DOS's Field Office Management Information System (FOMIS) is an examination scheduling and bank information system designed to support field office supervisors. The application accesses information from the ARIS regional datamart. Supplemental data is entered by field office staff.

OBJECTIVES, SCOPE, AND METHODOLOGY

The objectives of our review were to: (1) identify systems developed to support DOS regional and field offices and the reasons that they were needed, (2) determine whether national DOS information systems used to track and monitor supervisory activities fully meet field and headquarters needs, and (3) assess how experiences gained during the development of regional and field systems can be used by DOS in its project to redesign BITS.

To accomplish our objectives, we interviewed DOS personnel in Washington, D.C.; New York, New York; Memphis, Tennessee; and San Francisco, California. We also attended and observed a ROMIG meeting. In addition, we interviewed DIRM personnel regarding the BITS redesign project and regional information systems development activities. We also reviewed FDIC policies and procedures related to supervisory activities and systems development projects and conducted limited

testing to determine the accuracy and completeness of BITS GM1 data.[1] Finally, we observed and assessed the functionality of ARIS and FOMIS.

We evaluated DOS's activities related to tracking systems between January 1998 and November 1999. Our work was performed between May 1999 and November 1999 in accordance with generally accepted government auditing standards.

RESULTS OF AUDIT

Discussions with DOS personnel indicated that current national systems generally meet headquarters' needs. However, DOS regional and field offices needed to develop supplemental systems to augment national tracking systems. Regional staff advised that the supplemental systems were needed because national tracking systems such as BITS were developed using older technology and are not as user-friendly as applications developed with more current technology and because ad hoc reporting is difficult. However, we did not identify significant development duplication. In fact, we identified only one locally developed system beyond ARIS and FOMIS. The office that developed this system intends to retire it in favor of FOMIS. DOS has implemented a good mechanism for exchanging information on IT issues through its ROMIG. The ROMIG could prove even more valuable if its objectives were formalized and its membership expanded to include field offices.

DOS field personnel advised that, historically, tracking system data has not been consistently accurate and complete. However, these personnel also stated that data accuracy and completeness has improved because of errors identified since the advent of ARIS. Because ARIS data is populated from the national tracking systems, field staff have increased their focus on the accuracy and completeness of national data. Working with DOS, we performed a limited test of national tracking system data. This analysis did not identify significant errors or omissions in data. However, we identified values in some data fields that were not defined in system documentation. Because this data was not defined, DOS's ability to definitively determine the type or scope of some examination work performed was limited.

DOS's field systems development approaches may benefit the redesign of BITS. The flexibility designed into ARIS and FOMIS can also benefit the development of national systems. For example, ARIS and FOMIS were designed to meet the basic requirements of all DOS regional and field offices, respectively. However, ARIS and FOMIS were also designed to allow individual offices to tailor them to address unique office needs. Further, the functionality developed into these applications can serve as a prototype for national development efforts. Because ARIS and FOMIS were specifically designed to address the needs of DOS field operations, they can be used as a foundation for addressing field requirements during BITS redesign. Needed changes in functionality identified through the use of the systems can be used to refine these requirements. Finally, DOS may wish to consider the data population methodology employed for ARIS to help ensure data quality. As discussed above, because ARIS

[1] GM1 data is examination data related to examination frequency, total institution assets, and CAMELS ratings. CAMELS ratings are composite ratings assigned to institutions by the FDIC and other bank regulators based on safety and soundness examination results.

data is extracted from national sources, field personnel placed greater focus on entering accurate and complete data into the national systems. In that data accuracy and completeness were improved as a result, a similar top-down approach for planned national systems may provide similar benefits.

IMPROVED COMMUNICATION AND COORDINATION WITHIN DOS AND WITH DIRM CAN ENHANCE FUTURE DEVELOPMENT EFFORTS

DOS can help to ensure consistently successful field system development efforts by enhancing communication between its headquarters, regional, and field offices. Recent DOS efforts related to ARIS and FOMIS development have resulted in systems that generally support user requirements. Additionally, the systems have provided the flexibility needed to address the unique operations of individual regional and field offices. Further, DOS's ROMIG provides a framework for obtaining and disseminating information related to information technology. However, DOS can gain further benefits from the ROMIG by establishing a charter outlining the ROMIG's role and providing a description of the type of information to be exchanged by ROMIG participants. Further, DOS can improve DIRM operational support for locally developed systems by improving communications with DIRM on planned development initiatives.

DOS's ROMIG supports regional information and automation needs through a variety of means, including ensuring that regional needs are met through corporate-developed applications and commercial software products. Although the ROMIG has been effective in enhancing communication regarding IT issues, DOS has not developed a formal ROMIG charter. Instead, the ROMIG's function is informally defined. Development of such a charter can help to ensure that the full benefits of such a group are consistently realized. Although we identified only one instance of a duplicative field tracking system, we noted that ARIS and FOMIS development occurred without considering the needs of all DOS regional and field offices and that some offices were unaware that the applications existed after their development. ARIS and FOMIS are flexible applications that effectively address most regional and field office requirements. However, DOS's development of a ROMIG charter that includes the definition of regional and field office requirements, provides for maintenance of an inventory of field applications, and fosters communications on planned and ongoing IT initiatives that affect the field would help to ensure consistent success on future initiatives.

DOS's regional and field personnel informed us that regional DIRM personnel were reluctant to assume the operation and maintenance for applications developed without their involvement. Because DOS field personnel did not always prepare and provide information that fully described applications they were developing, DIRM was reluctant to become fully involved in helping to operate and maintain the field systems. To effectively operate and maintain user-developed applications, DIRM needs, at a minimum, a description of the application, its architecture, and associated data. By more thoroughly coordinating with DIRM during the development of applications to support DOS'regional and field offices, DOS can ensure that its completed products are compatible with DIRM's system architecture and that the information needed by DIRM to operate and maintain the systems is prepared during development and available throughout the life of the system.

Recommendations

We recommend that the Director, Division of Supervision, ensure that:

(1) A ROMIG charter is developed to ensure (a) effective DOS communication of regional and field office information requirements for planned application systems, (b) duplicative development continues to be avoided, and (c) timely information is provided to participants on planned and ongoing IT initiatives.

(2) Field offices are included in the ROMIG charter and represented at ROMIG meetings so that they can be kept informed on planned and ongoing IT initiatives and to ensure that their requirements are identified and included in planned development projects.

(3) DOS regional and field personnel communicate with their DIRM counterparts during the planning and development of application systems to ensure that developed products are compatible with the FDIC's system architecture and appropriate documentation is developed to allow DIRM to effectively operate and maintain application systems following their completion.

TRACKING SYSTEM DATA ACCURACY HAS IMPROVED BUT SOME IRREGULARITIES PERSIST

Tracking system data contained in BITS that we tested was generally accurate and complete. However, values contained in some BITS data elements were undefined and could result in inaccurate or less-than-meaningful information for DOS decision-making.

DOS field representatives advised that, in the past, data contained in national tracking systems was not consistently accurate or complete. However, they indicated that data quality had improved as a result of ARIS development and implementation. ARIS obtains its data from DOS's national tracking systems, and DOS field officials stated that implementation of ARIS had helped identify inaccurate and incomplete data in the national systems that have now been corrected. Because the national data was used to populate ARIS, field personnel stated that they increased their focus on the accuracy and completeness of data entered into national systems. DOS may realize similar benefits by considering the implementation of a single repository for data in the systems resulting from the BITS redesign project—a single repository for data serving headquarters, regional, and field needs. Without accurate and complete data, DOS's ability to plan, track and manage its activities is reduced.

With the assistance of DOS, we tested GM1 tracking system data for the period of January 1, 1998 through August 31, 1999 for accuracy and completeness. DOS Regional Office staff researched source documentation supporting the sampled data tested. Our cooperative efforts did not identify any errors. We cannot make an unqualified statement on overall accuracy and completeness because documentation requirements varied by office. For instance, some offices did not maintain source documents for examinations that were over 6 months old. However, the percentage of GM1 data not verified due to lack of supporting documentation was not large enough to be material.

We did, however, identify five undefined data values for two GM1 data elements. For example, data fields for examination type and examination scope contained values that were not defined in the BITS data dictionary. As a result, we were unable to determine the type of examination performed or the scope of work performed for database records containing these codes. DIRM and DOS officials were also unable to explain the codes but indicated that some may have been errors that were not corrected during edit. Undefined codes contained in tracking system data fields could result in incorrect conclusions and management actions.

Recommendation

We recommend the Director, Division of Supervision:

(4) Ensure that DOS data stewards identify and review undefined data codes contained in tracking system data and determine actual values. If the data codes are valid, action should be taken to document the codes in the appropriate data dictionary. If the codes represent errors that should not be maintained on the database, action should be taken to purge the data errors.

CORPORATION COMMENTS AND OIG EVALUATION

On February 3, 2000, the Director, DOS, provided a written response to the draft report. The response is presented in Appendix I of this report. A summary of management's responses to the recommendations contained in this report follows.

Management agreed with recommendations 1 through 3. Management stated that a ROMIG charter will be developed; the ROMIG will discuss and consider the needs of field staff through field office supervisor meetings, periodic ROMIG meetings, and video conferences; and the new national system that incorporates the functionality of current field systems will meet FDIC and DOS architecture and documentation standards.

In response to recommendation 4, management indicated that the ROMIG mission statement will include the responsibility to act as data stewards pending the Corporation's reinstatement of a formal, corporate program.

In response to a suggestion contained earlier in our report, management stated that it is in the midst of a major modernization of data collection systems, that it recognizes the need for a central repository of information, and that it expects to complete such a structure by the end of 2002.

The Corporation's response to the draft report provides the elements necessary for management decisions on each of the report's recommendations. Accordingly, no further response to this report is required.

CORPORATION COMMENTS

FDIC
Federal Deposit Insurance Corporation
Washington, D.C. 20434

Office of the Director
Division of Supervision

February 3, 2000

MEMORANDUM TO: David H. Lowenstein
Assistant Inspector General for Audits

FROM: James. L. Sexton
Director

SUBJECT: Management Review of DOS Tracking Systems
(Audit No. 99-903)

Thank you for the opportunity to comment on the recommendations contained in the OIG's draft report entitled "Management Review of DOS Tracking Systems." Appropriate members of my staff have reviewed the report and are in general agreement with its findings and recommendations.

Our comments relating to the specific recommendations are as follows:

1. *A ROMIG charter is developed to ensure (a) effective DOS communication of regional and field office information requirements for planned application systems, (b) duplicative development continues to be avoided, and (c) timely information is provided to participants on planned and ongoing IT initiatives.*

   The Regional Office Management Information Groups (ROMIG) have served the information needs of regional management since the DOS reorganization of 1996. The groups were founded in each regional office by combining staff who traditionally performed service or analysis roles that were not supervisory in nature or bank specific. The groups included the disciplines of automation-information specialists, PC coordinators and financial analysts. In most Regional offices, a Senior Financial Analyst was designated the ROMIG supervisor. Over time, each ROMIG has taken on the complexion of the regional office it serves, assuming duties and responsibilities that are unique or preferred by that office in addition to a set of core functions.

   Although formal duties and responsibilities are spelled out in position descriptions and in the Case Manager Manual, we agree that the time has come to give ROMIG a formal mission statement (or charter) and to formally recognize the specific core functions performed by each ROMIG. This process is already underway under the direction of Assistant Director James Dudine. Senior Financial Analysts (SFA's) and Washington staff are working together

on a proposal to be presented at the ROMIG Conference in May 2000. It is our expectation that a final ROMIG charter and operating procedures will be approved by June 30, 2000.

2. *Field offices are included in the ROMIG charter and represented at ROMIG meetings so that they can be kept informed on planned and ongoing IT initiatives and to ensure that their requirements are identified and included in planned development projects.*

   ROMIG has served as a focus group, a conduit for information and as a representative of the field offices in connection with the requirements gathering phase of the BITS redesign or VISION project. The new "charter" or mission statement will formally charge ROMIG with the responsibility to discuss and consider the needs of the field staff in IT development and enhancement efforts. This communication will occur at field office supervisor meetings and through periodic ROMIG meetings and video conferences.

3. *DOS regional and field personnel communicate with their DIRM counterparts during the planning and development of application systems to ensure that developed products are compatible with the FDIC's system architecture and appropriate documentation is developed to allow DIRM to effectively operate and maintain application systems following their completion.*

   ARIS and FOMIS were developed to meet the needs of regional management that were not being met by the old BITS system. They are interim systems that fulfill a strategic role while the new VISION system is being developed. Under the VISION work plan, the functionality of ARIS and FOMIS is to be converted into VISION no later than 2002. The strategy being pursued offers several benefits. First, Regional Directors gain the immediate benefit of a first rate management reporting system. Second, ARIS and FOMIS have been installed in all eight regional offices and use data stored centrally in the Corporate Business Information System (CBIS) warehouse, thus eliminating the plurality of systems and databases that formerly existed; and Third, ARIS and FOMIS will provide the basic requirements for the management reporting and scheduling modules of VISION, eliminating or vastly reducing the time and resources ordinarily needed to gather such requirements. The ultimate product, the VISION reporting module, will meet FDIC and DOS system architecture and documentation standards. Both DOS and DIRM management support this strategy through the VISION Executive Steering Committee.

4. *Ensure that DOS data stewards identify and review undefined data codes contained in tracking system data and determine actual values. If the data codes are valid, action should be taken to document the codes in the appropriate data dictionary. If the codes represent errors that should not be maintained on the database, action should be taken to purge the data errors.*

   The data steward program for DOS systems will change as new systems such as VISON replace BITS, ARIS and FOMIS. We support the proposal currently underway in the Corporate Data Sharing Group to reinstate a formal, corporate program. In the interim, the ROMIG mission statement will include the responsibility to act as data steward for regional systems. A formal ROMIG charter is expected by June 30, 2000.

***** 5. *Consider adopting the data population methodology used for ARIS and FOMIS. By implementing a single repository for data that can be used to support headquarters, regional and field requirements, greater data accuracy and completeness may be obtained on a consistent basis.*

   We agree in principle that adopting a single data repository is a good idea, and we have made good progress toward that objective. The CBIS warehouse serves as the central repository for data collected from banks, other agencies and from examination reports. CBIS is the source for the data items used by ARIS. CBIS however, includes much more data than is pulled down into the ARIS data mart. FDIC (and DOS in particular) is in the midst of a major modernization of data collection systems, such as CALL, SOD and Structure (SIMS), examination tools (Genesys) and VISION. In addition, more and more information is being imported from other agencies and outside sources. We recognize the need for a central repository of information that can accept and distribute data to the many systems used by FDIC, refreshing them as necessary to ensure data consistency throughout the Corporation. The goal we are striving to achieve is to produce accurate and consistent information across intradivisional and interdivisional systems. The technologies that are selected to support the VISION and data collection modernization projects will determine, to a large extent, the design of the data repositories. The data base structure of the VISION project should be complete by the end of 2002.

   We commend the efforts and cooperation of your staff in conducting this review. Please contact Assistant Director Dudine to follow-up on recommendations.

*****Note: The OIG did not make a formal recommendation related to the use of the data population methodology for ARIS and FOMIS. We appreciate DOS's response to our suggestion that a similar methodology may prove valuable for planned national systems.

Copies to:

Mr. Sexton
Mr. Zamorski
Ms. Frank
Mr. Lane
Mr. Schmidt
Mr. Dudine
Mr. Collier
Mr. Deshpande
Ms. Zumbrun
Ms. Marcotte
Mr. Cook

MANAGEMENT RESPONSES TO RECOMMENDATIONS

The Inspector General Act of 1978, as amended, requires the OIG to report the status of management decisions on its recommendations in its semiannual reports to the Congress. To consider FDIC's responses as management decisions in accordance with the act and related guidance, several conditions are necessary. First, the response must describe for each recommendation

- the specific corrective actions already taken, if applicable;
- corrective actions to be taken together with the expected completion dates for their implementation; and
- documentation that will confirm completion of corrective actions.

If any recommendation identifies specific monetary benefits, FDIC management must state the amount agreed or disagreed with and the reasons for any disagreement. In the case of questioned costs, the amount FDIC plans to disallow must be included in management's response.

If management does not agree that a recommendation should be implemented, it must describe why the recommendation is not considered valid. Second, the OIG must determine that management's descriptions of (1) the course of action already taken or proposed and (2) the documentation confirming completion of corrective actions are responsive to its recommendations.

This table presents the management responses that have been made on recommendations in our report and the status of management decisions. The information for management decisions is based on management's written response to our report.

Rec. Number	Corrective Action: Taken or Planned/Status	Expected Completion Date	Documentation That Will Confirm Final Action	Monetary Benefits	Management Decision: Yes or No
1	Management stated that it will develop a ROMIG charter or mission statement.	June 30, 2000	ROMIG Charter	N/A	Yes
2	Management stated that the new ROMIG charter or mission statement will formally charge the ROMIG with the responsibility to discuss and consider the needs of the field staff in IT development and enhancement efforts.	June 30, 2000	ROMIG Charter	N/A	Yes
3	Management stated that as national systems incorporate the functionality of field systems, these national systems will meet FDIC and DOS documentation and architecture standards.	December 31, 2002	VISION documentation	N/A	Yes
4	Management stated that the ROMIG mission statement will include the responsibility to act as data stewards for regional systems until the Corporation reinstates a formal, corporate-wide program.	June 30, 2000	ROMIG Charter	N/A	Yes