John W. Lainhart IV
Inspector General

Office of Inspector General
U.S. House of Representatives
Washington, DC 20515–9990

MEMORANDUM

TO: Jeff Trandahl
Acting Chief Administrative Officer

FROM: John W. Lainhart IV
Inspector General

DATE: May 8, 1997

SUBJECT: Audit Report - HIR Management Practices Undermine The House's Ability To Keep Pace With Technological Changes (Report No. 97-CAO-09)

This is our final report on the audit of management practices in House Information Resources (HIR). The objectives of this audit were to determine if HIR (1) uses planning and budgeting to establish and achieve missions, goals, and objectives of the organization; (2) has developed a sound organizational structure; (3) has established standards, policies, and procedures that serve as a basis for management action; (4) directs operations in a manner that achieves established goals and objectives; and (5) has established review and monitoring controls to ensure accomplishment of plans, goals, and objectives. In this report we identified serious problems with regard to (1) management practices HIR-wide; (2) planning and budgeting; (3) policies, standards, procedures, and guidelines; and (4) staffing.

In response to our March 3, 1997 draft report, your office concurred with all the findings and recommendations. Your April 23, 1997 management response is incorporated in this final report and included in its entirety as an appendix. The corrective actions taken and planned by your office are appropriate and, when fully implemented, should adequately respond to the recommendations. Further, the milestone dates provided for implementing corrective actions appear reasonable.

We appreciate the courtesy and cooperation extended to us by your staff. If you have any questions or require additional information regarding this report, please call me or Robert B. Frey III at (202) 226-1250.

cc: Speaker of the House
Majority Leader of the House
Minority Leader of the House
Chairman, Committee on House Oversight
Ranking Minority Member, Committee on House Oversight
Members, Committee on House Oversight

HIR Management Practices Undermine The House's Ability To Keep Pace With Technological Changes

Report No. 97-CAO-09
May 8, 1997

RESULTS IN BRIEF

CONCLUSIONS

The House Information Resources (HIR)[1] has had numerous accomplishments in the past several years for which it can take pride. Examples of some of the projects/activities that have been taken on include:

- reprogramming funds to support the office automation infrastructure effort--desktop systems and site licenses for Windows 95, Netscape, and anti-virus software;
- establishing a common messaging system;
- developing a network centric strategy which includes broad band communications, high function messaging, and a highly reliable and secure Internet/Intranet Web;
- establishing a Web based infrastructure which consists of over 250 Members, Committees, and other House entities having Web sites that are continuously being updated;
- adding to the telecommunications infrastructure--Ethernet to ATM on Capitol Hill and Frame Relay in the District offices;
- replacing the existing mainframe processor with the smaller, more economical CMOS[2] processor;
- expanding the information security function; and
- establishing good, personal working relationships with HIR and House staff.

Despite these accomplishments, we believe that HIR has not fully implemented fundamental management practices--involving critical aspects of planning, organizing, directing, and controlling--which have and will continue to hinder HIR from fully accomplishing its mission. Specifically, HIR does not have a current strategic plan to serve as a basis for developing an operational plan; has not corrected certain chronic organizational problems despite reorganizing/restructuring four times in less than two years; has assigned responsibility for key functions without the requisite level of authority; and has not developed key control mechanisms such as project standardization and tracking, performance measures, or user satisfaction analysis. Moreover, the Administrator has neither updated the Information Systems Program Plan (ISPP) for HIR to follow, nor provided effective day-to-day leadership and direction.

[1] See page 1 for a brief, historical perspective of the HIS/HIR evolution.
[2] See page 8 for the definition of CMOS.

Historically, HIR has spent millions on major systems development efforts which have proved to be inadequate in the support of Member and House operations, had developed duplicative systems, and did not have a management process in place to make effective, informed decisions. This legacy has continued, for example, with the assignment of limited HIR staff resources to the development/enhancement of unneeded systems such as the Committee Voting System and FoxPro, and with the pursuit of in-house system solutions, rather than focusing on existing commercial off-the-shelf (COTS) products. Further, the lack of fundamental management practices has resulted in the failure to: (1) render substantive analysis and direction to such strategic House initiatives as the migration to client/server; (2) timely address and develop a viable solution/plan to minimize the impact of the Year 2000 problem; and (3) ensure that critical initiatives such as site license[3] renewals were adequately budgeted. More importantly, fundamental management weaknesses may contribute to HIR's inability to implement the CyberCongress initiative as envisioned by the Speaker. We believe that HIR is only minimally prepared to meet the information technology challenges and demands in the short term, and is not adequately preparing the House information systems program to move into the 21st century.

HIR has not established an integrated planning and budgeting process to acquire, manage, and use its information systems. Specifically, the strategic plans that exist are not tied to each other, and the operational plans generally do not tie to the strategic plans. For instance, the draft Information Technology Strategy has limited practical application because it is not linked to other HIR information systems plans; does not address the systems, functions, and services within HIR nor is it based on current user needs; and it cannot be used as a budget tool to set priorities or allocate resources. Three HIR groups, Integration, Enterprise Computing, and Client Services, have inadequate operational plans, which, again, are not linked to the budget process. Because of these planning deficiencies, HIR's immediate and long term problems include: (1) the inability to manage, prioritize, and budget information resource activities; (2) potentially never achieving the Speaker's CyberCongress vision; (3) inappropriate/misdirected support of multiple systems and the development of duplicate information systems; (4) funding shortages for critical information systems initiatives which ultimately may result in additional House expenditures; and (5) support of outdated systems and technology.

HIR has not instituted the minimum information systems policies, standards, procedures, or guidelines to ensure efficient, effective, and consistent use of information resources. Specifically, HIR has only two information systems policies that have been approved by the Committee on House Oversight (CHO)--System Development Life Cycle (SDLC) and the World Wide Web--as well as a number of draft security-related policies awaiting approval. The lack of policies, standards, procedures, and guidelines has, in part, contributed to (1) a failure to adhere to generally accepted system development practices which, in some cases, resulted in wasted time and money, (2) the lack of a comprehensive data security program, (3) inadequate project management and change management practices, (4) support of older technologies and systems rather than COTS solutions, and (5) inadequate contingency/disaster recovery preparedness.

[3] A site license program allows the licensee to make and/or distribute for use, an unlimited (or contract specified) number of copies of a particular software product. The licensee pays an initial fee to the vendor and the license is renewed on a contract specified timeline, generally in 3 to 5 year increments.

We found that HIR staffing levels are, and have been below, allocated levels, and key positions continue to remain vacant. Moreover, the skill mix of staff and the salary structure for information technology professionals may, in part, explain HIR's unsuccessful attempts to deliver quality goods and services to a technologically savvy group of House users. As a result, HIR's ability to effectively meet the House's long-term goals may be in jeopardy.

Also, the HIR Integration Group has only partially implemented the fundamental management practices of planning, organizing, directing, and controlling. Specifically, the Integration Group did not have a comprehensive, updated information systems inventory or adequate operational plan; is currently operating in a reactive, crisis mode; lacked direction and leadership; and did not establish key control mechanisms. Thus, the Integration Group has not been able to effectively accomplish its mission which has negatively impacted the overall goals and objectives of HIR.

RECOMMENDATIONS

The 26 recommendations included in this report, if properly implemented, should help HIR management correct the deficiencies we noted and provide the impetus for improving its efforts to serve the House in a more efficient and economic manner. Key recommendations regarding fundamental management practices require the Chief Administrative Officer (CAO) to direct the HIR Associate Administrator to: (1) develop a detailed HIR strategic and operational plan based on the ISPP vision which should project future issues on a three-year basis and be updated annually; (2) re-evaluate the HIR organization based on the needs identified in the short- and long-term plan to be developed; (3) initiate a thorough evaluation of the current organizational structure to determine what changes, if any, are needed to better serve the goals and objectives of the House; (4) adopt a more proactive leadership approach that requires formal communication and documentation of key decisions; (5) develop and implement a mix of effective control mechanisms as outlined in this report that ensure compliance with management-approved plans and policies; (6) formalize the process and improve the information and reports provided to top management to facilitate more informed decision-making; (7) develop and implement a policy for receiving requests for services and prioritize requests on some logical basis; (8) develop a proposal for the creation of a Deputy Associate Administrator for HIR addressing the issues in this report (e.g., CyberCongress and need for day-to-day management) as a starting point; and (9) develop a proposal to re-establish the CyberCongress Project Manager (CCPM) function within HIR as (a) a distinct, organizational entity at the Administrator-level, with the requisite responsibilities and authority to carry out the duties of the CCPM as originally envisioned, or (b) as a collateral duty of the Deputy Associate Administrator position we recommended.

With regard to the problems involving planning, HIR should: (1) establish a formal, integrated planning and budgeting policy that requires management involvement at all levels; and (2) formulate a comprehensive HIR budget package that links individual Groups' budgets and operational plans according to the strategic objective(s). Further, with respect to the policy deficiencies, we recommend HIR: (1) develop and implement a standard methodology that outlines the minimum requirements that a policy must contain, including the elements of a policy as stated in the finding; and then (2) formalize a plan for developing and/or revising policies, standards, procedures, and guidelines.

To address the staffing issue, we recommend HIR (1) develop and submit to the CAO and CHO for approval, an HIR-wide position management plan prior to any reorganization to adequately staff HIR; (2) evaluate HIR hiring and retention practices and compare staff salaries and benefits to their private industry counterparts; and (3) based upon the results of the benefits analysis, develop a proposal to the CAO and CHO to restructure HIR's hiring and retention practices and salaries and benefits, as appropriate.

Finally, to address the issues identified within Integration, we believe HIR needs to: (1) develop a comprehensive, standing inventory of all application systems in operation and under development which must adhere to a minimum set of documentation standards; (2) develop a comprehensive operational plan covering from 1 to 3 years, which corresponds to the HIR operational plan; (3) adopt a leadership role that embraces the management techniques discussed in this report and require formal communication and documentation of key decisions; (4) develop and implement effective control mechanisms as outlined in this report that ensure compliance with management approved plans and policies; and (5) improve the information and reports provided to top management to facilitate prioritization and improve effectiveness for decision-making purposes.

MANAGEMENT RESPONSE

In the April 23, 1997 response to our draft report, the Acting CAO (herein referred to as the CAO) fully concurred with the findings and accompanying recommendations in this report, and indicated that corrective actions have been initiated for some areas and planned for the remaining areas. In addition, the CAO considered two of our recommendations on control mechanisms appropriate for all CAO operations and will be implemented on a consistent basis CAO-wide. Details of the response to each of the findings are summarized under the Management Response section at the end of the each finding. In addition, a copy of the CAO's full response is provided as an Appendix to this report.

OFFICE OF INSPECTOR GENERAL COMMENTS

The CAO's current and planned actions are responsive to the issues we identified, and when fully implemented, should satisfy the intent of our recommendations.

TABLE OF CONTENTS

TRANSMITTAL MEMORANDUM

RESULTS IN BRIEF……i

I. INTRODUCTION

Background 1

Objectives, Scope, And Methodology 3

Internal Controls 5

Prior Audit Coverage 5

II. FINDINGS AND RECOMMENDATIONS

Finding A: HIR Has Not Fully Implemented Fundamental Management Practices 6

Finding B: HIR Has Not Established A Fully Functional Information Systems Planning Process 19

Finding C: HIR Lacks Minimum Information Systems Policies, Standards, Procedures, And Guidelines 26

Finding D: Staffing Constraints Could Hamper HIR Effectiveness 31

Finding E: HIR Integration Group Lacks Fundamental Management Practices 35

III. EXHIBITS

EXHIBIT 1 HIR Organization Chart As Of December 1996 42

EXHIBIT 2 Prior OIG Audits Impacting House Information Systems Resources 43

EXHIBIT 3 HIR Information Systems Planning Diagram 44

EXHIBIT 4 House Information Systems Plans 45

EXHIBIT 5 Policy Element Definitions 46

EXHIBIT 6 Examples Of Various Information Systems Policies 47

EXHIBIT 7 HIR Policies As Compared To OMB Circular A-130 Topics 50

EXHIBIT 8 Acronyms 52

IV. APPENDIX

Appendix: Management Response

I. INTRODUCTION

Background

Information itself is one of the U.S. House of Representatives' (House) most important resources. How well the House manages this resource directly influences its ability to perform its mission. Although top management ultimately shoulders the burden of achieving the House's mission, their success is closely tied to the quality of support provided by information systems. Without complete and dependable information, the House cannot make effective, informed decisions, establish its priorities, or track its progress. Therefore, effective management and use of information technology is critical to the accomplishment of the House's mission and can play a key role in improving timeliness and quality, as well as reducing costs. The House information systems and services support as many as 10,000 House employees including Members, Committees, Leadership, House Officers, and Administrative officers. Furthermore, information is continuing to be made available to the public by means of various House technologies, including Internet Web sites and electronic mail.

- **House Information Resources**

House Information Resources (HIR)[4], which was originally established in 1971 as House Information Systems (HIS), serves as the information systems and services support arm of the House. Since Fiscal Year 1992, HIR has been responsible for a budget of more than $40 million annually and has requested about $50 million for Fiscal Year 1998. HIR supports over 200 information systems (including 9 major systems) as well as provides technical assistance and telecommunications in support of the House's mission. For instance, major information systems provide:

- access to newswire services, the Congressional Quarterly, bills, resolutions, the Congressional Record and text of legislation;
- access to House schedules and directories, House and Senate Committee actions, educational information, and visitor information through the Internet;
- access to bill briefs, Committee action reporting, reports due to Congress, oversight reporting;
- access to the Code of Federal Regulations, Committee hearings and reports, Congressional Handbook and Record, Federal Register; and
- data including payroll, personnel, funding, equipment, and supplies.

The House has made a significant investment in information systems activities as depicted in the

[4] Prior to the 104th Congress, House Information Resources (HIR) was known as House Information Systems (HIS) and was part of, and reported directly to the Chairman of the Committee on House Administration (which is now the Committee on House Oversight). During the 103rd Congress administrative operations of the House were managed by the newly created position of the Director of Non-Legislative and Financial Services. Those operations are now run by the Chief Administrative Officer (CAO). Under the reorganization that accompanied the 104th Congress, HIR was placed within the organizational control of the CAO. On July 1, 1995, the Office of Telecommunications, which operated under the jurisdiction of the Office of the Clerk, was transferred to the CAO and was merged with HIS and re-named HIR. The information systems activities of HIS/HIR continued and many of the same personnel remained; however, considerable staff attrition occurred. Generally speaking, the only difference between the former and current information systems organizations was in the reporting structure, the size and number of entities, and their name.

following graphs.

HIR ACTUAL/ESTIMATED FUNDING HISTORY
FISCAL YEARS 1991 - 1998
(Figure 1)

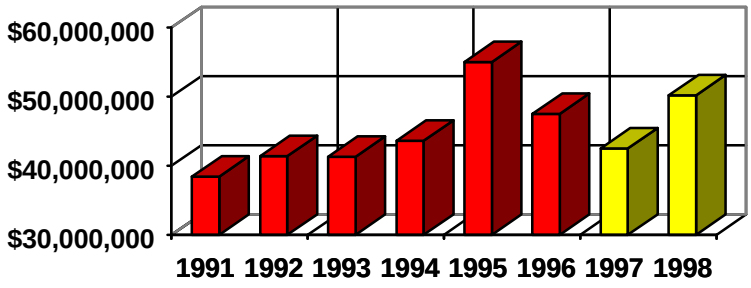


Figure 1 shows actual funding for the past six years and projected funding for Fiscal Years 1997 and 1998.[5]

HIR ACTUAL/ESTIMATED STAFFING
FISCAL YEARS 1991 - 1998
(Figure 2)

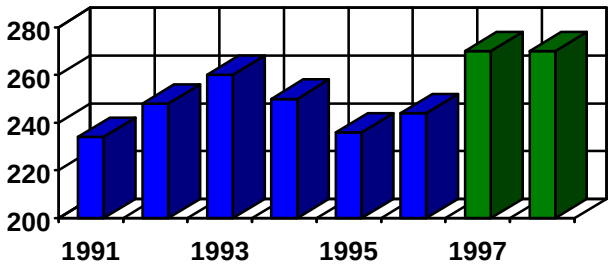


Figure 2 shows actual staffing levels over the last six years and allocated staff levels projected for Fiscal Years 1997 and 1998.

At the start of the 104th Congress, a vision was established by the Speaker for a CyberCongress. The vision involved transforming the House from its reliance on cumbersome, paper-based information, to an institution supported by universally available electronic information. Once implemented, it would remove restrictions of time and space for Members, Committees, and staff, allowing them the flexibility to perform their work at the best time and place. At the same time and using the same technologies, timely access to House information and activities would be available. The Committee on House Oversight (CHO) is responsible for overseeing HIR operations. At the request of the Speaker, a special group was formed by the CHO and named the Computer and Information Services Work Group (CISWG). This Group, which is comprised of three Members, concentrates primarily on computer technology and infrastructure issues and

[5] HIR actual and estimated figures were derived by taking the total HIR budget and combining it with the HIR Communications budget (these two budgets have historically been submitted separately). These numbers do not include other House office information systems expenditures.

reports directly to the CHO. On November 15, 1995, the CHO approved, in concept, the House Information Systems Program Plan (ISPP)[6] presented by the CISWG. The ISPP, and the accompanying resolution, were intended to provide HIR the impetus for translating the Speaker's CyberCongress vision into reality.

HIR provides information systems support for all Members, Committees, Leadership, and House Offices. The Associate Administrator, HIR (hereinafter referred to as the Administrator) is responsible for all activities and operations of HIR and reports directly to the CAO. HIR's Fiscal Year 1996 reprogrammed budget was approximately 54 percent of the CAO's 1996 budget, and HIR's staffing totaled about 36 percent of the total CAO staff. As of November 1996, HIR was organized under the Administrator and his immediate office and four functional groups. (See Exhibit 1 on page 41 for HIR's organization chart.) The Administrator's immediate office, consists of 15 staff including himself, the CyberCongress Project Manager (CCPM) and Resources Management, Security and Planning functions. The four HIR functional groups, with a total staff of 229, are Client Services, Enterprise Computing, Integration, and Communications.

In the past two years, HIR has undergone three reorganizations. In addition, HIR informally restructured its staff a fourth time during the period December 1996 to January 1997, into the following groups: Client Services, Enterprise Computing, Communications, Electronic Messaging Support Team, Web Team, and the Legislative, Financial, Administrative Systems Team. The current "restructuring" involved reassigning staff to different groups, without updated position descriptions or an organization chart, and without formal approval of the CHO.

Objectives, Scope, And Methodology

This audit focused on the efficiency and effectiveness of HIR's planning, administration, and management practices. The audit was conducted from December 1996 to February 1997. The audit objectives were to determine if HIR (1) uses planning and budgeting to establish and achieve missions, goals, and objectives of the organization, (2) has developed a sound organizational structure, (3) has established standards, policies, and procedures that serve as a basis for management action, (4) directs operations in a manner that achieves established goals and objectives, and (5) has established review and monitoring controls to ensure accomplishment of plans, goals, and objectives.

To accomplish our objectives, we reviewed the following:

[6] The ISPP is a broad study of House computers, networks, and user requirements adopted, in concept, by the November 15, 1995 CHO resolution. It provides the basis for investigating the application of technological advances to the business processes of the House. The CHO resolution states that the ISPP shall be implemented incrementally utilizing funds appropriated for HIR. The CHO resolution further directed HIR to appoint a CyberCongress Project Manager, responsible for submitting goals and milestones for implementation of the CyberCongress project. HIR developed a draft Information Technology Strategy plan whose stated purpose was to update the conceptual strategy outlined in the ISPP. The "CyberCongress Accomplishments During the 104th Congress" report indicated that the ISPP was a blueprint for implementation of major information technology initiatives during the 104th Congress, as well as a basis for the implementation of the CyberCongress initiative. This report states that the plan [ISPP] is being continually modified to reflect advances in tools and technologies, as well as the evolving requirements of Members, Committees, and other legislative branch organizations with whom the House will collaborate on future information technology projects.

- Information Technology Management and Reform Act of 1996 (ITMRA); Paperwork Reduction Act of 1995, as amended (PRA); Government Performance and Reporting Act of 1993 (GPRA); Federal Managers' Financial Integrity Act of 1982, as amended (FMFIA); Office of Management and Budget (OMB) Circulars A-11, A-123, A-127, A-130; General Accounting Office (GAO) Title II; selected Federal Information Processing Standards Publications; U.S. Treasury Performance Measurement Guide; U.S. Department of Transportation and GAO Position Management Plans; standard industry practices; and other internal House documentation. As audit criteria we used the Information Systems Audit and Control Foundation audit guidelines including the "Cobit: Control Objectives For Information and Related Technology," and the "Computerized Information Systems (CIS) Audit Manual."

- CHO resolutions regarding information systems; HIR list of Services, Systems, Networks and Databases; HIS 1994 Information System Inventory; past HIS/HIR reorganization documentation; the Administrator's Chronology File for Calendar Year 1996 and weekly meeting minutes; HIR status reports and performance indicators; HIR position descriptions; Information Systems Program Plan (ISPP); CAO 1996 Strategic Plan; Draft Information Technology Strategy, HIR (Information Technology Strategy); Communications Group Strategic Project Plan 1996-1998; HIR group operational plans; general planning information; Fiscal Years 1991-98 budget and staffing information; lists of, and selected, HIR policies, standards, and procedures provided by HIR groups; System Development Life Cycle (SDLC) documentation regarding several systems; and the report of CyberCongress Accomplishments During the 104th Congress.

We interviewed senior officials including the Chairman of the CISWG, CHO staff, the Acting CAO, Clerk, Sergeant at Arms, and staff members in the Clerk's Legislative Computer Systems Office. We also interviewed the Administrator, his staff managers, Group directors, and selected HIR staff. We also reviewed prior Office of Inspector General (OIG) audit reports and workpapers that addressed information systems issues.

We conducted this audit in accordance with the *Government Auditing Standards* prescribed by the Comptroller General of the United States and included such tests as we considered necessary under the circumstances. While we are aware that the House is not required to follow Executive Branch, or state or local guidance, we applied this guidance, as well as standard industry practices, because we believe they establish a reasonable framework or reference for best management practices. We did not perform an in-depth review of the current HIR restructuring documentation as the information was not available. As a result of previous OIG audits and management indicators identified during the survey phase of this audit, we expanded the scope of the audit to encompass a review of the management practices within the HIR Integration Group (see Finding E).

Internal Controls

We reviewed internal controls related to the management and operation of HIR. We found significant weaknesses which are discussed in the "Findings and Recommendations" section of the report.

Prior Audit Coverage

There have been no prior, comprehensive audits of HIR management practices, although numerous problems and issues have been identified in 19 prior OIG audit reports dealing with information systems for which HIR is responsible. This audit identified problems in fundamental management practices and attempts to discuss their root causes. This audit covered the effects of those problems on HIR's information systems program, concentrating on current examples as well as past audit report issues. It should be noted that a recent report (see Exhibit 2, item 14, page 43) on the management and operation of the Chief Administrative Officer, addressed several HIR operational issues (Year 2000, mainframe-to-client-server migration, information system planning, and policies) that are also discussed in this report. However, this report presents these issues to illustrate the results of deficient management practices, and discusses such areas as planning and policies in much greater depth than was done in the prior report. Exhibit 2 lists the 19 prior audit reports by report title, number, and date. Although the House has implemented some aspects of the prior audit recommendations, these actions have not corrected the fundamental management weaknesses as discussed in the following sections of this report.

II. FINDINGS AND RECOMMENDATIONS

Finding A: HIR Has Not Fully Implemented Fundamental Management Practices

HIR has not fully implemented fundamental management practices--involving critical aspects of planning, organizing, directing, and controlling--which have and will continue to hinder HIR in fully accomplishing its mission. Specifically, HIR does not have a current strategic plan to serve as a basis for developing an operational plan; has not corrected certain chronic organizational problems despite reorganizing/restructuring four times in less than two years; has assigned responsibility for key functions without the requisite level of authority; and has not developed key control mechanisms such as project standardization and tracking, performance measures, or user satisfaction analysis. Moreover, the Administrator has neither updated the ISPP for HIR to follow, nor provided effective day-to-day leadership and direction.

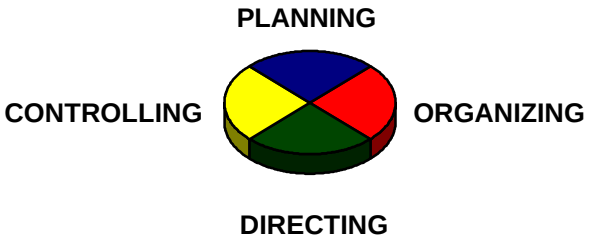
Historically, HIR has spent millions on major systems development efforts which have proven to be inadequate in the support of Member and House operations, has developed duplicative systems, and did not have a management process in place to make effective, informed decisions. This legacy has continued, for example, with the assignment of limited HIR staff resources to the development/enhancement of unneeded systems such as the Committee Voting System and FoxPro, and with the pursuit of in-house system solutions, rather than focusing on existing commercial off-the-shelf (COTS) products. Further, the lack of fundamental management practices has resulted in failure to (1) render substantive analysis and direction to such strategic House initiatives as the migration to client/server; (2) timely address and develop a viable solution/plan to minimize the impact of the Year 2000 problem; and (3) ensure that critical initiatives such as site license[7] renewals were adequately budgeted. More importantly, fundamental management weaknesses may contribute to HIR's inability to implement the CyberCongress initiative as envisioned by the Speaker.

We believe that HIR is only minimally prepared to meet the information technology challenges and demands in the short term, and is not adequately preparing the House information systems program to move into the 21st century. These deficiencies were primarily due to (1) the Administrator's management style--characterized as reactive, decentralized, at arms-length; (2) inappropriate micro-management by the former CAO; (3) other priorities taking precedence such as attempting to stabilize the organization as a result of one of the past reorganizations; (4) lack of adequate and qualified staff; and (5) the fact that HIR historically was not set up with management control structures and practices.

[7] A site license program allows the licensee to make and/or distribute for use, an unlimited (or contract specified) number of copies of a particular software product. The licensee pays an initial fee to the vendor and the license is renewed on a contract specified timeline, generally in 3 to 5 year increments.

Management controls and accountability criteria

The process of information systems management is the same as the management of any other function. The management process is comprised of four basic functions: planning, organizing, directing, and controlling. Planning, which is the first step in the management process, consists of establishing goals and objectives in conjunction with one of the most effective planning devices--the budget. The second step involves organizing to effectively and efficiently accomplish the plans, goals, and objectives of the organization. Directing, the third step, is the managerial process that provides the leadership and motivation to ensure that individuals achieve the planned goals and objectives within the established organizational structure. The last step involves setting up control mechanisms. By doing so, management acquires the ability to determine if its directives, plans, and organizational structure are achieving the desired results. Each of these fundamental management practices is dependent on the effectiveness of the preceding practice, much like the placement of building blocks--that ultimately are judged on their adequacy as a whole. The success or failure of an organization is dependent upon how well the organization is managed.



Federal statutes, state and local governments, and private industry have established broad mandates for their managers to carry out management activities**.** They require the establishment of management controls including the plan of organization methods and procedures adopted by management to ensure goals are met. These include processes for planning, organizing, directing and controlling operations. Further, OMB Circular A-123 directs that instead of considering controls as an isolated management tool, organizations should integrate their efforts to improve effectiveness and accountability. Thus, the Circular indicates that management controls should be an integral part of the entire cycle of planning, budgeting, management, and accountability. Management controls should support every step in the process and provide continual feedback.

HIR can take pride in its numerous accomplishments . . .

HIR has had numerous accomplishments in the past several years for which it can take pride. Examples of some of the projects/activities that have been taken on in the past 18 months include:

- reprogramming funds to support the office automation infrastructure effort--desktop systems and site licenses for Windows 95, Netscape, and anti-virus software;
- establishing a common messaging system;
- developing a network centric strategy which includes broad band communications, high function messaging, and a highly reliable and secure Internet/Intranet Web;
- establishing a Web based infrastructure which consists of over 250 Members, Committees, and other House entities having Web sites that are continuously being updated;
- adding to the telecommunications infrastructure--Ethernet to ATM on Capitol Hill and Frame Relay in the District offices;

- replacing the existing mainframe processor with the smaller, more economical CMOS[8] processor;
- expanding the information security function; and
- establishing good, personal working relationships with HIR and House staff.

. . . However, HIR can and must improve its operations through better management

Despite these accomplishments, we believe that HIR can and must improve its operations through better management. Specifically, HIR has not fully implemented certain fundamental management practices involving critical aspects of planning, organizing, directing and controlling. These management deficiencies have limited the House's ability to take advantage of emerging technologies and have had a negative impact on the House's ability to fully accomplish its mission.

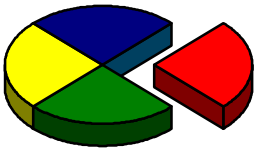
- **HIR has not translated ISPP into a viable House strategic plan**

The first function of management is to establish a strategic plan that is the culmination of careful analysis of the organization's mission, overall objectives, general strategies, and major resource allocations. The ISPP, which has been adopted in concept by the CHO, reflects the House's long term information systems vision. The ISPP was developed by the CISWG as a first step in the creation of a House information systems strategic plan. The ISPP stipulated the development of a "thoroughly detailed" plan and noted that "future budgets required for these programs [within the plan] should be detailed by the appropriate entities in the normal course of budget preparations as their requirements become clear."

HIR has not prepared a detailed plan that would validate and affirm the broad concepts outlined in the ISPP and become the basis for the HIR operational plan. HIR's first attempt at developing a detailed plan was the draft entitled "Information Technology Strategy." Through discussions with HIR officials, we learned that this was not developed to update and validate the ISPP, but rather to supplement certain technical areas. As a result, HIR does not have an operational plan which states how, when, why, and where tasks are to be accomplished. While we also found that HIR has several stand-alone operational plans, it has not established an integrated planning and budgeting process to acquire, manage, and use its information systems. More specifically, we found that these HIR plans are fragmented and not linked to the budget process, and thus not used as a basis for the budget. (See Finding B.) Without an HIR strategic and operational plan as well as a comprehensive planning process, management has no realistic "road map" or guide to provide for the House's information and information technology needs.

[8] CMOS—Complementary Metal Oxide Semiconductor IBM Multiprise 2000 Model 135 enterprise server.

- **HIR reorganizations/restructuring have not been based on an HIR-wide operational plan or comprehensive information systems planning process**



ORGANIZING

An important function of management is to organize its operations so that it can accomplish its plans, goals, and objectives as outlined within the strategic and operational information systems plans.
However, because HIR has no such plans, the organizational structure has historically proven to be ineffective and inefficient and has undergone one reorganization after another as a result of not solving long-standing problems. The most recent example of this is embodied in the E-mail and Web teams that were created as the result of problems and unanticipated volume increases--issues that might have been discerned or anticipated as a result of strategic planning.

Two of the three formal reorganizations that HIR has undergone in the past two years have been undertaken to correct organizational problems. For instance, the June 1995 reorganization, in addition to giving HIR a mandate to serve the new needs of a CyberCongress, resulted from chronic problems within the organization that included:

- characterization of management as “bottom-up;”
- organizational priorities that were difficult to set;
- disparate levels of technical expertise and consistency;
- few standardized development methodologies;
- an excessive amount of software developed in-house as opposed to off-the-shelf; and
- requests for work that were rarely documented and therefore not clearly understood or tracked.

Similar issues were again reflected in the December 1995 reorganization authorization memorandum from the CHO to the current Administrator. The CHO stated that “HIR has demonstrated a long history preceding your tenure of failing to prioritize and accomplish goals that meet the needs of the Members and of the House. These problems continue to manifest themselves today and the status quo is not acceptable.” However, as noted during this audit and in past audits, many of these problems still persist today.

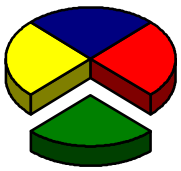
With regard to HIR’s ongoing restructuring, we were told that it was driven by technology, even though HIR does not have an approved Information Technology Strategy or a comprehensive planning process in place. While it appears the current restructuring eliminated some fragmentation within the HIR groups, it has created additional teams, placing added reporting relationships on the Administrator. The ongoing restructuring plans to vacate the CCPM position--which was created pursuant to the CHO November 15, 1995 Resolution, and establish a Web team which the former CCPM will head. In our opinion, the responsibilities and objectives documented in the CCPM position description are critical to the implementation of the CyberCongress vision outlined in the ISPP.

We believe part of the solution to the Administrator's problems may be to create a new Deputy Associate Administrator position and transfer a major portion of the Administrator's operational duties to the position in order to better facilitate planning and budget initiatives, and ensure the development and implementation of HIR policies, standards, procedures, and guidelines. Further, the CAO needs to consider reestablishing the CCPM function, either as a distinct entity (as originally envisioned), or combine the CCPM's duties with those of the new Deputy to revitalize the CyberCongress initiative. This would allow the Administrator to place more emphasis on the House information systems vision, provide for greater coordination across the House information systems activities, and ensure the development and implementation of a strategic plan to address information technology issues House-wide.

HIR officials told us they implemented the most recent restructuring based upon the verbal approval of CHO staff. Despite our repeated requests and those of CHO staff, HIR has not provided the supporting justification or a proposed organization chart for the restructuring as of February 1997. During the audit we also found that HIR had not formally delegated authority and responsibilities to staff. For example, several key employees (e.g., the CCPM, the Planning Manager, and the Acting Integration Director) advised us that they do not have formal authority to perform their job functions. We also found that, prior to January 1997, HIR did not institutionalize annual performance evaluations of its staff. Without these processes in place, management does not have a mechanism to ensure accountability and measure performance.

During a meeting with CHO staff members, we were told that verbal approval was given for the creation of an E-mail team in December 1996, contingent upon the presentation of formal paperwork within three days—to date, that has not happened. In this discussion, CHO staff questioned the reasoning behind restructuring a fourth time in less that 2 years, stating that the third reorganization was still not complete. CHO staff further noted that they were not aware of the creation of the Web team or the fact that the CCPM position had been vacated. It is our view that the practice of implementing informal, wholesale organizational changes without involving the formal management chain, raises serious concerns about HIR management. Moreover, we believe that this latest restructuring will not resolve the fundamental management issues addressed in this audit.

- **Leadership and direction activities of the Administrator have been limited**



Following planning and organizing, management must direct individuals towards the achievement of its strategic information systems plan. Our audit disclosed that the Administrator has neither updated the ISPP for HIR to follow, nor provided effective day-to-day leadership and direction. Historically the HIR organization has been ineffective, reflecting the absence of a 'road map' to tell it where it is going.

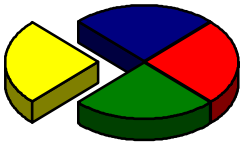
Prior to the initiation of discussions with the Administrator, we requested to see all his files that dealt with day-to-day-operations and direction, including such items as his chronology file, weekly meeting minutes with staff, and CHO resolution items--few of which shed any light on

the Administrator's role regarding major issues (e.g., Year 2000, migration to client server, etc.) facing HIR. Each week the Administrator meets with all eight managers--four administrative managers and four group directors and meets one-on-one with each on a weekly basis. In these meetings, we found that the Administrator has an agenda, but does not keep minutes of the meetings or record the decisions that have been made. The Administrator told us that he looks for "flags" and "storm warnings." He indicated that his management team keeps him up-to-date so he does not get "blind-sided" by anything. As a result of these meetings, the Administrator told us that he identifies "to do" issues and later "follows up" on them. We could not verify this because this follow-up process was not documented. Based upon our discussions with HIR management, including the Administrator himself, we would characterize his management style as very decentralized, reactive, and at arms-length.

Further, the Administrator told us that he has empowered the HIR directors to do their jobs, and "if you have the right people in these positions of trust, the job will get done." While we agree with the concept of empowerment, it is neither a substitute for proactive leadership and direction, nor does it compensate for the lack of fundamental management controls. For example, in response to questions at two Federal Financial System (FFS) steering committee meetings, the Administrator was forced to admit that he was unaware of two system development efforts in question, i.e., the existence of the FoxPro system, and subsequent work on a new personnel module for the FoxPro system (when all work had supposedly been suspended) both undertaken by his own Integration Group. It is our view, given the less than satisfactory results of many HIR initiatives, that management has relinquished its responsibilities by delegating operational direction and responsibility to the functional management level. This reactive problem management and arms-length approach negates management's ability to be cognizant of critical HIR-wide weaknesses until they are elevated, in some cases, to intractable problems. The Year 2000 issue**,** and failure to ensure budgeting for the renewal of site licenses, are prime examples of serious problems in direction of HIR operations.

- **Management has not developed the controls necessary to assure adequate oversight**

CONTROLLING



Control systems are designed to determine if the planning, organizing, and directing by management are producing the desired results. This involves setting standards and measuring performance against those standards. However, HIR management has not set up adequate control structures so that even minimal direction could be tracked. Below is a summary of the common control structures that are not in place or only partially in place within HIR.

- <u>Standardized project management</u>: HIR has not established a standard project management policy that supports a formal SDLC methodology for managing and implementing information systems projects. Additionally, prior to January 1997, HIR did not have an approved, structured SDLC methodology in place.

- Comprehensive, centralized project tracking system: While HIR has a central process for collecting and manually recording Member requests, HIR has not established an effective project management policy that would require all work related tasks performed by HIR personnel to be recorded and tracked. A project management tracking system would capture all work requests, categorized by type of request, whether approved/disapproved, their prioritization, scheduling data, delegating information, and monitoring check points.

- Policies, standards, procedures, and guidelines: HIR has not established a comprehensive set of policies to document its position with regard to the efficient, effective, and economical use of its resources (see Finding C).

- User satisfaction mechanism: HIR does not have a comprehensive mechanism in place to measure whether Members, Committees, and other House offices are satisfied with their systems, support, and services. According to HIR officials, funding for such a mechanism was stopped by the CAO in August 1996. HIR has just recently reinitiated work on developing a Customer Tracking System.

- Quality assurance function: While HIR advised us they have a limited quality assurance process for certain application systems, HIR has not established a centralized quality assurance function. The establishment of a quality assurance function will ensure that appropriate quality controls are exercised at all key points throughout a system's life cycle. This includes reviewing project deliverables and carrying out technical testing as well as various functions that affect all projects such as production control, security, and documentation control.

- Performance measures: Though all four HIR functional groups have outlined some form of performance measurement within their HIR monthly performance reports, these measurement indicators only reflect the most visible and positive results contained within each functional group area. They neither incorporate total HIR activities, nor are they informative to senior management regarding staff performance and effectiveness.

While we recognize that controls, such as those discussed above, guarantee neither the success of a program, nor the absence of waste, fraud, and mismanagement, they nonetheless are a means of managing the risk associated with programs and operations. To help ensure that controls are appropriate and cost effective, HIR needs to consider the extent and cost of controls relative to the importance and risk associated with a given program. Without sufficient feedback controls, management is unable to determine the efficiency and effectiveness of their staff and resource utilization, as well as the success of the overall strategic plan.

Impact of not fully implementing fundamental management practices

We believe the absence of fundamental management practices has contributed to many serious deficiencies regarding the management and use of information resources. Further, it is our view

that the following issues could have been avoided or handled more effectively had the management team applied the basic management concepts described in this report.

- CyberCongress vision may never be implemented: While HIR has made some progress with the CyberCongress initiative such as implementation of Web sites and the ongoing messaging system, HIR may never implement the CyberCongress vision as established by the Speaker. HIR has made limited progress in defining CyberCongress, as outlined in the November 15, 1995 CHO resolution. HIR has not updated the CyberCongress vision and concepts outlined in the ISPP, and has not made plans to do so. To date, HIR does not have a complete list of CyberCongress projects (estimated by the CCPM at about 75-80 projects) costing approximately $80 million[9]. While the CHO resolution required that CyberCongress goals and milestones be defined with the attainment of goals serving as a basis for subsequent dedication of financial and personnel resources, this has yet to be done. In January 1997, HIR vacated the CCPM position without formal approval of CHO (despite the CHO resolution which established this position) by implementing the current restructuring. Unfortunately, this action had little effect on the CCPM as the position was never given the authority or the staff to carry out its mandate. As of February 1997, no one has been assigned the responsibilities of the former CCPM. Without someone responsible for the CyberCongress project, to coordinate and prioritize the work needed to achieve the vision, the project is doomed to fail.

- Office of the Clerk's Legislative Information Management System (LIMS) has not been adequately supported: As the automated solution to the collection and presentation of official legislative information for the House, LIMS is the core tool used by the Clerk to record legislative data and to produce both traditional and on-line publications. LIMS contains date fields that need to be addressed before the Year 2000 deadline. Because of the fundamental weaknesses in HIR's management practices, there have been serious delays in Year 2000 planning and there may be other negative consequences for the Office of the Clerk and LIMS. HIR has been less than aggressive in developing a technical solution to the Year 2000 issue overall, and has misled the Clerk in its approach to the Clerk's LIMS Year 2000 solution (see the discussion regarding migration to client server below). The HIR Integration Group, responsible for supporting LIMS, did not see the benefit of establishing a project management function for the client server migration which would, in theory, have solved the LIMS Year 2000 problem. Regarding HIR management, the Administrator chaired several meetings with the Clerk's staff regarding resolution of the LIMS Year 2000 issue. According to the Clerk's staff, these meetings resulted in HIR attempts to direct LIMS Year 2000 solutions using inaccurate information. Based upon the outcome of these meetings, the Clerk and her staff have serious concerns about the direction and future status of LIMS. The lack of project management controls and coordination has allowed HIR staff to make critical decisions without the Clerk's input. For instance, without the knowledge or consent of the Clerk, HIR contracted with a vendor in the latter part of 1996 to assess the impact of making LIMS and other systems Year 2000 compliant. Furthermore, HIR was contemplating a second contract with the same vendor for conversion while at the same time, the Office of the

[9] The $80 million figure was estimated by the former CAO to implement all the projects under CyberCongress initiative.

Clerk was in the process of procuring its own contract to address the LIMS Year 2000 concerns.

- Systems supporting Members and House operations were inadequate: Prior OIG audits identified duplicative HIR systems and technologies (such as E-mail, financial systems, and correspondence management and information search systems) supporting Members offices. One of these reports concluded these systems did not meet Members' needs because technical strategies and goals were not established. In addition, requirements and needs of Members were not known and did not drive system priorities. Another report concluded that Members' computer systems had weak security and were subjected to unauthorized access, disruption, and modification. (See items 5 and 6 in Exhibit 2 on page 43.)

- $3.1 million not planned for site license renewals: HIR has not budgeted for the renewal of current site licenses or the purchase of additional site licenses. Though HIR took the initiative during Fiscal Year 1995 to purchase and implement site licenses on a one-time expenditure basis, it did not consider this issue a strategic, recurring budgetary necessity. As a result, HIR did not include funding for the renewal of House software site licenses in its 1998 budget justification. With the expiration of the FPROT anti-virus license, for example, all currently supported House systems that depend on FPROT will have no warning or defense against any of the destructive viruses in circulation. Further, failure to maintain current site licenses may cost the House one of its most effective mechanisms to standardize systems across the House, which will ultimately result in additional costs to the House.

- Clear decisions needed on the migration from mainframe to client server: The absence of a strategic plan and supporting analysis to obtain the most from the migration in terms of cost and platform integrity, has resulted in HIR management's inability to render a migration decision with any confidence. An OIG report (see item 14, Exhibit 2 on page 43) noted that HIR had not conducted a comprehensive needs analysis and cost/benefit analysis to determine the most appropriate approach to the mainframe migration project, balancing the aggressive timeline with user needs, available technologies, and budget requirements. The report also concluded that HIR has not prepared a comprehensive Year 2000 plan or strategy to address the issue. HIR's indecisiveness on this issue has been more than evident in many of our discussions with House personnel. For instance, while the CHO supports the move to client server, HIR has vacillated between Year 2000 and migration solutions, placing critical legacy systems such as LIMS, FMS Payroll, MIN, ISIS, and MONIES in jeopardy because of the imminent Year 2000 implications. Since Year 2000 is less than three years away, HIR may have lost the opportunity to use the client server option they originally envisioned as a Year 2000 solution.

- HIR organizational changes are based on reactions to problems rather than strategic restructuring: As the result of an E-mail system crash in December 1996, a permanent messaging team was set up. As the popularity of Web sites has dramatically increased, so has the volume of HIR work order requests, which has resulted in the creation of the recently formed Web team. The issue is not the creation of these teams, but that they were created as a result of a crisis rather then being strategically planned out before a crisis had an opportunity to disrupt operations. Further, since the ongoing HIR restructuring is not

supported by a short- or long-term budget plan, no funds are available for the Web team in Fiscal Year 1998, as the submitted budget justification is still allocated to the four original HIR groups.

- Top management cannot make informed decisions: HIR neither has adequate reports, nor control processes to provide the necessary information to top management to make informed decisions. HIR has not developed a mechanism to make top management aware of priorities or new system development projects, changes in direction (such as migration from mainframe to client server), or the status of critical initiatives (such as Year 2000).

- Absence of fundamental management controls at the Administrator level affected all of the functional groups: Because of the absence of an HIR planning process, HIR managers developed stand-alone plans that were generally not linked to one another or the budget (see Finding B). Furthermore, the absence of approved, operational policies in HIR has resulted in extensive information systems problems throughout the House (see Finding C). Also, understaffing in HIR has impacted its ability to effectively meet the House's long-term goals (see Finding D). Finally, the management weaknesses identified at the Administrator level, have been mirrored at the Integration Group level, thus compounding an already unacceptable situation. As a result, the Integration Group has not been able to successfully accomplish its mission, thus negatively impacting the overall goals and objectives of HIR (see Finding E).

Reasons for not fully implementing management practices

The Administrator acknowledged that HIR's strategic plan is not documented in writing, however, he stated that "people know what they are doing--that the plan is a 'living' plan. If we have questions, just go ask the managers." Though the Administrator indicated that HIR does not have a business plan [operational plan] and agreed that one is needed, he noted that "this has not stopped us from moving forward." He also agreed that various control mechanism are not in place. For instance, he agreed that HIR needs to examine project management controls and that he has "no clue" as to whether HIR customers are satisfied. He indicated that he does not want to burden people with too many controls; instead he wants to wait until they make a mistake, and then fix it with a control. Regarding the ongoing restructuring, the Administrator indicated that the restructuring will resolve some of the past organizational issues, including the delegation of responsibilities and authority issue. As for directing, the Administrator strongly disagrees that there is a problem with his leadership style. He reiterated that his style is to delegate as much as possible and then manage "based on results" and "by consensus." He listens to others about what is going on. He convenes a weekly meeting with his management staff and indicated that "trust" in the managers is the key. The Administrator told us that he has good managers, so he does not have to worry about tight control.

The Administrator also indicated that the former CAO tied his hands on many issues and that HIR management had been micro-managed and received conflicting direction from the CAO and CHO. In addition, much of the Administrator's time has been spent working on stabilizing the organization after the August 1995 staffing purge, when many people were dismissed or left HIR in search of other employment. During that time, HIR staff were concerned about losing their jobs and it was the Administrator's responsibility to restore confidence and rebuild the

organization. The Administrator also noted that one of the continuing, underlying reasons for the problems cited in this report was due, in large part, to understaffing (see Finding D). Finally, we were reminded that from a historical perspective, HIR was not set up to operate in the traditional sense, and any attempt to introduce and implement controls would be difficult for the organization to accept. Notwithstanding some of the legitimate short-term arguments put forth by the Administrator (some of which the Administrator himself could have remedied), HIR has suffered by not being proactively led and not having key fundamental management practices in place. It is imperative that these issues be addressed so that HIR can meet its short-term information technology challenges and successfully move its information systems program into the next century.

Recommendations

We recommend that the Chief Administrative Officer direct the Associate Administrator, HIR to:

1. Develop a detailed HIR strategic and operational plan based on the ISPP vision. These plans should project future issues on a three-year basis and should be updated annually.

2. Re-evaluate the HIR organization based on the needs identified in the short- and long-term plans that come out of recommendation 1 above.

3. In concert with recommendation 2:

    a. update position descriptions and formally document the authority and responsibility of key management staff;

    b. develop adequate performance measurement indicators that incorporate all HIR activities and provide a meaningful basis for individual evaluations and career advancement;

    c. submit a formal proposal to the CAO containing full justification for any proposed changes and a complete documentation package suitable for presentation to the CHO for review and approval.

4. Adopt a more proactive leadership approach that requires formal communication and documentation of key decisions.

5. Develop and implement a mix of effective control mechanisms as outlined in this report that ensure compliance with management-approved plans and policies. This should include, but not be limited to:

    a. establishing a project management tracking system;

    b. developing project management standards and procedures;

    c. developing comprehensive results-oriented performance measures; and

d. redefining and upgrading the quality assurance function to ensure controls are exercised at key points throughout the system's life cycle.

6. Formalize the process and improve the information and reports provided to top management to facilitate more informed decision-making.

7. Develop and implement a policy for receiving requests for services and prioritize requests on some logical basis.

8. Develop a proposal for the creation of a Deputy Associate Administrator in HIR whose primary responsibility would be to assist the Associate Administrator in the day-to-day management of HIR operations.

9. Develop a proposal to re-establish the CCPM function within HIR:

   a. As a distinct, organizational entity at the Administrator-level, with the requisite responsibilities and authority to carry out the duties of the CCPM as originally envisioned, or

   b. As a collateral duty of the Deputy Associate Administrator position, created in response to Recommendation 8 above.

Management Response

The CAO concurred with the recommendations in this finding. Specifically, he agreed to develop a strategic and operational plan based on the ISPP vision and submit it to the CHO for approval by December 31, 1997. He also plans to re-evaluate the HIR organization based on identified needs and submit a reorganization plan to the CHO within 90 days after the strategic plan (discussed above) is adopted by the CHO. HIR will work with Human Resources to develop job descriptions and with Internal Control and Continuous Improvement to develop appropriate performance measurement indicators. Both tasks will be completed by August 31, 1997. The CAO also agreed that, in order to be more effective, the Associate Administrator has adopted a more proactive leadership approach that will require more formal communication and documentation of key decisions. The CAO agreed to establish the following control mechanisms CAO-wide (which includes HIR). These include (a) selecting and implementing a project management tracking system (by December 31, 1997); (b) implementing project management standards and procedures (by February 28, 1998); and (c) reviewing and revising its performance measures (by August 31, 1997). The quality assurance function will be redefined and upgraded by February 28, 1998, to ensure controls are exercised at key points throughout the SDLC. The CAO has also formalized the process of reporting and redefined the Administrator's communication options with top management. The CAO indicated he will develop a proposal for prioritizing requests from Members and Committees for submission to the CHO by June 30, 1997. Finally, the CAO agreed to submit a proposal to the CHO by June 30, 1997 to create a Deputy Associate Administrator position which will have the functions of the present CCPM Director and additional duties, and will have concurrent (but subordinate) authority over the Directors with the Administrator.

Office of Inspector General Comments

The current and planned actions are responsive to the issues we identified, and when fully implemented, should satisfy the intent of our recommendations.

Finding B: HIR Has Not Established A Fully Functional Information Systems Planning Process

HIR has not established an integrated planning and budgeting process to acquire, manage, and use its information systems. Specifically, the strategic plans that exist are not tied to each other, and the operational plans generally do not tie to the strategic plans. For instance, the draft Information Technology Strategy has limited practical application because it is not linked to other HIR information systems plans; does not address the systems, functions, and services within HIR nor is it based on current user needs; and it cannot be used as a budget tool to set priorities or allocate resources.

Because of these planning deficiencies, HIR's immediate and long term problems include: (1) the inability to manage, prioritize, and budget information resource activities; (2) potentially never achieving the Speaker's CyberCongress vision; (3) inappropriate/misdirected support of multiple systems and the development of duplicate information systems; (4) funding shortages for critical information systems initiatives which ultimately may result in additional House expenditures; and (5) support of outdated systems and technology. The absence of an integrated planning and budgeting process can be attributed to several causes. We were told that HIR had not hired staff in a timely manner to perform the function; higher priorities took precedence over planning; and initial planning failed because it was "culture shock" to HIR. Furthermore, HIR has not established planning/budgeting policies or procedures, and has not defined the authority and responsibility to staff in carrying out the functions.

Information systems planning criteria well established

It is generally acknowledged throughout the information technology industry that successful information systems efforts are the result of sound planning. Planning is the process of establishing a course of action to achieve desired results with available resources. Planners translate organizational missions into specific goals and, in turn, into measurable objectives.

Although the House is not required to comply with Executive Branch policies and directives, these generally accepted management practices would greatly benefit the House's information systems efforts. They require the development and maintenance of a strategic information resources management plan that describes how information resources activities help accomplish the organization's mission. Other directives require the implementation of budget-linked capital planning, and performance based management of information technology. They also require results-oriented management, integrating information systems planning with strategic plans, setting performance goals, and reporting annually on actual performance compared to goals. The plans and goals should be integrated into the budget process and the operations and management of programs. To that end, strategic information systems planning may help avoid automating out-of-date, ineffective, and inefficient procedures or work processes.

OMB Circular A-130 provides for the establishment and maintenance of the strategic information resources management planning process. The strategic information systems plan should address how the management of information resources promotes the fulfillment of the House's mission. The planning process should support the development and maintenance of an information systems strategic plan that reflects and anticipates changes in the mission, policy

direction, technological capabilities, and resource levels. The process should also promote the use of information throughout its life cycle to maximize the usefulness of information and preserve the integrity, availability, and confidentiality of information.

The process should include operational information technology planning that links information technology to anticipated program and mission needs, reflects budget constraints, and forms the basis for budget requests. Operational planning should have a one to five year focus on information systems activities and projects and should be widely distributed. Additionally, OMB Circular A-11 indicates that a strategic plan provides a basis for aligning organization and budget structure with missions and objectives. Strategic plans should provide an overall guide in the formulation of a budget. These plans are tools in setting priorities and allocating resources consistent with priorities. Plans should present projected programs and activities at a performance level commensurate with the anticipated level of resources.

HIR was provided instructions on planning and budgeting as outlined by the November 15, 1995 CHO Resolution. This resolution approved the concept of the ISPP and indicated that the Plan shall be implemented incrementally utilizing funds appropriated for HIR. It further resolved that the Office 2000 initiative is included in the CyberCongress Project; established the creation of a CCPM; and mandated that CyberCongress be implemented in accordance with the ISPP. In implementing CyberCongress, the resolution further provided that the CCPM submit a schedule of such goals which shall serve as the basis for subsequent dedication of financial and personnel resources.

Comprehensive information systems planning and budgeting process is needed

We generally found that the CAO and HIR information systems plans are fragmented and do not serve as the basis for budgeting. Specifically, the strategic plans are not tied to each other, and the operational plans generally do not tie to the strategic plans. For instance, the draft Information Technology Strategy, which according to the draft we reviewed was supposed to update the ISPP, does not track to the categories and program elements articulated in the ISPP. Furthermore, three of the HIR group operational plans (Integration, Enterprise Computing, and Client Services) are not linked to any of the strategic plans. We did find, however, that the HIR Communications Group plan is generally linked to the ISPP and Information Technology Strategy. In conclusion, HIR has too many plans which were developed separately and are generally not integrated into a comprehensive planning process (see Exhibit 3 on page 44).

One of the most effective planning devices is the budget because the budget controls the expenditure of resources. Since plans are dependent upon resources for implementation, the control and availability of those resources are important to planning. We found that generally the CAO and HIR plans are not linked to the budget process. For instance, the CAO Strategic Plan and the Information Technology Strategy, do not contain sufficient information to be used for budget formulation. These documents do not present projected programs and activities at a performance level commensurate with the anticipated level of resources. In addition, three of the HIR groups' (excluding the Communications Group) operational plans do not serve as the basis to link information technology to anticipated program and mission needs; do not reflect budget constraints; or form the basis for budget requests. We also noted that key HIR management officials (the Planning Manager and CCPM) are not involved in budgeting.

Through discussions with HIR personnel we developed the following description of the current budget process. The HIR Resources Manager asks the four HIR Group Directors to develop a new budget using the prior year budget as a baseline and then add and/or subtract changes to their budgets. All increases and new project submissions are required to be accompanied by cost justification documentation. The HIR Resources Manager agreed that HIR's information systems plans are not linked to the budget, and told us it was HIR's intent to eventually link the two together. He indicated, because of the fragmented approach to budgeting, there is not a sense of one organization, and HIR needs to address the budget plan as a team. He also stated that each functional group is only concerned with their own mission, versus that of the organization as a whole. The HIR Resources Manager also said that there was a lack of management direction regarding information systems planning, but noted that HIR is currently examining and revising its processes for planning and budgeting.

As a follow-on issue, we noted that HIR has not established a policy to perform system life cycle cost estimates for major system projects. This policy would help in the initiation of a project and facilitate the decision-making process as to whether the House could afford the system over its useful life.

- **HIR Information Technology Strategy needs additional work**

Our review showed that HIR does not have an updated, approved information technology strategy which elaborates on the ISPP. We found that HIR had drafted an Information Technology Strategy dated November 1, 1996. The Information Technology Strategy leans more towards technical theory and has limited practical application and usefulness. The Information Technology Strategy is neither fully linked to the ISPP, nor to the Groups' operational plans, and disproportionately addresses telecommunications issues. It is our view that the Information Technology Strategy has not been fully developed from a top-down, or bottom-up approach. It does not focus on what HIR should provide to its customers, nor is it driven by a current needs analysis. For example, the Information Technology Strategy does not mention technical strategies involved in financial systems such as FFS or the new payroll system. It also does not address the technical strategies of House or legislative system initiatives, as mentioned in the ISPP. Furthermore, the Information Technology Strategy does not address (1) migrating from the mainframe to the client server environment or (2) how HIR will address the Year 2000 problem. Moreover, while the HIR technology strategy contains a statement that it will be used as a basis for programs proposed in HIR's appropriations request for Fiscal Year 1998, in fact, it has limited budget application. The Information Technology Strategy does not list specific projects, priorities, milestones, or anticipated resource levels (project dollars/staffing) that constitute the various on-going HIR initiatives.

Furthermore, key HIR and other information systems officials do not believe that the Information Technology Strategy is adequate. One HIR official indicated that the draft plan does not serve its intended purpose or address known problems and that it needs to focus on what HIR was expecting to do for its users. Another official indicated that, theoretically, the plan is good, but it did not grasp the practical considerations (e.g., lower level planning and budgeting) needed to meet the strategy and did not indicate how all the HIR groups will fit into the strategy. It was

further noted that the document was vague and does not contain information, such as milestones and dollar amounts, that would be useful to decision-makers.

Since the time of our initial review of this technology plan (dated November 1, 1996), HIR has issued several iterations—the latest dated January 22, 1997. While several of our concerns have been covered in the latter version, the draft is still inadequate and, most importantly, can not be considered as an update to the ISPP or tied to any budget processes.

- **HIR group operational information technology plans were not sufficient**

Three of the four HIR groups do not have operational information technology plans that link information systems to anticipated programs and mission needs, reflect budget constraints, and form the basis for budget requests. The plans do not list existing and planned major information systems and planned technology acquisitions. Instead, the Integration, Enterprise Computing, and Client Services operational plans only list some current projects and milestones. In contrast, we did find the Communications Group's operational and strategic plans were generally linked together and integrated with the budget process. However, the Communications Group's operational plan was based on excerpts taken verbatim from a *Datapro* Communications Report reflecting the high-end of what is technologically available rather than being based on a detailed, user needs analysis or what is practical for the House.

Our review of the HIR groups' operational plans, disclosed no standard format or methodology used in developing them. Further, these efforts are limited in scope, and have addressed only segments of the overall information systems planning needed. All of these plans are related but have not been dealt with collectively (see Exhibit 4 on page 45). For example, Integration, Enterprise Computing, and Client Services prepared separate operational plans but submitted a combined budget request, while the HIR Communications Group acted separate and apart from the others and even submitted a separate budget proposal. A comprehensive planning and budgeting process that combines all aspects of HIR information systems and support would help ensure that House needs are being properly prioritized as well as effectively and efficiently satisfied. In our view, HIR has an opportunity and a responsibility to improve its information systems planning by integrating these efforts into a comprehensive planning and budgeting process.

Impact of not having comprehensive information systems planning

If HIR had established a comprehensive, organization-wide planning process, many of the problems cited below (which are taken from OIG reports listed in Exhibit 2 on page 43) could have been minimized to some degree or avoided altogether.

- The House lacks a single information technology vision and strategy and as a result may never achieve its CyberCongress vision: Without an updated technical strategy, communication of that strategy, and coordination of all computer project development, HIR may not be able to carry out its responsibilities. As a result, the House may never achieve its CyberCongress vision. In addition, without successful coordination and implementation of the ISPP, duplication of efforts will increase inefficiencies and unnecessary expenses for the House. (See item 14, Exhibit 2.) Moreover, without using system life cycle cost techniques, HIR can not make informed system and budget decisions on new system initiatives or the CyberCongress implementation.

- HIR strategic plans were not based on documented House-wide goals and objectives: Inadequate strategic planning resulted in the House's support of multiple platforms and incurring unnecessary expenses and maintaining overlapping technologies and technical expertise. The House procured, implemented, and supported 11 separate E-mail systems and maintained 11 correspondence management and information search systems. HIR also supported older and duplicate technologies such as two Wide Area Network's supporting Member district offices; three backbone networks supporting House-wide connectivity; and three Digital Equipment Company VAX computers that were not used. (See item 6, Exhibit 2.)

- Multiple systems are used throughout Member, Committee and other House offices to manage financial activities: Implementation and use of stand-alone systems have resulted in poor management of funds and increased costs of personnel time and the development, implementation and maintenance of those systems. (See item 12, Exhibit 2.)

Reason for inadequate information systems planning

In response to our questions regarding the absence of an information systems planning process, the Administrator told us that in some cases they do plan, but agreed that HIR does not have a comprehensive planning process. The Administrator indicated the reason for the lack of planning and budgeting was that "it took a long time to hire a CCPM,[10] and that higher priorities took precedence, such as keeping the systems running and working on an SDLC methodology[11]." The Administrator also indicated that the lack of planning was due, in part, to two long-standing planning vacancies dating back to December 1995. HIR officials told us they have tried to fill the vacancies but were prevented from doing so by the former CAO. The Administrator further indicated that in October 1995, he tried to establish a strategic planning process, but did not succeed because, as he described it, the "culture shock" was too much to overcome in HIR.

We also found that HIR has not established a comprehensive planning and budgeting policy, standards, and procedures for integrating and maintaining the planning and budgeting process. Moreover, the authority and responsibility for developing this process and overseeing its implementation have not been addressed. HIR needs to formally establish this critical planning process because it is the foundation that provides direction to the rest of the organization.

In conclusion, development of a comprehensive, integrated long-range plan is a recognized way to achieve efficient and effective use of resources; assure these resources support the mission and objectives; and commits top management to action. It is also necessary for decision-making and priority setting, and can be a valuable tool for measuring and controlling activities. We believe that improvements are seriously needed in the information systems

[10] During the same conversation, the Administrator told us that the ongoing restructuring will vacate the CCPM position. (See Finding A for additional details.)

[11] HIR spent a great deal of time, money, and effort on the development of a Capability Maturity Model (CMM) that would still leave them 2-3 years away from having an SDLC capability in place. CMM was eventually superseded by the current SDLC methodology.

planning structure and process, both at the Administrator and group level. The recommendation we are making in this regard is not intended to provide a quick fix for the problems found. Instead, it is directed towards the establishment of a more permanent and effective HIR planning framework and process**.**

Recommendation

We recommend that the Chief Administrative Officer direct the Associate Administrator, HIR to:

1. Establish a formal, integrated planning and budgeting policy that requires management involvement at all levels. At a minimum, this process should include procedures that require:

    a. the development and maintenance of a strategic plan based on the ISPP vision and the accompanying operational plan (as outlined in Finding A).

    b. development and implementation of an action plan to accomplish HIR information systems planning and budgeting.

    c. HIR groups to develop operational plans that link to the strategic plan and are derived from, as well as support, the HIR operational plan. These plans should anticipate program and mission needs, reflect budget constraints, and form the basis for budget requests. Operational planning should have a one to five year focus for information systems activities and projects.

    d. formulation of a comprehensive HIR budget package that links individual Groups' budgets and operational plans according to the strategic objective(s).

    e. delegating staff the authority and responsibilities to develop, implement, and oversee the comprehensive information systems planning/budgeting process. In addition, the resources management function should require life cycle costing for major systems over their estimated useful life.

Management Response

The CAO concurred with the recommendation in this finding. The CAO has established and will expand more fully a planning and budgeting process. HIR and its component Groups will be included in the process. Each Group's budget will be incorporated into an integrated HIR budget proposal which will, in turn, be incorporated into an integrated CAO budget.

Office of Inspector General Comments

The current and planned actions are responsive to the issues we identified, and when fully implemented, should satisfy the intent of our recommendation.

Finding C: HIR Lacks Minimum Information Systems Policies, Standards, Procedures, And Guidelines

Best industry practices dictate that an organization incorporate, as part of its management controls, a minimum set of policies supporting management's goals and objectives. HIR has not instituted the minimum information systems policies, standards, procedures, or guidelines to ensure efficient, effective, and consistent use of information resources. Specifically, HIR has only two information systems policies that have been approved by the CHO--SDLC and the World Wide Web--as well as a number of draft security-related policies awaiting approval. The lack of policies, standards, procedures, and guidelines has, in part, contributed to (1) a failure to adhere to generally accepted system development practices which, in some cases, resulted in wasted time and money, (2) the lack of a comprehensive data security program, (3) inadequate project management and change management practices, (4) support of older technologies and systems rather than COTS solutions, and (5) inadequate contingency/disaster recovery preparedness. The lack of policies, standards, procedures, and guidelines can be attributed to HIR management's failure to recognize the fundamental benefits these controls bring to the organization. This was further compounded by the lack of resources and, because the existing HIR "culture" was not familiar with a formal structure of accountability which a system of policies, standards, procedures, and guidelines would impose. Further, HIR has neither institutionalized a process to formalize and disseminate policies, standards, procedures, and guidelines nor do they have a central repository for these needed HIR directives.

Policies, standards, procedures, and guidelines criteria well established

Well-defined information systems policies, standards, procedures, and guidelines are the foundation of an effective system for acquiring, managing, and using information systems resources. Policies communicate management's intent and expectations to all levels of the organization and provide the basis for management control of its resources. They serve as the means for integrating separate organizational components to make them consistent with and supportive of the overall mission objectives. ITMRA references the establishment of policies and procedures to ensure that accounting, financial and management systems, and other information systems are designed, developed, maintained, and used effectively. Other management-related criteria reference implementation of applicable information policies, standards, and guidelines with respect to information collection, paperwork reduction, as well as acquisition and use of information technology and other information systems functions.

While the House is not required to follow Executive Branch directives, they provide a practical reference to generally accepted management practices that would greatly benefit the House's information systems effort. OMB Circular A-130 sets forth provisions to (1) ensure that the information policies, standards, guidelines, rules, and regulations are implemented appropriately, (2) develop internal information policies and procedures and oversee, evaluate, and otherwise periodically review information resources management activities for conformity with the policies; and (3) develop policies and procedures that provide for the timely acquisition of required information technology.

The CHO is responsible for providing policy direction to, and oversight of, the CAO which includes HIR. Thus, the only "policies" we considered official and authoritative are those which have been submitted to, and approved by, the CHO and contain the elements of a policy. HIR is responsible for developing and forwarding draft policies to the CHO via the CAO, for approval and for developing standards, procedures, and guidelines in support of the policies. A management policy (see Exhibit 5 on page 46) is a formal mechanism that informs all parties affected, of management's position and requires a course of action concerning a particular area, process, or principle. To ensure management of its viability, a policy must also incorporate an enforcement mechanism for compliance. The elements of a policy are a policy statement; the standard defining the requirement to achieve the policy; guidance to offer non-binding suggestions on how to achieve compliance; and the procedures outlining the step-by-step process of satisfying the standard(s). However, a policy by itself, i.e., without related standards, procedures, and guidelines, is unenforceable and therefore ineffective.

HIR needs to establish minimum information systems policies

HIR has not instituted the minimum information systems policies, standards, procedures, and guidelines to ensure efficient, effective, and consistent use of information resources. To date, HIR has established only two CHO approved information systems policies. HIR has also submitted a number of security related policies to the CHO for review and approval. We also found a House policy on computer related equipment and peripherals approved by the CHO which is applicable to HIR.

Best industry practices dictate that an information systems environment incorporate as part of its management controls, a minimum set of organizational policies supporting their goals and objectives. Though not intended to be all inclusive, Exhibit 6, on pages 47-49, contains examples of policies derived from several Executive Branch agencies, private industry, and local government. Another source for a standard policy framework is OMB Circular A-130, as referenced in the criteria. We also applied the HIR policies in place, and under development, to the appropriate OMB Circular A-130 topics for comparative purposes. (See Exhibit 7 on pages 50-51.)

The Administrator, group directors, and managers agreed for the most part that there is a need for additional policies particularly in the area of project management. Several HIR officials also expressed the need for a policy on change management. One official indicated that the need for a change management policy is even more critical now since the U.S. Geological Survey is turning over FFS change management responsibility to the House. While we note that the SDLC policy of February 1997 mentions COTS software, it should be updated setting forth limits on the amount of modifications to COTS software one can make to ensure the protection of contract warranties, maintenance, and version upgrade compatibility. Another official indicated a need for a CyberCongress policy and Web site procedures. The HIR security official indicated the need for policies to cover additional security topics such as data classification, secure modem use, backup and recovery for mainframe telecommunications, and E-mail.

Development of policies from an HIR perspective would facilitate the coordination of different topics across the HIR groups and reduce duplication of effort. Some examples of policies and topics which have HIR implications include information systems planning and budgeting, project management, disaster recovery and contingency planning, change management, CyberCongress, information systems acquisitions, software management, and site licenses to name but a few.

Failure to formulate policies adversely affected information systems

The lack of adequate policies, standards, procedures, and guidelines has resulted in extensive information systems problems throughout the House. The more significant policies, standards, procedures, and guidelines issues addressed in recent OIG reports (listed in Exhibit 2 on page 43) include the following.

- Costly Financial Management System (FMS) Project did not meet House needs and was terminated: The House spent a minimum of $5 million over 9 years for FMS and it was still not finished, and would not have met the current House needs. This resulted, in part, because the House did not adopt and follow a policy on a formal SDLC methodology. (See item 2, Exhibit 2.)

- House systems were vulnerable to unauthorized access, modification, and destruction: The House lacked a formal comprehensive data security program. A contributing factor for this was the House lacked formal policies, standards, and procedures on House data security administration; implementing effective backup and recovery systems; and implementing and administrating security controls. (See item 5, Exhibit 2.)

- House cannot effectively and efficiently manage system development activities resulting in system delays and cost overruns: The House has not implemented policies and detailed procedures related to project management and change management. (See item 14, Exhibit 2.)

- Chargeback system did not accurately represent data processing costs: Formal policies and procedures regarding the user chargeback process, including rate development, rate updates, and competitiveness surveys did not exist. (See item 6, Exhibit 2.)

- Existing systems were not considered for replacement by commercially available solutions: House systems development was not guided by an SDLC methodology and the House continued to implement in-house system solutions when comparable and less expensive systems may have been available commercially. This was in part due to the lack of internal guidelines on COTS software. (See item 7, Exhibit 2.)

- Member, Committee, and House office E-mail was subject to inappropriate access, view, and modification: HIR did not have a formal organization-wide policy addressing unauthorized access, viewing, and modification of E-mail messages or requirements to hold individuals accountable for their actions. (See item 11, Exhibit 2.)

Reason for not establishing policies, standards, procedures, and guidelines

The Administrator agreed that there was a need for more policies, standards, procedures, and guidelines. When asked why HIR did not have policies, the Administrator stated that he works 13-15 hours a day just to keep the "ship afloat" and that HIR is understaffed. Moreover, the HIR "culture" would not stand up to the formal structure and accountability which would be imposed by policies, standards, procedures, and guidelines. The Administrator did not advocate HIR system-wide policies, standards, procedures, and guidelines and felt that oversight is the responsibility of line and functional managers. For instance, he indicated that the change management policy does not have to be formalized because "the managers should know what they are expected to do." One HIR group director we talked to did not fully understand the definition of a policy or where it fit into the organization, and several other managers were opposed to certain policies--such as the one for planning and budgeting.

Other factors aggravate the lack of an institutionalized policies, standards, procedures, and guidelines process. For instance, HIR does not have a process to formalize and disseminate policies, standards, procedures, and guidelines. We found that, while HIR does have a document review process that includes review, comment, and sign-off by appropriate office heads (including the CAO and the CHO), the process has not been formalized. The existing directives are not consistently prepared, numbered or otherwise marked to indicate whether they are a policy, standard, procedure, or guideline. In addition, HIR does not have a central repository or list of all of its information systems policies, standards, procedures, and guidelines. As a result, we were forced to spend additional time interviewing HIR staff that could have otherwise been spent on other audit issues.

Recommendations

We recommend that the Chief Administrator Officer direct the Associate Administrator, HIR to:

1. Develop and implement a standard methodology that outlines the minimum requirements that a policy must contain, including the elements of a policy, as stated in the finding.

2. Formalize a plan for developing and/or revising policies, standards, procedures, and guidelines which includes the following actions:

    a. formalize a listing of the minimum policies that HIR will initially schedule for development along with timelines, delegations of responsibility, and submit it to the CHO, through the CAO, for approval.

    b. focus the initial policy development on HIR issues and overall standardization of system policies across the House.

    c. revise and update the existing standards, procedures, and guidelines as they correspond to the existing and new policies.

d. formalize the approval and comment process for policies.

3. Establish and maintain a central repository in HIR for all approved information systems policies, standards, procedures, and guidelines.

Management Response

The CAO concurred with the recommendations in this finding. The CAO will develop a standard methodology for policy development by August 31, 1997, and will clarify to all elements of the CAO organization the appropriate methodology. The CAO will also formalize a plan for developing and/or revising policies, standards, procedures, and guidelines (including the actions listed in the recommendation above) and establish a central repository for HIR information systems directives -- both to be completed by October 31, 1997.

Office of Inspector General Comments

The current and planned actions are responsive to the issues we identified, and when fully implemented, should satisfy the intent of our recommendations.

Finding D: Staffing Constraints Could Hamper HIR Effectiveness

Typical management practices require adequate staff resources be allocated and properly trained to assure the overall success of an entity's operations. We found that HIR staffing levels are and have been below allocated levels, and key positions continue to remain vacant. Moreover, the skill mix of staff and the salary structure for information technology professionals may, in part, explain HIR's unsuccessful attempts to deliver quality goods and services to a technologically savvy group of House users. As a result, HIR's ability to effectively meet the House's long-term goals may be in jeopardy. Several factors contributed to these staffing issues, such as the Administrator's decision to postpone filling vacancies because of the current ongoing reorganization; actions by the former CAO that prevented the Administrator from filling certain vacancies; and the difficulties involved in finding and retaining qualified personnel because the salary levels and benefits may not be competitive with private industry.

Maximizing information technology human resources

The ability to attract, develop, and retain information system professionals is one of the key challenges facing any organization dependent on information technology. The allocation of information systems staff is changing to reflect current management and technology trends. As applications move to client server platforms, a smaller percentage of staff will need to be involved in application and systems programming. At the same time, a different mix of technical skills will be required to support the use of newer technologies.

A "Position Management and Operations Plan" is a study performed when starting up a new function, or prior to an organizational change which impacts staffing and organizational issues. Elements of the plan involve: (1) looking at the critical mass (minimum organizational and staffing levels) needed to perform the organizational functions, (2) examining existing workload, grade levels, and salary structure to determine if they are commensurate with the knowledge, skills, and abilities of functions performed, (3) reviewing whether the current technical mix of staff skills is sufficient, and (4) mapping out short- and long-term staffing needs.

According to the Administrator, no such study or staffing plan was conducted prior to the current reorganization effort, nor, to the best of his knowledge, was one done prior to his selection in August 1995. This audit, like many of the prior OIG audits, cites understaffing, the lack of technical training, and the inability to retain qualified staff as contributing reasons for some of the problems facing HIR today.

Staffing constraints hamper HIR effectiveness

As was pointed out above, HIR staffing levels are below allocated levels and key positions have not been filled. HIR staffing levels have been down by as much as 14 percent over the past several years as the following chart indicates.

Year	Actual Staffing	Authorized Staffing	Difference
1994	250	254	down 2 percent
1995	236	275	down 14 percent
1996	244	275	down 11 percent
1997	243	273	down 11 percent

We examined the staffing levels within the immediate office of the Administrator and each HIR group prior to the ongoing reorganization (see the chart below). As of August 1996, HIR had 31 vacancies (11 percent below its allocated staff level), which included 29 technical positions, and 2 positions allocated for information systems planning.

Organization	Actual Staffing*	Authorized Staffing*	Difference
Administrator, HIR	15	17	down 12 percent
Telecommunications	35	40	down 13 percent
Integration	57	62	down 8 percent
Enterprise Computing	39	46	down 15 percent
Client Services	98	110	down 11 percent
Totals	244	275	down 11 percent

*Staffing statistics as of August 1996

We were told that, as of December 1996, the Integration Group had the most vacancies (about 20 percent) and key positions did not have adequate back-up personnel. For example, we found that only one person supports the payroll system and we were told it would take at least 12 months to train another person to perform this function—there was still no backup as of the issue date of this report.

In addition, several past OIG reports addressed the need for staffing plans and additional staff in certain areas. (See items 5 and 19, Exhibit 2 on page 43.) In both audits, we recommended these groups/functions develop and implement a position management plan. However, HIR management needs to orchestrate this effort to maximize the benefits from a top-down approach throughout the entire organization.

- **HIR needs to address overall staffing issues**

Even if HIR were at full staff capacity, other factors such as the mix of staff and salary issues need to be examined on a continual basis. In preparation for the ongoing restructuring, the Administrator told us that the managers met and discussed staffing issues. However, a comprehensive study was not performed to determine whether the level of staffing is acceptable for the new restructuring, and whether the mix of staff skills is sufficient to perform the work. A study may show that HIR is not only understaffed, but the mix of staff may not be adequate for the technological direction the House is moving. For instance, the move from mainframe to client server and Web based platforms will replace the need for mainframe expertise with the

need for LAN-based systems to support newer platforms. In another example, our review of the Communications Group indicated that while some subgroups are adequately staffed, not all critical positions within these particular subgroups are staffed with personnel sufficiently cross-trained to serve as back-ups, and other subgroups are understaffed. The development of a position management plan should provide opportunities for HIR to reallocate and retrain staff, as necessary. In our view, this plan should be developed before HIR staff is brought to full capacity. Updating this plan periodically, should also help in reducing the number of reorganizations in the future. The Administrator indicated that in the Communications and Web areas, HIR clearly needs more people with skills currently not available in-house. He also mentioned the Integration Group has not taken advantage of training and needs to develop new skills as well.

Given what we have been told regarding current staffing difficulties, we were surprised to learn that no efforts have been made to formally document and present a case for re-aligning the pay structure to be somewhat more competitive with private industry in order to be able to attract qualified personnel. Factors such as position authority, responsibility, and span-of-control need to be examined as they relate to mission criticality and standard industry practices. For example, HIR group directors, prior to the ongoing restructuring, had between 35 and 98 staff under their direct supervision and control. Additionally, many of the senior HIR managers have mission critical positions such as planning, budgeting, security and CyberCongress within the House information systems arena.

Our discussions with HIR officials support the need for a comprehensive examination of competitive salaries at the staff level. One group director indicated he has had a difficult time filling the highest level technical positions because HIR salaries are not competitive with the private sector. Another group director noted the shortage of HIR staff who are well versed in the new technologies, and HIR understaffing continues to be a problem because it is difficult to hire replacements. Another group director indicated that his greatest challenges are personnel issues and filling vacancies. He also told us that HIR salaries are not competitive with private industry salaries and benefits packages. The HIR security officer indicated that the size of the security staff is too small to efficiently handle all the access control work that needs to be done. An in-depth HIR staffing assessment would provide the opportunity to reclassify job positions at appropriate levels and make pay adjustments as necessary.

Reason for staffing constraints

The Administrator confirmed the group directors' comments regarding HIR staffing constraints and the salary/benefits comparability issue. The Administrator told us that he purposely did not fill the vacant positions in the Enterprise Computing and Integration Groups because he knew HIR was going to be reorganizing. The Administrator agreed that it would be worthwhile to look at the directors and managers salary levels for reasonableness, given the number of people they have to direct and their level of authority/responsibilities. He also agreed that the mix of skill levels needed to be examined in each of the HIR groups.

Recommendations

We recommend that the Chief Administrative Officer direct the Associate Administrator, HIR to:

1. Develop and submit to the CAO and CHO for approval, an HIR-wide position management plan prior to any reorganization to adequately staff HIR based on the above criteria. The plan should be reviewed on an annual basis and changes made when and where appropriate.

2. Evaluate HIR hiring and retention practices and explore additional options that include a comparison of HIR salaries and benefits with private industry for improving HIR's ability to attract and retain qualified, experienced personnel.

3. Based upon the results of the evaluation recommended in 2 above, develop a proposal for submission to the CAO and CHO, to restructure HIR's hiring and retention practices and salaries and benefits as appropriate.

Management Response

The CAO concurred with the recommendations in this finding. The CAO plans to re-evaluate HIR's organization based on identified needs and submit a reorganization plan to the CHO within 90 days after CHO approval of the strategic plan (see Finding A, recommendation 1). HIR will work with Human Resources to develop job descriptions and with Internal Controls and Continuous Improvement to develop appropriate performance measurement indicators. Both tasks will be completed by August 31, 1997. HIR will work with Human Resources to determine an appropriate methodology for analysis of this finding and present its results to the CAO. This will be completed 90 days after the CHO approves HIR's proposed strategic plan (see Finding A, recommendations 1 and 2). The results of this analysis will determine what adjustment in salaries and benefits, if any, are appropriate.

Office of Inspector General Comments

The current and planned actions are responsive to the issues we identified, and when fully implemented, should satisfy the intent of our recommendations.

Finding E: HIR Integration Group Lacks Fundamental Management Practices

Contrary to generally accepted industry standards, the HIR Integration Group has only partially implemented the fundamental management practices of planning, organizing, directing, and controlling. Specifically, the Integration Group did not have a comprehensive, updated information systems inventory or adequate operational plan; is currently operating in a reactive, crisis mode; lacked direction and leadership; and did not establish key control mechanisms. Thus, the Integration Group has not been able to effectively accomplish its mission which has negatively impacted the overall goals and objectives of HIR. As examples, we found the Integration Group was unable to list its priorities; initiated systems without approval or user input; did not follow generally accepted SDLC; and favored in-house development over COTS solutions. Factors contributing to these problems are as follows. The Spring 1995 reorganization that established the Integration Group was put together quickly and resulted in considerable staff turnover. Planning was not done due to conflicting directions from top management, and no one was setting priorities in HIR. The Group was extremely understaffed, particularly with regard to staff versed in new technologies. The Group has been without a permanent director since October 1996 and the Acting Integration Director told us it was his job as interim director to maintain the status quo and not to undertake major changes.

Management controls and accountability criteria

We looked for the same fundamental management practices--planning, organizing, directing, and controlling--as discussed in Finding A, in the Integration Group's operation. Each of these fundamental practices is built upon the other, and all are linked together. The success of the organization is heavily dependent on how well the organization implements these practices.

Our initial survey work identified concerns with management of the HIR Integration Group that warranted further review. Consequently, we expanded our audit scope to include a closer look at the management of this group. During our initial discussion with the Administrator, he told us that the Integration Group needed to be "sorted-out and more formally established." This is of prime importance given the visibility and criticality of certain House-wide initiatives such as the Year 2000 problem and new payroll system. Another HIR manager indicated that we should review the Integration Group because of continuing problems; working under a caretaker manager; and dissatisfaction among most users they support. It should also be noted that, unlike the other HIR Groups, Integration has been without a permanent Integration Director since October 1996, and has had a considerable amount of management and staff turnover in the last several years. As for the other groups, the Administrator indicated that Enterprise Computing should be examined from the migration to client server perspective.[12] He also mentioned that the Communications[13] and Client Services Groups are more straight forward and well-established. This report covers management issues affecting all four HIR Groups.

[12] The OIG has a Fiscal Year 1997 audit scheduled to look at the migration from the mainframe to client server.

[13] The OIG recently conducted five audits covering HIR Communications management and other telecommunications issues.

The mission of the Integration Group is to identify information processing needs of the House offices, develop strategies, integrate software, and implement systems and databases in a cost effective manner. The mission further states that the Integration Group achieves its mission by providing high quality information technology strategies, relevant and efficient application software, and timely information databases best suited to House needs. As of August 1996, the Integration Group consisted of 57 staff in five teams--three manage either Desktop (Client Server), Information (Web Based), or Institutional (Mainframe) Systems and the remaining two teams provide Technical and Application Services. According to the Acting Director of Integration, the group supports 9 major systems[14] and 200 additional mainframe applications.[15]

HIR Integration Group has not fully implemented certain fundamental management practices

While the Integration Group has had a number of accomplishments in the past several years, the most significant probably being House-wide access to the vast resources of the Internet, we believe the Group can improve the effectiveness of its operations through better management practices. Our observations in this area are similar to those reported in Finding A on HIR management, that is, Integration has only partially implemented fundamental management practices of planning, organizing, directing, and controlling. Integration has not been able to successfully accomplish its mission which, in turn, has negatively impacted the achievement of HIR's goals and objectives.

- **Integration's plans and inventory are inadequate and outdated**

Similar to the overall lack of HIR planning, we found the Integration Group's operational plans were inadequate and outdated. The operational plans consisted of (1) a product and priority list as of December 1995, (2) timeline listings of system projects and milestones for each of the five teams, and (3) a list of technical services. Upon examination of these documents, we concluded that they did not contain the basic elements of an operational plan. An operational plan should include a description of the projects, project scope, key stakeholders, and a broad assessment of costs, benefits, and risks of achieving the objectives. These plans were not linked to any strategic planning documents, nor did they reflect budget constraints, or form the basis for budget decisions.

In addition, the Integration Group has not updated its inventory of systems since 1994. It is unlikely that the Integration Group could produce a successful plan because they do not have a current inventory of all systems. A typical inventory of an information technology installation should contain, at a minimum, the names and descriptions of all systems currently in operation or under development. Each listed system should have a narrative overview of the system, system owner, interfaces, program components, implementation date, system type, functional description, programming languages, and outputs. We learned that, prior to the 104th Congress,

[14] MIN/LEGIS; MIN/Legal: ISIS; MONIES: Payroll; LIMS; Office System Management; Department of Office Furnishings; and Lobby.

[15] HIR did not have an updated information systems inventory despite several requests for one, thus we could not obtain a reliable number of systems actually supported or under development within the House.

the Integration Group had a three-year plan that was revised annually. We also learned that the earlier plan was the mechanism the Group used for directing; planning for new technologies; implementing systems in a timely and efficient manner; and retiring inefficient systems. However, the Integration Group has not updated its inventory of systems or the 3-year plan, both of which were developed and maintained by the former Director of Integration prior to his departure. When asked about future Integration planning, the Acting Director of Integration stated that planning is a low priority and he was waiting for some direction from HIR management concerning this.

- **Management has not organized the Integration Group to maximize resources**

As the result of not having adequate operational plans or an inventory of systems, Integration can not organize effectively or efficiently. While the current organizational structure reflects a compartmentalized approach to the delegation of available resources, the actual allocation of staff activities is dictated by the latest crisis to appear on HIR's horizon. For example, the Web sites under development for Members and the new payroll project became crises in the short-term which resulted in slippages on long-term projects. The Acting Integration Director indicated that the reason for the crises is that there is no priority setting—according to him, everything is treated as a "number 1 priority." This results in moving people from one activity to another in order to accommodate the "biggest fire" at the time. One staff member characterized Integration's biggest challenge as the lack of established priorities at the group level. New work requests as well as ongoing maintenance of existing systems are all given top priority. Staff are often faced with conflicting assignments. (Other managers have told us similar stories but with a different spin, i.e., "we can't say no to any request we receive.")

We also found that HIR has not formally and clearly established the Acting Integration Director's authority and responsibilities. The Acting Integration Director indicated that "in his view, the authority does not have to be documented because it is common sense. Authority is knowing what to do and what not to do." Regarding responsibilities, he indicated that "they [responsibilities] are somewhat clear, however, once the priorities are straightened out, then the responsibilities and clarification will not be far behind." We disagree with the Acting Integration Director's interpretation because without a formalized approach to the delegation of authority and responsibilities, senior management cannot hold staff accountable to any measurable objectives. Conversely, staff will be uninformed of senior management's expectations. This kind of thinking clearly violates the fundamental management principles necessary to run an effective and efficient operation.

HIR officials indicated that the most recent restructuring split the Integration Group into several teams, moving part of the staff to the Electronic Messaging Team, some to the Web Team, while the remaining staff will make up the new Legislative, Financial, Administrative Systems unit. This new unit will have about 29 staff and, working with Enterprise Computing, will focus on the mainframe based systems, the Year 2000 conversion project, and the support of internal and external end users. It is still our view, however, that the current restructuring will not totally remedy problems because the fundamental management practices, as discussed at the Administrator level, are not in place in Integration.

- **The absence of a Director has resulted in the lack of direction and leadership of the Integration Group**

The Integration Group has been without a permanent director since October 1996. The Acting Integration Director assumed the position and has maintained the "status quo" because he felt that it was only a temporary appointment. In fact, the Acting Integration Director agreed that management is "lacking" and told us that all he has time to do is "fight fires." He characterized the situation as top management telling the Group what to do and then expecting them to "just squeeze things in."

Without an adequate information systems operational plan and a sound organizational structure, the Acting Integration Director (or permanent Integration Director) will not have the tools to make informed decisions and prioritize the work. Maintaining the status quo in a dynamic environment without being actively involved in providing direction and leadership where it is obviously needed is not the type of management style that can get things done.

- **The Integration Group has not established and enforced controls to assure accomplishment of plans**

Not unlike the problems we discussed at the Administrator level in Finding A, we found that traditional management, scheduling, and oversight controls are not in place in the Integration Group. No standards or documentation for requested work that is performed by staff exist. To illustrate the problem, we were told that it is not uncommon for Integration staff to work as much as 200 hours on a single Web page (a number that, on its face, appears extremely high) without anyone in management questioning the use of staff resources. While we did find that Integration recently has been preparing some form of documentation for several projects (e.g., Franking Mail Tracking System and FoxPro) to comply with the newly approved SDLC policy, most of the existing applications did not follow this practice. Current Integration practices still do not require user sign-off showing acceptance of programming activity. While the quality assurance function was limited to certain applications, Integration has not institutionalized this function for all its applications.

Furthermore, no user feedback mechanisms or standard project management processes are in place. This has resulted in very limited information regarding user satisfaction, and whether systems are being developed efficiently, timely and accurately. Basic policies and procedures--e.g., change management--are not in place in Integration. Further, HIR and Integration had no policy in place, until recently, that reflected the use of COTS software as the first priority in all development projects.

Effect of not implementing fundamental management practices

The absence of fundamental management practices has historically contributed to many serious deficiencies within the House's information systems resources. Even though some corrective actions have been taken, our review showed that problems identified in prior audits continue to negatively impact the House. Examples of these problems are presented below.

- HIR/Integration initiated a low priority Committee Voting System project without approval and user input: In January 1997, HIR/Integration resumed an effort, based upon a discussion overheard two years ago, to develop the Committee Voting System. However, when CHO staff members were told about this endeavor, they voiced their opposition against this stand-alone system, indicating it would have little value in today's environment. The CHO representatives also indicated that HIR should have directed their efforts toward other, higher priorities--such as Year 2000. CHO staff also noted they could find no users who spoke to Integration in the last 12 months about the Committee Voting System. This example illustrates the effects of (1) miscommunication by the Administrator, (2) failing to document priorities, and (3) not having a mechanism in place to keep the CHO informed regarding systems that are being initiated.

- Development of the FoxPro system without benefit of an SDLC methodology: In 1996 the CHO made a decision to table any further development and installation of the FoxPro system. Despite this decision, HIR continued to develop a new FoxPro module (i.e., personnel). Moreover, the decision to develop yet another personnel system made little sense, given the fact that the House had 4 or 5 personnel systems already in place. This situation occurred because of the lack of an SDLC methodology that requires basic front-end planning including user involvement, needs analysis, alternatives analysis, etc. In addition, we learned that staff responsible for managing the FoxPro project are unable to provide costs or estimates of time spent developing the application, normally required as part of an SDLC methodology. Without this data, staff do not have access to information that would assist them in projecting costs and planning other applications, and managers are unable to effectively track and manage ongoing efforts.

- Crucial, generally accepted SDLC practices not followed: The OIG reported the lack of a generally accepted SDLC approach for the Integrated Systems and Information Services (ISIS) and the Member Information Network (MIN) systems that provide an access path to various legislative and news databases. The ISIS project was initiated in 1989 to replace MIN with a client server based solution. However, after 6 years, MIN still has about 4,500 users compared to only 500 ISIS users. The ISIS development effort failed because users were not involved during the development phase; the scope was too narrowly focused; and management failed to properly "market" the system to the user community. (See item 7, Exhibit 2 on page 43.)

- In-House solution being sought without considering COTS: The House continued to implement in-house solutions when comparable and less expensive systems may have been available commercially. We found that HIR pursued this path with FoxPro, indicating that a

COTS package would not meet the House's unique requirements. However, HIR did not have the corresponding documentation (such as a needs or requirements analysis) to support their conclusion. HIR is now focusing more on COTS and other alternatives to in-house development. (See item 7, Exhibit 2 on page 43.)

Reason for not fully implementing fundamental management practices

During an interview, the Administrator told us that "the Spring 1995 reorganization affecting Integration was put together very quickly and resulted in considerable attrition in the managers' ranks." He indicated that Integration and Enterprise Computing Groups needed to be more formally structured, and planned to reorganize the Groups to reflect the migration to the client server mode of operation, as legacy systems are phased out and replaced.

The Acting Integration Director indicated that the Group's operational plans have not been updated since July 1996. He felt it impossible to plan in an environment dominated by the former CAO whose interference directly resulted in the stoppage of some projects. Furthermore, the Group was receiving conflicting directions from the CAO and CHO, and no one was setting priorities in HIR. He further indicated that Members need to set overall direction because, according to the current mode of operation, HIR management believes it cannot refuse anything an individual Member asks for. He also indicated that the Integration staff was extremely limited in numbers and there is a shortage of staff versed in the newer technologies. Notwithstanding some of the legitimate arguments put forth by the Acting Integration Director, it is possible to be actively involved, and provide direction and leadership while maintaining the status quo.

Recommendations

We recommend that the Chief Administrative Officer, through the Associate Administrator, HIR, instruct the Integration Group Director to:

1. Develop a comprehensive, standing inventory of all application systems in operation and under development which must adhere to a minimum set of documentation standards. These standards apply to all systems regardless of whether they were developed by HIR staff, contract staff or purchased off-the-shelf.

2. Develop a comprehensive operational plan covering from 1 to 3 years, which corresponds to the HIR operational plan. Include within the plan a description of all scheduled projects, key milestones (for system implementation and significant upgrades), project scope, key stakeholders, and an assessment of costs and benefits. These projects should be prioritized based on mission critical factors.

3. Adopt a leadership role that embraces the management techniques discussed in this report and require formal communication and documentation of key decisions.

4. Develop and implement effective control mechanisms as outlined in this report that ensure compliance with management approved plans and policies. Utilize the HIR project management tracking system, project management standards, and performance measures, once these controls are in place, to monitor staff activities and effectiveness.

5. Improve the information and reports provided to top management to facilitate prioritization and improve effectiveness for decision-making purposes.

Management Response

The CAO concurred with the recommendations in this finding. The CAO agreed to review its inventory of systems and expand it, as necessary and develop an operational plan as part of the strategic planning process by December 31, 1997. The CAO has adopted a proactive leadership approach within Integration that requires formal communication and documentation of key decisions. Control mechanisms will be developed and implemented within HIR by February 28, 1998. Finally, information and reports submitted to the Administrator have been improved to facilitate prioritization and decision-making.

Office of Inspector General Comments

The current and planned actions are responsive to the issues we identified, and when fully implemented, should satisfy the intent of our recommendations.

EXHIBIT 1

HIR ORGANIZATION CHART
As Of December 1996

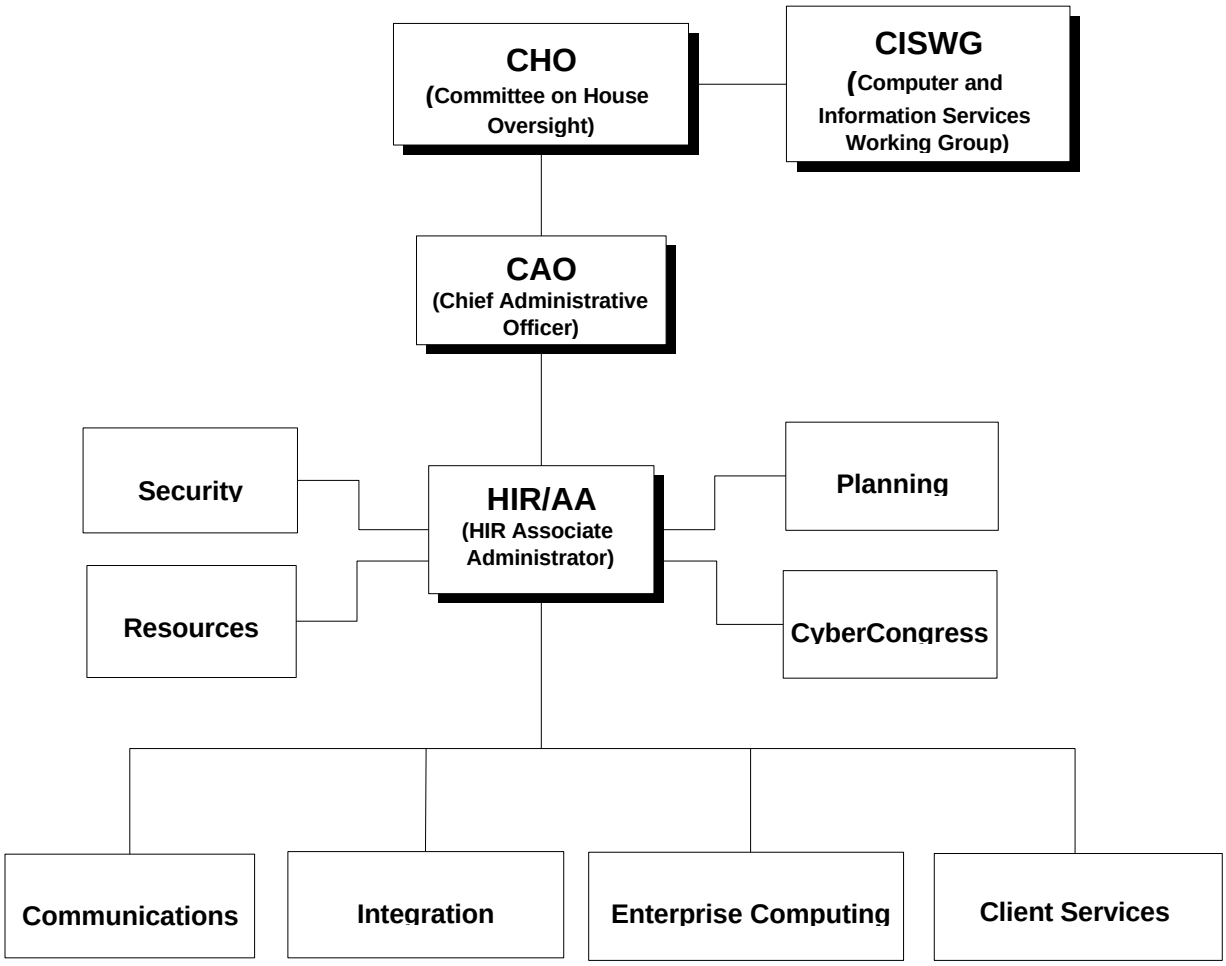


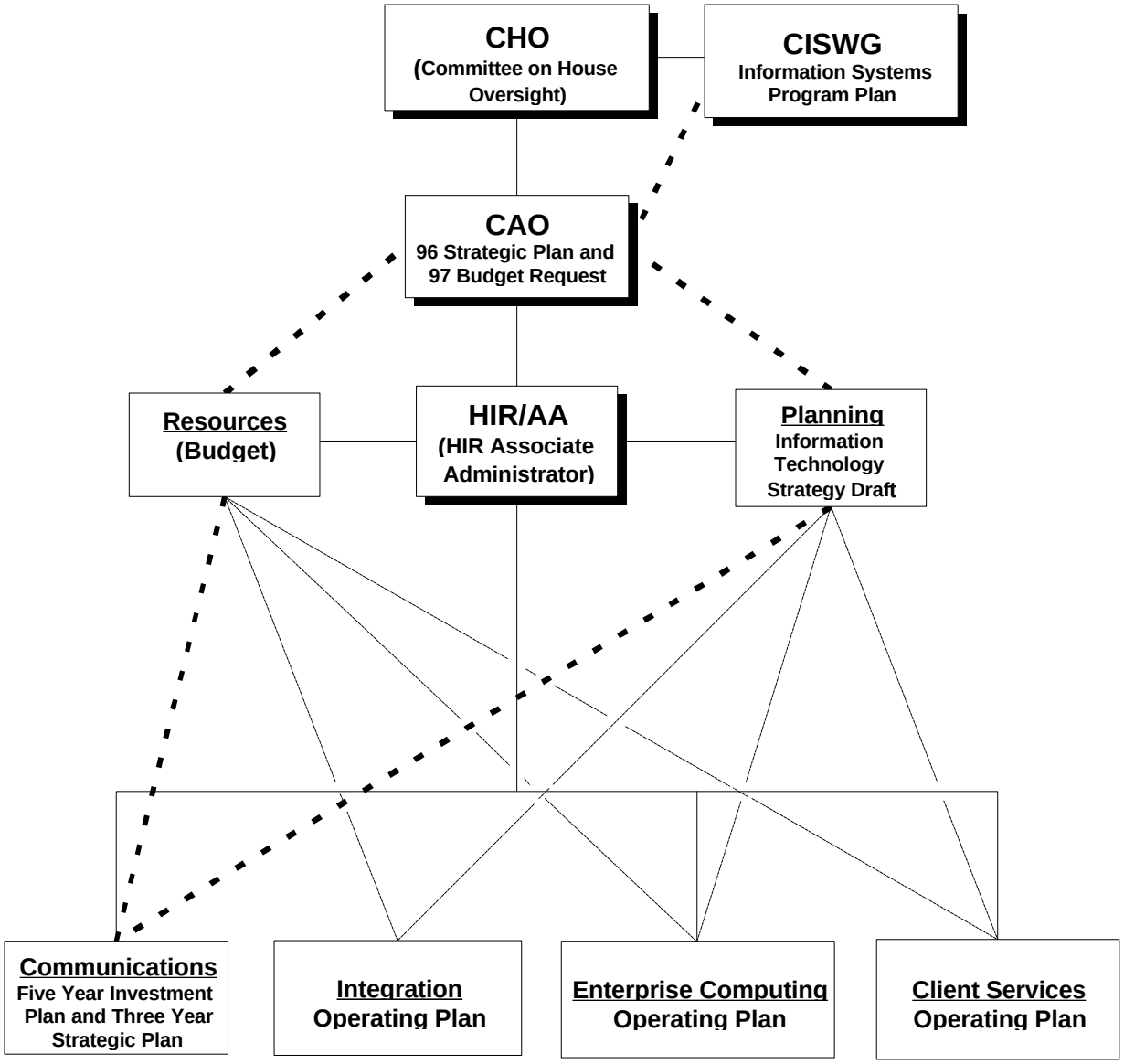
EXHIBIT 2

PRIOR OIG AUDITS IMPACTING HOUSE INFORMATION SYSTEMS RESOURCES

1. Member Computer Systems Security Weaknesses (Report No. 95-CAO-01, May 3, 1995).
2. Proposed New Financial Management System Will Not Meet The House's Needs And Should Be Terminated (Report No. 95-CAO-02, May 12, 1995).
3. Internet Security Weaknesses (Report No. 95-CAO-03, July 18, 1995).
4. Problems Plagued The Houses Financial Operations (Report No. 95-CAO-16, July 18, 1995).
5. House Computer Systems Were Vulnerable To Unauthorized Access, Modification, And Destruction (Report No. 95-CAO-18, July 18, 1995).
6. The Management And Control Of The House's Information Systems Operations Should Be Improved To Better Meet Members' Needs (Report No. 95-CAO-19, July 18, 1995).
7. The House Needs To Follow A Structured Approach For Managing And Controlling Systems Development Life Cycle Activities Of Its Computer Systems (Report No. 95-CAO-20, July 18, 1995).
8. U.S. House Of Representatives Audit Of Financial Statements For The 15-Month Period Ended December 31, 1994 (Report No. 95-HOC-22, July 18, 1995).
9. House Experiencing Problems With The Implementation Of The Core Federal Financial System (Report No. 96-CAO-02, March 1, 1996).
10. Additional Vendor Guidelines Are Needed To Ensure Integrity Of HIR's Operating System (Report No. 96-CAO-06, July 31, 1996).
11. House Information Resources Policies And Procedures Related To Electronic Mail Need To Be Improved (Report No. 96-CAO-07, September 3, 1996).
12. The House Needs To Take Steps To Implement Standard Financial Management Systems, Processes, And Policies (Report No. 96-CAO-10, December 23, 1996).
13. The House Struggles With The Management Of The New Financial Management System (Report No. 96-CAO-12, December 23, 1996).
14. Improvements Are Needed In The Management And Operations Of The Office Of Chief Administrative Officer (Report No. 96-CAO-15, December 31, 1996).
15. Weak Telecommunications And Information System Security Controls Compromise House Information Resources (Report No. 97-CAO-03).
16. Opportunities Exist For The House To Save Over $1 Million Annually Through Better Telecommunications Cost Management (Report No. 97-CAO-04).
17. Changes In Operating Practices Needed To Improve The Economy, Efficiency, and Effectiveness Of House Telecommunications Functions (Report No. 97-CAO-05).
18. Improvements Needed In The House's Contingency And Disaster Recovery Planning For Telecommunications (Report No. 97-CAO-06).
19. Proactive Management Approach Can Improve House Telecommunications Service And Operations. (Report No. 97-CAO-07).

EXHIBIT 3

HIR INFORMATION SYSTEMS PLANNING DIAGRAM



Legend:

- - - - - - - **Information systems plans linked together and to the budget process.**

..... **Information systems plans not linked together nor tied to the budget process.**

EXHIBIT 4

HOUSE INFORMATION SYSTEMS PLANS

Strategic / Operational Plans	Planning Components Identified	Planning Components Defined
Strategic Plans		**Strategic Planning (3 to 5 year horizon)**
House Information Systems Program Plan (ISPP) Reflects the House's long-term information system vision. Does not contain the fundamental elements of a strategic plan: mission, objectives, strategies, and resource allocation which was to be developed as a follow-on to the ISPP by HIR.	[1]	1. Mission - statement identifying the overall business direction and description of the services rendered. 2. Objectives - statement(s) defining what is to be achieved, for whom, and within what time period.
CAO Strategic Plan 1996 A general strategic outline from a CAO-wide perspective. Not a detailed strategic plan.	[1]	3. Strategies - major courses of action that are to be taken in order to achieve the objectives.
Draft Information Technology Strategy, HIR Technical document meant to supplement certain areas within the ISPP, mainly the Communications arena.	[1]	4. Resource Allocation - (re)distribution of money, personnel, equipment, and other resources. Traditionally reflected in long-term budget planning.
HIR Communications Group - Strategic Projects Plan 1996-1998 Generally linked to the ISPP.	[1] [2] [3] [4]	
Operational Plans		**Operational Planning (1 to 3 year horizon)**
HIR Communications Group - Five Year Investment Plan for the Infrastructure and Operations of US House of Representatives Linked to the Communications strategic plan (above), as well as the CAO Fiscal Year 1997 Budget Request.	[1] [2] [3] [4]	1. How - develop annual budgets for each department, division, and project. 2. What - define project(s), scope, and key stakeholders. 3. Why - define a broad assessment of costs and benefits for each planned project.
Enterprise Computing, Integration, Client Services Project status report(s) that outline scheduled projects and time-lines. They are not tied to the above plans or the budget process.	[4]	4. When - define specific timelines for implementing strategic objectives.

This Exhibit shows the HIR Strategic and Operational Plans (the left-most column) that were identified during this audit, along with a brief narrative assessment of each plan. The Planning Components Defined (the right-most column) contains the fundamental elements that a Strategic and Operational plan must contain. The Planning Components Identified (center column) shows the planning elements we were able to identify for each HIR plan.

EXHIBIT 5

POLICY ELEMENT DEFINITIONS

POLICIES

High-level statements that indicate management's intentions and course of action, providing broad direction, goals, or guiding principles. A policy is designed to influence and determine decisions, actions and other matters.

STANDARDS

Specific statements embodying control requirements suitable for achieving management's goals. Compliance with standards is expected. Standards should be broad enough to allow compliance in specific instances to be measured.

GUIDELINES

Suggestions about how to achieve compliance with standards. Guidelines are not binding; they are developed to provide assistance in complying with one or more policies or standards.

PROCEDURES

Step-by-step ways of obtaining an end result. Procedures are often established to satisfy control requirements, and they must be followed carefully to provide the intended level of control.

EXHIBIT 6
Page 1 of 3

EXAMPLES OF VARIOUS INFORMATION SYSTEMS POLICIES[16]

Disaster Recovery (Business Continuity)
This policy provides guidance and authority for developing and enforcing disaster prevention and recovery plans for essential services and activities.

Documentation
This policy requires adequate documentation for automated systems and maintains that documentation in a designated repository.

System Development Life Cycle (SDLC)
This policy establishes systems of management control that outline the requirements for each major information system development life cycle phase.

Backup and Off Site
This policy addresses management requirements that define all production systems and data files be backed up on a scheduled basis. This is to ensure the continued performance of critical functions in the event the use of any information asset is interrupted, and ensure full recovery from the loss of any asset.

Change Management
This policy governs the methodology regulating the maintenance of software code within a system. This process encompasses the steps starting with the end-users initial request to final implementation.

Information Systems Security
This policy addresses safeguarding sensitive information and applications from improper use, alternation, or disclosure, whether accidental or deliberate.

Project Management
This policy deals with activities that ensure a project's progress within a framework that facilitates the development and implementation of effective systems. This is to include defining milestones, developing schedules, monitoring and reporting progress, obtaining resources and providing budgetary controls.

[16] The list of policies was derived from examining documentation from the Department of Transportation, the Environmental Protection Agency, Freddie Mac, and Fairfax County Government. These policies are not intended to be all inclusive and are not listed in any particular order.

EXHIBIT 6
Page 2 of 3

EXAMPLES OF VARIOUS INFORMATION SYSTEMS POLICIES

Remote Access
This policy addresses all remote activities accessing the information assets and places limited and defined pathways and protocols that ensure the integrity of those assets.

Risk Management
This policy outlines the process in determining the level of business impact that data and information systems may have on the entity and its processes. Information systems can subject an entity to such risks as disruption of service, erroneous reporting, financial loss, and negative customer impact.

Data Retention
This policy ensures that datasets are not maintained beyond their legal requirement or usefulness, as well as not being deleted or migrated prematurely.

End User Computing
This policy addresses those end user computing activities in which processes intended for production use, i.e., used on a regular basis for doing business, are developed and maintained by personnel or consultants outside management control.

Management Reviews and Controls
This policy ensures the periodic review of major information systems, acquisitions, and information management activities.

Planning and Budgeting
This policy establishes the principles that govern organizational planning for investments in and the management of information resources and technology. It also defines the roles and responsibilities for implementing these principles.

Information Technology Standards
This policy applies to standardization of hardware, software, data and operations including telecommunications resources.

Advance Acquisition Planning
This policy requires the planning of acquisitions of information systems resources and accurately determining needs--development of requirements and analysis of alternatives.

EXHIBIT 6
Page 3 of 3

EXAMPLES OF VARIOUS INFORMATION SYSTEMS POLICIES

Acquisition of Information Resources
This policy applies to activities related to the solicitation, evaluation, award, and administration of contracts for information systems resources.

Information Systems Inventory
This policy applies to inventories of information systems hardware and software, including telecommunications resources, maintained by the organization.

Hardware Sharing, Reuse, and Obsolescence
The policy establishes the sharing and reuse of hardware that is no longer needed for its original purpose and for the replacement of installed obsolete hardware.

Resource Cost Recovery
This policy is for information technology facilities manager's recovering the cost of information systems resources.

Telecommunications Management
This policy establishes the management of telecommunications systems, equipment, and services.

Data Standards and Management
This policy establishes a program to provide consistent definitions of data and to facilitate cross media use of data. This policy also establishes the management and sharing of data between organizations.

Information Collection and Dissemination
This policy ensures that only information necessary for the proper performance of an organizations functions is collected. The collection method should reduce the burden on the public, provide better services to the public, increase efficiency of programs, and reduce costs. Also, this policy ensures that management avoids improperly restrictive dissemination practices and uses electronic information dissemination methods to make information more accessible and useful to the public.

EXHIBIT 7
Page 1 of 2

HIR POLICIES AS COMPARED TO OMB CIRCULAR A-130 TOPICS

A-130 POLICY CRITERIA	POLICIES IN PLACE IN HIR	POLICIES UNDER DEVELOPMENT IN HIR	POLICIES NOT IN PLACE IN HIR (*)
Information Management			
Information Management Planning			●
Information Collection		● (4)	
Electronic Information Collection		● (4)	
Records Management			●
Providing Information to the Public	● (2)(P)	● (4)(6)	
Information Dissemination Management System			●
Avoiding Improperly Restrictive Practices			●
Electronic Information Dissemination	● (2)(P)	● (4)(6)	
Safeguards		● (4)(6)	
Information Systems and Information Technology Management			
Evaluation and Performance Measurement	● (1)(P)		
Information Systems Management Oversight	● (1)(P)		
Use of Information Resources			●
Acquisition of Information Technology	● (3) (P)		
Automated Information Security Programs		● (4)(5)(6)(7)(8)	

Legend:
(P)—Depicts partial coverage of the OMB Circular A-130 topic.
(*)—Only represents some of the missing policies in HIR.
Policies
(1) U.S. House of Representatives Management Policy Systems Development Life Cycle.
(2) Committee on House Oversight Resolution World Wide Web Sites.
(3) Users Guide to Purchasing Equipment, Software and Related Services.

EXHIBIT 7
Page 2 of 2

HIR POLICIES AS COMPARED TO OMB CIRCULAR A-130 TOPICS

(Legend continued)
Draft Policies

(4) United States House of Representatives Information Security Policy.
(5) United States House of Representatives Information Security Policy for Information System Related Security Incidents.
(6) United States House of Representatives Internet/Intranet Security Policy.
(7) United States House of Representatives - Windows for Workgroups/Windows 95 Recommended Workstation Security Configuration.
(8) U.S. House of Representatives Plan and Schedule for Conducting Periodic Information System Security Reviews.

EXHIBIT 8

ACRONYMS

CAO	Chief Administrative Officer
CCPM	CyberCongress Project Manager
CHO	Committee On House Oversight
CISWG	Computer and Information Services Work Group
CMM	Capability Maturity Model
CMOS	Complementary Metal Oxide Semiconductor
COTS	Commercial Off-The-Shelf
FFS	Federal Financial System
FMS	Financial Management System
FMFIA	Federal Managers' Financial Integrity Act
GAO	General Accounting Office
GPRA	Government Performance and Reporting Act
HIR	House Information Resources
HIS	House Information Systems
ITMRA	Information Technology Management and Reform Act
ISIS	Integrated Systems And Information Services
ISPP	Information Systems Program Plan
LIMS	Legislative Information Management System
MIN	Member Information Network
MONIES	Office of Telecommunications - System 85
OIG	Office of Inspector General
OMB	Office of Management and Budget
PRA	Paperwork Reduction Act
SDLC	System Development Life Cycle

Office of the
Chief Administrative Officer
U.S. House of Representatives
Washington, DC 20515

MEMORANDUM

TO: John Lainhart
Inspector General

FM: Jeff Trandahl
Acting Chief Administrative Officer

DT: April 23, 1997

RE: CAO Response to OIG/HIR Management Practices Audit

Thank you for the opportunity to comment on this draft audit report. I have carefully reviewed the draft audit regarding House Information Resources (HIR) and considered the recommendations contained therein. I appreciate the time and thought that has gone into the document and believe it has improved the understanding of the issues raised by this audit and the subsequent recommendations/goals.

In general, I believe it should be stated that this report is not intended to focus on specific individual managers or personalities. Instead it is an overall management evaluation with the objective of reviewing and improving operating procedures. Planning, organizing, directing and controlling are fundamental management practices. So are communicating, coordinating and staffing. Several examples of potential weaknesses in these areas have been identified in this report. I, as the Acting Chief Administrative Officer, assume responsibility for all of the CAO organizational units and possible weaknesses in them. With the assistance of HIR management, several long-term steps intended to correct and strengthen the organization in many areas have already been taken. Further recommendations have been made and we within the CAO organization have responded with plans to act upon these recommendations.

It is my belief that this organization, like many others, has attempted to do too much too quickly in an environment incapable of supporting it. This has caused unrealistic expectations and consequent failure to meet those expectations. Additionally, the lack of good management processes that the audit identifies was the environment in which House Information Services (HIS) operated prior to the 104th Congress and HIR continued to pursue without strong redirection from the former CAO. Such redirection has been difficult to accomplish in light of the changes in the directorship four times in the last 30 months and various internal reorganizations. However, we continue to vigorously pursue

these efforts.

In no way should the impression be given that HIR has failed to make any accomplishments throughout the 104th Congress or the beginning of the 105th Congress. The opposite is true and some examples of such achievements have been incorporated into this report. Only with the support of the Committee on House Oversight, the Computer Information Services Working Group and others have these achievements been made and will these recommendations be fully and successfully implemented.

Finally, throughout this process I have raised various additional historical and management issues, some of which your office has already incorporated into this report, while many others were viewed as repetitious or beyond the document's scope. While the absence of these examples and issues may limit the historical context in which this document is written and possibly restrict the reader, I recognize that their absence does not prejudice or change the recommendations made by the Office of the Inspector General. For that reason, I support the report and the recommendations being made.

Our specific responses to the recommendations are as follows:

FINDINGS AND RECOMMENDATIONS

Finding A: **HIR Has Not Fully Implemented Fundamental Management Practices**

Recommendations

We recommend that the Chief Administrative Officer direct the Associate Administrator, HIR to:

1. Develop a detailed HIR strategic and operational plan based on the ISPP vision. These plans should project future issues on a three-year basis and should be updated annually.

Concur.
HIR will develop a strategic and operational plan based on the ISPP vision. The strategic plan will be submitted to the Committee on House Oversight for approval by December 31, 1997.

2. Re-evaluate the HIR organization based on the needs identified in the short- and long-term plan that come out of recommendation 1 above.

Concur.
The CAO will re-evaluate the HIR organization based on the needs identified and will submit a reorganization plan to the CHO within 90 days after the strategic plan is adopted by the CHO.

3. In concert with recommendation 2:

    a. update position descriptions and formally document the authority and responsibility of key management staff;

    b. develop adequate performance measurement indicators that incorporate all HIR activities and provide a meaningful basis for individual evaluations and career advancement;

    c. submit a formal proposal to the CAO containing full justification for any proposed changes and a complete documentation package suitable for presentation to the CHO for review and approval.

Concur
HIR will work with HR to develop job descriptions and will work with ICCI to develop appropriate performance measurement indicators. Both tasks will be completed by August 31, 1997.

4. Adopt a proactive leadership approach that requires formal communication and documentation of key decisions.

Concur
The CAO has adopted a more proactive leadership approach for HIR which will require more formal communications and the documentation of key decisions.

5. Develop and implement a mix of effective control mechanisms as outlined in this report that ensure compliance with management-approved plans and policies. This should include, but not be limited to:

    a. establishing a project management tracking system;

    b. developing project management standards and procedures;

    c. developing comprehensive results-oriented performance measures; and

    d. redefining and upgrading the quality assurance function to ensure controls are exercised at key points throughout the system's life cycle.

Concur.
These recommendations are appropriate for all CAO operations and will be implemented on a consistent basis CAO-wide. A project management tracking system will be selected and implemented by December 31, 1997. Project management standards and procedures will be developed and implemented by February 28, 1998. Performance measures are in place now, but will be reviewed

and revised by August 31, 1997. The CAO will redefine and upgrade the quality assurance function to ensure controls are exercised at key points throughout the system's life cycle by February 28, 1998.

6. Formalize the process and improve the information and reports provided to top management to facilitate more informed decision-making.

Concur
The CAO has formalized the process of reporting so that the AA of HIR will report to the CAO who will report as appropriate to the CHO and CISWG. This will not affect direct communication when appropriate among the AA for HIR, the CHO and CISWG.

7. Develop and implement a policy for receiving requests for services and prioritize requests on some logical basis.

Concur
HIR will develop a proposal for prioritizing requests from Members and Committees for submission to the CHO by June 30, 1997.

8. Develop a proposal for the creation of a Deputy Associate Administrator in HIR whose primary responsibility would be to assist the Associate Administrator in the day-to-day management of HIR operations.

Concur
The CAO agrees to submit a proposal to the CHO June 30, 1997 to create a position of Deputy AA who will have the functions of the present CCPM Director and additional duties. The Deputy AA will not have all of the Office Directors reporting to him/her, but will have concurrent (but subordinate) authority over the Directors with the AA.

9. Develop a proposal to re-establish the CCPM function within HIR:

   (a) As a distinct, organizational entity at the Administrator-level, with the requisite responsibilities and authority to carry out the duties of the CCPM as originally envisioned, **or**

   (b) As a collateral duty of the Deputy Associate Administrator position, created in response to Recommendation 8 above.

Concur.
See answer to Recommendation 8.

Finding B: <u>HIR Has Not Established A Fully Functional Information Systems Planning Process</u>

Recommendation

We recommend that the Chief Administrative Officer direct the Associate Administrator, HIR to:

1. Establish a formal, integrated planning and budgeting policy that requires management involvement at all levels. At a minimum, this process should include procedures that require:

    a. the development and maintenance of a strategic plan based on the ISPP vision and the accompanying operational plan (as outlined in Finding A).

    b. development and implementation of an action plan to accomplish HIR information systems planning and budgeting.

    c. HIR groups to develop operational plans that link to the strategic plan and are derived from, as well as support, the HIR operational plan. These plans should anticipate program and mission needs, reflect budget constraints, and form the basis for budget requests. Operational planning should have a one to five year focus for information systems activities and projects.

    d. formulation of a comprehensive HIR budget package that links individual Groups' budgets and operational plans according to the strategic objective(s).

    e. delegating staff the authority and responsibilities to develop, implement, and oversee the comprehensive information systems planning/budgeting process. In addition, the resources management function should require life cycle costing for major systems over their estimated useful life.

Concur
The CAO has established and will expand and utilize more fully a planning and budgeting process. HIR and its component Groups will be included in the process. Each Group's budget will be incorporated into an integrated HIR budget proposal which will in turn be incorporated into an integrated CAO budget.

Finding C: HIR Lacks Minimum Information Systems Policies, Standards, Procedures, and Guidelines

Recommendations

We recommend that the Chief Administrator Officer direct the Associate Administrator, HIR to:

1. Develop and implement a standard methodology that outlines the minimum

requirements that a policy must contain, including the elements of a policy, as stated in the finding.

Concur.
The CAO will review and clarify the requirements of the CAO for a standard methodology for a policy and will clarify to all elements of the CAO organization the appropriate methodology. This task will be completed by August 31, 1997.

2. Formalize a plan for developing and/or revising policies, standards, procedures, and guidelines which includes the following actions:

   a. formalize a listing of the minimum policies that HIR will initially schedule for development along with timelines, delegations of responsibility, and submit to the CHO, through the CAO, for approval.

   b. focus the initial policy development on HIR issues and overall standardization of system policies across the House.

   c. revise and update the existing standards, procedures, and guidelines as they correspond to the existing and new policies.

   d. formalize the approval and comment process for policies.

Concur
The CAO will formalize a plan for developing and/or revising policies, standards, procedures, and guidelines which include the above listed actions by October 31, 1997.

3. Establish and maintain a central repository for all approved HIR information systems policies, standards, procedures, and guidelines.

Concur
The CAO will establish a central repository for HIR information systems policies, standards, procedures, and guidelines. This task will be completed by October 31, 1997.

Finding D: Staffing Constraints Could Hamper HIR Effectiveness

Recommendations

We recommend that the Chief Administrative Officer direct the Associate Administrator, HIR to:

1. Develop and submit to the CAO and CHO for approval, an HIR-wide position management plan prior to any reorganization to adequately staff HIR based on the

above criteria. The plan should be reviewed on an annual basis and changes made when and where appropriate.

Concur.
See response A. 2. and 3.

2. Evaluate HIR hiring and retention practices and explore additional options that include a comparison of HIR salaries and benefits with private industry for improving HIR's ability to attract and retain qualified, experienced personnel.

Concur.
HIR will work with HR to determine an appropriate methodology for analysis of this finding and present its results to the CAO. For timeframe, see Response A. 2. and 3.

3. Based upon the results of the evaluation recommended in 2 above, develop a proposal for submission to the CAO and CHO, to restructure HIR's hiring and retention practices and salaries and benefits as appropriate.

Concur.
If the results of the survey reflect inadequate pay, then the salaries will be proposed for adjustment. For timeframe, see Response A. 2. and 3.

Finding E: HIR Integration Group Lacks Fundamental Management Practices

Recommendations

We recommend that the Chief Administrative Officer direct the Associate Administrator, HIR, instruct the Integration Group Director to:

1. Develop a comprehensive, standing inventory of all application systems in operation and under development which must adhere to a minimum set of documentation standards. These standards apply to all systems regardless of whether they were developed by HIR staff, contract staff or purchased off-the-shelf.

Concur. An inventory has been prepared and submitted for review to the IG. If additional elements of the inventory are required after further review, these will be made.

2. Develop a comprehensive operational plan covering from 1 to 3 years, which corresponds to the HIR operational plan. Include within the plan a description of all scheduled projects, key milestones (for system implementation and significant upgrades), project scope, key stakeholders, and an assessment of costs and benefits. These projects should be prioritized based on mission critical factors.

Concur.
This will be developed as part of the strategic planning process of the CAO. The plan will be completed by December 31, 1997.

3. Adopt a leadership approach that embraces the management techniques discussed in this report and require formal communication and documentation of key decisions.

Concur
See response to A. 4. As part of HIR the Director of the Integration Group has adopted a more proactive leadership which will require more formal communication and the documentation of key decisions.

4. Develop and implement effective control mechanisms as outlined in this report that ensure compliance with management approved plans and policies. Utilize the HIR project management tracking system, project management standards, and performance measures, once these controls are in place, to monitor staff activities and effectiveness.

Concur.
See response to A. 5. The Integration Group is part of HIR and as such will be included in the required control mechanisms of HIR.

5. Improve the information and reports provided to top management to facilitate prioritization and improve effectiveness for decision-making purposes.

Concur
The Integration Group Director has improved information and reports provided to the AA to facilitate prioritization and improve effectiveness for decision-making purposes.