Office of
INSPECTOR GENERAL

Audit Report

Evaluation of the Commission's Preparation for the Year 2000

Report No. IG-03-99

UNITED STATES INTERNATIONAL TRADE COMMISSION

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UNITED STATES INTERNATIONAL TRADE COMMISSION

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TO: THE COMMISSION

I hereby submit *Evaluation of the Commission's Preparation for the Year 2000*, Report No. IG-03-99. The objectives of this evaluation were to determine if progress by the Commission in addressing the year 2000 (Y2K) conversion is adequate, and to identify areas wherein the Commission must be pro-active to achieve the goal of complete conversion by January 1, 2000.

At 12:01 a.m. on January 1, 2000, many computer systems, electronic devices and components that contain embedded electronics could malfunction or produce incorrect information as a result of the Y2K problem. Since 1988, the Commission has automated key agency functions and implemented an enterprise-wide local area network. Commission employees rely upon several internal information systems, services provided by other government and commercial organizations, and the Commission's underlying enterprise network to perform its mission. On January 1, 2000, the ability of the Commission to accomplish its mission without disruption is at risk unless the systems and components upon which the Commission depends are Y2K compliant. Minimizing the impact of the Y2K problem on the Commission will require an organized managerial and technological effort.

This evaluation was conducted by Burke Consortium Inc. The contractor used criteria published by the General Accounting Office in September 1997, *Year 2000 Computing Crisis: An Assessment Guide*, as the basis for the evaluation. The guide outlines a framework and structured approach for planning, managing, and evaluating agency efforts to identify and correct problems.

The scope and severity of the impact of Y2K on the Commission's mission accomplishment cannot be known with certainty. The Commission will likely experience some disruption because of the Y2K problem since it relies heavily on automated systems and components that contain embedded electronics to accomplish its mission. The extensive use of commercial products in the Commission's information technology architecture limits the Commission's ability to resolve problems, since the Commission is dependent on third parties to provide Y2K compliant solutions. This limitation is offset by efforts in recent years to replace hardware and software with commercial products that are certified to be Y2K compliant.

The extent of the impact of the Y2K problem on Commission operations is not documented or well understood. The Office of Information Services (OIS) has reviewed the systems for which it is responsible. Users of special purpose, lesser used or non-standard applications share some of the responsibility for identifying their importance and the exact components and providing that information to OIS or at least assisting OIS in obtaining the information.

Neither of the first two phases (awareness and assessment) in addressing the Y2K problems have been completed on a Commission-wide basis. Key decisions that should have been made during these early periods have not occurred. These include designating a Y2K official, establishing an acceptable level of risk, conducting an inventory of systems, and providing necessary resources.

Personnel in various Commission offices have taken steps in anticipation of the Y2K problem, focusing on key systems and widely installed hardware and software that is used by all or most of the staff. However, the Commission has not thoroughly defined or documented the potential mission and business impact of the Y2K problem. Mission-critical systems upon which the Commission depends are technically complex, interconnected, and interrelated, but these interrelationships are not clearly identified. Target dates for completion of work have slipped because of competing priorities, workload, and lack of resources.

We recommend that the official appointed to manage the Commission's Y2K activities identify all systems, assemble a team to coordinate Commission efforts, develop a Y2K policy action plan, and increase awareness of the Y2K problem and provide technical training.

An exit conference was held with the Directors of Operations, Information Services, and Administration and their staff on December 2, 1998. The parties generally concurred that a Commission-wide approach to preparing for Y2K had not been implemented. However, considering the work that has been done, the Commission's size, and the type of systems in use, sufficient time is still available to prepare for Y2K.

The Chairman submitted a response to the draft report on January 27, 1999. She appointed the Director of Operations as the single official to oversee the Commission's Y2K efforts, suggested that he assemble a team to assist in this effort, and requested biweekly status reports and periodic follow-up reviews. A summary of the Chairman's comments are presented at the end of the first section and in entirety as an appendix to the report.

Janet E. Altenhofen

Jane E. Altenhofen
Inspector General

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INTRODUCTION

The United States International Trade Commission (Commission) provides advice to the President and Congress on tariff and trade matters, conducts investigations relating to the impact of imports on domestic industries, and contributes in the development of U.S. trade policy. The Commission has approximately 388 employees and a fiscal year (FY) 1999 budget of approximately $45 million.

Since 1988, the Commission has automated essential agency functions and implemented an enterprise-wide local area network. Consequently, the Commission relies upon several information systems and its underlying enterprise network to perform its mission. The Commission depends on information systems developed by other Federal agencies to perform its financial responsibilities, pay its employees, and perform its personnel management functions. The Commission uses information-gathering systems from commercial organizations for news and legal research. The Commission also uses components that contain embedded electronics, found in the building infrastructure, telephone and fax systems, and in the audio-visual systems used in the Commission's hearing rooms.

At 12:01 a.m. on January 1, 2000, many computer systems, electronic devices and components that contain embedded electronics could malfunction or produce incorrect information simply because the date has changed. The year 2000 (Y2K) problem is rooted in the way dates are recorded and computed in many computer systems and other electronic components. For the past few decades, systems have typically used two digits to represent the year, such as "97" representing 1997. With this two-digit format, the year 2000 is indistinguishable from 1900, 2001 from 1901, and so on. As a result of this ambiguity, electronic components and computer hardware, operating system software, application software, application programs, and data that uses dates to perform calculations, comparisons, or sorting may fail or generate incorrect results.

On January 1, 2000, the ability of the Commission to accomplish its mission without disruption is at risk unless the information systems and components on which the Commission depends are Y2K compliant. Minimizing the impact of the Y2K problem on the Commission requires an organized managerial and technological effort. Otherwise, the Commission may have to perform its work using manual methods, processes, and procedures.

BACKGROUND

Every federal agency is at risk of system failures because of the Y2K problem. In recognition of this risk, the federal government has taken several actions. In September 1997, the General Accounting Office (GAO) published report AIMD-10.1.14, *Year 2000 Computing Crisis: An Assessment Guide* that provided a structured approach for planning, managing, and evaluating agency efforts to identify and correct the Y2K problem. Although the phases recommended by GAO are fundamental, the steps are comprehensive and require adaptation to suit the specific technology architecture of each agency. As a result, the scope of effort and depth of complexity required to achieve Y2K compliance varies from agency to agency.

On February 4, 1998, The President of the United States issued an Executive Order regarding Year 2000 Conversion. The Executive Order instructs federal agencies to "... take action to assure that no critical Federal program experiences disruption because of the Y2K problem." Agency heads were instructed to "... assure that efforts to address the Y2K problem receive the highest priority attention in the agency... " The Director of the Office of Management and Budget (OMB) and the Chair of the Year 2000 Conversion Council is to report quarterly on the progress of agencies in addressing the Y2K problem.

On March 9, 1998, the Director of OMB issued Memorandum M-98-07regarding Y2K to the heads of small agencies, including the Commission. This memorandum outlined OMB's oversight authority, established Y2K policy, identified target dates for agencies to complete the phases identified in the GAO *Assessment Guide*, and requested quarterly progress reports on fixing Y2K problems.

In its first quarterly status report regarding Y2K efforts to OMB of August 15, 1998, the Commission identified five mission-critical systems: Trade Database, Electronic Document Imaging System (EDIS), ITC Net, PRISM, and Accounting/Payroll/Personnel. Two non-mission-critical systems were identified: personal computers (PCs) and commercial-off-the-shelf software (COTS), which are treated as one system. The report also identified building facilities and telecommunications systems that could be impacted by the Y2K problem. The report did not purport to identify all non-critical systems, and at least one other system, the electronic publishing system (EPS), exists.

OBJECTIVES

The objectives of this evaluation were to:

-- determine if progress made by the Commission in addressing the Y2K problem was adequate; and

-- identify areas wherein the Commission must be more proactive to achieve the goal of complete conversion by January 1, 2000.

METHODOLOGY

Burke Consortium, Inc. (BCI) conducted an evaluation of the Commission's preparation for the year 2000 using the Y2K Program Assessment Checklist found in the GAO *Assessment Guide*. Information was also used from the GAO publications AIMD 10.1.19, *Year 2000 Computing Crisis: Business Continuity and Contingency Planning*, and AIMD 10.1.21 *Year 2000 Computing Crisis: A Testing Guide*. These guides provide a framework and structured process for managing Y2K efforts and achieving the compliance of automated systems and infrastructure components upon which agencies depend. An overview of this framework is provided in Attachment 1.

BCI developed data-gathering templates for each mission-critical and non-mission-critical system identified in the Commission's report to OMB of August 15,1998, regarding Y2K progress. BCI provided a copy of these templates to Commission officials responsible for each system. During the week of October 26, 1998, BCI met with each responsible official to review the scope and status of efforts to ensure Y2K compliance of each of these systems.

The focus of these meetings was to:

-- identify the Y2K actions that have been completed, and assess the thoroughness in which these actions were performed; and

-- identify the actions that remain to be completed, and assess the thoroughness of the plans for completion, the timeliness of the schedules for implementation, and the adequacy of resources available for completion.

In addition, BCI conducted a random spot check of components used in the Commission to assess the degree of Y2K compliance. BCI reviewed contract files to determine the degree in which Y2K compliance is required for new products and services procured by the Commission. BCI interviewed several employees to determine the extent in which the Commission may rely on other automated systems, services, or building infrastructure components not identified in the Commission's report of August 15, 1998, to OMB.

FINDINGS

The Y2K problem is a genuine, time-sensitive issue. The scope and severity of the impact of the Y2K on the Commission's mission accomplishment cannot be known with certainty. The Commission will likely experience some disruption because of the Y2K problem since it relies heavily on automated systems and components that contain embedded electronics to accomplish its mission. The extensive use of commercial products in the Commission's information technology architecture limits the Commission's ability to resolve problems, since the Commission is dependent on third parties to provide Y2K compliant solutions.

The extent of the impact of the Y2K problem on Commission operations is not documented or well understood. Neither of the first two phases (awareness and assessment) in addressing the Y2K problems have been completed on a Commission-wide basis. The target dates recommended by GAO and adopted by OMB have these phases completed by June 1997. The Commission has not completed either phase, although reports to OMB indicate otherwise. Key decisions that should have been made during these early periods have not occurred. These include designating a Y2K official, establishing an acceptable level of risk, conducting an inventory of systems, and providing necessary resources.

Personnel in various Commission offices have taken steps in anticipation of the Y2K problem. However, the Commission has not thoroughly defined or documented the potential mission and business impact of the Y2K problem. In an attempt to identify the impact of the Y2K problem, the Director of the Office of Information Services (OIS) sent an e-mail message on September 16, 1998, to Commission senior staff and confidential assistants requesting information regarding systems and services that need to be Y2K compliant. Although responses were received from seven organizations, all the systems may not have been identified.

Although many employees have heard about the Y2K problem, the Commission has not conducted an awareness campaign or adequately trained its employees to assess or resolve the impact. The Y2K problem is not merely an information systems problem and it can not be solved solely through the efforts of OIS. The challenge the Commission faces permeates the entire organization. The Y2K problem affects systems under the cognizance of other divisions and other government and commercial service providers, as well as OIS. It also affects the building infrastructure, including phone and fax service.

Mission-critical systems upon which the Commission depends are technically complex, interconnected, and interrelated. Lack of Y2K compliance of any single affected component will likely have a ripple effect on the effective operation of other components. These interrelationships are not clearly identified.

Target dates reported by the Commission to OMB for completion of work have slipped because of competing priorities, workload, and lack of resources. In its initial Y2K Status Report to OMB, the Commission indicated that the Renovation Phase for ITC Net would be completed in March of 1998. In its updated Status Report to OMB in August 1998, the Commission indicated that the Renovation Phase of ITC Net would be completed in September of 1998, a schedule slip of six months. When this evaluation was conducted in November 1998, this work had not been completed.

Although some progress has been made, the Commission has not implemented an institutional approach to the Y2K problem. The Commission has not established an oversight body, appointed a single responsible and accountable authority, developed a policy, or assigned roles and responsibilities for Y2K compliance to its organizational components. The Commission does not have an overall strategy, action plan or schedule to address the Y2K issue. The Commission has not allocated adequate resources to understand or fix the problem.

Overall, Commission efforts to address the Y2K problem are insufficient to ensure a reasonable level of risk to uninterrupted operation in the year 2000. At this point in time, the Commission lacks the basic structure, tools, resources, and knowledge to provide a reasonable risk of uninterrupted operation. The Commission currently lacks the program management structure, orchestration of effort, and assignment of resources necessary to tackle this problem.

Eleven months remain until the year 2000. Achieving Y2K compliance will be a formidable task, but is not an insurmountable challenge if the Commission takes immediate steps. Ensuring a reasonable level of risk to Commission mission operations will require leadership and technical effort. Executive oversight and coordination across organizational boundaries is needed. Because of the scope and complexity of the Y2K effort and the time in which it must be accomplished, additional resources will most certainly be required. Awareness training is needed for Commission employees. Technical training and support will likely be needed for the key divisions charged with resolving the Y2K problem.

A discussion of each system is provided in Section II of this report (pages 6 – 22). In each discussion we report the findings that are specific to that system, and identify specific actions that should be taken in regards to that system. The actions for each system are not listed in priority order, and sufficient time may not be available to complete all of the actions prior to the year 2000.

RECOMMENDATIONS

The Commission needs to take immediate and decisive action to minimize the operational impact of the Y2K problem. In response to the draft report, the Chairman appointed a single official, the Director of Operations, with responsibility, authority, and accountability to manage, coordinate, orchestrate, prioritize, and reallocate resources for the Commission's Y2K effort, consistent with an acceptable level of risk. The Director of Operations is to report to the Commission bi-weekly on the status of the Y2K efforts.

We recommend that Director of Operations:

1. Ensure that all systems susceptible to Y2K problems have been identified:

2. Assemble an integrated project team consisting of a representative for each system to coordinate Y2K efforts;

3. Develop a Y2K policy establishing the Commission's acceptable level of risk considering the potential impact of Y2K problems;

4. Increase awareness of the Y2K problem among Commission managers and provide technical training, as time allows, for Commission employees directly involved in developing technical solutions; and

5. Develop and implement a Y2K action plan that:

- Assigns roles and responsibilities among Commission personnel, and designates liaisons with other agencies upon which the Commission depends;

- Identifies and prioritizes organizational tasks and the functional capabilities required to perform such tasks;

- Establishes meaningful deadlines for completing identified organizational tasks; and

- Identifies and prioritize the tools and capabilities needed, including information systems hardware, software, communications systems, and unique applications.

COMMISSION COMMENTS

The Chairman designated the Director, Office of Operations, as the agency official to oversee the Commission's efforts to prepare for Y2K. He was given the authority necessary, with the support of the Chairman, to respond to recommendations across management lines; and to effectively and decisively address concerns regarding systems located both within the Office of Operations as well as in other offices throughout the agency. Office directors were notified to give priority attention in providing support and resources to successfully assist the Director of Operations in preparing and implementing the agency's response.

TRADE DATABASE

Background

The Trade Database provides import/export information and is used by Commission employees as well as several other government agencies and the Congressional Research Service. The Trade Database is hosted on a Hewlett-Packard (HP) 9000 K series file server running the HP Unix version 10.20 operating system, and the Oracle 8 Server Enterprise Edition, version 8.0.4.0.0 database management system along with several other Oracle utilities. The Trade Database receives import/export data on a monthly and annual basis from the Census Bureau of the Department of Commerce. This data is imported into the Trade Database by OIS personnel on a monthly basis. OIS has responsibility for ensuring Y2K compliance of the Trade Database.

Personnel contacted during the course of this evaluation are listed below.

- Chief, Information Systems Division, OIS
- Senior Database Manager, OIS

Findings

While a formal strategy to achieve Y2K compliance of the Trade Database has not yet been developed, OIS personnel recognize that the Y2K problem may have an impact. OIS personnel have taken the steps listed below.

- Determined the file server is Y2K compliant according to manufacturer statements.
- Determined the operating system is Y2K compliant according to manufacturer statements subject to the installation of several software patches, some of which have not yet been installed.
- Checked manufacturer statements for Y2K statements for the database software and found the current version to be compliant, subject to an examination of how the applications are written.
- Contacted the U.S. Customs Service to request that the import/export data be provided in a four-digit year format. OIS personnel were informed by Customs Service employees that there were no plans to provide data in a four-digit year format. As a result, OIS employees add century data to the year data provided by the Customs Service as part of importing data into the Trade Database.
- Began monitoring vendor information to assess additional actions that need to be taken to ensure Y2K compliance. Comprehensive and thorough system testing was considered for the Trade Database, but funds requested by OIS were not included in the Commission's Budget Committee recommendations for FY 1999. Restoration of funds will be necessary to provide for comprehensive and thorough system testing.
- Began considering development of contingency and business continuity plans for the Trade Database.

Although OIS personnel have taken several steps to address Y2K compliance of the Trade Database, a comprehensive system inventory has not yet been developed. As a consequence, some components may have been overlooked.

Information obtained from vendors regarding Y2K compliance of known components is subject to exclusions, conditions, and footnotes. A review of the information may lead OIS personnel to believe that some components are Y2K compliant. Further research is necessary, especially with regard to how Trade Database applications have been developed and implemented using Oracle command language; the interaction between Oracle, the Trade Database applications, and the operating system; and the interdependence between the Trade Database, ITC Net, PCs/COTS, and the telecommunications infrastructure.

Backup and archive of the Trade Database is performed by OIS over ITC Net using the Legatto Networker system. Oracle export/import utilities are used to develop a secondary backup. OIS personnel are planning to assess the Y2K compliance of the backup system.

The actions that the OIS Director should consider incorporating into the Commission's plan are set forth below.

1. Develop a written strategy to achieve Y2K compliance of the Trade Database by adapting the approach provided by the GAO *Assessment Guide*. The strategy should include an action plan, identify critical milestones, and assign roles and responsibilities for implementation.

2. Develop a contingency and business continuity plan that will result in an acceptable level of risk in the event Trade Database operation is interrupted.

3. Survey all components of the Trade Database to create a complete system inventory. Map critical interdependencies that exist within the Trade Database, and between the Trade Database, ITC Net, PCs/COTs systems, and telecommunications systems.

4. Obtain vendor Y2K compliance information for components not previously identified. Closely review compliance statements received from vendors, as many contain exclusions, conditions, and footnotes that require further investigation and research. Review the Trade Database applications developed in Oracle to ensure that the applications have been developed in the manner recommended by Oracle for Y2K compliance.

5. Renovate additional Trade Database components as necessary to ensure Y2K compliance. Monitor changing information regarding the Y2K compliance of components on a frequent basis and take action necessary to ensure compliance.

6. Determine methods by which to measure Y2K compliance. Identify additional resources needed to achieve Y2K compliance of the Trade Database as soon as possible.

7. Conduct thorough testing of the Trade Database by adapting the approach provided in the GAO *Testing Guide* to plan and perform the tests. This will require the restoration of funds previously identified for this purpose.

8. Notify all non-Commission users of the Trade Database of the actions that the Commission is taking to ensure Y2K compliance. Make it clear that although the Trade Database is planned to be Y2K compliant, these users may not be able to access it unless Y2K compliance is achieved for their client workstations and the interconnecting telecommunications infrastructure. Trade Database users outside the Commission include the Department of Commerce, U.S. Trade Representative, Congressional Research Service, Federal Reserve, Department of Agriculture, General Accounting Office, Office of Management and Budget, Department of Labor, Department of Treasury, the U.S. Embassies in Asia, International Monetary Fund, United Nations Conference on Trade and Development, and the Inter-American Development Bank.

ELECTRONIC DOCUMENT IMAGING SYSTEM

Background

EDIS is a document storage and retrieval system for all legal filings that come before the U.S. International Trade Commission. EDIS is hosted on a HP 9000 Model K200 file server running the HP Unix 10.2 operating system. Excalibur Technologies is the manufacturer of software that provides the electronic filing system (EFS) database. BTG FastScan software provides image scanning capability. Caere is the manufacturer of software that provides text optical character recognition. Three workstations running the Windows NT workstation 3.51 operating system are used to scan and index all documents. Although Excalibur provides capabilities to perform transactional roll back and roll forward operations, this capability is not used by OIS. Backups of the system database are currently performed using a Legato backup system. OIS has responsibility for ensuring Y2K compliance of EDIS.

Personnel contacted during the course of this evaluation are listed below.

- Chief, Information Systems Division, OIS
- Computer Specialist, OIS

Findings

While a formal strategy to achieve Y2K compliance of EDIS has not yet been developed, OIS personnel recognize that the Y2K problem may have an impact. OIS personnel have taken the steps listed below to assess compliance of some of the EDIS components.

- Checked manufacturer statements for Y2K compliance of the file server hardware and found the file server to be Y2K compliant.
- Checked manufacturer statements for Y2K compliance of the file server operating system and found the file server operating system to be compliant, subject to the installation of several software patches which have not yet been installed but are planned for installation. OIS personnel plan to monitor the manufacturer web site on a routine basis to identify additional patches that may be identified in the future as necessary for Y2K compliance.
- Checked manufacturer statements for Y2K compliance of the workstation operating system and found the workstation operating system to be compliant, subject to the installation of a service pack, which has not yet been installed.
- Received notification from Excalibur Technologies that the system utility that performs transactional roll back and roll forward operations will not be Y2K compliant. OIS personnel state that they do not use this utility. There is no archived data, as all data is maintained online. OIS does not anticipate the need to use the roll back and roll forward utility in the future. Excalibur Technologies will not support the current EFS software used in EDIS after December 31, 1999.
- Determined that BTG no longer supports the FastScan product. As a result, there is no manufacturer source from which to determine Y2K compliance.
- Performed preliminary functional testing to turn the clock forward on one of the FastScan workstations. Although this test was successful, it is not an adequate or reliable measure by which

to gauge Y2K compliance. OIS personnel intend to perform additional functional tests to determine compliance.

- Began considering whether to perform comprehensive and thorough system testing of EDIS in December of 1998 using a duplicate EDIS test suite. OIS personnel are also considering development of a contingency and business continuity plan for EDIS.

Although OIS personnel have taken several steps to address Y2K compliance of EDIS, a comprehensive system inventory has not yet been developed. Some components may have been overlooked.

Information has not yet been obtained from all known vendors of EDIS components regarding Y2K compliance. Information already obtained is subject to exclusions, conditions, and footnotes. A review of the information may lead OIS personnel to believe that some components are Y2K compliant, but further research will be necessary.

Although Excalibur EFS software is used as a central component of EDIS, it will no longer be supported by the vendor after 1999, and funds have not been allocated for replacement. No alternatives have been developed and a contingency plan is not in place.

The actions that the OIS Director should consider incorporating into the Commission's plan are set forth below.

1. Develop a written strategy to achieve Y2K compliance of EDIS by adapting the approach provided by the GAO *Assessment Guide*. The strategy should include an action plan, identify critical milestones, and assign roles and responsibilities for implementation.

2. Develop a contingency and business continuity plan that will result in an acceptable level of risk in the event EDIS operation is interrupted. Since one vendor no longer supports a central EDIS component (BTG Fastscan), and one vendor has notified the Commission that they will not support a central component after 1999 (Excalibur EFS), EDIS is likely at high risk for interrupted performance in the Year 2000.

3. Survey all components of EDIS to create a complete system inventory.

4. Obtain vendor Y2K compliance information for components not previously identified. Closely review compliance statements received from vendors, as many contain exclusions, conditions, and footnotes that require further investigation and research. Accelerate plans for replacement of EDIS components for which manufacturer certification of Y2K compliance is not available. Alternatives for consideration may include implementation of an upgrade from EFS to RetrievalWare for the Excalibur product, provided the manufacturer certifies Y2K compliance of RetrievalWare; complete or partial transition of functions to a similar system that exists in the Office of Publishing; outsourcing of these functions to another government agency or commercial source; or procurement of replacement products from other manufacturers.

5. Renovate additional EDIS components to ensure Y2K compliance. Monitor changing information regarding the Y2K compliance of components on a frequent basis and take action necessary to ensure compliance.

6. Determine methods by which to measure Y2K compliance. Identify additional resources needed to achieve Y2K compliance of EDIS as soon as possible.

7. Conduct thorough testing of EDIS by adapting the approach provided in the GAO *Testing Guide* to plan and perform the tests.

ITC NET

Background

The Commission has an enterprise-wide network known as ITC Net that interconnects all workstations used through the organization. In addition, ITC Net provides a number of services including:

- File Server and Print Server services for Commission employees;
- Fax services for Commission employees;
- Fax on Demand services used by the public and other government agencies to obtain Commission reports and other material;
- Network routing and switching services;
- Security services, including a firewall;
- Internal and external Internet and E-mail services for Commission employees; and
- Backup and archive services.

ITC Net is an integrated system of components, consisting of a variety of hardware and software. OIS is responsible for Y2K compliance of ITC Net.

Personnel contacted during the course of this evaluation are listed below.

- Chief, Information Systems Division, OIS
- Computer Specialist, OIS

Findings

While a formal strategy to achieve Y2K compliance of ITC Net has not yet been developed, OIS personnel recognize that the Y2K problem will interrupt operation of ITC Net. While many of the ITC Net components have been assessed for Y2K compliance, OIS personnel are continuing to check manufacturer statements regarding Y2K compliance as experience has shown that many components are subject to change. Most of the known components of ITC Net are likely to require modification to achieve Y2K compliance. Plans in this regard are under development to accomplish server replacement and operating system upgrades.

A spot check revealed that some network switches and routers, and the software used for backup and archive believed to be compliant by OIS personnel, are Y2K compliant according to manufacturer information.

OIS personnel have taken steps, and plan to take additional steps to address Y2K compliance of ITC Net. A comprehensive inventory is under development. OIS personnel plan to finalize the inventory in the near future.

While there is no formal plan or schedule to address Y2K compliance of ITC Net, OIS personnel are planning to develop a plan and schedule. No resources have specifically been allocated to ensure Y2K compliance of ITC Net. Funds requested by OIS for Y2K compliance of ITC Net were not included in the

Commission's Budget Committee recommendations for FY 1999. Additional resources will be necessary to manage, assess, renovate, test, validate, and implement changes to ITC Net to ensure Y2K compliance.

There is currently no contingency or business continuity plan in place for ITC Net.

The actions that the OIS Director should consider incorporating into the Commission's plan are set forth below.

1. Develop a written strategy to achieve Y2K compliance of ITC Net by adapting the approach provided by the GAO *Assessment Guide*. The strategy should include an action plan, identify critical milestones, and assign roles and responsibilities for implementation.

2. Develop a contingency and business continuity plan that will result in an acceptable level of risk in the event ITC Net operation is interrupted.

3. Define the boundaries of ITC Net and survey all components to create a complete system inventory. Identify critical and non-critical components. Map critical interdependencies that exist between ITC Net, PCs/COTS and Commission mission-critical systems including the Trade Database, EDIS, PRISM, and EPS to identify and prioritize components that are integral to the operation of other mission-critical systems.

4. Obtain vendor Y2K compliance information for ITC Net components. Closely review compliance statements received from vendors, as many contain exclusions, conditions, and footnotes that require further investigation and research.

5. Renovate ITC Net components to ensure Y2K compliance. Monitor changing information regarding the Y2K compliance of components on a frequent basis and take action necessary to ensure compliance.

6. Determine methods by which to measure Y2K compliance. Identify additional resources needed to achieve Y2K compliance of ITC Net as soon as possible.

7. Conduct thorough testing of ITC-Net by adapting the approach provided in the GAO *Testing Guide* to plan and perform the tests. Tests should be conducted for the components individually, when integrated, and in conjunction with other systems including EDIS, Trade Database, PRISM, EPS, and PCs/COTS.

PRISM

Background

In addition to standard information systems provided by OIS, staff in the Office of the Director of Administration (AD) use PRISM software developed by CompuSearch Software Systems to process all Commission contracting actions. Implemented in 1998, PRISM replaced the Sacons system used previously. PRISM version 3.2.2 is currently installed on a Dell File Server running Microsoft Windows NT Server version 4.0. PRISM uses Oracle version 7.3 for its underlying database, and Sybase Infomaker version 5.0 for report generation. HP DeskJet 820C printers are used in conjunction with the PRISM system. The AD staff use software provided by the Department of Commerce for electronic submissions to the Commerce Business Daily. Responsibility for Y2K compliance is split between OIS and AD.

Personnel contacted during the course of this evaluation are listed below.

- Chief, Information Systems Division, OIS
- Senior Contract Specialist, AD

Findings

While a formal strategy to achieve Y2K compliance of the PRISM system has not yet been developed, AD and OIS personnel recognize that the Y2K problem may have an impact. AD personnel have taken the steps listed below.

- Obtained a letter from Compusearch Software Systems reporting that PRISM passed an extensive Y2K certification test; AD personnel currently enter all data into the PRISM system in a four-digit year format.
- Obtained a letter from Sybase regarding the Y2K compliance of Sybase products.
- Researched Y2K compliance information for HP DeskJet printers on the HP website and confirmed that the printers are Y2K compliant.
- Researched Y2K compliance information for Oracle products on the Oracle website.

Although AD and OIS personnel have taken several steps to address Y2K compliance of the PRISM system, a system inventory has not yet been developed. As a consequence, critical hardware or software components that are not readily known may have easily been overlooked.

Information obtained from vendors is not complete, leading AD and OIS personnel to believe that some components are Y2K compliant, when they may not have been certified. For example, AD personnel obtained a letter from Sybase regarding the Y2K compliance of the Infomaker product used as part of PRISM. Further research during the course of this audit based on information from the Sybase website revealed that only version 5.0.04 released on 9/30/98 is certified as Y2K compliant. AD personnel indicated that they use version 5.0 of Sybase. AD personnel also obtained a letter from Compusearch regarding the Y2K certification of the PRISM Windows product used in AD. However, Compusearch did not address the Y2K compliance of other manufacturer's products used as part of the total PRISM system, such as Infomaker and Oracle. Additional research is needed to determine Y2K compliance of Infomaker and Oracle.

OIS personnel have not yet assessed Y2K compliance of the Dell fileserver, but plan to do so in the future. AD personnel have not yet assessed Y2K compliance of the Department of Commerce software used to submit items to the Commerce Business Daily, but plan to do so in the future.

Backup and archive of PRISM data is performed by OIS over ITC Net using the Legatto Networker system. OIS personnel are planning to assess the Y2K compliance of the backup system. AD does not receive data from other internal or external sources and does not transmit data to other external or internal sources other than the Commerce Business Daily submission discussed above.

AD personnel are considering developing contingency and business continuity plans in the event of Y2K failure, and are considering conducting comprehensive and thorough testing of the entire system.

For all Commission purchase orders and delivery orders, AD has implemented a policy to add a Y2K warranty requirement as recommended by the Federal Acquisition Regulations (FAR), and used by the General Services Administration (GSA) to the terms and conditions section of each contract. A review of purchase orders issued after implementation of this policy revealed that AD is consistently including the Y2K warranty in all applicable purchase orders. For Commission purchases made using government credit cards and for information technology products and services obtained from other government agencies using interagency agreements, the Y2K warranty requirement is not currently invoked. AD personnel are considering whether this requirement should be invoked on credit card orders and interagency agreements in the future.

The actions that the AD Director should consider incorporating into the Commission's plan are set forth below.

1. Develop a written strategy to achieve Y2K compliance of the PRISM system by adapting the approach provided by the GAO *Assessment Guide*. The strategy should include an action plan, identify critical milestones, and assign roles and responsibilities for implementation.

2. Develop a contingency and business continuity plan that will result in an acceptable level of risk in the event PRISM operation is interrupted.

3. Survey all components of PRISM to create a complete system inventory.

4. Obtain vendor Y2K compliance information for components not previously identified. Closely review compliance statements received from vendors, as many contain exclusions, conditions, and footnotes that require further investigation and research.

5. Determine methods by which to measure Y2K compliance. Identify additional resources needed to achieve Y2K compliance of PRISM as soon as possible.

6. Consider conducting a "dress rehearsal" to test the readiness of the PRISM system at a time that would not disrupt work in progress.

7. Modify the contract for maintenance to include Y2K compliance as a requirement and obtain a letter of certification from Compusearch certifying the Y2K compliance of the entire system. The PRISM system was purchased on a turn-key basis (i.e. Compusearch provided all the component parts of PRISM), and a maintenance contract is in place. The current letter received from Compusearch only says that the PRISM software met Y2K certification requirements established for the PRISM Windows software. It does not encompass the Y2K certification of the entire PRISM system delivered by Compusearch to the Commission.

ACCOUNTING/PAYROLL/PERSONNEL

Background

To perform Commission financial functions, the Office of Finance and Budget (OFB) uses three major information systems: Federal Financial System (FFS); Government On-Line Accounting Link System (GOALS), and Electronic Certification System (ECS).

- FFS is provided as a service from the Department of Interior (DOI) using software developed and maintained by American Management Systems (AMS).

- GOALS is provided as a service by the Financial Management Service of the Department of Treasury (DOT). It is used to receive government bills, meet reporting requirements, and perform other financial-related functions.

- ECS is a service provided by the DOT Financial Management Service, Philadelphia Financial Center. It is used to certify payment of Commission obligations recorded in the FFS system managed by the DOI.

To perform Commission payroll functions, the OFB uses a service provided by the DOI using the Federal Personnel Payroll System (FPPS), being maintained by the DOI's Denver Administrative Service Center. The Office of Personnel also uses this system.

Access to these systems are provided as a service to the Commission, using components provided by OIS and the service providers, DOT and DOI. Responsibility for Y2K certification of these systems is divided between DOT, DOI, and the Commission's OFB, OIS, and the Office of Personnel.

Personnel contacted during the course of this evaluation are listed below.

- Director, OFB

- Chief, Finance Division, OFB

- Director, Office of Personnel

- Chief, Information Systems Division, OIS

Findings

Federal Financial System

In a letter of March 27, 1998, DOI notified the Commission that AMS certified the Y2K compliance of the latest version of FFS. DOI indicated that the Y2K compliant version will be implemented in June 1998 and subsequently tested. OFB personnel have received verbal assurance from the DOI that the Y2K compliant version has been installed, testing is continuing, and full implementation targeted for March of 1999 is on schedule.

Although there is not currently a written agreement in place between the Commission and DOI regarding Y2K compliance of FFS, OFB personnel plan to continue to maintain close communications with DOI to ensure that current plans remain on track.

OFB personnel are considering development of a contingency and business continuity plan and will check with DOI regarding their proposed contingency plan for FFS.

Government On-Line Accounting Link System

In a letter of December 2, 1997, DOT stated that it would develop any bridges needed to ensure Y2K compliance of GOALS. However, DOT did not clarify which systems will require bridges. OFB personnel have not yet assessed Y2K compliance of the GOALS workstation hardware or software used by the Commission, but plan to do so in the near future.

There is not currently a written agreement in place between the Commission and DOT regarding Y2K compliance of GOALS. OFB personnel are considering developing a memorandum of agreement with the DOT regarding roles and responsibilities for ensuring Y2K compliance, and will continue to maintain close communication with DOT personnel regarding the Y2K compliance status of the GOALS software that resides at the Commission.

OFB personnel are considering development of a contingency and business continuity plan and will check with DOT regarding the proposed contingency plan for GOALS.

Electronic Certification System

ECS consists of a dedicated computer provided by DOT with a special proprietary board installed. The ECS can only be used with Intel 386, 486 and some low-speed pentium-based computers. Since this system can not be used with current Commission standard computers, OFB personnel plan to check with DOT regarding plans for making the board compatible with contemporary equipment. A larger issue, not limited to Y2K concerns, is that there are currently no spare computers that meet the ECS hardware requirements allocated as backups in the event the current computer fails.

In a letter of July 13, 1998, DOT identified several areas of concern with regard to Y2K compliance of the ECS and outlined a plan to achieve Y2K compliance by the end of 1998. DOT provided guidance to the Commission to perform Y2K testing on the computer provided by DOT. OFB personnel performed the Y2K compliance test on the ECS computer as suggested by DOT, and reported that the test was successful. However a review of the test procedure provided by DOT indicates that while the test procedure validated that the system clock recognized and maintained the year 2000, the test did not validate the ability of the clock to recognize the leap year, or test the software on ECS in any way. OFB personnel plan to check with DOT regarding the validity and thoroughness of the test procedure.

There is currently no written agreement in place with DOT regarding Y2K compliance of ECS, or outlining roles and responsibilities for maintenance of the computer provided by DOT. OFB personnel are considering establishing an agreement in this regard.

OFB personnel are considering development of a contingency and business continuity plan for the ECS function and plan to check with DOT to determine what continuity planning has been performed.

A dot matrix printer is used to print reports from the ECS standalone computer. OFB personnel have not yet assessed Y2K compliance of the printer but plan to do so in the future. OFB personnel plan to work with DOT to determine if any other printers are compatible with ECS in the event of failure of the dot matrix printer in the future. OFB personnel are not aware of any computer software associated with ECS, but plan to determine what kind of software is used and assess the status of Y2K compliance.

Federal Personnel Payroll System

In a letter of March 27, 1998, DOI notified the Commission that the new FPPS is Y2K compliant by design, and that implementation is scheduled to be completed for all clients by the end of the 1998 pay year. The Office of Personnel reports that the FPPS system will accept personnel actions beyond the year 2000. The payroll aspects of the FPPS system have not yet been tested by the Commission.

Although there is not currently a written agreement in place between the Commission and DOI regarding Y2K compliance of FPPS, OFB personnel plan to continue to maintain close communications with DOI to ensure that current plans for FPPS remain on track.

OFB personnel are considering development of a contingency and business continuity plan and will check with DOI regarding their proposed contingency plan for FPPS.

Other

OFB personnel are also using DBASE applications to log and track invoices, travel vouchers and checks. The Office of Personnel is also using DBASE applications. Both offices indicated their intention to migrate the applications to the Commission standard, MS-Access in the future to ensure Y2K compliance. The Office of Personnel has a programmable calculator to compute retirement benefits that will not compute beyond December 31, 1999. Plans are in place to replace the calculator in the future with a piece of software on CD-ROM that is Y2K compliant.

The actions that the OFB Director should consider incorporating into the Commission's plan are set forth below.

1. Define roles and responsibilities for ensuring Y2K compliance of "non-standard"workstation hardware, software, and other components used to access services.

2. Develop a contingency and business continuity plan that will result in an acceptable level of risk in the event FFS, GOALS, ECS, and FPPS operations are interrupted.

3. Assess "non-standard" components for Y2K compliance, install changes where necessary.

4. Test and validate the systems where practical.

5. Establish memoranda of understanding with the service providers, DOI and DOT, regarding roles and responsibilities for ensuring Y2K compliance of FFS, GOALS, ECS, and FPPS. Ensure the Y2K warranty suggested in the FAR is included in all interagency agreements provided to the service providers by the Commission.

PCs and COTS

Background

The Commission has approximately 400 PCs in use in the agency, using a variety of COTS operating systems and software applications packages. PCs in use include Dell model P60, P90, P166, P266, P300, and P400, as well as several 80486-based machines. OIS is responsible for Y2K compliance of all "OIS standard" PCs and COTS hardware, operating system software, and software applications. Commission users are responsible for Y2K compliance of all "non-standard" PCs and COTS hardware, operating system software, and applications packages, and all data. Although PCs and COTS by themselves were not identified by the Commission as mission-critical, they are integral parts of mission-critical systems.

Personnel contacted during the course of this evaluation are listed below.

- Chief, Information Systems Division, OIS
- Computer Specialist, OIS

Findings

While a formal strategy to achieve Y2K compliance of PCs and COTS has not yet been developed, OIS personnel recognize that the Y2K problem will interrupt operation of PCs and COTS used throughout the Commission. OIS personnel have checked manufacturer statements regarding Y2K compliance of Dell PCs and Microsoft Windows operating systems and identified upgrades that will need to be performed.

OIS personnel have taken steps to identify Y2K compliance status of PCs and COTs. A comprehensive inventory of all PCs, operating systems software, and "OIS standard" applications software has been developed. OIS personnel are in the process of evaluating an automated tool, Netwizard, that may be helpful in identifying additional applications software installed by the Commission's business units.

Using the inventory, OIS personnel developed a draft list of additional "OIS standard" applications software for which Y2K assessment needs to be performed. This list is in the process of being reviewed and finalized.

While there is no formal plan or schedule to address Y2K compliance of PCs and COTS, OIS personnel are considering developing a plan. In-house resources have been allocated to ensure Y2K compliance of PCs and COTS, but those resources are limited. Funds requested by OIS for Y2K compliance of PCs and COTS were not included in the Commission's Budget Committee recommendations for FY 1999. Additional resources will be necessary to manage, assess, renovate, test, validate, and implement changes to PCs and COTS to ensure Y2K compliance.

There is currently no contingency or business continuity plan in place for PCs and COTS.

The actions that the OIS Director should consider incorporating into the Commission's plan are set forth below.

1. Develop a written strategy to achieve Y2K compliance of PCs and COTS that are integral parts of mission-critical systems by adapting the approach provided by the GAO *Assessment Guide*. The strategy should include an action plan, identify critical milestones, and assign roles and responsibilities for implementation.

2. Develop a contingency and business continuity plan that will result in an acceptable level of risk in the event operation of PCs and COTS that are integral to mission-critical systems is interrupted.

3. Validate the inventory that already exists, adding additional components that may have not yet been identified. Map critical interdependencies that exist between PCs and COTS components and Commission mission-critical systems including the Trade Database, EDIS, PRISM, EPS, and ITC Net. Identify those hardware and software components for which OIS will assume responsibility for Y2K compliance and those for which other Commission organizations will assume responsibility, and notify other organizations accordingly.

4. Obtain vendor Y2K compliance information for PCs and COTS components that have critical interdependency with Commission mission-critical systems. Closely review compliance statements received from vendors, as many contain exclusions, conditions, and footnotes that require further investigation and research.

5. Renovate PCs and COTS that are integral to mission-critical systems to ensure Y2K compliance. Monitor changing information regarding Y2K compliance of components on a frequent basis and take action necessary to ensure compliance.

6. Determine methods by which to measure Y2K compliance. Identify additional resources needed to achieve Y2K compliance of PCs and COTS as soon as possible.

7. Conduct thorough testing of PCs and COTS by adapting the approach provided in the GAO *Testing Guide* to plan and perform the tests. Tests should be conducted for PCs and COTS components individually, when integrated, and in conjunction with Commission mission-critical systems.

BUILDING INFRASTRUCTURE

Background

The Commission is housed in an office building located at 500 E Street, SW, Washington, DC. The building is leased by the GSA and managed by Boston Properties. GSA's contract with Boston Properties does not require Y2K compliance of the building infrastructure. GSA has delegated lease management authority for the building to the Commission. The Office of Facilities Management (FM) is responsible for administering the Commission's delegated lease management authority. Responsibility and accountability for Y2K compliance of the building infrastructure rests with the Commission. GSA has notified the Commission of its intention to provide assistance in determining Y2K compliance, and has taken steps in this regard.

Personnel contacted during the course of this evaluation are listed below.

- Director, Office of Management Services
- Director, FM
- Facilities Management Specialist, FM

Findings

FM personnel are currently in the process of determining the potential impact of the Y2K problem on the building infrastructure. They have not yet developed a formal strategy to achieve compliance, however, they recognize that the Y2K problem may have an impact and have taken the steps listed below to ensure the uninterrupted provision of building services.

- Contacted Boston Properties and were told they have developed a corporate plan to achieve Y2K compliance.
- Responded to a survey request from GSA for an inventory of building systems and equipment. GSA recently contracted with an outside firm to research Y2K compliance of the inventory and will post compliance status to a website accessible to FM personnel.
- Obtained letters of assurance or other documentation of Y2K compliance from vendors or manufacturers of building infrastructure components purchased directly by the Commission, including:
    - Kastle Systems, provider of building security alarm services;
    - NAVCO Security Systems and Panasonic Video Imaging Systems, manufacturers of the closed circuit surveillance system used for building security;
    - Liebert Corporation, manufacturer of environmental units used to supplement building air conditioning; and
    - DataCard, manufacturer of the employee badging system.

- Obtained a letter of certification of Y2K compliance from Data Storage Centers, the contractor that provides records storage services for the Commission.

- Ensured that contract for the new inventory software recently purchased for the division included a Y2K warranty statement, and obtained a certification of Y2K compliance from the vendor.

- Obtained information assuring Y2K compliance of the computer-aided design software used by facilities management personnel.

FM maintains the Commission's Master Property List, which is a list of all ITC-owned accountable property. During the course of this evaluation, FM personnel identified several additional building infrastructure components that were not included in the inventory list provided to GSA, such as uninterruptable power supplies, and supplemental air conditioning units. FM personnel requested and received Y2K compliance information from the vendors of most of those components. FM personnel indicated that they plan to supplement the original inventory provided to GSA to include the items they recently identified. FM personnel are considering development of a contingency and business continuity plan.

The actions that the FM Director should consider incorporating into the Commission's plan are set forth below.

1. Develop a matrix checklist indicating roles and responsibilities for Y2K compliance of each building infrastructure component. Develop an action plan and identify critical milestones for achieving Y2K compliance of the building infrastructure.

2. Develop a contingency and business continuity plan that will result in an acceptable level of risk in the event building operation is interrupted.

3. Conduct a visual survey of those areas of the building that may have been overlooked during generation of the inventory information provided to GSA. Identify additional building infrastructure components for which the Commission has responsibility. Pay particularly close attention to the computer facility, publishing facility, library facilities, hearing rooms, and other areas that typically require supplemental building improvements implemented by the Commission rather than by GSA.

4. Assess the Y2K compliance of the building infrastructure components for which the Commission is responsible. Obtain vendor certifications of Y2K compliance. Closely review compliance statements received from vendors, as many contain exclusions, conditions or footnotes that require further research.

5. Renovate building infrastructure components for which the Commission is responsible to ensure Y2K compliance. Monitor changing information regarding the Y2K compliance of components on a frequent basis and take action necessary to ensure compliance.

6. Closely monitor the GSA database regarding Y2K compliance of the building infrastructure for components for which GSA has contracting authority and continue to work with Boston Properties to track the status of Y2K compliance.

7. Determine methods by which to measure Y2K compliance. Identify additional resources needed to achieve Y2K compliance of the building infrastructure as soon as possible.

8. Consider conducting a "dress rehearsal" to test the readiness of the building infrastructure at a time that would not disrupt work in progress.

ELECTRONIC PUBLISHING SYSTEM

Background

EPS provides publishing capability for Commission reports and other products. It collectively consists of several interconnected special purpose subsystems that are listed below.

- Electronic Composition Workstations
- Production Printing System
- Electronic Archival/Imaging System
- High-Speed Production Copiers
- DocuWeb Server
- CD Library with Jukebox
- DocuJob Converter
- Interleaf Publishing System
- Firewall

Primary responsibility for Y2K certification of EPS rests with the Office of Publishing (PUB) in AD although some responsibilities are interrelated with those of OIS. In addition, PUB is responsible for Y2K certification of all copiers used throughout the Commission, and of the audio-visual systems used in Commission hearing rooms and other audio-visual components used throughout the Commission.

Personnel contacted during the course of this evaluation are listed below.

- Director, PUB

- Information Systems Specialist, PUB

A description of the system configuration of EPS is provided in Attachment 2. The description exemplifies the level of inventory that should have been completed for all systems in order to thoroughly address the Y2K problem.

Findings

While a formal strategy to achieve Y2K compliance of EPS has not yet been developed, PUB personnel recognize that the Y2K problem will likely interrupt operation of EPS. PUB personnel have taken the steps listed below to assess compliance of some of the EPS subsystems and components.

- Obtained Y2K certification of Sun servers and Solaris operating system from a third-party contractor.

- Checked manufacturer statements and determined Y2K compliance for several EPS components including: Adobe PageMaker 7.0, DocuTech Printers, Digipath/DocuWeb, Compaq 6000 Server, DocuJob Converter, and the Firewall.

- Checked manufacturer statements and determined that upgrades are needed for several EPS components including: Interleaf software, electronic composition workstation hardware, Xerox DocuTech NP1352, IBM 386 PC, and Novell Netware used as part of the production printing system.

- Checked manufacturer statements and determined that the copiers used throughout the Commission appear to be Y2K compliant, provided that the models indicated by the manufacturers as compliant are in fact the same models being used in the Commission.

PUB personnel have taken steps to develop a comprehensive system inventory of EPS, and are currently validating it to identify components that may have been overlooked. PUB personnel are in the process of assessing Y2K compliance of EPS, as well as the audio-visual systems and equipment used throughout the Commission.

Information obtained from vendors regarding Y2K compliance of known components is subject to exclusions, conditions, and footnotes. A review of the information may lead Publishing personnel to believe that some components are Y2K compliant, but further research is necessary given the complex interconnectivity within EPS subsystems, among EPS subsystems, and between EPS and ITC Net.

There are currently no plans to conduct component, system, or end-to-end testing of Y2K compliance of the publishing system, although PUB personnel are considering such tests.

Although there is currently no contingency or business continuity plan in place for EPS, PUB personnel are currently developing a plan.

There are no resources specifically allocated to ensure Y2K compliance of EPS. Additional resources will be necessary to manage, assess, renovate, test, validate, and implement changes to EPS to achieve Y2K compliance.

The actions that the PUB Director should consider incorporating into the Commission's plan are set forth below.

1. Develop a written strategy to achieve Y2K compliance of the EPS and audio-visual systems by adapting the approach provided by the GAO *Assessment Guide*. The strategy should include an action plan, identify critical milestones, and assign roles and responsibilities for implementation.

2. Develop a contingency and business continuity plan that will result in an acceptable level of risk in the event EPS and audio-visual system operations are interrupted.

3. Continue current efforts to validate the EPS inventory and develop the audio-visual inventory, adding additional components that may have not yet been identified. Map critical interdependencies that exist within EPS subsystems, between EPS subsystems, between EPS and other interfacing systems, and within audio-visual systems.

4. Obtain vendor Y2K compliance information for components not previously identified. Closely review compliance statements received from vendors, as many contain exclusions, conditions, and footnotes that require further investigation and research.

5. Renovate EPS components and audio-visual systems to ensure Y2K compliance. Monitor changing information regarding the Y2K compliance of components on a frequent basis and take action necessary to ensure compliance.

6. Determine methods by which to measure Y2K compliance. Identify additional resources needed to achieve Y2K compliance of EPS and audio-visual systems as soon as possible.

7. Conduct thorough testing of EPS and audio-visual systems by adapting the approach provided in the GAO *Testing Guide* to plan and perform the tests. Tests should be conducted for EPS components individually, when integrated, and in conjunction with other interfacing systems.

Attachment 1

Y2K COMPLIANCE FRAMEWORK AND TARGET DATES

❑ Management (continuous)

Assign roles and responsibilities, provide resources, coordinate efforts of component organizations, develop and promulgate policy, plans and procedures, identify risk, and coordinate the overall Y2K effort. Establish metrics, which provide methods by which to measure the current status and predict the future status of Y2K efforts, given a constrained schedule and fixed budget allocation.

❑ Awareness (Commence: January 1996 (GAO), Complete: December 1996 (OMB))

Define the Y2K problem and gain executive level support and sponsorship. Establish the Y2K program team and develop an overall strategy. Ensure that everyone in the organization is fully aware of the issue.

❑ Assessment (Commence: December 1996 (GAO), Complete: June 1997 (OMB))

Assess the Y2K impact on the Commission. Identify core mission and business areas and processes, inventory and analyze systems that support the core mission and business areas, and prioritize their conversion or replacement. Develop contingency plans to handle data exchange issues, lack of data, and bad data. Identify and secure the necessary resources.

❑ Renovation (Commence: May 1997 (GAO), Complete: July 1998 (OMB))

Convert, replace, or eliminate selected platforms, applications, databases, and utilities. Modify interfaces.

❑ Validation (Commence: July 1998 (GAO), Complete: February 1998 (OMB))

Test converted or replaced platforms, applications, databases, and utilities. Test the performance, functionality, and integration of converted or replaced platforms, applications, utilities, and interfaces in an operational environment. Testing includes unit testing, integration testing, acceptance testing, and end-to-end system testing, where the full range of functions of the entire system, including data interfaces, is tested with operational data.

❑ Implementation (Complete: March 1999 (OMB))

Implement converted or replaced platforms, applications, databases, utilities, and interfaces. Implement data exchange contingency plans, if necessary.

❑ Contingency and Continuity Planning (no target dates provided)

Develop a high-level business continuity plan. Assess the impact of failures on mission processes. Identify and document contingency plans. Rehearse.

Attachment 2

Electronic Publishing System Configuration

Function	Quantity	Model/Version	Y2K Compliance Notes
Electronic composition workstations	9	DELL Optiplex GXMT 5166 (5), DELL Optiplex GXI 5166 (2), DELL XPS D300 (1), running Windows 95operating system; DELL XPS R400 running Windows 98 operating system; Interleaf for Windows 6.2; Hummingbird Exceed Version 5 protocol emulator; MS Office 97 (Word, Excel, Access, PowerPoint); Corel OfficeSuite 8 (WordPerfect, Draw, QuattroPro, PhotoHouse); Adobe PageMaker 7.0, Photoshop 5.0, Acrobat 3.0, Capture 2.0, FrameMaker 5.0; QuarkExpress 4.0; TextBridge Pro98; OmniPage Pro for Windows 95; Pagis Pro 2.0; Netscape 4.X; Explorer 4.0 Hewlett Packard (2) HP SacnJet4C scanners running ScanJet Software ; (2) DeskJet scanners running Deskscan for Windows 95, (5) total DeskJet 890 and 820C local color printers; XEROX Fiery XJ 5790 color printer/copier running Fiery Software 3.0; (1) HP 5SI printer running on Banyan network	Workstation hardware not compliant–need upgrade; Need release from Interleaf for Windows Version 6.4 Adobe PageMaker 7.0 is compliant per vender information Currently assessing remainder of hardware and software
Production printing system	2	(1) XEROX DocuTech 6180 w/ SUN SPARC 20 controller running Solaris 2.6 OS and XEROX DocuSP 3.32.00 Production printing software (1) XEROX DocuTech NP1352 running XEROX XPP 3.43 software w/ Novell Netware server running version 3.51 on an IBM 386 PS2 Model 40	SUN server and Solaris OS certified by contractor. DocuTech printers assessed–vendor information provided indicates Y2K compliant. All other items are being assessed for Y2K compliance. IBM 386 PC not compliant; Netware not compliant (The NP1352 is being assessed to be replaced by a DocuTech 6180; decision is expected 1/99)

Electronic Publishing System Configuration (continued)

Function	Quantity	Model/Version	Y2K Compliance Notes
Electronic archival/imaging system	2	(2) Compaq DeskPro workstations attached to (2) XEROX scanners, RAID storage device, magneto optical disk dive, 8mm tape drive and Iomega Zip drives; running Windows NT Workstation 4.0; and XEROX DigiPath Version 1.0 (Scan and MakeReady and Xerox Documents of Demand options); WordPerfect 8; Netscape 4.5; Explorer 4.0 (DocuTech printers, XEROX DocuJob Converter, and XEROX scanners attached)	Digipath/DocuWeb Y2K compliance per XEROX Compaq 6000 is Y2K compliant per Compaq website All other items are being assessed for Y2K compliance
Copiers	44	(7) XEROX 5895 (10) XEROX 5034 (2) XEROX DC265 (2) XEROX DC230 (2) XEROX 5042 (2) XEROX 5335 (3) Canon GP30 (5) Canon 6030 (2) Canon 6551 (2) Canon 6050 (2) Oce 3045 (5) Oce 3045 (2) Savin 9920DP (2) Savin 9940	Have received letters from all vendors indicating Y2K compliance--although OCE has caveats.
DocuWeb Server	1	Compaq 6000 Professional Workstation running NT Server 4.0 with Service Pak 3; XEROX DocuWeb server software 1.0	DigiPath/Docu Y2K compliant per XEROX Compaq 6000 is Y2K compliant per SUN website All other items are being assessed for Y2K compliance

Electronic Publishing System Configuration (continued)

Function	Quantity	Model/Version	Y2K Compliance Notes
CD Library–CD Jukebox for Photobox Archive	1	Compaq DeskPro running Windows NT 4.0 with Service Pak 3; Adobe PhotoShop 5.0; Kodak Jukebox CD Library 144 with Smart CD software Kodak thermal printer professional 8670; Kodak film scanner RFS 3570	Implemented but not in production yet. Assessing all items for Y2K compliance.
DocuJob Converter	1	Sun SPARC 20 running Solaris 2.6 OS and XEROX DocuJob Converter software version 2.0.1.0 that translates XEROX images to TIFF format with SUN 8mm tape backup	DocuJob Converter is compliant as per XEROX
Interleaf System	1	(1) SUN SPARC 20 running Solaris 2.6 OS running 5 licenses of Interleaf for Unix version 5.x; and 6.x; Hp4si printer; Exabyte 8mm tape backup unit	Sun Server and Solaris certified by contractor, Assessing other items
Firewall	1	Sun Sparc 1+ Server running Solaris 2.6; Sun Firewall-1, Version 3.0	All believed to be Y2k compliant based on information provided by vendor.

CHAIRMAN

Appendix

UNITED STATES INTERNATIONAL TRADE COMMISSION

WASHINGTON, D.C. 20436

CO71-W-006
January 27, 1999

TO: The Inspector General

FROM: Chairman Bragg

SUBJECT: Draft Report: Audit of Commissioner's Preparation for Year 2000

I have reviewed the subject draft report, including your recommendation that I, as Chairman, appoint a single official "with responsibility, authority, and accountability to manage, coordinate, orchestrate, prioritize, and reallocate resources for the Commission's Y2K effort, consistent with an acceptable level of risk."

I appreciate the careful and deliberate analysis you have provided the Commission regarding our state of preparedness for this administrative crossroads.

In response to your recommendation, I am designating Rob Rogowsky, Director, Office of Operations, as the agency official charged with overseeing the Commission's efforts to prepare for the Year 2000. In doing so, he has the authority necessary, with the support of the Chairman, to respond to your recommendation across management lines; he is authorized to effectively and decisively address concerns regarding systems located both within the Office of Operations as well as in other offices throughout the agency. To assist him in accomplishing this task, I have suggested that he assemble a team with members from appropriate offices to assist in this effort. I anticipate that you or a member of your staff would be included as part of the team. Senior managers and office directors are expected to give priority attention in providing support and resources to successfully assist the Director of Operations in preparing and implementing the agency's response.

To ensure that the Commission is kept informed on the direction and progress of our resolution of Y2K concerns, I am requesting a biweekly report from the Director of Operations to the Commission regarding the status of our response to the IG's report. I have also asked the IG to arrange for the auditors who prepared this report to review and evaluate the committee's progress at the end of three months, with subsequent three-month reviews as necessary. Their assessments will proceed directly to the Commission.

I appreciate that the Office of Information Services, as indicated in its response to the IG on the draft report, has already directed its attention to addressing the IG's concerns. I encourage them to continue these efforts in support of the Director of Operations over-all responsibility in this area.

If you have any questions or concerns regarding this process or the progress in addressing the matters identified in your report, please let me know.

cc: The Commission
Director, Office of Operations
Office Directors