

December 3, 1999

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SENIOR VICE PRESIDENT, CHIEF TECHNOLOGY OFFICER

SUBJECT: Audit Report - Year 2000 Initiative: Status of Postal Service
Year 2000 Readiness (Report No. IS-AR-00-002)

This report presents the results of our review of the Postal Service Year 2000 (Y2K) Initiative regarding progress in addressing the Year 2000 Challenge. (Project Number 00ER010IS000). This is our third in a series of status reports that address Y2K activities reported by the various elements within the Postal Service.

Our review disclosed that overall the Postal Service had demonstrated substantial progress on the Y2K Initiative as of September 1999 in comparison to the baseline numbers we reported in May 1999. However, the Postal Service disclosed considerable progress in the areas of facilities and external suppliers, and varying levels of progress in the areas of component contingency plans and business continuity planning. This report contains no recommendations and Postal Service management elected not to respond to the report, as it was not required.

We appreciate the cooperation and courtesies provided by your staff during the review. If you have any questions or need additional information, please contact [REDACTED], [REDACTED], or me at (703) 248-2300.

Billy J. Sauls
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for Employee

Attachment

cc: Richard D. Weirich
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EXECUTIVE SUMMARY

Introduction

This audit report is one in a continuing series of Office of Inspector General (OIG) reports regarding the United States Postal Service Year 2000 (Y2K) Initiative. (See Exhibit B Prior Audit Coverage Synopsis for details on these prior reports.) This report discusses our review of the Postal Service Y2K Initiative regarding progress in addressing the Y2K challenge. This report, the third in a series of status reports, contains no recommendations but presents an independent perspective with regards to Y2K activities reported by the various elements within the Postal Service.

Results in Brief

Overall, the Postal Service had demonstrated substantial progress on the Y2K Initiative as of September 1999, in comparison to the baseline numbers we reported in May 1999. The Postal Service demonstrated substantial progress in making its severe and critical information systems Y2K compliant, obtaining or developing Y2K compliant solutions for its information technology infrastructure and mail-processing equipment, completing information system readiness testing, and making data exchanges Y2K ready. It also showed considerable progress in determining the Y2K readiness of its facilities and external suppliers. However, the Postal Service disclosed varying levels of progress in the areas of component contingency plans and business continuity planning.

Summary of Management's Comments

This report contains no recommendations and Postal Service management elected not to respond to the report, as it was not required.

INTRODUCTION

Background

The Y2K problem results from the way dates are recorded and calculated in computer systems. In the past, to conserve electronic data storage, systems typically used two digits to represent the year, such as '98' representing 1998. With this two-digit date format, however, the year 2000 is indistinguishable from 1900, 2001 from 1901, and so on. As a result of this ambiguity, systems that use dates to perform calculations may fail after 1999.

The Postal Service Y2K Initiative covers information systems and platforms as well as other non-information systems issues. The information systems portion of the Y2K Initiative spans over 500 applications systems and Postal Service information technology infrastructure including mainframe hardware and software, telecommunications, servers, personal computers, and internal/external data exchanges. The Y2K Initiative also includes external supplier activities as well as embedded software found in mail processing equipment, facilities, and vehicles. Further, business continuity planning, component contingency planning, and readiness testing are critical processes which must be performed to ensure the Postal Service is ready for the year 2000.

Objective, Scope, And Methodology

The objective of this phase in our continuing audit coverage was to report on the overall status of Y2K readiness. Our audit work was accomplished from June 1999 to December 1999 in accordance with generally accepted government audit standards, and included tests of internal controls as were considered necessary under the circumstances. The data in this report was gathered at headquarters and field locations by sending a survey questionnaire, and by contacting the responsible officials, as necessary, in their respective areas. We measured progress by comparing the Y2K accomplishments through the end of September 1999 to the May 1999 accomplishments (see Exhibit A) and the baseline data that was available at the time. The numbers reported herein represent data gathered as of September 30, 1999. Our review focused on measuring the Postal Service Y2K progress at a given point in time.

We recognize that the Postal Service's effort to become Y2K compliant is a continuous process, and the numbers are constantly changing - up or down, depending on the circumstances. We have attempted to reflect the changes in these status reports.

Prior Audit Coverage

During our continuing coverage of the Postal Service's Y2K initiative, we issued a series of reports related to the Postal Service's Y2K Initiative. In addition, the OIG and General Accounting Office testified in a February 23, 1999 joint hearing before three House subcommittees on various Y2K issues. Exhibit B contains a more detailed discussion of these reports.

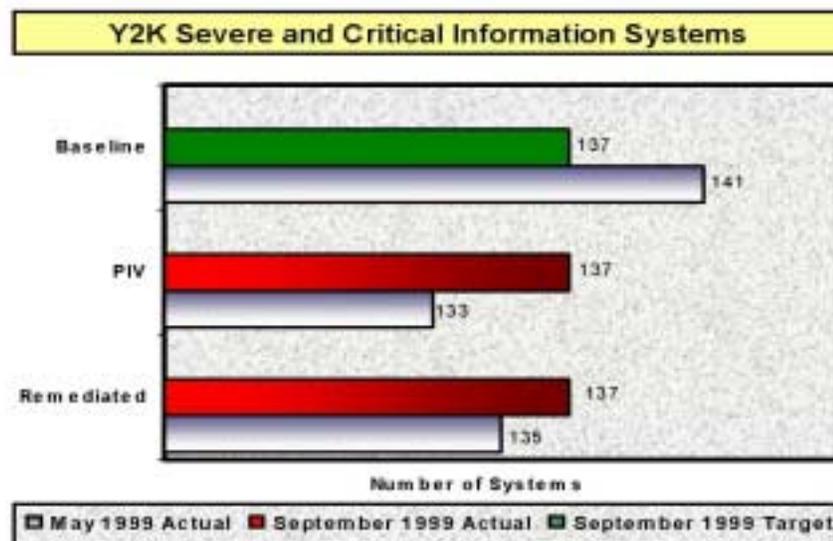
AUDIT RESULTS

Status Report of Major Y2K Areas

While we are aware that the Postal Service Y2K Initiative continues to evolve, this report documents the progress in specific Y2K areas as of September 30, 1999. The characterization of the status of Y2K areas in this report, as compared to the baseline numbers, was determined as follows: substantial progress – 75 percent or more of the baseline completed; considerable progress -- 25 to 74 percent of the baseline completed; and limited progress -- 24 percent or less of the baseline completed. This report does not contain any recommendations.

Information Systems Area

Severe and Critical Information Systems: The Postal Service demonstrated substantial progress in making its severe and critical information systems Y2K ready.



Of the 137 information systems deemed severe and critical as of September 30, 1999 (shown in the chart), 137 were remediated¹ and successfully completed post implementation verification² (PIV). Since May 1999, we noted improvement in the remediation and post implementation verification efforts as shown in the chart. The Postal Service reduced the baseline³

¹ Remediate – reviewing and correcting systems/components for Y2K readiness.

² Post implementation verification (PIV) - a review of systems after remediation to provide independent assurance that they are Y2K ready.

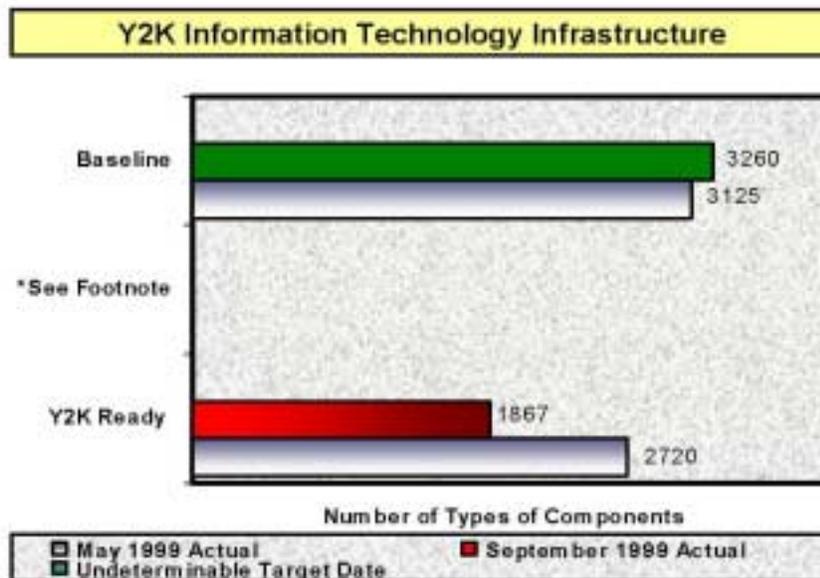
³ Baseline – the number of items in an inventory for each particular Y2K area; the beginning number to which remediation must be applied. This baseline is adjusted to reflect the current baseline as of the data collection cutoff date for this report.

from 141 severe and critical information systems in May 1999 to 137 systems in September 1999. According to the Postal Service's Master Schedule Change Request form, three of the four systems were re-classified from severe and critical to non-critical. The fourth system, which was added to the severe and critical list prior to May 1999, was removed because the application could not be deployed before April 2000. This system required additional time to resolve software issues and develop electronic forms.

Information Technology Infrastructure: The Postal Service relies heavily on mainframe systems, midrange computers, network servers, personal computers and telecommunication equipment to carry out its mission. The baseline has increased from 3125 to 3260 since May 1999. The Postal Service demonstrated substantial progress in identifying Y2K solutions for 1867⁴ of the 3260 baseline information technology infrastructure components as shown in the chart below.⁵ In addition, the Postal Service has retired 1010 of the baseline components and determined that 237 components did not require Y2K solutions because the majority were not date sensitive. The remaining 146 components have replacement strategies and are in the process of being retired with a target completion date of December 15, 1999.

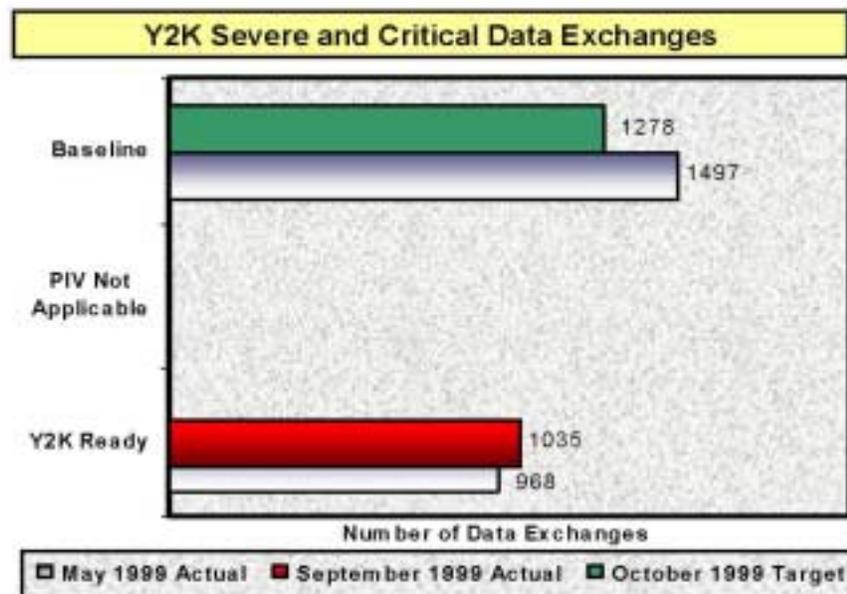
⁴ The number we reported in our last status report was a cumulative representation of component categories that we have broken out in this report.

⁵ According to Postal Service officials, the post implementation verification process is not applicable to the information technology infrastructure. A less rigorous process---Independent certification---was used for these components and was ongoing at the time of our review



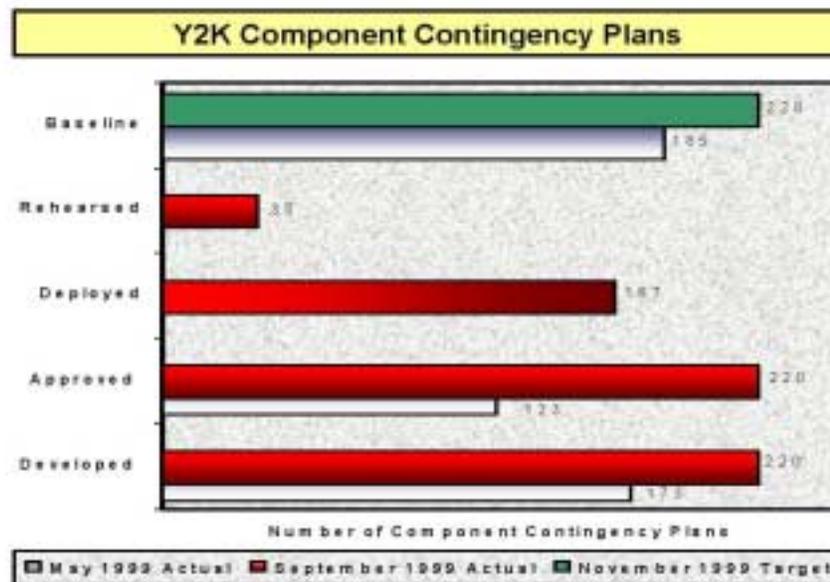
In addition to the Postal Service efforts described above, it is also tracking at least 80,000 personal computers. The personal computers are categorized as stand-alone computers and local area networks. The Postal Service developed a process for certifying these personal computers as Y2K ready. The certification of all the local area networks is complete and the stand-alone computers are approximately 99 percent complete (less than 100 stand-alone computers remain to be certified). The certification of the remaining components is scheduled to be completed in early October 1999.

Data Exchanges: The Postal Service exchanges a significant amount of system data internally and with external organizations. The Postal Service demonstrated substantial progress, according to their survey response, in making 1035 of its 1278 severe and critical data exchanges Y2K ready as shown in the chart below:



We noted improvement since May 1999 when only 968 of the data exchanges were Y2K ready. Also, since May 1999, the Postal Service validated its data exchanges and determined that the baseline now contained 1278 severe and critical exchanges – down from 1497. According to Postal Service officials, the reported reduction in the baseline since May 1999 was attributed to their continuing assessment of exchanges and the fact that data exchanges will fluctuate as a result of several factors, one of which would be the decision by an external partner regarding contract renewal decisions. The Postal Service target date for making all severe and critical data exchanges Y2K compliant is October 1999.

Component Contingency Plans: The Postal Service demonstrated substantial progress in developing, approving and deploying component contingency plans, while considerable progress was made in rehearsing the plans. The Postal Service's approach in this area has changed since May 31, 1999, and now tracks the component contingency plans as being developed, approved, deployed, and rehearsed. As shown in the following chart, the Postal Service reported that they have developed and approved all 220 contingency plans, an increase from the May 1999 baseline of 185 plans.

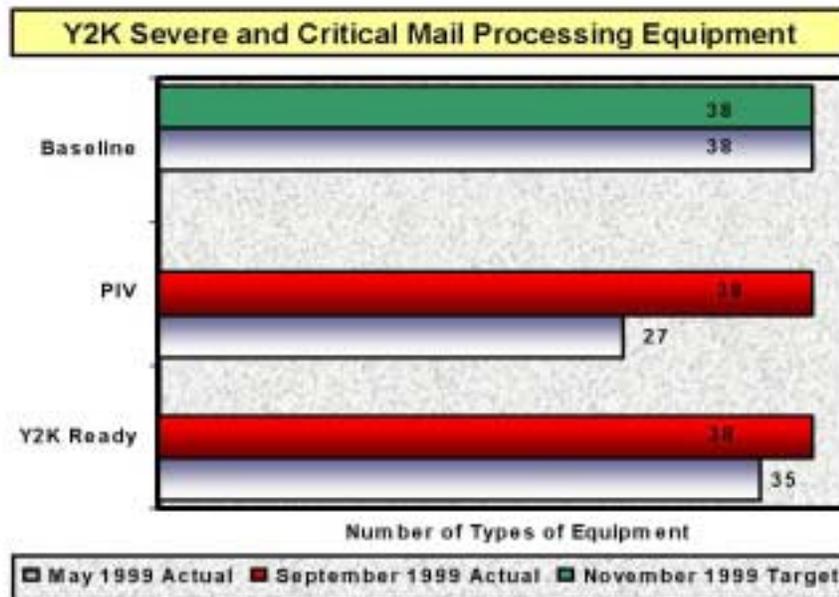


The Postal Service also reported that 167 of 220 contingency plans have been deployed. The Postal Service intends to rehearse 59 of the component contingency plans and, as of September 30, 1999, 35 of the plans have been rehearsed. The reason for the change in strategy for contingency plans is that the responsibility for the plans had been redirected to be accomplished by the Postal Service officials responsible for the business continuity plans in order to keep each in line with the other.

Although we characterized progress as substantial with regard to developing the plans, we feel plan quality varied because they did not always address key elements recommended by Postal Service standards and because some plans did not adequately identify other supporting plans, thus limiting access to information needed to fully implement contingency plans. We addressed this issue in more depth in a separate review (Report No. TR-AR-00-001, dated December 3, 1999) and made recommendations that, if implemented, may provide greater assurance that the Post Service is adequately prepared to manage disruptions. See Exhibit B for more information on this report. The scheduled completion date for these plans is November 1999.

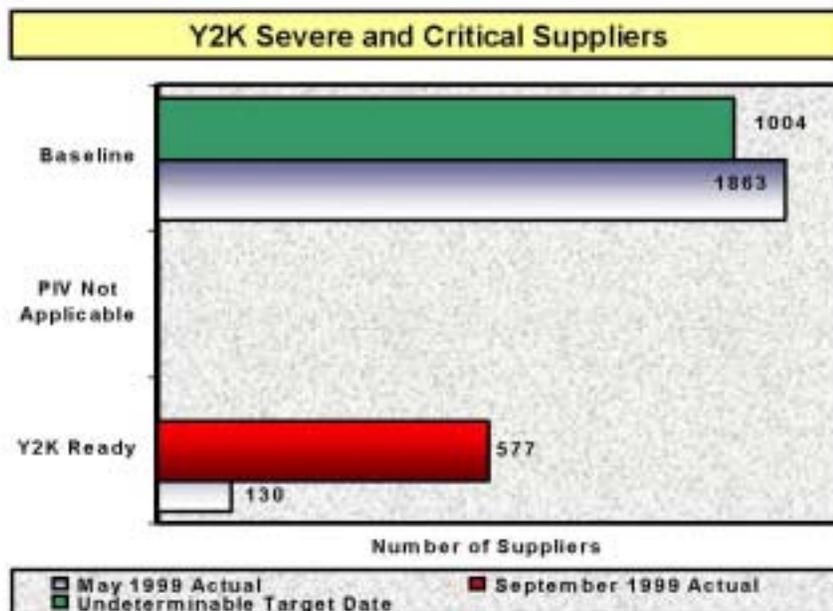
**Critical Core
 Business
 Infrastructure**

Mail Processing Equipment: The Postal Service demonstrated substantial progress in developing Y2K solutions for all 38 of its severe and critical types of mail processing equipment. Also, the number of solutions being developed increased from 35 to 38 for severe and critical types of mail processing equipment since May 1999. Post implementation verification at the time of our review was completed on all 38 types of mail processing equipment. The Postal Service was in the process of deploying the actual Y2K-ready solutions to thousands of pieces of equipment nationwide (36 of the 38 solutions have been deployed as of September 30, 1999). The scheduled completion for developing and deploying the remaining solutions for mail processing equipment is November 1999.



External Suppliers: The Postal Service has made considerable progress with regard to the overall Y2K readiness of its 1004 critical suppliers, i.e., business partners which the Postal Service has no control over. The severe and critical suppliers' baseline decreased from 1863 (the May 1999 number) to 1004 as of September 1999 because the Postal Service continued to assess its inventory and removed duplicate suppliers and suppliers that it no longer deemed critical. The current baseline consists of 269 Business Area suppliers and 735 Geographic Area suppliers. These suppliers include external organizations used by the Postal Service to

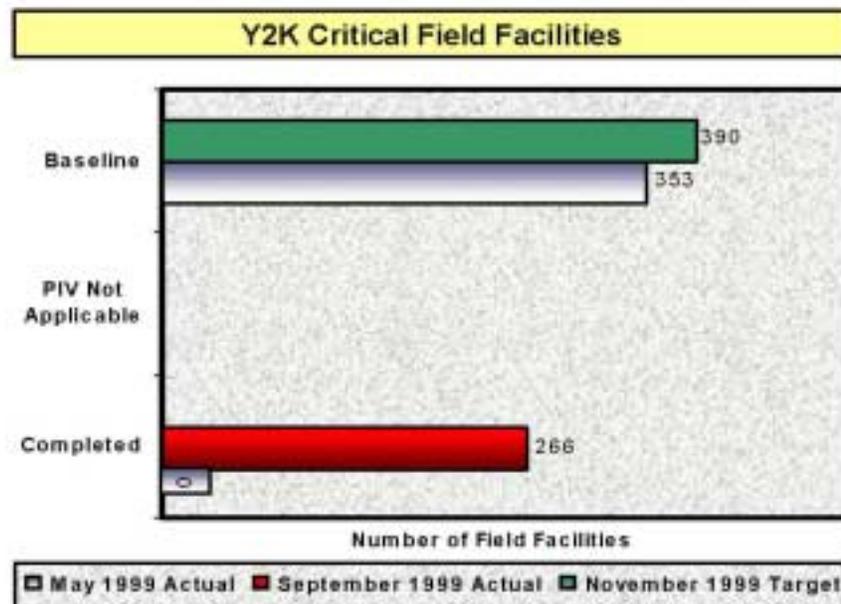
support its core business processes such as those in the airline, railroad and trucking industries. As depicted in the chart below, the Postal Service has made considerable progress in determining that 577 suppliers (178 Business Area suppliers and 399 Geographic Area suppliers) are Y2K ready. In May 1999, only 130 suppliers were Y2K ready. This occurred because of the continuing assessment of suppliers.



Our review also shows that as of May 31, 1999, 639 Geographic Area suppliers were contacted by the Postal Service but had not responded. However, because the Postal Service continued its efforts to contact these non-responsive Geographic Area suppliers, it has made significant improvement in reducing the number of non-responsive suppliers to 12 as of September 30, 1999.

In a recent OIG report (Report No. IS-AR-00-001, dated November 30, 1999), we addressed the issue of at-risk suppliers – those that are “Expected to be Y2K Ready”, “Not Expected to be Y2K Ready” and those that “Will not be Y2K Ready,” and recommended the Postal Service develop alternative supplier arrangements (i.e., supplier contingency plans) that gives the Postal Service several options, one of which would be to identify and deal with alternative suppliers. We also recommended activating those plans no later than November 30, 1999.

Technology-Dependent Facilities: The Postal Service has made considerable progress in making its critical technology-dependent facilities ready for Y2K. The technology-dependent facility baseline increased from 353 in May 1999 to 390 in September 1999 (see chart below) because the Postal Service determined that additional facilities needed to be added to the baseline. Subsequent to establishing its original critical facilities baseline, the Postal Service identified an additional 3631 facilities that were classified as important but not critical and included them in the baseline because of potential Y2K life safety issues. As of September 30, 1999, the Postal Service increased the number of facilities with life safety issues to 3888. For the purpose of our status report, our main focus is on the 390 severe and critical facilities.



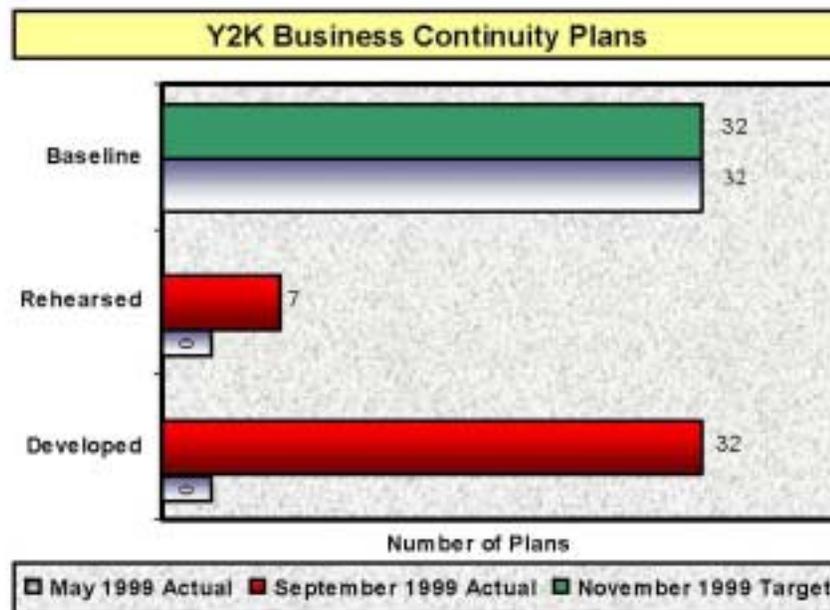
Assessments of all facilities were complete as of September 30, 1999. At that time, 266 of the critical technology-dependent facilities had been reported as Y2K ready, while 3387 of the important, but not critical life safety facilities were reported as Y2K ready. The planned Y2K readiness date for all facilities is November 1999.

Corporate-wide Y2K Issues

Business Continuity Planning and Recovery Management Planning:

The Postal Service is fully engaged in business continuity planning. As of September 30, 1999 the Postal Service demonstrated substantial progress in developing continuity plans. However, we rated their progress in rehearsing these plans as limited not only because the Postal Service had yet to conduct rehearsals but also because the majority of plans would not be rehearsed. In addition, continuity plans generally did not include well-defined operating procedures for 17 of 32 disruption scenarios, nor were resource requirements fully developed for the 32 scenarios. Experience has shown that a tested plan has a greater chance of success than an untested plan.

We noted improvement since May 1999 when continuity plans were developed only at headquarters for 32 scenarios. Since then, these continuity plans have been customized at 508 sites, and related component contingency plans and procedures required to implement some of the business continuity plans have been completed.

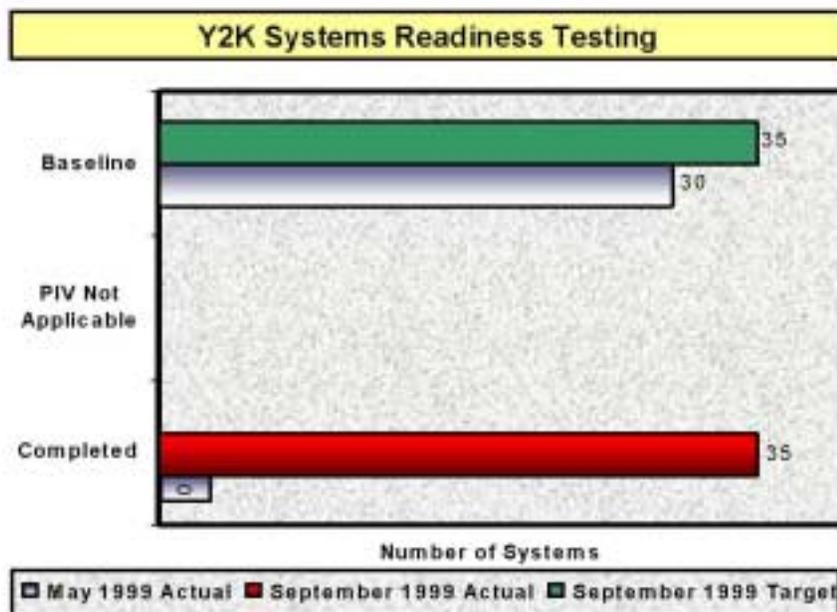


As of September 1999, the Postal Service continued recovery management planning, which included documenting existing disaster recovery capabilities, identifying recovery process owners and their roles, and developing a recovery

management plan. With the reported target date of November 1999 for completion, the recovery management effort was on schedule; however, we believe much work remains to be done. Future actions include completing requirements for reporting, tracking, and correcting Y2K induced failures; integrating rollover schedules; and integrating and validating the recovery management plan.

We addressed these issues, in more depth, in a separate report (see Exhibit B Prior Audit Coverage Synopsis).

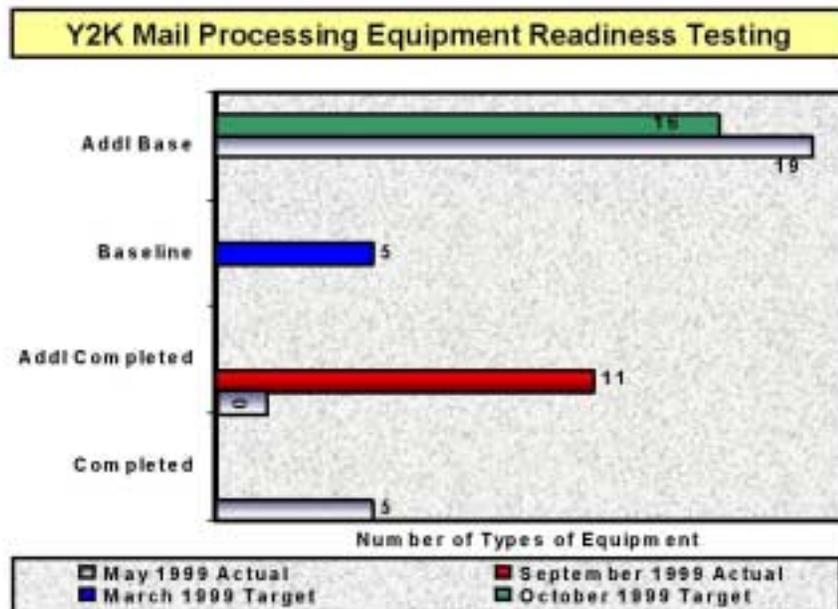
Information Systems Readiness Testing: As of September 30, 1999, the Postal Service showed substantial progress in information systems readiness testing by completing all of the tests planned on the small number of systems. In May 1999, the Postal Service reduced the number of information systems to be tested from 70 to 30 because of budget reductions and a shortened window to complete testing.



By September 30, 1999, the Postal Service had completed readiness testing on 35 information systems, which increased from the 30 planned as of May 1999. This increase occurred because the Postal Service added 6 systems that they wanted to test and removed 1 system that had already been tested. The Postal Service also expanded readiness testing on 7 systems to include leap year testing. The tests resulted in only

two systems having Y2K issues and some logistical problems with other systems. The Y2K issues were evaluated, corrected, and re-tested, while the logistical problems were resolved as they occurred. The Postal Service completed information systems readiness testing during September 1999.

Mail Processing Equipment Readiness Testing: We previously reported that the Postal Service planned and successfully completed five Y2K readiness tests on nationally maintained mail processing equipment as of May 1999. We also reported that the limited number of tests would not ensure that successful testing in one location would apply to all other locations that are configured the same. Consequently, the Postal Service scheduled 19 additional tests to be completed by October 1999. The Postal Service decided to reduce the number of additional tests to 16 and has completed eleven of the additional tests as of September 1999. We observed three of these tests and found no Y2K related problems.



**Exhibit A
MAY AND SEPTEMBER 1999 Y2K STATUS INFORMATION**

Y2K Major Area *****	Baseline Inventory		Status		No. Verified as Compliant (PIV'ed)		Est. Completion Date or Verified as Compliant	
	May-99	Sep-99	May-99	Sep-99	May-99	Sep-99	May-99	Sep-99
Information Systems:			Remediated					
Severe and Critical	141	137	135	137	133	137	Sep-99	Sep-99
Important, Not Critical	283	287	267	283	83 (Optional)	85 (Optional)	Nov-99	Oct-99
IT Infrastructure	3,125	3,260	2,720	1,867	N/A	N/A	*	Dec-99
			Y2K Ready					
Exchanges (internal/external)	1,497	1,278	968	1,035	N/A	N/A	Jul-99	Oct-99
			Completed					
Component Contingency Plans	185	220	3	167	N/A	N/A	Oct-99	Nov-99
	Current Known Inventory		Y2K Ready		No. Verified as Compliant (PIV'ed)		Est. Completion Date or Verified As Compliant	
	May-99	Sep-99	May-99	Sep-99	May-99	Sep-99	May-99	Sep-99
Core Business Processes:								
** Mail Processing Equipment								
Severe and Critical	38	38	35	38	27	38	Aug-99	Nov-99
Important, Not Critical	27	27	27	27	N/A	N/A	Jul-99	N/A
** Suppliers								
Severe and Critical	1,863	1,004	130	577	N/A	N/A	Undeterminable	
Business Areas	277	269	36	178				
Geographic Areas	1,586	735	94	399				
** Facility Sites								
Severe and Critical-HQ	None	None	None	None	N/A	N/A	N/A	N/A
Important, Not Critical-HQ	155	155	95	154	N/A	N/A	Nov-99	Oct-99
Critical, Tech.-Dependent-Fld	353	390	0	266	N/A	N/A	Oct-99	Nov-99
Important, Life Safety-Fld	3,631	3,888	342	3,387	N/A	N/A	Nov-99	Nov-99
			Completed					
Corporate Y2K Issues:								
Business Continuity Plans	32	32	0	32	N/A	N/A	Nov-99	Nov-99
Systems Readiness Testing	30	35	0	35	N/A	N/A	Aug-99	Sep-99
Non-IS Readiness Testing	5	5	5	5	N/A	N/A	Mar-99	Mar-99
Addl Non-IS Readiness Testing	19	16	0	11	N/A	N/A	Oct-99	Oct-99

The dark gray areas represent issues that are high priorities and at a minimum need to be performed. The light gray areas represent the numbers as of May-99 and the blue areas represent the numbers as of Sep-99. N/A indicates post implementation verification no applicable. * Date undeterminable as of May 31, 1999.

Exhibit B

PRIOR AUDIT COVERAGE SYNOPSIS

The OIG and General Accounting Office (GAO) established a joint partnership in the fall of 1998 to work on Y2K issues which led to February 1999 testimony before three House Subcommittees. The Inspector General testimony on the Postal Service Y2K Initiative (Report No. IS-TR-99-001 dated February 23, 1999), addressed major challenges facing the Postal Service. These included: developing and implementing a business continuity and contingency plan; determining whether external suppliers and Postal facilities are Y2K ready; deploying solutions and testing mail processing equipment; and reviewing, correcting, and testing information systems, data exchanges, information technology infrastructure. The GAO delivered testimony entitled "Year 2000 Computing Crisis: Challenges Still Facing the U.S. Postal Service" (GAO/T-AMID-99-86, dated February 23, 1999) which addressed Y2K operational issues similar to those presented in the Inspector General testimony.

In December 1999, we issued a report entitled "Year 2000 Business Contingency and Continuity Planning: Plan Development and Testing" (Report No. TR-AR-00-001 dated December 3, 1999), which noted that it may not be practical to refine all contingency and continuity plans by the end of the year, but the Postal Service should concentrate on those of highest impact to its operations. We recommended that the Postal Service expand testing to those areas where plans are not fully developed. We also recommended management ensure that proposed quality assurance steps be taken to ensure that plans are adequately integrated with other supporting plans and organizational initiatives, and are properly tested. In short, comprehensive plans for all severe or critical systems and for all high-impact failure scenarios should be pursued.

In November 1999, we issued a report entitled "Year 2000 Initiative: Suppliers, Mail Processing Equipment, Facilities, and Embedded Chips" (Report No. IS-AR-00-001 dated November 30, 1999), which noted the Postal Service needed to place more emphasis on the issue of alternative supplier arrangements. Specifically, we recommended that the Postal Service needed to develop supplier contingency plans and establish a no-later-than date when it will look to these alternative suppliers to take over for its at-risk critical suppliers, i.e., suppliers who may not be Y2K ready or who have already reported their inability to become Y2K ready. We also recommended that the Postal Service closely monitor and spot check mail processing equipment software deployment actions in the field to ensure installation of the proper, Y2K compliant software.

In September 1999, we issued a Y2K report entitled "Year 2000 Business Continuity and Contingency Planning: Initiation and Business Impacts" (Report Number TR-AR-99-002, dated September 29, 1999). This report is the first in a series of reports we plan to issue to address specific business continuity planning and recovery management efforts. The report addresses the overall progress the Postal Service has made, the effectiveness of the management structure and strategy for business

continuity planning, and the adequacy of the Postal Service's assessment of the potential business impacts resulting from Y2K disruptions. We made several recommendations, which will help the Postal Service strengthen its strategy for reducing potential Y2K disruptions.

In September 1999, we issued a Y2K report entitled "Year 2000 Initiative: Status of Postal Service Year 2000 Readiness" (Report Number IS-AR-99-002, dated September 20, 1999). In that report we provided the May 1999 status of Postal Service Y2K initiatives relating to the readiness of information systems, data exchanges, contingency plans, mail processing equipment, suppliers, facilities, business continuity plans and testing. We noted that the Postal Service had made varying levels of progress in the area of component contingency plans and limited progress in the areas of facilities, business continuity plans and recovery management planning, external suppliers and information systems readiness testing. We reported that the Postal Service is actively engaged in accomplishing these Y2K tasks.

In July 1999, we issued a Y2K report entitled "Year 2000 Initiative: Review of Administration Management" (Report No. FR-MA-99-002, dated July 7, 1999). Among the more significant issues we noted were that adequate controls were not always in place to monitor contractor activities, information had not always been provided to Integrated Business Systems Solutions Center personnel to help in controlling Y2K resources, and work products provided by contractor personnel were not always timely or adequate. We also noted issues with unnecessary layers of contractor management, numbers or expertise of contractor personnel, security clearances, and deviations from Postal Service travel regulations granted to one contractor. Postal Service management concurred with seven of our eight suggestions for opportunities to save resources.

In February 1999, we issued a Y2K report entitled "Year 2000 Initiative: Program Management Reporting" (Report No. IS-AR-99-001, dated February 18, 1999) that addressed quality and reliability of Y2K information reported to senior managers. We found that Y2K briefings and reports to senior management were not always complete, consistent, or clear. Y2K briefings did not include a standard report on the overall status of Y2K progress and were not provided at regularly scheduled intervals. As a result, senior managers were not always able to use the information to monitor Y2K progress and make timely and informed decisions. Postal Service management concurred with our findings and recommendations.

In September 1998, we issued a Y2K report entitled "Year 2000 Initiative: Post Implementation Verification" (Report No. IS-AR-98-003, dated September 29, 1998), that involved an assessment of the efficiency and effectiveness of the process implemented as an independent check on Postal Service remediation efforts. This report recommended Postal Service modify its system certification and post implementation verification procedures to improve the quality of systems sent to

verification as well as the process itself. Postal Service management concurred with our findings and recommendations.

In July 1998, we issued a Y2K report, entitled "Year 2000 Initiative: Status of the Renovation, Validation, and Implementation Phases" (Report No. IS-AR-98-002, dated July 21, 1998), that involved a preliminary assessment of the renovation, validation, and implementation phases of the Postal Service Year 2000 initiative. It contained recommendations for improvement in several areas including accurately reporting the compliance status of systems applications. Postal Service management concurred with our findings and recommendations.

Our first Y2K report entitled "Year 2000 Initiative" (Report No. IS-AR-98-001 dated March 31, 1998). During this review, we examined the awareness and assessment phases of the Postal Service Y2K initiative and made recommendations for improvement in several areas including assigning accountability to responsible managers. Postal Service management concurred with our findings and recommendations.

We also issued a letter report, entitled "Y2K Contract Indemnification Advisory Letter" (Report No. CA-LA-98-001, dated July 7, 1998). That letter addressed negotiations between the Postal Service and a consulting firm regarding the Y2K program management contract's indemnification clause. That letter contained suggestions to Postal Service management regarding the indemnification issue.

**Major Contributors to
This Report:**

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