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BUREAU OF EXPORT ADMINISTRATION

*Year 2000 Preparations Are Effective,
But Additional Risk Mitigation Is Needed*

Inspection Report No. OSE-12551 / December 1999

Office of Systems Evaluation

DEC 30 1999

MEMORANDUM FOR: William A. Reinsch
Under Secretary for Export Administration

FROM: Johnnie E. Frazier

SUBJECT: Final Inspection Report, *BXA's Year 2000 Preparations Are Effective, but Additional Risk Mitigation Is Needed* (OSE-12551)

The Office of Inspector General has completed a review of the Bureau of Export Administration's (BXA) year 2000 (Y2K) readiness. We found that BXA has adequately prepared its systems for Y2K, developed a business continuity and contingency plan (BCCP), and developed a "Day One" plan to be executed at the end of December 1999 and the beginning of January 2000. However, we recommended that the BCCP be tested before the end of the year and that BXA rehearse the Day One plan.

BXA responded to our December 17, 1999, draft inspection report by stating that BXA's activities during 1996 furloughs were, in effect, tests of BXA's BCCP. The BXA response also stated that insufficient work days remained in 1999 to set up and test the BCCP. However, when we discussed our observations and recommendation with bureau officials during an exit briefing on December 13, 1999, there was sufficient time to test BXA's BCCP and to rehearse the Day One plan.

Beginning on page 4, we have included a synopsis of BXA's response to our recommendation, followed by an OIG discussion. The response in its entirety is included as Appendix A. We reaffirm our recommendation that the BCCP should have been tested and the Day One plan should have been rehearsed prior to the end of the year.

We appreciate the cooperation of BXA staff during the review.

BACKGROUND

BXA administers the U.S. government's export control licensing and enforcement system for dual-use commodities for national security, foreign policy, and non-proliferation reasons. Dual-use commodities are goods and technology determined to have both civilian and military uses. BXA operates two information systems that are critical to its mission: the Export Control Automated Support System (ECASS), and the BXA Communications Infrastructure (BCI). A third mission-critical system, the Chemical Weapons Convention Information Management System (CWCIMS), is new and will become operational in calendar year 2000.

ECASS is the software application BXA uses to route, process, and control export license application and enforcement investigation information and is also used by the Central Intelligence Agency and the Departments of Defense, Energy, State, and the Treasury. BCI is essentially BXA's local and wide-area network and supporting network infrastructure. CWCIMS consists of a database that maintains declaration documents submitted by chemical producers. ECASS and BCI support BXA's two core business processes: licensing and enforcement.

BXA completed an agency-wide BCCP in January 1999, followed by detailed BCCPs for its Office of Export Administration for core export licensing processes, and Office of Export Enforcement for export enforcement processes. In addition, BXA has developed a Day One strategy of actions to be executed in managing the critical century rollover period from December 27, 1999, through January 7, 2000.

PURPOSE AND SCOPE OF INSPECTION

The purpose of our review was to reduce the risk of business interruptions due to the Y2K century change by assessing actions taken by BXA and recommending practical risk mitigation and contingency planning activities that could be executed in the time remaining before the century change.

Our review was focused primarily on BXA's BCCP and Day One plan, including the actions taken and planned to prepare for the possibility that BXA may need to meet mission requirements without benefit of the mission-critical systems that normally support core business processes. Our scope also included a review of independent verification and validation (IV&V) testing of BXA's mission critical systems for Y2K readiness. Our primary focus was the ECASS and BCI systems because they were renovated and will be in operation at the century change.

Our methodology included evaluating documentation and interviewing staff within BXA's Office of Administration, Office of the Chief Information Officer, Office of Export Administration, and Office of Export Enforcement. Our evaluation criteria were derived from General Accounting Office (GAO) and Office of Management and Budget guidelines written specifically for the Y2K computing crisis, research institutions, and best business practices.

Our work was performed in accordance with the Inspector General Act of 1978, as amended, and the *Quality Standards for Inspections*, March 1993, issued by the President's Council on Integrity and Efficiency.

OBSERVATIONS AND CONCLUSIONS

Based on the successful renovation of its ECASS and BCI systems, and the development of CWCIMS using Y2K compliant software, BXA reports that its mission-critical systems are Y2K compliant. However, BXA needs to test its BCCP to ensure that core business functions can be performed as planned in the event of a critical system failure.

I. Successful Repair and Testing of Critical Systems

CWCIMS was developed with Y2K compliant software and hardware and will not become operational until 2000; however, ECASS and BCI needed renovation to become Y2K compliant. BXA renovated ECASS to use dates with 4-digit years and moved the renovated version to production in January 1998. To make BCI compliant, BXA replaced three secondary servers, renovated their primary file servers, purchased and installed two new central routers for its LAN, migrated telecommunication lines, and determined that all WAN routers were Y2K compliant. BXA initiated IV&V of ECASS, BCI, and CWCIMS in October 1998 and reported in July 1999 that all three mission-critical systems are Y2K compliant. Based on BXA's renovation, future date testing, IV&V contract, and production use of the renovated ECASS and BCI, it is reasonable to expect that ECASS and BCI will continue to function after December 31, 1999.

II. BCCP Needs to be Tested

BXA developed a thorough BCCP identifying contingencies for performing core business processes in the event that critical systems are not available. However, the agency has not tested the BCCP to validate its contingency plans. Contingency plans are based primarily on alternative manual processes. BCCP activities will be managed and executed by a Management Oversight Team and a BXA Y2K Response Team. BXA has defined roles and assigned responsibilities. Threats, risks, and vulnerabilities are addressed for each mission-critical BXA system and for non-mission-critical systems. "Triggers" for activating contingency plans and minimum acceptable levels of outputs and services during potential Y2K system failures have been identified. BXA also developed detailed contingency plans for Export Enforcement (enforcement process) and Export Administration (licensing process), and a Day One plan.

Even though agencies such as BXA have undertaken significant efforts to make their systems Y2K compliant, there remains a risk that one or more mission-critical systems will fail and severely affect the agency's ability to deliver critical services. The Department requested all bureaus to follow GAO's BCCP guidance, which instructs agencies to develop potential Y2K failure scenarios and "assume the loss of all mission-critical information systems due to post-implementation failures or delays in renovation or testing." The BCCP and Day One plan are intended to reduce the risk that a Y2K failure will result in a business process failure. However, the BCCP needs to be tested to validate that contingency plans will satisfy the agency's needs. Testing contingency plans, a major component of GAO's BCCP guidance, was not addressed in BXA's BCCP. The plan does not document that any BCCP tests or plans for the Response Team to rehearse the Day One plan have been conducted or are scheduled.

The objective of BCCP testing is to evaluate whether contingencies provide the desired level of service to customers and can be implemented within a specified time. To prepare for BCCP testing, BXA must define the necessary test conditions, tasks, and standards that are required to validate that contingency service levels and implementation schedules are attainable. Rehearsals should include the following elements:

- *Test conditions* - Assume that ECASS is non-operational due to Y2K, and therefore, the Offices of Export Administration and Export Enforcement must function for the first week of the new year in a fully manual, paper-based mode of operation.

- *Test tasks* - Implement manual processing for license applications. This should include (a) processing applications submitted electronically, (b) checking 5 to 10 years of historical records, (c) screening by the Treasury, and (d) referring applications to the Departments of State, Defense, Energy, and the Central Intelligence Agency. BXA should also rehearse the Day One plan with the Response Team.

- *Standards* - Set levels of outputs and services and establish priorities. For example, expedite emergency treatment to those cases that affect public safety and health.

These "tests" of the BCCP should consist of rehearsals where members of the Response Team and other necessary staff would walk through the steps of the plan as though a trigger for contingency actions had been activated. The results of these tests should be used to update and improve the BCCP and Day One plans, as appropriate.

BXA explained in our exit conference that it did not plan to test the BCCP because alternative core business processing methods were employed within the last several years during furloughs. However, during the furloughs, systems were not disabled as they may be entering Y2K. Instead, there was a shortage of people to operate the systems. BXA officials also explained that only export licenses submitted in paper format were processed during furloughs; however, approximately 60 percent of BXA's license applications are now submitted electronically.

RECOMMENDATION

To ensure the continuity of core business processes in the event of system failures associated with the turn of the century, we recommend that the Under Secretary for Export Administration validate the business continuity and contingency plans by conducting BCCP tests and rehearsing the Day One plan with the Response Team.

Synopsis of BXA's Response

BXA reiterated the comments made at the December 13, 1999 exit conference, and did not address the dissimilarities between previous furloughs and potential future Y2K disruptions. BXA cites prior experience in processing export licenses and enforcement actions manually. In 1996, federal employees were furloughed three times and BXA reverted to the manual processing of license applications. BXA contends that the current detailed BCCPs are based on BXA's 1996 experiences, so BXA, in effect, has already tested the BCCP on three occasions, and each time it worked.

BXA believes it would have taken longer than the few remaining work days in 1999 to set up the evaluation process outlined in our recommendation and run the test. BXA also

believes that any marginal gains from testing and updating the plan would not justify the resources that would be required.

OIG Discussion

We reaffirm our recommendation. We do not agree with the BXA view that operational activities in 1996 were analogous to a test of a plan which did not exist until 1999. Also, BXA does not specifically address our recommendation to rehearse the BXA Day One plan for a truly unique, one-time event, which has never been rehearsed.
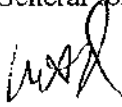
The BXA BCCP should have been tested and the Day One plan should have been rehearsed. This could have and should have been initiated by December 13, 1999. On that date, sufficient time was available to complete testing by December 27, 1999. In addition, BXA did not need our recommendation in order to conduct the tests and rehearsal. The August 1998 GAO guidelines identify testing as the final phase of business continuity and contingency planning's four phases and are sufficient reason for testing the BCCP. GAO's October 1999 guidance for Day One planning states that Day One plans and their key processes should be rehearsed.

BXA's full response is included as Appendix A.

UNITED STATES DEPARTMENT OF COMMERCE
The Under Secretary for Export Administration
Washington, D.C. 20230

December 23, 1999

MEMORANDUM FOR JUDITH J. GORDON
                              Assistant Inspector General for Systems Evaluation

FROM: William A. Reinsch

SUBJECT: Response to Draft Inspection Report, Year 2000 Preparations
                              (OSE-12551)

Thank you for your observations and recommendations regarding the Bureau of Export Administration's preparations for year 2000 and our continuity contingency plans. As you noted, BXA has undertaken serious efforts to prepare for possible Y2K events and we appreciate the confidence you expressed in our preparations.

You recommended that BXA test its business continuity contingency plan (BCCP) and provided detailed guidance on how to perform the test. While we appreciate your concerns, we believe that we are adequately prepared for Y2K problems that may occur:

1.   We have experience in processing export licenses and enforcement actions manually. In 1996, federal employees were furloughed three times. One of these furloughs was for an extensive period, well over a week. During these furloughs, BXA reverted to the manual processing of license applications. Unlike the Y2K situation, we did not have time to prepare and pull together data runs and historical information in 1996. On all three occasions, we were able to process cases manually, even doing so while we were short staffed. The current detailed BXA BCCPs are based upon our 1996 experiences and many, if not most, of the employees involved at that time are still working for us. In addition, our enforcement field offices have recent experience in operating manually. They maintained communications during service interruptions of ECASS, our wide area network, and its dial up connection predecessor. We have, in effect, tested our BCCP on three occasions, and each time it worked.

2.   With respect to your recommendation and guidelines for testing and updating our BCCP, we believe it would take longer than the few remaining work days in 1999 to set up the evaluation process you outlined and to run the test. In any case, we believe that we are adequately prepared, have a realistic contingency plan, and that any marginal gains from testing and updating this plan would not justify the resources that would be required.

BXA appreciates your review of our preparations. The meetings and discussions that were held with your staff regarding our plans were very helpful.

Appendix B
Acronyms Used in This Report

BCCP Business Continuity and Contingency Plan

BCI   BXA Communications Infrastructure

BXA   Bureau of Export Administration

CWCIMS Chemical Weapons Convention Information Management System

ECASS   Export Control Automated Support System

GAO   General Accounting Office

IV&V   Independent Verification and Validation

Y2K   Year 2000