



U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
WASHINGTON, D.C. 20410-4500

OFFICE OF THE INSPECTOR GENERAL

October 6, 1999

00-DP-166-0801
Audit-Related Memorandum

MEMORANDUM FOR: Harold Lucas, Assistant Secretary for Public and Indian Housing, P
Gloria R. Parker, Chief Information Officer, Q

FROM: Benjamin K. Hsiao, Director, Information Systems Audit Division, GAA

SUBJECT: Housing Authorities' Year 2000 Readiness Activities

Our office has completed a limited review of the Year 2000 (Y2K) readiness activities at nine Public Housing Authorities (PHAs): Baltimore, Chicago, Dallas, Detroit, District of Columbia, Fort Worth, Omaha, New Orleans, and New York City. The objectives of our review were to determine whether:

1. The PHAs have established basic project management structures and procedures to ensure that potential Y2K problems will be prevented; and
2. Adequate steps have been taken to protect the health and safety of HUD program recipients from potential Y2K problems.

The nine PHAs were selected because they are some of the largest PHAs nationwide and, therefore, pose the greatest risk to the health and safety of their tenants should Y2K failures occur. We interviewed PHA management and key Y2K project personnel. We also reviewed samples of documentation for Y2K project management, awareness, assessment, remediation, testing, and contingency planning. When appropriate, we provided the PHA management with Y2K educational material in the form of presentations and printed material to assist them in organizing and completing necessary corrective actions.

Review Summary

We found that all nine PHAs are proactively preparing for the Y2K millennium date change. Individuals have been assigned or designated at each PHA to coordinate and oversee their Y2K efforts. Also, the PHAs with the most progressive Y2K programs have recognized the importance of establishing a partnership with other state and local governmental and welfare agencies to develop fully coordinated plans for response to potential Y2K problems. However, while all of the PHAs are actively engaged in Y2K readiness activities, the degree of their preparedness differed greatly. Some of the PHAs had not yet completed their inventory and assessment of either their information or non-information systems while others were more advanced in their preparations. They have completed or are in the process of completing the remediation and testing of the systems

and their contingency plans.

We also noted that the PHAs' efforts to address their non-information systems (i.e. building facilities and equipment) were progressing more slowly than the Y2K work on their information systems. Many building systems are controlled by embedded microchips that may have trouble recognizing the century date change. They include elevators, HVAC, lighting, security systems, fire detection, etc. If the embedded systems that contain year date functions are not identified and fixed, unpredictable outcomes could negatively affect the health and safety of building occupants come the Year 2000. Also, we found that most of the PHAs have not completed their contingency plans. Further, for those that completed the plans, they had not yet tested them.

Because of the limited time left to the Year 2000, HUD must increase the sense of urgency in its monitoring effort of the PHAs' Y2K readiness. Additionally, the Department should provide assistance to those PHAs whose lack of preparedness places the health and safety of their tenants at risk.

Attachment 1 provides a matrix table of the results of our review. The details of our review of the nine PHAs are presented below.

1. Inventory and Assessment

We found that most of the PHAs had completed an inventory and Y2K assessment of both their information and non-information systems. However, one PHA had not yet begun an inventory of their non-information systems and two PHAs had started but not completed an inventory and assessment of their information and/or non-information systems. An inventory and assessment of the PHAs' systems is a necessary prerequisite before any Y2K remediation and testing can be performed. We also found PHAs who indicated they had completed their inventory of non-information systems, but the documentation supporting the inventory was either not available or incomplete. At one PHA, we were informed that the inventory of non-information systems was complete. However, the inventory was not available at the time of our review. In another PHA, some of the PHA owned sites were under the control of private management companies. However, these sites were excluded from the PHA's non-information systems inventory because the PHA was relying on the private management companies for ensuring the properties were Y2K compliant.

2. Remediation and Testing

We noted that seven of the nine PHAs had either not started or were in the process of performing hardware, software and embedded system remediation work. Also, eight of the nine PHAs had either not started or were in-process of performing the testing of their information and/or non-information systems. We also found that some of the PHAs were relying on vendor statements for Y2K compliance of their non-information systems instead of performing Y2K testing. However, reliance on vendor statements without independent testing and periodic verification of their Y2K status increases the risk that the system hardware, software and embedded systems may not work in the Y2K environment.

In an attempt to provide their clients with the current Y2K status of their products, many

vendors require clients to periodically check their Internet Website for products that may change from being Y2K ready to not ready and vice versa. Some vendors also require clients to conduct their own testing to validate Y2K readiness. In addition, vendor Y2K certifications generally guarantee only that the item will be replaced if it does not work properly. This does not cover possible damages from the loss of functionality. Thus, the PHAs should periodically validate the status of the vendor products and perform tests on those hardware, software, and embedded system components that are critical to the PHAs mission and the health and safety of their tenants.

3. Y2K Contingency Plans

We found that seven of the nine PHAs had either not started or were in the process of developing and documenting their contingency plans in their information and/or non-information systems at the time of our review. Of the two PHAs that had a completed contingency plan for both areas, the plans had not yet been tested. Because of the short time left to the Year 2000, it is critical that the PHAs complete and fully test their contingency plans as soon as possible so that there is enough time to revise the plans before the millennium date change.

Additionally, a review of the two completed contingency plans identified several areas where key items were missing or needed to be expanded and clarified. These areas were discussed with the applicable PHA. A description of the areas is as follows:

- One plan was primarily developed for total failure, i.e. where a total lack of power would shut down the entire IT operation. However the contingency plan did not consider partial failures in which some, but not all, of the critical automated applications and/or functions fail. Also, we did not see specific triggers and/or encounter dates which identify a specific action and/or date that would activate alternate processing methods. Additionally, the individual contingency plans did not provide reconciliation procedures to be used to identify errors which would result in the need for alternative means of processing.
- One plan identified the critical areas but did not provide the necessary clarity and details to successfully continue the PHA's operations should Y2K failures occur. For example, the plan indicated that the PHA has two portable generators but will require additional generators in case of a major utility failure. However, the plan did not identify a source for the additional generators. Also, the plan indicated that the PHA has contracts with social service organizations and agencies to provide services in the event of a problem. However, the plan did not provide the details as to what agencies have been contracted and who to contact in case a problem occurs.

4. Tenant Awareness

Eight of the nine PHAs have not developed plans for informing tenants of the potential problems resulting from the date change and the need for extra supplies such as food, blanket, batteries, and etc. One PHA does not plan to provide any Y2K related information to the tenants. Tenants must be informed of the potential Y2K problems so that they can prepare and assist the PHAs in ensuring their health and safety if problems arise.

Recommendations

We recommend the Department:

1. Provide guidelines to the PHAs as to what should be in Y2K contingency plans and emphasize they should be completed as soon as possible with enough time allotted for testing and updating of the plans.
2. Require the PHAs to submit documentation certifying that their information and non-information systems are Y2K compliant and that they have completed and tested their contingency plans.
3. Perform a verification at a number of the properties to ensure that the PHAs are ready for the Year 2000.
4. Issue an informational memorandum to all PHAs stressing their need for:
 - A. Ensuring that all PHA owned properties, to include properties operated by private management companies, are included in the PHAs inventory and Y2K efforts.
 - B. Periodically validating the Y2K status of the vendor products. Performing tests, instead of relying on vendor Y2K compliance statements, for those hardware, software, and embedded system components that are critical to the PHAs mission and the health and safety of their tenants.
 - C. Informing tenants on how they can prepare for the Year 2000.

We are not requiring a formal response to the above recommendations. Since there is little time left, HUD needs to focus its attention on assisting the PHAs to minimize the impact of Y2K failures. Should you have any questions, or require additional information, please call me or Hanh Do at 708-3444, extension 149 and 147 respectively.

Attachment

cc:

Pamela Woodside, Director, Systems
Integration and Efficiency, Q

**Public Housing Authority Survey
Year 2000 Project Status**

Information Systems

PHA	Inventory/ Assessment	Remediation	Testing	Contingency Planning
1	C	C	C	C*
2	C	C	IP	IP
3	C	IP	IP	IP
4	C	IP	IP	NS
5	C	IP	NS	IP
6	C	IP	IP	IP
7	C	IP	IP	C*
8	IP	NS	NS	IP
9	C	IP	IP	IP

Non-Information Systems

PHA	Inventory/ Assessment	Remediation	Testing	Contingency Planning	Resident Awareness
1	C	C	C	C*	IP
2	C	C	C	IP	NS
3	C	IP	IP	IP	NS
4	NS	NS	NS	IP	NS
5	C	IP	NS	NS	NS
6	IP	NS	NS	IP	NS
7	UR	IP	IP	C*	NS
8	IP	NS	NS	IP	NS
9	C	IP	NS	IP	NS

Status Indicator

- C** - completed
- C*** - completed but not tested
- UR** - unavailable for review
- IP** - work in progress
- NS** - not started

bcc:

G	GAFFNEY	8256
G	CONNORS	8256
GA	KUHL-INCLAN	8286
GA	PHELPS	8286
GAA	HSIAO	8172
GAA	WALKER	8172
GAA	DO	8172
GAA	CHRON	8172

WALKER:jdb:H:\AUDIT\GAA\Y2K-4\ADMIN\MEMO\FINAL_HA_MEMO_ISSUED