AL 96-4
Subject: Year 2000 Programming Code Risks

TO: Chief Executive Officers of all National Banks and Division Heads, and all Examining Personnel

Attached is a joint statement by the Federal Financial Institutions Examination Council that alerts financial institutions to risks that may be present in existing computer systems as the industry enters the new millennium (year 2000). The issue is whether computer systems will properly recognize date sensitive information when the year changes to 2000. Systems that do not properly recognize such information could generate erroneous data or cause a system to fail.

Senior bank management has a responsibility to analyze the risk of their internal computer systems. Further, they should consult with affected vendors and customers to ensure they are addressing the year 2000 issue. Based on the risk analysis and consultations, management should develop and implement an action plan to deal with any identified system coding changes required to achieve year 2000 compatibility.

For further information on year 2000 issues, contact the Examination Process Division in the Office of the Chief National Bank Examiner (202) 874-5190.

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Date: June 17, 1996
THE EFFECT OF YEAR 2000 ON COMPUTER SYSTEMS

To: Chief Executive Officers of all Federally Supervised
Financial Institutions, Senior management of each FFIEC
Agency, and all examining personnel.

PURPOSE

This interagency statement alerts financial institutions to
substantial risks to the industry represented by the programming
code in existing computer systems as the industry enters the new
millennium (year 2000)

BACKGROUND

The "year 2000" problem is pervasive and complex. Virtually
every organization will have its computing operations affected in
some way by the rollover of the two digit year value to 00. The
majority of computer operating systems and programs currently in
use have been developed utilizing six digit date fields (YYMMDD).
For example, December 31, 1999, would be represented by "991231"
in computer code. The two digit field for the year (in example
"99") is the basis for all calculation formulas within most
computer systems, particularly those processed through
mainframes.

Up until now, this two digit field has sufficed, using a
subtraction of current date from some future date (up to
12-31-99).
As the industry enters the year 2000, the two digit field
"00" will not permit accurate calculations based on the current
formulas. January 1, 2000 would be read as 000101. Many
computer systems will recognize this date as the year 1900. The
potential impact is the date sensitive calculations would be
based on erroneous data or could cause a system failure. This
affects all forms of financial accounting (including interest
computation, due dates, pensions, personnel benefits,
investments, legal commitments). It can also affect record
keeping, such as inventory, maintenance, and file retention.
Reliable information is necessary for financial institutions to
conduct business.

An institution should review all aspects of computer systems to
include those provided by service bureaus, hardware vendors, and
other software vendors. For any aspect of its information
systems processing management must:

- Ensure that external vendors and servicers are adequately
  addressing the system and software issues related to the
  coming millennium.

- Ensure that the institution has taken adequate steps to
  ensure that critical operations will continue if the
  servicers or vendors are unable to achieve millennium
  requirements.
All reprogramming efforts must be completed in time for adequate system testing. It is recommended that reprogramming efforts be completed by December 31, 1998. This will provide one full year for testing. It is important to note that all systems from mainframes to personal computers and local area networks are susceptible to the impact of year 2000 consequences.

The appendix to this issuance provides a suggested outline of the process that should be followed to ensure that issues concerning the millennium are addressed.

APPENDIX

Millennium Planning Processing

I. Establish a Year 2000 Team

   A. Management should consider utilizing both internal and external information systems and audit resources to ensure that a risk-based Year 2000 Action Plan is developed.

   B. An inventory of all computer operating systems, applications and files should be created. All those with year 2000 issues must be identified.

II. Develop an institution wide year 2000 plan.

   A. The initial step in developing the plan should be to consider whether current systems and files should be modified, replaced, outsourced, or discontinued. It should be noted that even if new systems are purchased, old files may still have to be modified. (All computer systems, including mainframes, personal computers, local area networks, etc., should be considered).

   B. The year 2000 plan should also identify and prioritize applications and processes that are the most date sensitive and those which are most vulnerable. Interdependent applications should be grouped together.

   C. Management and the board of directors need to ensure that adequate funds and resources are allocated so that all year 2000 projects are completed in a timely manner.

III. Year 2000 Plan Implementation.
A. Initiate pilot projects to test solutions to identified problems. It may be feasible to work with more than one vendor in order to evaluate their various solutions/capabilities before making a final decision.

B. Begin the process of systematically implementing year 2000 changes by priority in accordance to risk. These projects should be conducted within the framework of the system development life cycle process currently in place.

C. Conduct post implementation reviews to ensure the integrity and functionality of the modified systems.