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**STATE OF RHODE ISLAND  
EFFORTS TO RESOLVE THE  
YEAR 2000 COMPUTER ISSUE**

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SPEAKER John B. Harwood, Chairman

Senator Paul S. Kelly  
Senator Dennis L. Algieri  
Representative Gerard M. Martineau  
Representative Robert A. Watson

We have completed a review of the State of Rhode Island's efforts to resolve the Year 2000 computer issue.

Our findings and recommendations are contained herein as outlined in the Table of Contents.

Sincerely,

Ernest A. Almonte, CPA, CFE  
Auditor General

**STATE OF RHODE ISLAND**  
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# ***EXECUTIVE SUMMARY***

## **State of Rhode Island - Efforts to Resolve the Year 2000 Computer Issue**

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The Year 2000 issue emanates from the way many computer programs recorded the year portion of dates with just two digits rather than four. Consequently, dates recorded as “00” could represent either 1900 or 2000. For many computer systems, significant reprogramming must be done to ensure that the systems will continue to operate and correctly process data both as the Year 2000 approaches and beyond.

The Year 2000 issue is a major concern for the State of Rhode Island because of the multitude of computer systems used in State operations and their critical role in providing services. We found that the State’s efforts to resolve the Year 2000 issue were not well planned and are not being adequately monitored. These factors make it difficult to assess the current project status and predict the likelihood that critical systems will be Year 2000 compliant. Little information could be provided to demonstrate progress to date although it is apparent that significant effort is being expended. Further, we found that no one is prioritizing remediation efforts with a statewide perspective. Instead, departments and agencies of the State are largely working independently and prioritizing their efforts based on their own perspective and concerns.

A comprehensive monitoring process is not in place to periodically obtain status information for “mission critical” systems. Consequently, OLIS does not have sufficient current information to know if remediation and testing efforts are on track and to allow reallocation of priorities and resources as January 1, 2000 approaches.

The State’s Year 2000 Task Force and the Office of Library and Information Services (OLIS) should immediately set remediation and testing milestones for all “mission critical” systems. Additionally they should determine whether adequate resources are allocated to ensure “mission critical” systems are Year 2000 compliant by January 1, 2000.

Efforts to resolve the Year 2000 issue are routinely classified in the following stages: awareness, assessment, renovation or remediation, testing or validation, and implementation. Most State systems are currently in the remediation phase. Many consider the testing phase to be the most important and time consuming; representing up to 70% of the total time needed to resolve the Year 2000 problem. Testing standards and a test plan have not been developed yet less than a year remains.

***Planning for the Year 2000 problem has been insufficient and has not been documented.***

***Remediation efforts are not being prioritized with a statewide perspective.***

***Project monitoring efforts need to be improved.***

***Remediation and testing milestones should be set immediately for all “mission critical” systems.***

***Testing standards and a test plan have not been developed.***

# ***EXECUTIVE SUMMARY***

## **State of Rhode Island - Efforts to Resolve the Year 2000 Computer Issue**

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Despite ongoing efforts by the State to resolve Year 2000 issues, the State is vulnerable to the disruption of critical services and functions if its remediation efforts are not successfully completed in time. Consequently, statewide contingency planning or business-continuation planning should be developed concurrently with remediation and testing efforts.

It is difficult to predict whether the State will be mostly successful in resolving Year 2000 issues for at least its mission critical systems due, in part, to the lack of comprehensive testing. The likelihood of success, while not assured, will increase if the State's efforts in the months remaining are appropriately focused on the most critical tasks at hand with effective management and oversight of the statewide project.

The objective of our review was to determine whether the State's Year 2000 compliance efforts are proceeding adequately to ensure services are not materially interrupted as January 1, 2000 approaches and beyond. Secondly, we focused on the status of those systems we considered to be "mission critical". The objective of our review did not include independently assessing the status of any system or determining whether systems are actually Year 2000 compliant.

***Contingency planning for potential Year 2000 system failures has not begun.***

***The likelihood of successful remediation of "mission critical" systems can now be increased by effective oversight.***

## II. INTRODUCTION

### OBJECTIVES, SCOPE AND METHODOLOGY

We conducted a review of the ongoing efforts of the State to address the Year 2000 issue. The objective of our review was to determine whether the State's Year 2000 compliance efforts are proceeding adequately to ensure services are not materially interrupted as January 1, 2000 approaches and beyond. The primary focus of our review was the State's process and coordination efforts to resolve the Year 2000 computer issue. Secondly, we focused on the Year 2000 status of those systems we considered to be "mission critical" systems. "Mission critical" systems are those that either provide essential services or would result in significant disruption of State operations in the event of failure. Our consideration of the State's "mission critical" systems did not include systems utilized by the State's university and colleges or the State's public authorities and corporations. Our review included all activities relative to Year 2000 through December 31, 1998.

We interviewed key individuals responsible for coordinating the State's Year 2000 remediation efforts. We reviewed available documentation and activities relative to (1) coordination efforts, (2) guidance provided to State departments and agencies to assist them in their Year 2000 projects, and (3) monitoring statewide progress. We also interviewed key individuals responsible for, or knowledgeable about, the status of Year 2000 compliance for "mission critical" systems. Information presented in the **Appendix** entitled *Year 2000 Compliance – Summary Status of Mission Critical Systems as of December 1998* is unaudited because our review did not include independently assessing the status of any system or determining whether systems are actually Year 2000 compliant.

### BACKGROUND

#### *The Year 2000 Issue*

The Year 2000 issue emanates from the way many computer programs recorded the year portion of dates with just two digits rather than four. In the past, programmers commonly eliminated the first two digits from a year when writing programs in order to conserve file space. Consequently, dates recorded as "00" could represent either 1900 or 2000. For many computer systems, significant remediation must be done to ensure that the systems will continue to operate and correctly process data both as the Year 2000 approaches and beyond.

The effects of the Year 2000 issue on State operations are significant and pervasive because the State, like most large entities, is highly dependent upon its many computer systems to operate. Older computer systems that utilize dates and perform date calculations are most at risk; however, all computers and systems may be affected to some extent. The concern is not confined to just an entity's own computer systems but also those with which it communicates -- many systems commonly exchange data electronically with external "data exchange partners". How and when these "data exchange partners" approach the Year 2000 problem affects State operations as well. The problem further extends to equipment and other mechanical devices that utilize microchip technology. These "embedded chips" are used in elevators, medical equipment, telephone systems, etc. and may malfunction as the date crosses into 2000.

Much has been written about the Year 2000 problem, its possible consequences, and recommended approaches and costs to solve it. Nearly every large organization in business and government is devoting substantial effort to dealing with the issue.

The high potential costs of remedying the Year 2000 problem have caused both the Governmental Accounting Standards Board and the Securities and Exchange Commission to issue guidance regarding the disclosure of these costs in an entity's financial statements.

### **The Computer Processing Environment in State Government**

The State's computer processing environment is complex with thousands of computer applications that run on a variety of systems, some of which are centralized under common control and others which are under the direct control of departments and agencies. These systems range from unsophisticated old technology systems to those that are much more complex and of more recent origin. A wide variety of computer hardware is in use from thousands of desktop personal computers to large mainframe computers. Some systems run on a common mainframe computer at the State Data Center while others use computers located throughout State departments and agencies.

The Office of Library and Information Services (OLIS) within the Department of Administration has responsibility for maintaining most of the centralized computer systems that are under the control of the Department of Administration and operating the State Data Center in Johnston. Additionally, most of the departments and agencies of the State also have personnel who are responsible for maintaining their own departmental computer systems, networks and programs. Some systems have been outsourced to private vendors (e.g., the Medicaid Management Information System [MMIS] and the gaming systems used by the Rhode Island Lottery) while others are maintained primarily by consultants under contract to the State (the INRHODES computer system which is used by the Department of Human Services to administer multiple federal/state welfare programs and Rhode Island's Children Information System [RICHIST] which is used by the Department of Children, Youth and Families to administer programs for children in its care).

Resolution of the Year 2000 problem in State government is complicated by the multitude of systems in place, many of which are older systems where the two-digit form of date/year storage was commonly used. Further, the lack of uniformity and decentralized nature of the State's computer processing environment make it more difficult to coordinate remediation efforts.

## *The State of Rhode Island's Approach to the Year 2000 Problem*

A chronology of significant steps in the State's efforts to resolve the Year 2000 problem is outlined below.

- ◆ **January 1997** – Governor Almond issues Executive Order 97-1 which establishes the *Year 2000 Technology Correction Initiative*. The Order designates the State's Chief Information Officer as coordinator of the State's Year 2000 remediation efforts. The Chief Information Officer is directed to establish a task force consisting of representatives of the Office of Library and Information Services (OLIS) and other state entities directly affected by this issue. The Chief Information Officer is further directed to report to the Governor and the Director of Administration on the scope of the problem and options to address it by June 30, 1997. All State departments and agencies are directed to cooperate with the Chief Information Officer.

A Task Force was formed to include representatives from OLIS and various departments and agencies of the State. A Year 2000 Coordinator position was created within OLIS to work on the Year 2000 effort.

- ◆ **June 1997** – A report is issued by a consultant hired to perform an inventory, assessment, and analysis of all the automated systems within the State which contains 28 findings and recommendations relative to the Year 2000 problem. The consultant estimates that the costs to fix the Year 2000 problem may be between \$6 and \$21 million with a median estimate of almost \$13 million. The consultant's estimate assumes outsourcing all Year 2000 remediation and utilizes industry standard costs to remediate a line of computer code. Also, he estimated that the state had better than a 50:50 chance of succeeding in its effort to bring its own systems into compliance on its current course, absent significant loss of personnel assigned to remediation efforts.
- ◆ **January 1998** – A second report is issued by the State's consultant. In this report the consultant compared the State's preparedness for the Year 2000 at June 1997 with January 1998. He reported that the technical audit does not support the optimistic assessment of the Department of Administration's core systems other than the Division of Taxation. He noted the lack of documented progress and no updates regarding budgeting as key concerns. Other concerns included the lack of an overall program manager appointed with the responsibility to ensure fault-free, on time delivery of compliant systems and the State's inability to fill advertised programming positions. He estimated that the probability of success must be downgraded to less than 50:50.
- ◆ **April 1998** – OLIS issues a directive to all departments and agencies that use OLIS to maintain their systems stating that "we are facing an emergency that will require the full attention of our programming staff". Consequently, the directive states that only critical requests for program changes, reports, etc. will be considered since Year 2000 remediation is the first priority.
- ◆ **June 1998** – A second consultant issues a report on efforts to address the "embedded chip" aspect of the Year 2000 problem.

- ◆ **September 1998** - The Office of Accounts and Control, Department of Administration issues a directive to chief financial officers of the State's departments and agencies requiring information by no later than November 30, 1998 on each department and agency's efforts to make systems Year 2000 compliant, the amounts expended and/or committed, and a representation from the agency head and their legal counsel regarding Year 2000 evaluation and testing.
  
- ◆ **November 30, 1998** – Reports due from State departments and agencies on Year 2000 status. As of the date of this report, approximately 33 reports have been received.

The enacted budgets for fiscal years 1998 and 1999 included the amounts of \$500,000 and \$2,500,000, respectively, for Year 2000 related compliance projects. A supplemental fiscal 1999 budget request has been made in the amount of \$2,500,000. Amounts budgeted for specific programs and departments also included amounts for Year 2000 projects that are not separately identifiable.

### **“Mission Critical” Systems**

We considered certain of the State's computer systems to be “mission critical” because these are utilized to deliver essential services or support overall State operations and would cause significant disruption in the event of failure. An appendix to this report provides a summary status (unaudited) of these mission critical systems. This designation is based on our knowledge of the State's operations and the functions of these systems which was gained through our annual Single Audit of the State as well as various other audits. Our consideration of the State's “mission critical” systems did not include systems utilized by the State's university and colleges or the State's public authorities and corporations.

There are many more computer systems whose functions and impacts are important, however, the systems identified in the Appendix are those we consider most critical.

### **III. FINDINGS AND RECOMMENDATIONS**

#### **PLANNING IS INSUFFICIENT AND HAS NOT BEEN DOCUMENTED**

The Year 2000 problem is considered to be the largest single effort that most information technology organizations will ever undertake. Both the scope and time-critical nature of the problem require that extensive planning and project management tools be employed. Much has been written about the recommended approach that should be followed, particularly when approaching the problem in a large organization.

A comprehensive plan, organized into these five major categories, is considered a basic requirement:

- Awareness
- Assessment
- Renovation or Remediation
- Testing or Validation
- Implementation

Milestones and priorities are critical when dealing with the Year 2000 problem. Because of the multitude of State computer systems, all cannot be fixed before Year 2000 – “trriage” must be performed to determine those that (1) must be fixed, (2) will be replaced, (3) should be fixed but will not result in serious disruption of services in the event of failure, and (4) will not be fixed. Milestones are necessary because of the immovable nature of the inherent deadline for the Year 2000 problem. Sufficient time must be allocated for testing and further remediation, if needed, to ensure critical services will not be interrupted.

We expected to find a written comprehensive plan to guide the State in dealing with the Year 2000 problem but found none. Project milestones have not been formally set and priorities have not been formally established.

However, assessments and priorities have been informally made. For example, the various computer systems responsible for the collection of tax revenue were appropriately identified as a high priority because the majority of the State revenue is collected through these systems and because these systems required significant remediation due to their age and use of date calculations. The weakness lies in not approaching the process more formally and documenting the conclusions reached. Such a plan serves as a road map, a progress-monitoring tool, and further allows resetting of priorities when work does not progress as planned but the deadline remains fixed. OLIS informed us, that because resources are scarce, the objective was to put all available resources on actual remediation tasks rather than allocate resources to prepare a plan and document priorities, etc.

Initial planning efforts to conduct a statewide inventory of computer systems and assess those systems for Year 2000 compliance were good. The inventory and assessment should have been used as a basis for priority setting and monitoring. Instead, the information reported, which varied widely by department, was accepted as is without further refinement and was never used to formally set priorities or develop a monitoring mechanism.

Similarly, efforts to increase awareness about the aspect of the Year 2000 problem that relates to embedded microchips have been extensive. The State hired a consultant to perform training sessions and meet with various departments and agencies. However, comprehensive statewide planning and monitoring of efforts to deal with the embedded microchip problem are not in place.

Most importantly, we found that no one is prioritizing remediation efforts with a statewide perspective. Instead, departments and agencies of the State are largely working independently and prioritizing their efforts based on their own perspective and concerns. We also found that the scope of planning efforts is too narrow – generally it is limited to some Department of Administration systems. Many other computer systems with significant impact have not been the focus of attention by the State’s Year 2000 Technology Correction Initiative and/or OLIS. Some of these systems include the Department of Human Services’ INRHODES system, the Medicaid Management Information System, and systems used by the Rhode Island Lottery and the Department of Labor and Training.

This appears to result from the role of the Task Force being perceived as disseminating information and increasing awareness of the problem. The role of OLIS was perceived to support the task force and also to remediate systems under its direct control. A void exists in that there is no statewide project manager to direct and oversee the State’s Year 2000 project to ensure that the most critical tasks receive priority on a statewide basis.

The State’s consultant observed in his June 30, 1997 report that “no one is accountable for delivery (of the Statewide Year 2000 project) at present”. He also observed that “aggressive program management with full accountability for on-time delivery will be required to ensure success by all agencies”. The January 8, 1998 report again states that “there has been no overall program manager appointed with the responsibility to ensure fault-free, on-time delivery of compliant systems”. While the position of Year 2000 coordinator was filled, this position has largely been devoted to increasing awareness of the problem and maintaining the State’s Year 2000 web site which contains guidance and references in solving the Year 2000 problem.

More recently, the federal government has caused the State to document and report the status of its Year 2000 remediation for certain systems that are used to administer federal programs (INRHODES, MMIS and the systems used by the Department of Labor and Training to administer the Unemployment Insurance program).

At this critical juncture, recommendations must reflect the fact that time is short and resources are scarce. Consequently, all the elements of an effective planning process that would have been desirable two years ago are not realistic now with slightly more than a year left to go. Due to the urgency and the lack of time, we feel that developing a complete formal plan at this point may not be an efficient use of resources. However, resources should immediately be focused on the essential planning tasks recommended below to increase the likelihood of success and to allow effective coordination and monitoring for the remainder of the project.

## **RECOMMENDATIONS**

1. Designate an individual to assess and document planning issues that are critical to the success of the Year 2000 initiative.

2. Immediately assess and document those systems on a statewide basis that are deemed “mission critical”.
3. Set remediation and testing milestones for all “mission critical” systems.
4. Determine whether adequate resources are allocated to ensure “mission critical” systems are Year 2000 compliant by January 1, 2000.
5. Set assessment and remediation milestones for agencies that have significant vulnerability to the embedded microchip aspect of the Year 2000 problem.

#### Auditee Views

*The Department concurs with these recommendations. The Department believes OLIS programming staff will be able to accomplish remediation for its systems if current staff remains and they are not diverted to perform other “essential” tasks during the period. Further, new programming efforts due to legislative enacted changes must be limited. A supplemental budget request has been made for fiscal 1999 to resolve Year 2000 issues and a contingency appropriation request has been included in the fiscal 2000 recommended budget.*

### **PROJECT MONITORING EFFORTS NEED TO BE IMPROVED**

Information on the status of remediation and testing for any specific system was very difficult to obtain and is still largely incomplete. We requested that OLIS provide us with a current status for each of the major systems we deemed to be mission critical. The information that was eventually provided focused only on Department of Administration systems and was incomplete and inconclusive. No comprehensive monitoring process is in place to periodically obtain status information. Consequently, OLIS does not have sufficient current information to know if remediation and testing efforts are on track and to allow reallocation of priorities and resources as January 1, 2000 approaches.

A monitoring process should be put in place immediately that, at a minimum, requires the individual with overall responsibility for remediation and testing of each mission critical system to report bi-weekly to OLIS on their progress and status. These bi-weekly reports should be measured against milestones established for each “mission critical” system.

Information is also not being collected and monitored regarding the progress made by departments and agencies in resolving the effects of embedded microchips. This information should similarly be reported on a bi-weekly basis to OLIS and be measured against milestones established for each agency.

### **RECOMMENDATION**

6. Implement a monitoring process to track agency progress on remediation and testing for mission critical systems as well as their efforts to resolve issues related to embedded microchips.

Audit Views

*The Department concurs with this recommendation.*

**TESTING STANDARDS HAVE NOT BEEN DEVELOPED AND TESTING OF MOST SYSTEMS HAS NOT BEEN PERFORMED**

Testing a system to ensure it works as expected and will work when the date changes to January 1, 2000 is a critical phase in solving the Year 2000 problem. Few of the State's systems have been adequately tested. Comprehensive testing standards and procedures have not been established.

The United States General Accounting Office has published a *Year 2000 Computing Crisis: A Testing Guide (Exposure Draft dated June 1998)* which includes the following:

*Complete and thorough year 2000 testing is essential to provide reasonable assurance that new or modified systems process dates correctly and will not jeopardize an organization's ability to perform core business operations after the millennium. Moreover, since the Year 2000 computing problem is so pervasive, potentially affecting an organization's systems software, applications software, databases, hardware, firmware and embedded processors, telecommunications and external interfaces, the requisite testing is extensive and expensive. Experience is showing that Year 2000 testing is consuming between 50 and 70 percent of a project's time and resources.*

It is important that OLIS define Year 2000 compliance criteria which can then become testing objectives. A clear standard must be defined regarding what constitutes "testing" of a system to ensure it is Year 2000 compliant. Interpretations of testing can differ widely from simply determining that the program continues to run to actually testing the program in a simulated Year 2000 mode with test data designed to fully test all the capabilities of the system and ensuring that all interfaces with data exchange partners will work. Without establishing testing objectives and uniform testing standards, reliance on representations from others that a system is Year 2000 compliant will be risky.

In addition to establishing Year 2000 compliance criteria and testing standards, OLIS should develop a test and evaluation master plan and independent quality assurance procedures.

As summarized in the Appendix, the information available on the status of systems we deemed mission critical indicates that most are still in the remediation phase and very little testing has been performed. Since most experts consider the testing phase to require between 50% and 70% of the total project effort, it is important that testing standards and the testing master plan be developed immediately so that testing can commence. We are concerned that with less than a year remaining, insufficient time may have been left for testing of systems.

OLIS's testing approach has been delayed, in part, by the intent to utilize a software package it purchased to facilitate identifying program code with references to date fields. After much effort by the software vendor and OLIS, it was determined in October 1998 that the software package could not be successfully used with the State's systems. The cost of the software was approximately \$300,000. OLIS is doubtful that any of the amount expended can be recovered. The planned reliance on this software package and subsequent decision that the package could not be used seriously set back the development of a testing approach.

### **RECOMMENDATION**

7. Establish testing standards and procedures. Test each critical project thoroughly and comprehensively.

#### Auditee Views

*The Department concurs with this recommendation.*

### **PROCEDURES TO ENSURE THAT DATA EXCHANGE PARTNERS ARE YEAR 2000 COMPLIANT ARE INCOMPLETE**

Many State computer systems routinely exchange data electronically with other external computer systems. Year 2000 remediation efforts on behalf of either data exchange partner could affect data exchanges and overall system operations. For example, the INRHODES computer system, which is used to manage the Child Support Enforcement program, electronically accesses multiple federal computer systems in efforts to locate absent parents. Additionally, payment to employees and pensioners who have elected direct deposit of their wages and pension benefits is made electronically by the State's computer transferring data to a clearinghouse which in turn transfers data to multiple banks.

OLIS has asked State departments and agencies to identify their data exchange partners, however, we found that the identification of all data exchange partners is not complete. Further, information has not been accumulated consistently as to the status of data exchange partner's Year 2000 conversion status and coordination of exchange issues. The identification of exchange partners and resultant coordination efforts should be included in the bi-weekly status reporting to OLIS recommended in a previous section of this report. Additionally, the State's testing standards and test plan should be inclusive of external data exchanges.

### **RECOMMENDATION**

8. Complete the identification of all data-exchange partners, develop schedules for testing and implementing new date formats, and thoroughly test data supplied by external parties.

Auditee Views

*The Department concurs with this recommendation.*

**CONTINGENCY PLANNING FOR YEAR 2000 SYSTEM FAILURES HAS NOT BEGUN**

Despite the ongoing efforts by the State to fix critical systems, the State is vulnerable to the disruption of critical services and functions if their remediation efforts are not successfully completed in time. Consequently, contingency planning or business-continuation planning should be developed concurrently with remediation and testing efforts. The continuous project monitoring recommended in a previous section of this report will facilitate preparation of contingency plans by highlighting those areas that are least likely to be fully Year 2000 compliant by January 1, 2000. Contingency planning should be inclusive of the issues related to external data exchange partners as well as embedded microchip devices.

**RECOMMENDATION**

9. Develop comprehensive contingency or business-continuation plans for those State operations vulnerable to computer system failure and/or embedded chip malfunctions due to the Year 2000 problem.

Auditee views

*The Department concurs with this recommendation.*

**STATUS OF "MISSION CRITICAL" SYSTEMS**

One of our objectives was to accumulate the status of systems we deemed to be "mission critical". Our efforts were hampered first by the fact that the State has not performed its own analysis of those systems that it deems mission critical and secondly by the lack of a monitoring process to provide current status. The summary unaudited data which we accumulated for "mission critical" systems indicates that most of these systems are in the remediation phase.

In some respects, the State's remediation efforts, at least for mission critical systems, may be lessened by two factors: (1) the state accounting system and other related components have limited capabilities and therefore perform few advanced functions that are date sensitive, and (2) a number of key systems (e.g., MMIS, INRHODES, RICHIST), are of more recent design and therefore are more likely to record the year portion of date fields with four digits.

It is difficult to predict whether the State will be mostly successful in resolving Year 2000 issues for at least mission critical systems due, in part, to the lack of comprehensive testing. The likelihood of success, while not assured, will increase if the State's efforts in the months remaining

are appropriately focused on the most critical tasks at hand with effective management and oversight of the statewide project.

## **Appendix**

Year 2000 Compliance –

Summary Status of Mission Critical Systems (Unaudited)

as of December 1998

## Year 2000 Compliance - Summary Status of Mission Critical Systems (unaudited) as of December 1998

Computer System	See Note (a)	Agency	Function	Status (b)					Comments
				1	2	3	4 (c)	5	
State Accounting System	*	Department of Administration	Statewide accounting of revenues and expenditures, budgetary compliance, payments to vendors, determination of federal dollars drawn in reimbursement of federal program costs			√			Estimated completion date for remediation is March 1999. System is not particularly date sensitive. System replacement is in process but will not be fully implemented by January 1, 2000.
Subsidiary disbursement systems of the State Accounting System	*	Department of Administration	Disbursement of benefits for various programs	√					No planned remediation.
Debt Service	*	Department of Administration	Track all outstanding obligations of the State and prompt required debt service payments			√			System was redesigned in 1987 to include four digit date fields.
Employee Payroll	*	Department of Administration	Process and disburse payroll to State employees			√			Estimated completion date for remediation is March 1999.
Personnel		Department of Administration	Track personnel information and actions for State employees			√			The personnel system was replaced and put in production as of September 1998. The system was designed to be Year 2000 compliant, however, standard testing should still be performed.
Purchasing		Department of Administration	Central purchasing system for the State		√				No planned remediation.
Low Income Home Energy Assistance Program		Department of Administration	Eligibility and disbursement of program benefits			√			Application believed to be Year 2000 compliant, however, standard testing should still be performed.
Taxation Accounting and Collection Systems	*	Department of Administration	Process and collect taxes assessed by the State						

Notes:

(a) = These systems utilize computer hardware located at the State Data Center.

(b) = Status: 1 = Awareness 2 = Assessment 3 = Remediation 4 = Testing 5 = Implementation

(c) = Since testing standards have not been established, no systems are considered to be fully tested.

## Year 2000 Compliance - Summary Status of Mission Critical Systems (unaudited) as of December 1998

Computer System	See Note (a)	Agency	Function	Status (b)					Comments
				1	2	3	4 (c)	5	
Sales Tax						√			Remediated and in production August 1998.
Corporation Tax						√			Remediated and in production June 1998.
Income Tax Withholding Tax Collections Motor Vehicle Registration/License/ Titles Gasoline Tax  Cigarette Tax  Health Care Tax Batch Inventory  Business Tax Consolidated File						√ √ √ √   √  √  √ √  √			Remediated and in production October 1997. Remediation started, estimated completion April 1999. Remediation and in production December 1998. Estimated completion date for remediation is April 1999.  Estimated completion date for remediation is February 1999. Estimated completion date for remediation is February 1999. Remediated and in production November 1997. Estimated completion date for remediation is February 1999. Remediated and in production November 1997.
Investments	*	Treasury/Department of Administration	Manage and track State's portfolio of investments other than those held by the retirement system			√			Estimated completion date for remediation is January 1999.
Retirement System Investments		Treasury / External Custodian	Custody and accounting for Employees' Retirement System investment portfolio			√			External custodian estimates that their Year 2000 conversion project will be fully completed by September 1999.
Retirement contributions	*	Division of Retirement	Collection of retirement contributions			√			Remediated November 1998.

Notes:

(a) = These systems utilize computer hardware located at the State Data Center.

(b) = Status: 1 = Awareness 2 = Assessment 3 = Remediation 4 = Testing 5 = Implementation

(c) = Since testing standards have not been established, no systems are considered to be fully tested.

## Year 2000 Compliance - Summary Status of Mission Critical Systems (unaudited) as of December 1998

Computer System	See Note (a)	Agency	Function	Status (b)					Comments
				1	2	3	4 (c)	5	
<b>Pension Payroll</b>	*	Division of Retirement	Disbursement of monthly benefits to pensioners			√			Estimated completion date for remediation is January 1999.
<b>INRHODES</b>	*	Department of Human Services/consultant	Determine eligibility, disburse benefits, and administer multiple federal/state welfare programs			√			Estimated implementation for all Year 2000 compliance efforts is June 1999.
<b>Medicaid Management Information System</b>		Department of Human Services/ fiscal agent	Process claims and disburses payments to Medicaid providers and administers other aspects of the federal/ state program			√			Estimated implementation for all Year 2000 compliance efforts is June 1999. Fiscal agent is responsible for remediation.
<b>Unemployment benefits</b>		Department of Labor and Training	Determine eligibility and disburse unemployment benefits			√			Independent testing has been completed.
<b>TDI benefits</b>		Department of Labor and Training	Determine eligibility and disburse temporary disability benefits			√			System has been remediated.
<b>Tax collection and wage record</b>		Department of Labor and Training	Collect taxes from employers and maintain wage record data			√			Tax collection and wage record system testing is in process.
<b>On-line Games and Video Lottery Games</b>		Rhode Island Lottery/ contract vendor	Operate on-line and video lottery games			√			Completed an inventory and assessment. Remediation plan in progress. Contract vendor is responsible for remediation.
<b>Rhode Island Children's Information System</b>		Department of Children, Youth and Families	Track all actions on children in the Department's care, disburse payments on their behalf, and account for and allocate costs to multiple federal and state programs			√			Application is Year 2000 compliant. Operating system and other software is being upgraded.

Notes:

(a) = These systems utilize computer hardware located at the State Data Center.

(b) = Status: 1 = Awareness 2 = Assessment 3 = Remediation 4 = Testing 5 = Implementation

(c) = Since testing standards have not been established, no systems are considered to be fully tested.

## Year 2000 Compliance - Summary Status of Mission Critical Systems (unaudited) as of December 1998

Computer System	See Note (a)	Agency	Function	Status (b)					Comments
				1	2	3	4 (c)	5	
<b>Inmate and Facilities Tracking Program</b>		Department of Corrections	Inmate records and reporting			√			Estimated completion date for remediation is June 1999.
<b>Women Infants and Children Program Benefits</b>		Department of Health	Determine eligibility, nutrition counseling and disbursement of program benefits				√		System is in the process of being replaced. Estimated completion is February 1999.
<b>Highway, Planning and Construction Project Cost and Federal billing system</b>		Department of Transportation	Track costs for reimbursement from the federal government				√		Estimated completion date for remediation is March 1999.
<b>MHRH Hospital Revenues</b>		Department of Mental Health, Retardation and Hospitals	Billing system for patients in the care of the Department				√		Remediation to be accomplished by upgrades of operating systems and software.

Operating System	See Note (a)	Agency	Function	Status (b)					Comments
				1	2	3	4 (c)	5	
<b>Systems Software - State Data Center</b>		Department of Administration	Systems software is the basic operating platform for all applications that use the IBM mainframe computer at the State Data Center. Refer to Note (a).			√			All systems software (operating systems, application development tools, utilities etc.) have been reviewed for Year 2000 compliance. As required, upgrading of these systems components is ongoing and will continue into 1999.

Notes:

(a) = These systems utilize computer hardware located at the State Data Center.

(b) = Status: 1 = Awareness 2 = Assessment 3 = Remediation 4 = Testing 5 = Implementation

(c) = Since testing standards have not been established, no systems are considered to be fully tested.

## Year 2000 Compliance - Summary Status of Mission Critical Systems (unaudited) as of December 1998

Infrastructure System	See Note (a)	Agency	Function	Status (b)					Comments
				1	2	3	4 (c)	5	
Emergency 911 System		Executive Department	Statewide emergency telephone network			√			System is largely dependent on Bell Atlantic operations. Bell Atlantic's goal is to have its network and mission critical systems Year 2000 compliant (including testing) by June 30, 1999.

Notes:

(a) = These systems utilize computer hardware located at the State Data Center.

(b) = Status: 1 = Awareness 2 = Assessment 3 = Remediation 4 = Testing 5 = Implementation

(c) = Since testing standards have not been established, no systems are considered to be fully tested.