PERFORMANCE AUDIT
OF THE

YEAR 2000 ISSUES FOR INFORMATION SYSTEMS

YEAR 2000 PROJECT OFFICE
DEPARTMENT OF MANAGEMENT AND BUDGET

May 1999

07-597-98

EXECUTIVE DIGEST

YEAR 2000 ISSUES FOR INFORMATION SYSTEMS

INTRODUCTION

This report, issued in May 1999, contains the results of our performance audit* of the Year 2000 Issues for Information Systems, Year 2000 Project Office*, Department of Management and Budget (DMB). This was our second audit of the State's efforts to address the year 2000 problem*. We plan to periodically determine the status of the State's year 2000 issues as the State makes progress in resolving these issues.

AUDIT PURPOSE

This performance audit was conducted as part of the constitutional responsibility of the Office of the Auditor General. Performance audits are conducted on a priority basis related to the potential for improving effectiveness* and efficiency* .

BACKGROUND

The year 2000 problem is the result of the way dates are stored and computed in many computer systems. For the past several decades, programmers typically used two digits to represent the year to save data storage and processing costs. However, in this format, the year 2000 is indistinguishable from the year 1900 because both are represented as "00." As a result, most computer systems

* *See glossary on page 30 for definition.*

that use two-digit years will not work beyond the year 1999 if corrective action is not taken. Most State agencies have computer programs that use the two-digit years; therefore, those programs will not correctly process dates beyond December 31, 1999 without corrective action. Effective dates for benefits, license expirations, tax payments, personnel/payroll transactions, and other transactions are all potentially affected by this problem.

In response to the year 2000 problem, DMB established the Year 2000 Project Office, which reports to the State's chief information officer. The mission* of the Year 2000 Project Office is to oversee and facilitate agencies in achieving year 2000 operability* for their critical computer applications by December 31, 1998 and for their other computer applications by September 30, 1999. The scope of the Year 2000 Project Office's oversight is limited to executive branch agencies and excludes the legislative and judicial branches of government.

For fiscal year 1996-97, the Year 2000 Project Office was appropriated $55.6 million. Act 114, P.A. 1997, stipulates that the unexpended portion of the appropriation is to be considered a work project appropriation and any unencumbered or unallotted funds are to be carried over into the succeeding fiscal year. As of September 1998, the Year 2000 Project Office had 9 individuals assigned to the project and had expended $1.4 million for its internal operation. As of November 1998, the Year 2000 Project Office had reimbursed State agencies $16.9 million for remediation work.

* *See glossary on page 30 for definition.*

AUDIT OBJECTIVE AND CONCLUSION

Audit Objective: To assess the effectiveness of the Year 2000 Project Office in implementing key processes to achieve year 2000 compliance.

Conclusion: In our opinion, the Year 2000 Project Office continues to be effective in implementing key processes to achieve year 2000 compliance. However, our conclusion does not imply that the State will be successful in its remediation efforts or that essential business functions will not be affected by either internal or external year 2000 related events. Because of the unprecedented nature of the year 2000 issue, sufficient audit evidence does not exist to conclude that the State will be successful in its remediation efforts or that essential business functions will not be affected by either internal or external sources. The effects and the success of related remediation efforts of the Year 2000 Project Office will not be fully determinable until the year 2000 and thereafter.

Our audit of the Year 2000 Project Office's efforts found:

a. The *Michigan Year 2000 Remediation Framework** provides the basis for resolving the year 2000 problem facing State agencies.

b. The Year 2000 Project Office has established a centralized Year 2000 Progress Reporting System to gain accurate and timely data from all State agencies.

c. The Year 2000 Project Office has established an effective Quality Assurance Program to review agency remediation efforts.

* *See glossary on page 30 for definition.*

d. The Year 2000 Project Office has developed the Risk Management Program, which provides State agencies with the guidance needed to focus their limited resources on the most likely threats to their successful remediation of year 2000 problems.

e. Executive Directive No. 1998-3 directs agencies to inventory, assess, and remediate all mission critical equipment that may have embedded technology* by December 31, 1999.

f. DMB Administrative Guide procedure 1310.33, entitled "Michigan Year 2000 Operability Certification for Application/Compliance Unit," directs agencies to certify that their computer applications are year 2000 operable.

Our assessment did not disclose any material conditions*. However, we did identify a reportable condition* directed to State agencies regarding their reporting of regulatory and enforcement responsibilities (Finding 1).

AUDIT SCOPE AND METHODOLOGY

Our audit scope was to examine the program and other records of the Year 2000 Project Office and of various State agencies. Our audit was conducted in accordance with *Government Auditing Standards* issued by the Comptroller General of the United States and, accordingly, included such tests of the records and such other auditing procedures as we considered necessary in the circumstances.

To accomplish our audit objective, we utilized the Year 2000 Conversion Model established by the U.S. General Accounting Office (GAO), which is based on the work of

* *See glossary on page 30 for definition.*

the federal Best Practices Subcommittee of the Interagency Year 2000 Committee. Our methodology included examination of records and activities of the Year 2000 Project Office for the period October 1997 through February 1999. We interviewed the Year 2000 Project Office and other State agency personnel and compared the *Michigan Year 2000 Remediation Framework* with the GAO's Year 2000 Conversion Model.

AGENCY RESPONSES AND PRIOR AUDIT FOLLOW-UP

Our audit report contains 1 finding and 1 corresponding recommendation. The agency preliminary response from the Emergency Management Division, Michigan Department of State Police, indicated agreement with the recommendation.

DMB complied with all 3 of our prior audit recommendations.

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Ms. Janet E. Phipps, Director
Department of Management and Budget
Lewis Cass Building
Lansing, Michigan

Dear Ms. Phipps:

This is our second report on the performance audit of the Year 2000 Issues for Information Systems, Year 2000 Project Office, Department of Management and Budget.

This report contains our executive digest; description of project; audit objective, scope, and methodology and agency responses and prior audit follow-up; comment, finding, recommendation, and agency preliminary response; independent auditor's report on supplemental information; a summary of agency year 2000 remediation progress, notes to summary, and Executive Directive No. 1998-3, presented as supplemental information; and a glossary of acronyms and terms.

The agency preliminary response was taken from the agency's response subsequent to our audit fieldwork. The *Michigan Complied Laws* and administrative procedures require that the audited agency develop a formal response within 60 days after release of the audit report.

We appreciate the courtesy and cooperation extended to us during this audit.

Sincerely,

Thomas H. McTavish, C.P.A.
Auditor General

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YEAR 2000 PROJECT OFFICE
DEPARTMENT OF MANAGEMENT AND BUDGET

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Description of Project

The year 2000 problem is the result of the way dates are stored and computed in many computer systems. For the past several decades, programmers typically used two digits to represent the year to save data storage and processing costs. However, in this format, the year 2000 is indistinguishable from the year 1900 because both are represented as "00." As a result, most computer systems that use the two-digit years will not work beyond the year 1999 if corrective action is not taken. Most State agencies have computer programs that use the two-digit years; therefore, those programs will not correctly process dates beyond December 31, 1999 if corrective action is not taken. Effective dates for benefits, license expirations, tax payments, personnel/payroll transactions, and other transactions are all potentially affected by this problem.

In response to the year 2000 problem, the Department of Management and Budget established the Year 2000 Project Office, which reports to the State's chief information officer. The mission of the Year 2000 Project Office is to oversee and facilitate agencies in achieving year 2000 operability for their critical computer applications by December 31, 1998 and for their other computer applications by September 30, 1999. The scope of the Year 2000 Project Office's oversight is limited to executive branch agencies and excludes the legislative and judicial branches of government. The Year 2000 Project Office also identifies and promotes awareness about vulnerabilities from other potential year 2000 problems. The Year 2000 Project Office provides financial management and control for year 2000 compliance activities related to computer systems by allocating funds to State agencies as their plans are approved and progress is made on them. These funds are for remediation of software applications and for project management. In addition, State agencies must commit some of their own resources for other year 2000 related costs. These other related costs include items such as personal computer hardware and software. The Year 2000 Project Office also provides consulting assistance to State agencies regarding the utilization of automated tools and methods to achieve year 2000 compliance.

The U.S. General Accounting Office (GAO) developed an assessment guide for the year 2000 problem entitled *Year 2000 Computing Crisis: An Assessment Guide*. The guide contains the GAO's Year 2000 Conversion Model, which is based on the work of

the federal Best Practices Subcommittee of the Interagency Year 2000 Committee and incorporates guidance and practices identified by leading organizations in the information technology industry. The Model identifies five phases of an effective year 2000 program: awareness, assessment, renovation, validation, and implementation. Awareness of the problem includes defining the problem, familiarizing staff, and gaining executive support. Assessment includes identifying core business areas, analyzing systems supporting these areas, and prioritizing the conversion or replacement of these systems. Assessment also includes developing contingency plans* and estimating needed resources. Renovation involves converting or replacing computer systems. Validation is testing and verifying converted systems in an operating environment. Implementation consists of implementing the converted systems.

On February 4, 1998, the Governor issued Executive Directive No. 1998-3, entitled "Year 2000 Operability." The Governor's Directive stated that the number one technology priority for all executive branch agencies is year 2000 operability. Each agency was made responsible for making its critical computer operations year 2000 compliant by December 31, 1998, and all others by September 30, 1999. Agencies were to determine, pursuant to their regulatory or enforcement authority, whether they must require or recommend that other governmental or private sector entities take action to ensure year 2000 compliance by those other governmental or private sector entities. In addition, the Directive outlined other specific requirements for agencies to address.

As of January 1999, the Year 2000 Project Office and other State agencies were in the process of completing the remediation of critical applications that support the essential business functions within State government. Since our initial audit, issued February 1998, the State has developed the *Michigan Year 2000 Remediation Framework* that addresses the key processes recommended by the GAO. The Framework includes guidance in project management, quality assurance, and risk management. The Framework also provides State agencies with a comprehensive and widely supported approach to resolving the year 2000 problem.

The Risk Management Program included in the Framework addressed our 3 prior audit recommendations relating to contingency planning. The Program identified the State's

* *See glossary on page 30 for definition.*

64 essential business functions and instructed agencies that their remediation priorities needed to be in alignment with the 64 essential State functions. Further, the Program required State agencies to initiate contingency planning for essential State functions if service was likely to be disrupted or if compliance units* were not year 2000 operable or compliant by December 31, 1998.

For fiscal year 1996-97, the Year 2000 Project Office was appropriated $55.6 million. Act 114, P.A. 1997, stipulates that the unexpended portion of the appropriation is to be considered a work project appropriation and any unencumbered or unallotted funds are to be carried over into the succeeding fiscal year. As of September 1998, the Year 2000 Project Office had 9 individuals assigned to the project and had expended $1.4 million for its internal operation. As of November 1998, the Year 2000 Project Office had reimbursed State agencies $16.9 million for remediation work.

* *See glossary on page 30 for definition.*

Audit Objective, Scope, and Methodology and Agency Responses and Prior Audit Follow-Up

Audit Objective

Our audit objective for the performance audit of the Year 2000 Issues for Information Systems, Year 2000 Project Office, Department of Management and Budget (DMB), was to assess the effectiveness of the Office in implementing key processes to achieve year 2000 compliance.

Audit Scope

Our audit scope was to examine the program and other records of the Year 2000 Project Office and of various State agencies. Our audit was conducted in accordance with *Government Auditing Standards* issued by the Comptroller General of the United States and, accordingly, included such tests of the records and such other auditing procedures as we considered necessary in the circumstances.

Audit Methodology

To accomplish our audit objective, we utilized the Year 2000 Conversion Model established by the U.S. General Accounting Office (GAO) in its *Year 2000 Computing Crisis: An Assessment Guide*. This Model presents a structured approach to follow in planning, managing, and evaluating year 2000 remediation programs. The Model is based on the work of the federal Best Practices Subcommittee of the Interagency Year 2000 Committee and incorporates guidance and practices identified by leading organizations in the information technology industry. Our audit methodology included the following phases:

1. Data Gathering and Examination Phase

   Our work was performed between October 1998 and February 1999. We collected background information about the State's plans to address year 2000 issues. We examined records and activities of the Year 2000 Project Office for the period October 1997 through February 1999 and conducted interviews with Office staff and other State agency personnel regarding the remediation of the year 2000 problem. We compared the *Michigan Year 2000 Remediation Framework* with the GAO's Year 2000 Conversion Model and other industry best practices relative to the renovation, validation, and implementation phases of remediation. We also

reviewed the program management, quality assurance, and risk management processes that support the remediation effort.

2. Evaluation and Reporting Phase
   We evaluated and reported on the results of the data gathering and examination phase.

Agency Responses and Prior Audit Follow-Up

Our audit report contains 1 finding and 1 corresponding recommendation. The agency preliminary response from the Emergency Management Division, Michigan Department of State Police, indicated agreement with the recommendation.

The agency preliminary response which follows the recommendation in our report was taken from the agency's written comments and oral discussion subsequent to our audit fieldwork. Section 18.1462 of the *Michigan Complied Laws* and DMB Administrative Guide procedure 1280.02 require the Department to develop a formal response to our audit findings and recommendations within 60 days after release of the audit report.

DMB complied with all 3 of our prior audit recommendations.

COMMENT, FINDING, RECOMMENDATION, AND AGENCY PRELIMINARY RESPONSE

YEAR 2000 ISSUES

COMMENT

Background: Our initial performance audit, issued in February 1998, of the Year 2000 Issues for Information Systems disclosed that the State was making progress in addressing the year 2000 problem. The Year 2000 Project Office and other State agencies were in the process of completing the assessment phase, including the approval of plans and establishment of budgets.

On February 4, 1998, the Governor issued Executive Directive No. 1998-3, entitled "Year 2000 Operability." The Governor directed that the number one technology priority for all executive branch agencies is year 2000 operability. Each agency was made responsible for making its critical computer operations year 2000 compliant by December 31, 1998 and all others by September 30, 1999. In addition, the Directive outlined other specific requirements for agencies to address.

Since our prior audit, the Year 2000 Project Office has:

a. Provided extensive guidance and oversight to executive branch State agencies. The guidance given is best represented by the *Michigan Year 2000 Remediation Framework*. This Framework lays the basis for resolving the year 2000 problem facing State agencies.

b. Established, at the Michigan Information Processing Center, a software factory* to help identify and correct date-sensitive coding within software applications. The software factory also helped to develop interfaces* and data bridges* between systems that may use different formats to address the year 2000 problem.

* *See glossary on page 30 for definition.*

c. Established a Statewide database that tracks the year 2000 compliance status of hardware, software, IT infrastructure, and equipment used by State agencies, as well as State-owned and leased facilities, and key external suppliers of goods and services, including utilities.

Audit Objective: To assess the effectiveness of the Year 2000 Project Office in implementing key processes to achieve year 2000 compliance.

Conclusion: In our opinion, the Year 2000 Project Office continues to be effective in implementing key processes to achieve year 2000 compliance. However, our conclusion does not imply that the State will be successful in its remediation efforts or that essential business functions will not be affected by either internal or external year 2000 related events. Because of the unprecedented nature of the year 2000 issue, sufficient audit evidence does not exist to conclude that the State will be successful in its remediation efforts or that essential business functions will not be affected by either internal or external sources. The effects and the success of related remediation efforts of the Year 2000 Project Office will not be fully determinable until the year 2000 and thereafter.

Our audit of the Year 2000 Project Office's efforts found:

a. The *Michigan Year 2000 Remediation Framework* provides the basis for resolving the year 2000 problem facing State agencies. The Framework is comprehensive and widely supported. It is composed of the following volumes: Remediation Methodology, Program Management Guide, Software Quality Assurance Program, Risk Management Program, and Awareness and Communications Program.

   Based on our review, we conclude that the Framework incorporated the key processes recommended by the U.S. General Accounting Office (GAO). The GAO's Year 2000 Conversion Model is based on the work of the federal Best Practices Subcommittee of the Interagency Year 2000 Committee and incorporates guidance and practices identified by leading organizations in the information technology industry.

b. The Year 2000 Project Office has established a centralized Year 2000 Progress Reporting System to gain accurate and timely data from all State agencies. It was

designed to gather high level project information with regards to the year 2000 problem. Agencies are responsible for entering project progress data into the Progress Reporting System and maintaining its reliability. The Year 2000 Project Office monitors the reasonableness of agency progress reporting through its monthly and quarterly progress assessments.

c. The Year 2000 Project Office has established an effective Quality Assurance Program to review agency remediation efforts. The primary focus of the Quality Assurance Program's efforts is outlined in the Software Quality Assurance Program included in the *Michigan Year 2000 Remediation Framework.* The purpose of the Software Quality Assurance Program is to develop quality assurance procedures that ensure to every degree possible that the State successfully meets the year 2000 challenge. The Program is primarily directed to State agencies and consists of three components: product assurance, process assurance, and year 2000 progress assessments. Product assurance is to ensure that the end product has the fewest possible defects. Process assurance is to assess key software development processes and make necessary improvements to ensure repeatable success on future information technology projects. The purpose of conducting year 2000 progress assessments is to measure agency efforts against a pre-established benchmark as a means to monitor and manage risks.

d. The Year 2000 Project Office has developed the Risk Management Program, which provides State agencies with the guidance needed to focus their limited resources on the most likely threats to their successful remediation of year 2000 problems. The Program identifies 23 potential risk areas and provides techniques and information to manage these risks. The Program directed State agencies to assess which systems are most critical from a Statewide perspective. This resulted in the identification of 64 essential State functions supported by 293 compliance units. Also, the Program instructed agencies that their remediation priorities needed to be in alignment with the 64 essential State functions. Further, the Program required State agencies to initiate contingency planning for essential State functions if service was likely to be disrupted or if compliance units were not year 2000 operable or compliant by December 31, 1998. Our prior audit recommendations relating to contingency planning were addressed by the Risk Management Program.

The Year 2000 Project Office informed us that Department of Management and Budget (DMB) will direct agencies to develop business continuity and contingency plans for all essential business functions. This will be done regardless of the status of agency remediation on critical information systems. The Year 2000 Project Office recognizes that events outside of the control of State agencies may adversely affect an agency's ability to conduct business as usual. Therefore, it is imperative that the managers of the State's essential business functions accept responsibility for development, testing, and implementation of the business continuity and contingency plans. The Year 2000 Project Office also informed us that it will assist State agencies in completing business continuity and contingency plans.

e. Executive Directive No. 1998-3 directs agencies to inventory, assess, and remediate all mission critical equipment that may have embedded technology by December 31, 1999. The Year 2000 Project Office issued remediation guidance for embedded technology in the *Michigan Year 2000 Remediation Framework* and in the Risk Management Program. The Year 2000 Project Office informed us that all but three agencies have completed their embedded technology inventories and assessments. In addition, the Year 2000 Project Office informed us of its plans to establish a quality assurance and year 2000 certification process for embedded technology equipment.

f. DMB Administrative Guide procedure 1310.33, entitled "Michigan Year 2000 Operability Certification for Application/Compliance Unit," directs agencies to certify that their computer applications are year 2000 operable. The purpose of this policy is to have agencies certify that predefined processes were followed and appropriate remediation and testing was undertaken to ensure that an application/compliance unit is year 2000 operable. The certification acknowledges that various levels of a remediation methodology were followed; comprehensive testing was performed; and responsible parties from all levels (project leader, team leader, business manager, and agency chief information officer) signed that they are in agreement that the application/compliance unit is year 2000 operable. The Year 2000 Project Office has conducted quality assurance reviews on selected compliance units that agencies have certified as year 2000 operable.

Our assessment did not disclose any material conditions. However, we did identify a reportable condition directed to State agencies regarding their reporting of regulatory and enforcement responsibilities.

FINDING

1. Reporting of Regulatory and Enforcement Responsibilities

State agencies have not reported to the Emergency Management Division (EMD), Michigan Department of State Police, either the assessments of the agencies' year 2000 related regulatory and enforcement responsibilities or the status of the regulated industries' year 2000 remediation efforts.

On February 4, 1998, the Governor issued Executive No. Directive 1998-3. Item 3 of the Directive states:

> Agencies shall determine, pursuant to their regulatory or enforcement authority, whether they must require or recommend that other governmental or private sector entities take action to ensure Year 2000 compliance by those other governmental or private sector entities. Agencies shall take those steps they deem necessary to ensure such compliance.

In November 1998, the Year 2000 Project Office formed an agreement with EMD to survey and assess the State's public health and safety infrastructure in the areas affecting public safety, security, and health. EMD surveyed State agency emergency management coordinators in December 1998 to identify the nature of the agencies' regulatory functions, to obtain a description of agency-conducted year 2000 readiness activities, and to rate the year 2000 readiness of the regulated industry. At the close of our audit fieldwork (February 1999), only 7 of 21 State agencies had responded to the surveys. Also, the survey results had not been compiled and analyzed. As another means of assessing the regulated industries' year 2000 readiness, EMD has conducted round-table discussions with the electrical, gas, and telecommunications industries and plans to hold additional discussions with the health care, transportation, waste water treatment, and financial industries as well as local governmental entities.

State agencies should take a proactive role in assessing their regulatory and enforcement authority as directed by the Governor and forward this information to

EMD. Without this information, EMD will find it more difficult to assess the vulnerabilities of the State's health and safety infrastructure. The results of agency assessments are an important part of the State's internal risk management and contingency planning. These assessments are also an important element in defining what action State regulatory and enforcement agencies could or should take to minimize the risk of year 2000 problems with regulated entities that support the State's public health and safety infrastructure.

RECOMMENDATION

We recommend that State agencies report to EMD the assessments of the agencies' year 2000 related regulatory and enforcement responsibilities and the status of the regulated industries' year 2000 remediation efforts.

AGENCY PRELIMINARY RESPONSE

EMD informed us that it agreed with the recommendation.

DMB informed us that the end product of the EMD round-table discussion, in conjunction with other information obtained by EMD and the Year 2000 Project Office, has been very effective in assessing the readiness of these sectors and in fulfilling the purpose of that part of the Executive Directive.

Independent Auditor's Report on
Supplemental Information

March 31, 1999

Ms. Janet E. Phipps, Director
Department of Management and Budget
Lewis Cass Building
Lansing, Michigan

Dear Ms. Phipps:

A summary of agency year 2000 remediation progress is included in this report as supplemental information. However, our audit was not directed toward expressing an opinion on this information and, accordingly, we express no opinion on it. In addition, we have included a copy of Executive Directive 1998-3, entitled Year 2000 Operability, to inform the reader of the State's commitment to year 2000 readiness.

Sincerely,

Thomas H. McTavish, C.P.A.
Auditor General

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SUPPLEMENTAL INFORMATION

YEAR 2000 PROJECT OFFICE
Summary of
Agency Year 2000 Remediation Progress
For the Period August 1998 through January 1999
(see Note 1)

Agency	Status of Agency Progress (see Note 2)					
	August 1998	September 1998	October 1998	November 1998	December 1998	January 1999
Department of Agriculture	Yellow	Green	Green	Green	Green	Green
Department of Attorney General	Green	Compliant	Compliant	Compliant	Compliant	Compliant
Department of Civil Rights	Green	Compliant	Compliant	Compliant	Compliant	Compliant
Department of Civil Service	Yellow	Green	Green	Green	Green	Green
Department of Community Health	Green	Green	Green	Green	Green	Green
Department of Consumer and Industry Services	Yellow	Yellow	Yellow	Yellow	Red	Yellow
Department of Corrections	Red	Red	Red	Yellow	Yellow	Yellow
Department of Education	Green	Yellow	Green	Green	Green	Green
Department of Environmental Quality	Green	Green	Green	Green	Green	Green
Family Independence Agency	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Michigan Jobs Commission	Yellow	Green	Green	Green	Green	Green
Department of Management and Budget	Green	Green	Green	Green	Green	Green
Department of Military and Veterans Affairs	Green/Yellow	Green	Compliant	Compliant	Compliant	Compliant
Department of Natural Resources	Yellow	Red	Yellow	Yellow	Green	Green
Department of State	Yellow	Green	Green	Green	Green	Green
Michigan Department of State Police	Green	Green	Green	Green	Green	Green
Michigan Department of Transportation	Yellow	Green	Green	Green	Green	Green
Department of Treasury	Green	Yellow	Yellow	Green	Yellow	Yellow
Michigan Administrative Information Network	Green	Green	Green	Green	Yellow	Yellow
Office of Computing and Telecommunications	Green	Green	Green	Green	Green	Green
Michigan Employment Services	Yellow	Green	Green	Green	Green	Green
Lottery	Compliant	Compliant	Compliant	Compliant	Compliant	Compliant
Michigan Unemployment Agency	Green	Green	Green	Green	Green	Green
Totals						

Critical 1 and 2 Compliance Units (see Note 3)
January 1999

Agency Total	On Schedule	Completed	Year 2000 Operability Certifications Received (see Note 4)	Year 2000 Project Office Concerns With Agency Progress
36	36	36	12	
	Agency considered compliant (see Note 2)			
	Agency considered compliant (see Note 2)			
3	3	3	3	
126	126	119	76	
34	32	25	0	Planned hours and costs must be updated to accurately project time and resources required for completion. The agency must ensure that mission critical activities are completed by March 31, 1999.
46	46	37	25	One mission critical compliance unit may exceed the March 31, 1999 completion deadline.
24	24	22	6	The agency must ensure that two mission critical compliance units are completed by March 31, 1999.
52	47	52	4	
77	76	69	0	The agency must ensure that eight mission critical compliance units are completed by May 31, 1999.
23	23	22	19	
66	66	66	57	
	Agency considered compliant (see Note 2)			
45	38	43	38	The agency must ensure that mission critical activities are completed by March 16, 1999.
14	14	13	3	The agency must revisit established metrics and update reporting data as required.
16	16	14	0	
51	51	51	38	
51	50	47	17	The implementation date of the Michigan Accounts Receivable Collections System has been allowed to slip without regard for the Year 2000 Project. All mission critical systems were to be completed by December 31, 1998.
9	9	8	2	A decision on the type of remediation for a mission critical system has not been completed. The agency was unable to obtain certification during the independent verification and validation process.
	Agency uses internal progress reporting system			
3	3	3	2	
	Agency considered compliant (see Note 2)			
10	10	10	5	
686	670	640	307	

Notes to Summary

Note 1 Source of Data

Summary data was obtained from various Year 2000 Project Office reports: Monthly Quality Assurance Assessment Report, Agency Summary Reporting Scorecard, Statewide Operability Assessment Detail Report, and Completion Date Distribution Report.

Note 2 Status of Agency Progress

The Year 2000 Project Office assesses the status of agency progress during its monthly quality assurance reviews. The overall status is rated compliant, green, yellow, or red:

Compliant - The agency has asserted that it is year 2000 compliant and the Year 2000 Project Office does not require detailed progress reporting. The Year 2000 Project Office does require that the independent verification and validation process be performed for each agency.

Green - Indicates low risk. The agency has passed all project hurdles and is making solid progress.

Yellow - Indicates medium risk. The agency is at a cautionary level and may or may not be progressing at the level it should be, dependent on the size and complexity of the agency.

Red - Indicates high risk. The agency is in trouble of not completing necessary work on schedule.

Note 3 Critical 1 and 2 Compliance Units

These columns represent the compliance units that are essential to an agency's ability to operate and conduct its business.

Critical 1 - Agency cannot perform daily function without application.

Critical 2 - Agency can function without application for a short time, e.g., 1 to 4 weeks.

Note 4 Year 2000 Operability Certifications Received

This represents the number of certification forms that were received by the Year 2000 Project Office from State agencies. The certification acknowledges that various levels of a remediation methodology were followed; comprehensive testing was performed; and responsible parties from all levels (project leader, team leader, business manager, and agency chief information officer) signed that they are in agreement that the application/compliance unit is year 2000 operable.

EXECUTIVE DIRECTIVE
No. 1998-3

DATE: February 4, 1998

TO: All Directors and Agency Heads

FROM: Governor John Engler

SUBJECT: Year 2000 Operability

The Year 2000 computer problem poses a significant threat to all sectors of business and government worldwide. With 35 years of computer design and coding standards that did not include any indication of century, fixing the problem is something that all organizations are discovering they must do to survive.

The problem is pervasive and relentless. It affects not only computer mainframe operations, but also personal computers, computer and telecommunications networks and mechanical equipment that contains embedded technology, including clocks, gasoline pumps, elevators, heating and cooling systems, fire alarm and suppression systems, automated medical equipment, security control systems and traffic signals. The Year 2000 deadline cannot be extended. It is something that all state agencies and departments must address now.

Because the Year 2000 problem affects or has the potential to affect every person and business in the State of Michigan, and because it must be addressed prior to January 1, 2000, I hereby direct the following:

1. The number one technology priority for all executive branch agencies is Year 2000 operability. As such, effective immediately:

    a) There is a moratorium on all new technology initiatives that hinder an agency's ability to achieve Year 2000 operability, other than those specifically mandated by statewide directives or required by state or federal law;

    b) Each state agency is responsible for making its critical computer operations Year 2000 compliant by December 31, 1998, and all others by September 30, 1999;

    c) Agencies are to report progress on their Year 2000 efforts to the Department of Management and Budget at such times and on such matters as defined by the state's Chief Information Officer (CIO);

d) Agencies are prohibited from installing new computer systems that are not Year 2000 compliant; and

e) All purchases by state agencies of new computer systems, enhancements to computer systems, software, or equipment that contains embedded computer technology shall be Year 2000 compliant.

2. Agencies shall review ongoing technology initiatives in light of the moratorium on new technology initiatives and shall suspend all those not considered essential. The moratorium on technology initiatives shall apply until such time as an agency can ensure agencywide Year 2000 operability.

3. Agencies shall determine, pursuant to their regulatory or enforcement authority, whether they must require or recommend that other governmental or private sector entities take action to ensure Year 2000 compliance by those other governmental or private sector entities. Agencies shall take those steps they deem necessary to ensure such compliance.

4. Agencies shall inventory all mission critical equipment that may have embedded technology and which has or is likely to have date code problems, determine the Year 2000 compliant status of such equipment and complete the remediation or replacement of non-compliant mission critical equipment by December 31, 1999.

The Department of Management and Budget, through the state's CIO, will continue to oversee and coordinate the state's Year 2000 efforts. The CIO has established a Year 2000 Project Office to assist in these duties. Please contact the Project Office at 517-373-3725 for their assistance.

Thank you for your cooperation.

Glossary of Acronyms and Terms

compliance unit — A group of related applications, data bases, interfaces, or other components that need to be made compliant as a unified group or single release, usually because business or technical considerations require that these applications or components be upgraded and installed at the same time.

Compliance units identified as Critical 1 or 2 are essential to an agency's ability to operate and conduct its business.

contingency plan — In the context of the year 2000 program, a plan for responding to the loss of a system because of a year 2000 problem. In general, a contingency plan describes the steps the organization would take, including the activation of manual or contract processes, to ensure the continuity of its core business processes in the event of a year 2000-induced system failure.

data bridge — Provides translation between the physical data stored on a file and the logical view required by a program.

DMB — Department of Management and Budget.

effectiveness — Program success in achieving mission and goals.

efficiency — Achieving the most outputs and outcomes practical for the amount of resources applied or minimizing the amount of resources required to attain a certain level of outputs or outcomes.

embedded technology — Systems containing one or more chips or microprocessors used to control, monitor, communicate, or operate equipment.

EMD	Emergency Management Division.
GAO	U.S. General Accounting Office.
interface	A boundary across which two systems communicate. An interface can be a hardware connector used to link to other devices or it can be a convention used to allow communication between two software systems.
material condition	A serious reportable condition which could impair the ability of management to operate a program in an effective and efficient manner and/or could adversely affect the opinion of an interested person concerning the effectiveness and efficiency of the program.
Michigan Year 2000 Remediation Framework	The *Michigan Year 2000 Remediation Framework* is composed of five volumes: Remediation Methodology, Program Management Guide, Software Quality Assurance Program, Risk Management Program, and Awareness and Communications Program.
mission	The agency's main purpose or the reason the agency was established.
performance audit	An economy and efficiency audit or a program audit that is designed to provide an independent assessment of the performance of a governmental entity, program, activity, or function to improve public accountability and to facilitate decision making by parties responsible for overseeing or initiating corrective action.
reportable condition	A matter coming to the auditor's attention that, in his/her judgment, should be communicated because it represents either an opportunity for improvement or a significant deficiency in management's ability to operate a program in an effective and efficient manner.

software factory The use of automated tools, standardized processes, and trained personnel for the assessment and remediation of application software.

year 2000 operability A compliance unit or application that will function properly under year 2000 conditions.

year 2000 problem The potential problem and its variations that might be encountered in any level of computer hardware and software from microcode to application programs, files, and data bases that need to correctly interpret year-date data represented in a two-digit year format.

Year 2000 Project Office An office established, within the Department of Management and Budget, to provide program guidance, coordination, and oversight for all State of Michigan year 2000 activities. This Office reports to the State's chief information officer. The Year 2000 Project Office's web site can be accessed at ***http://www.state.mi.us/dmb/year2000/***.