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STATE OF NEW YORK
OFFICE OF THE STATE COMPTROLLER

August 25, 1999

Mr. Lewis M. Eisenberg
Chairman
Port Authority of New York and New Jersey
One World Trade Center
New York, NY 10048

Re: Report 99-Y-26

Dear Mr. Eisenberg:

To assist in your oversight of the Port Authority of New York and New Jersey's (Port Authority) Year 2000 compliance progress, we reviewed selected steps being taken by the Port Authority, as of May 25, 1999 (with selected information updated to July 23, 1999), to make the E-ZPass Toll Collection System (E-ZPass), the PATH Fare Collection System (PATH), and the Payroll, Human Resources, and Timekeeping System (Human Resources) Year 2000 compliant. These three systems are considered to be "mission critical" systems by the Port Authority.

The E-ZPass System electronically processes tolls for cars bearing E-ZPass tags at the Port Authority's four bridges and two tunnels using in-lane equipment at toll plazas, and has a host computer at Port Authority headquarters. The System collects data from the E-ZPass tag, determines if it is valid, photographs violators, and forwards collected data to the host computer.

The PATH System supports the collection of fares from riders of the Port Authority Trans Hudson Transit System. Major components include the High Speed Ticket Encoder which produces bulk fare cards for sale by vendors, the Ticket Vending Machines located at stations which accept currency and dispense farecards and change, and the Station Controller, which controls the entrance turnstile devices at each station, collects data from these devices, and creates files for transmission to the Central Controller.

The Human Resources System manages human resources data, processes the payroll and interfaces with check printing software.

The steps we selected for review pertained to Year 2000 project planning and management, Year 2000 systems testing, identification and correction of system data exchanges, and the

establishment of contingency plans for continuing important business and service functions in the event of a Year 2000-related failure.

The objective of our review was to assess whether the Port Authority appears to be taking the necessary steps to address Year 2000 problems related to the E-ZPass, PATH, and Human Resources Systems. To complete our review we interviewed Port Authority personnel and we reviewed Port Authority documents. Based on these interviews and document reviews we completed a Year 2000 assessment questionnaire (see the attached Tables) to assess specific Year 2000 issues. Unlike an audit, a review does not include testing or verification of information and records provided by the Port Authority and does not include a review of internal controls. Therefore, we cannot conclude whether the E-ZPass System, the PATH System, and the Human Resources System will be Year 2000 compliant in a timely manner.

The results of our review show that the Port Authority is taking the steps necessary to address Year 2000 problems related to the systems we reviewed. For example:

- Efforts to correct the systems are covered by written Year 2000 project and compliance test plans and implementation schedules, and Port Authority management monitors the schedules. Port Authority staff reported to us that the E-ZPass System was compliant as of June 30, 1999, and the PATH System's mission critical station components were compliant as of July 15, 1999 (both are pending official sign-off). The Human Resources System has been tested and is considered compliant as of December 14, 1998 (Port Authority sign-off on test results was completed on July 23, 1999).
- The Port Authority has agency-wide guidelines for Year 2000 testing which include the sign-off process. All testing results are maintained. All compliance test plans include external data exchange interfaces. The Port Authority does not have a uniform definition of compliance for all systems. However, testing requirements for mission critical and high priority systems require testing in accordance with the agency-wide guidelines to assure Year 2000 readiness.
- The Port Authority does not yet have a written contingency plan for the systems reviewed. However, it has agency-wide Year 2000 contingency plan guidelines requiring that departments develop contingency plans for mission critical and selected high priority systems, or that they justify the decision not to prepare a plan. Contingency plans were required to be developed and reviewed by June 30, 1999, with testing completed by September 30, 1999 and implementation completed by December 1, 1999. Although we were advised that contingency plans are being developed for the three systems reviewed, they have not been completed as of July 16, 1999. Officials are confident that the plans will be completed shortly and that testing of the plans will still occur by the September 30, 1999 due date. We encourage the Port Authority to continue its contingency planning process.

Major contributors to this review were Robert Mehrhoff, Richard Perreault and Debra Wolrich.

Your comments to this review are welcome. We wish to express our appreciation to the management and staff of the Port Authority of New York and New Jersey for the courtesies and cooperation extended to our staff during this review, and hope that it is helpful to your Year 2000 monitoring and oversight responsibilities.

Very truly yours,

Frank J. Houston
Audit Director

cc: Lou Yannaco
Edward Jackson
Greg Burnham
Gary Davis

**PORT AUTHORITY OF NEW YORK AND NEW JERSEY
YEAR 2000 ASSESSMENT QUESTIONNAIRE
E-ZPASS TOLL COLLECTION SYSTEM (E-ZPass)**

TABLE I

A colored "traffic light" legend is included in the table below to assist management in focusing an appropriate level of attention on the issues identified in the Status and Comments sections of the Review Findings.

Legend:

	Status/Comments contain matters which may be of immediate concern to management.		Status/Comments contain matters which management may wish to consider.		Status/Comments do not contain issues which require immediate management consideration.
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Review Findings:

	YEAR 2000 STEPS	STATUS	COMMENTS
	A. PROJECT PLANNING & MANAGEMENT		
	A1. Is there a written Year 2000 Project Plan (Plan) and does it include/identify steps needed to correct the system in question?	Yes	The Port Authority has an agency-wide Year 2000 plan and an individually tailored plan for E-ZPass which includes scope and schedule. E-ZPass is operated by a contractor, who developed tests to verify the System's Year 2000 readiness.
	A2. Does the Plan (or any other available record) define what is meant by "compliance" when describing systems at the agency which are Year 2000 ready?	Yes	The E-ZPass contractor has guidelines which define compliance, and which are followed by the Port Authority team responsible for E-ZPass.
	A3. Is there a written schedule covering the time frame for achieving compliance for the system in question?	Yes	The schedule for Year 2000 readiness indicates Year 2000 compliance will be achieved by June 30, 1999, and includes data exchanges and a contingency plan.
	A4. Is progress toward completion of the schedule for the system in question being monitored?	Yes	Progress is monitored by the Port Authority's Chief Technology Officer (CTO), its Audit Committee, Board of Commissioners, and Internal Audit Department. Internal Audit issues quarterly review reports and the CTO reports quarterly to the Audit Committee and the Board of Commissioners.

TABLE I (Cont'd.)

	YEAR 2000 STEPS	STATUS	COMMENTS
	A5. Is the system in question meeting the schedule (no significant slippage being reported)?	Yes	Port Authority staff advised there has been no significant slippage. Field and communications equipment is compliant and has been tested (October/November 1998). The host computer was in need of upgrade and this was reported accomplished as planned by June 30, 1999. Formal Port Authority sign-off is pending.
	B. TEST PLANS		
	B1. Is there a documented test plan and does it include/identify steps needed to ensure that the system in question will process as expected after it has been corrected to comply with Year 2000?	Yes	The contractor developed a detailed Year 2000 test plan for E-ZPass.
	C. DATA EXCHANGES		
	C1. Have all data exchange partners/interfaces for the system in question been identified and included on a written inventory record?	Yes	The internal exchange of data from data collection at the toll plazas to delivery to the host computer was tested. Transfer of data from the host to the E-ZPass service center (which processes financial transactions) is not considered within the scope of this system, and was not reviewed.
	C2. Have data exchange interfaces been considered in the overall Year 2000 Project Plan and the test plan covering the system in question?	Yes	See C1, above.
	D. CONTINGENCY PLANS		
	D1. Is there a written business contingency plan in place for the system in question and does the plan specify steps for completing vital business functions if the system in question is noncompliant or inoperable for Year 2000 purposes?	Pending	Port Authority guidelines require departments to review critical systems and either develop a contingency plan by June 1999, or explain the decision not to develop one. A plan was still being developed for E-ZPass as of July 16, 1999. Guidelines require testing of contingency plans be completed by September 30, 1999 and implementation be completed by December 1, 1999.

**PORT AUTHORITY OF NEW YORK AND NEW JERSEY
YEAR 2000 ASSESSMENT QUESTIONNAIRE
PATH FARE COLLECTION SYSTEM (PATH)**

TABLE II

A colored “traffic light” legend is included in the table below to assist management in focusing an appropriate level of attention on the issues identified in the Status and Comments sections of the Review Findings.

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Review Findings:

	YEAR 2000 STEPS	STATUS	COMMENTS
	A. PROJECT PLANNING & MANAGEMENT		
	A1. Is there a written Year 2000 Project Plan and does it include/identify steps needed to correct the system in question?	Yes	There is an agency-wide Year 2000 plan and PATH has an individually tailored plan. The plan covers critical or “core” components (field devices) and the non-critical or “non-core” central computer which monitors the field devices.
	A2. Does the Plan (or any other available record) define what is meant by "compliance" when describing systems at the agency which are Year 2000 ready?	No	We were not provided with a specific definition of “compliance” for PATH. However, this is a mission critical system and, therefore, Port Authority policy requires it be tested for compliance against a defined series of tests which verify systems are Year 2000 ready.
	A3. Is there a written schedule covering the time frame for achieving compliance for the system in question?	Yes	An overall project schedule plan exists for all tasks, and identifies compliance dates for “core activities” (Station Controller, High Speed Ticket Encoder and Ticket Vending Machine) and “non-core” activities (Central Computer).
	A4. Is progress toward completion of the schedule for the system in question being monitored?	Yes	There are weekly progress reports and meetings with the PATH Implementation Team to review project status. Progress is also monitored by the CTO, the Audit Committee, the Board of Commissioners, Internal Audit Department, and the external auditor. Internal Audit issues quarterly review reports and CTO reports quarterly to the Audit Committee and the Board of Commissioners.

TABLE II (Cont'd)

	YEAR 2000 STEPS	STATUS	COMMENTS
	A5. Is the system in question meeting the schedule (no significant slippage being reported)?	Yes	Core activities were reported finished by July 15, 1999 (pending sign-off) and non-core activities (Central Computer) are due to be complete by November 15, 1999. While Port Authority staff indicate these are "non-critical" components, we are concerned that compliance schedules extending into the fourth quarter leave little time to address problems, should they occur.
	B. TEST PLANS		
	B1. Is there a documented test plan and does it include/identify steps needed to ensure that the system in question will process as expected after it has been corrected to comply with Year 2000?	Yes	There are individual test plans/scripts for each device and a master test plan for PATH which will be completed and includes all functional, factory and Year 2000 testing documentation. Field testing of Station Controller, High Speed Ticket Encoder and Ticket Vending Machines have been completed and are pending formal sign-off.
	C. DATA EXCHANGES		
	C1. Have all data exchange partners/interfaces for the system in question been identified and included on a written inventory record?	Yes	PATH has no external data exchange partners, as it operates in a standalone mode. Internal communications links amongst stations and devices have been checked, and updates have been provided by the vendor.
	C2. Have data exchange interfaces been considered in the overall Year 2000 Project Plan and the test plan covering the system in question?	Yes	See C1, above.
	D. CONTINGENCY PLANS		
	D1. Is there a written business contingency plan in place for the system in question and does the plan specify steps for completing vital business functions if the system in question is noncompliant or inoperable for Year 2000 purposes?	Pending	Port Authority guidelines require departments to review critical systems and either develop a contingency plan by June 1999, or explain the decision not to develop one. A plan was still being developed for PATH, as of July 16, 1999. Guidelines require testing of contingency plans be completed by September 30, 1999 and implementation be completed by December 1, 1999.

**PORT AUTHORITY OF NEW YORK AND NEW JERSEY
YEAR 2000 ASSESSMENT QUESTIONNAIRE
PAYROLL, HUMAN RESOURCES, TIMEKEEPING SYSTEM (Human Resources)**

TABLE III

A colored "traffic light" legend is included in the table below to assist management in focusing an appropriate level of attention on the issues identified in the Status and Comments sections of the Review Findings.

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Review Findings:

	YEAR 2000 STEPS	STATUS	COMMENTS
	A. PROJECT PLANNING & MANAGEMENT		
	A1. Is there a written Year 2000 Project Plan (Plan) and does it include/identify steps needed to correct the system in question?	Yes	There is an agency-wide plan which called for the replacement of the existing legacy system, and there is a Project Plan for the replacement system, which the vendor indicates is Year 2000 compliant.
	A2. Does the Plan (or any other available record) define what is meant by "compliance" when describing systems at the agency which are Year 2000 ready?	No	We were not provided with a specific definition of "compliance" for Human Resources. However, this is a mission critical system and, therefore, Port Authority policy requires it be tested for compliance against a defined series of tests which verify systems are Year 2000 ready.
	A3. Is there a written schedule covering the time frame for achieving compliance for the system in question?	Yes	The Port Authority has a schedule and time line for the replacement and testing of Human Resources. The review of testing was completed March 31, 1999, and the sign-off of test results was completed July 23, 1999.
	A4. Is progress toward completion of the schedule for the system in question being monitored?	Yes	Progress is monitored by the project director, the Year 2000 Office, the CTO, Audit Committee, the Board of Commissioners, and the Internal Audit Department. A database of the critical and high priority systems' Year 2000 status is also maintained.

TABLE III (Cont'd)

	YEAR 2000 STEPS	STATUS	COMMENTS
	A5. Is the system in question meeting the schedule (no significant slippage being reported)?	Yes	According to Port Authority documentation, the target date for implementation, December 14, 1998, has been met.
	B. TEST PLANS		
	B1. Is there a documented test plan and does it include/identify steps needed to ensure that the system in question will process as expected after it has been corrected to comply with Year 2000?	Yes	The implementation consultant developed a test plan including necessary steps to assure Year 2000 compliance which is signed by both the consultant's Functional Team Leader and the Port Authority Project Manager.
	C. DATA EXCHANGES		
	C1. Have all data exchange partners/interfaces for the system in question been identified and included on a written inventory record?	Yes	Data exchange partners have been identified.
	C2. Have data exchange interfaces been considered in the overall Year 2000 Project Plan and the test plan covering the system in question?	Yes	Data exchange interfaces have been considered in the project and test plans covering Human Resources.
	D. CONTINGENCY PLANS		
	D1. Is there a written business contingency plan in place for the system in question and does the plan specify steps for completing vital business functions if the system in question is noncompliant or inoperable for Year 2000 purposes?	Pending	Port Authority guidelines require departments to review critical systems and either develop a contingency plan by June 1999, or explain the decision not to develop one. A plan was still being developed for this system, as of July 16, 1999. Guidelines require testing of contingency plans be completed by September 30, 1999 and implementation be completed by December 1, 1999.