

An Audit of the

Human Resource Information System



Office of the State Auditor
Lawrence F. Alwin, CPA

May 1995

Report No. 95-129



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May 8, 1995

Members of the Legislative Audit Committee:

Users of the Human Resource Information System (HRIS) indicate that the current system design meets their needs. However, accuracy of the data provided to HRIS by state agencies, program implementation procedures, and documentation can be improved.

Data provided to HRIS by state agencies is inaccurate and incomplete, programmer modifications to programs may go undetected, and HRIS system and program documentation is out-of-date. HRIS includes personnel information and statistics on over 427,500 active and former state employees. Authorities such as the Governor's Office, the Legislature, and the Classification Office within the State Auditor's Office use this information to fulfill federal and state reporting requirements and to determine how state entities are managing their human resources.

The Comptroller of Public Accounts concurs with the recommendations in this report. We have included management's responses.

We appreciate the cooperation and courtesy management showed during the course of this review.

Sincerely,

A handwritten signature in cursive script that reads "Lawrence F. Alwin".

Lawrence F. Alwin, CPA
State Auditor

LFA/rmn

Key Points Of Report

An Audit Of The Human Resource Information System

May 1995

Key Facts and Findings

- 25 percent of the records on individuals maintained on the Human Resource Information System data base could contain inaccuracies.
- Programmers have the ability to modify programs without oversight. At the time of our audit, there were 4 contract programmers responsible for over 700 HRIS programs.
- A single transaction can update a number of the 100 HRIS tables that comprise the HRIS data base. However, system and program documentation which identify which tables are updated is incomplete, and/or outdated.
- HRIS users indicate the system design meets their needs. However, users are aware of the possibility that the systems data is inaccurate.

Contact:

Leo J. Paterra, CPA (512-479-4700)

This financial/compliance audit was conducted in accordance with Government Code, Sections 321.0132 and 321.0133.

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Issues And Recommendations

Section 1:

Accuracy Of Data Provided To HRIS By State Agencies, Program Implementation Procedures, And Documentation Can Be Improved

Data provided to the Human Resource Information System (HRIS) by state agencies is inaccurate and incomplete, programmer modifications to programs may go undetected, and HRIS system and program documentation is out-of-date. HRIS includes personnel information and statistics on over 427,500 active and former state employees.

Authorities such as the Governor's Office, the Legislature, and the Classification Office within the State Auditor's Office use this information to fulfill federal and state reporting requirements and to determine how state entities are managing their human resources.

Section 1-A:

Testing Revealed Erroneous And Incomplete Data

Overall, 25 percent of the sampled employee records contained some type of inaccurate data. For the individual fields tested, the estimated error rate is somewhat lower than the overall sample error rate. Among 19 key fields tested, six fields had error rates between 8.5 and 3.4 percent. For example, 8.5 percent of the base salary fields were incorrect in our sample. When projected onto the total HRIS population, the possibility exists that 36,378 base salary fields in the HRIS data base could be in error. (See Figure 1.) HRIS users identified the tested fields as critical to their needs.

Errors in the critical fields could potentially affect reports created and used by the Governor, the Legislature, the State Auditor, and the Federal Government. For example, errors in the base salary field could affect reports created by the Classification Office within the State Auditor's Office and result in inadequate foundations for recommendations to adjust salaries and change the Classification Plan.

Figure 1:

Projected Number of Errors By Data Element

Data Element	Percent Error	Projected Number of Errors
Salary Authorized Basis	8.5	36,378
Employee Termination Date	6.8	29,103
Effective Start Date	5.1	21,827
Classification Code	5.1	21,827
EEO Job Category	3.4	14,551
Authorized Entitlement Amount	3.4	14,551
Employee Type	3.4	14,551
Job Number	3.4	14,551

Issues And Recommendations

The causes of inaccuracies in the HRIS data include:

- Most of the errors identified in our testing resulted from reporting entities not submitting current data. For example, the entities responsible for submitting termination records did not do so in 6.8 percent of our sample. The lack of current information in this case could affect agency staffing totals or totals in the Equal Employment Opportunity reports.
- University data entered into HRIS prior to September 1, 1993, is considered invalid. HRIS staff acknowledged that difficulties had been encountered with the data base structure and programs when the universities began to report. The programs have since been revised and university data entered subsequent to September 1, 1993, is considered reliable agency data.
- Current reconciliation reports generated by the Comptroller of Public Accounts (Comptroller) and submitted to reporting agencies for review do not include enough data to ensure that updates to HRIS are correct. HRIS uses a table format to organize the data elements (such as Social Security Number, address, agency, etc.) into categories of information that can be used for various reports. Although there are 100 data tables within the HRIS data base (and each data table contains between 5 and 35 data elements), current reconciliation reports contain as few as 12 data elements. The lack of comprehensive data reconciliation reports and procedures prevents

reporting entities from verifying the accuracy of all data submitted.

- Three entities currently do not report their employee information to HRIS. Information on at least 1,639 employees has not been included in the HRIS due to the lack of reporting by the State Bar of Texas, the Texas Turnpike Authority, and The University of Texas at Brownsville. The University of Texas at Brownsville is in the process of creating the tools and mechanisms necessary to report their data. HRIS personnel have tried to get the State Bar of Texas and the Texas Turnpike Authority to comply with the reporting requirements.

The State Bar of Texas has not reported because it does not believe it is covered by HRIS. The Texas Turnpike Authority has not reported because it does not believe the definition of "state agency" applies to it. We agree with the Comptroller's decision that the State Bar of Texas and the Texas Turnpike Authority are required to report to HRIS.

Recommendations:

- The Comptroller should take additional action to ensure the accuracy of HRIS data. The Comptroller's action may include, but not be limited to, notifying agency executive directors of inaccuracies in the data or reporting to the Legislature those agencies not in compliance with the reporting requirements.

Issues And Recommendations

- Agency and university internal auditors should audit for accuracy and compliance with HRIS reporting requirements.
- Data contained within HRIS for universities prior to September 1, 1993, that has not been validated or is assumed incorrect should be deleted.
- Detailed reconciliation reports which include all transactions that update the HRIS data base should be produced for each entity for review.
- The State Bar of Texas should comply with HRIS reporting requirements.
- The Texas Turnpike Authority should comply with HRIS reporting requirements.

Management's Response:

Comptroller of Public Accounts (HRIS)

The Office of the State Comptroller agrees with the HRIS audit findings from the State Auditor's Office, and will take appropriate action to comply with their recommendations.

To ensure agencies live up to their responsibilities to comply, the Comptroller's Office will establish a process by which to communicate agencies' HRIS reporting status and data inaccuracies to the agency executive directors and to the legislature. In addition, we are also developing a survey to determine agency report needs from the HRIS database. Receiving routine, usable reports, and understanding that the information they submit into HRIS is used in statewide reports may provide an added incentive for agencies to report timely, accurate information.

Implementation of internal audits at the agencies, including higher education, for reporting compliance is an important step toward achieving current accurate data. Internal audits would evaluate reporting processes, measure the accuracy and timeliness of the data reported and establish accountability for compliance. This measure would improve reporting compliance, promote data integrity and enhance the quality of statewide reports.

The classification officer may suggest that HRIS compliance audits be added as an additional agency performance measure for those agencies with classified employees. If pending legislation is passed that would locate the Classification Office in the Legislative Budget Office, oversight of these audits might be assigned to that office.

The LBO may suggest adding the HRIS compliance audit as an additional performance measure for higher education as well.

An Application Change Request (ACR 3988) was submitted on March 16, 1995 to accomplish the deletion of university data effective prior to September 1, 1993.

Existing monthly reconciliation reports have been evaluated for the critical data elements requested by the State Auditor's Office. Enhanced reconciliation reports which include the 19 data elements identified in this audit are under development. When the specifications are completed, an ACR will be written and submitted.

The reports will reflect all reason codes with their associated data elements submitted by each entity each month.

The Comptroller's Office believes that the Texas State Bar and the Texas Turnpike

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Authority are subject to the HRIS reporting requirements.

State Bar of Texas

The direction the State Bar has been given over the last several years as to HRIS is somewhat parallel to the ups and downs of the project itself. Most recently we have received communication from the Comptroller that in their opinion, we are subject to HRIS reporting. However, we are preparing a legal argument to submit to the Comptroller for reconsideration as to whether the State Bar is considered a state agency for the purpose of this project. As soon as that paper is prepared and ready for submission to Ray Bonilla, General Counsel for the Comptroller, we will forward a copy to the State Auditor's Office.

Once our argument has been heard and a final determination made, it is the State Bar of Texas' intent to comply with the outcome of that determination. If the final outcome determines that the State Bar should be an HRIS reporting entity, we will comply with that decision.

Texas Turnpike Authority

The Texas Turnpike Authority Board of Directors has adopted a legislative program that includes seeking specific legislation exempting TTA from HRIS as well as other seemingly encompassing mandates to state agencies that are burdensome to small agencies such as TTA that do not receive appropriations.

If the pending legislation fails, TTA will attempt to comply with the HRIS mandate; however, since compliance will require a change in the method of record-keeping,

extensive equipment and software purchases and additional personnel not budgeted for 1995, it is believed such compliance could take up to two years.

(Texas Turnpike Authority's detailed responses are included at Appendix 2.)

Auditor Follow-up Comment to the Texas Turnpike Authority:

In the event that pending legislation fails, the State Auditor's Office urges the Texas Turnpike Authority to implement reporting procedures as soon as possible. Excessive equipment and software purchases would not be required. HRIS staff have offered to provide on-site assistance to load the Texas Turnpike Authority's data directly to HRIS through the use of a modem.

Section 1-B:

Programmers Can Modify And Implement Programs Without Oversight

Although review and testing of modified programs is performed by the appropriate HRIS staff, programmers have the ability to modify HRIS programs after they have been tested and approved by HRIS users. At the time of our audit, there were four contract programmers responsible for maintaining the 708 HRIS programs. Programmers have the ability to modify programs after they have been tested and approved because:

- Programmers retain access to modified programs until the programs are moved into production by the computer operations staff. This access provides programmers the

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opportunity to modify programs after they have been tested and approved by HRIS staff.

- The production area is not monitored to identify unapproved modifications.

Recommendation:

Access to automated resources should be adequately restricted and monitored. In the current environment, an HRIS staff member, other than the HRIS contract programmers, should be responsible for moving programs into production. In addition, the active program storage area should be monitored to ensure that only approved programs have been implemented.

Management's Response:

Comptroller of Public Accounts (HRIS)

We agree. The mechanism for HRIS production program moves is a group of on-line screens where an individual enters their initials to authorize the move. This authorization is controlled by a combination of Natural software security and the Comptroller's security software, RACF. An individual must have their initials and user identification defined to the security systems with approval authorization before production program moves can be made.

HRIS authorization of production program moves will be controlled by the team leader and supervisor. Production program moves will require approval from the users and walk-through participants before the team leader or supervisor authorizes a production move.

In the first quarter of fiscal year 1996, HRIS will begin implementing a change control

software called Predict Application Control (PAC) which will monitor program changes. Authorization security will be defined to the PAC security system for the HRIS team leader and supervisor.

Section 1-C:

HRIS Documentation Is Inadequate

System and program documentation is inadequate. The factors which contribute to the inadequacies include:

- System and program documentation have not been updated or modified since 1990. Inadequate documentation increases the risk that programs may be modified and not perform the functions required. This risk is further increased with the programmer's ability to modify programs without oversight. Incomplete documentation inhibits the complete understanding of the system's functions, makes training of new employees more difficult, and causes modifications of the system to be more difficult.
- No comprehensive and up-to-date documentation exists to describe the data base tables which are updated by each transaction type. (A data base table is a grouping of related data elements which create categories of information that can be used for various reports.) A single transaction can update a number of the 100 HRIS tables that comprise the HRIS data base. Although tape and batch numbers provide a partial audit trail for HRIS transactions, they do not provide the level of detail that is

Issues And Recommendations

necessary to follow each transaction to each of the specific tables updated by that transaction. Therefore, it is difficult to ensure that a transaction updated the appropriate table.

- A formal and documented system design, development, and maintenance methodology has not been adopted for modifying the HRIS programs. Although specific steps appear to be followed for designing, modifying, testing, and implementing programs, the steps have not been documented. Documented procedures help ensure that programs are properly designed and tested and that changes to the programs are properly made.

Recommendation:

HRIS documentation should be updated or developed.

Management's Response:

Comptroller of Public Accounts (HRIS)

We agree. The task of updating and developing the HRIS system and program documentation was assigned in January 1995 and has an estimated completion date of August 1995.

Section 2:

HRIS Users Indicate The System Meets Their Needs

Currently, the majority of HRIS users feel the system design has the ability to provide them with the information necessary to satisfy reporting requirements. Each of the agencies

identified as HRIS key users indicated that HRIS provides a useful, centralized location for obtaining payroll and personnel information. However, all key users interviewed prefaced their comments by stating they were aware of the possibility of inaccurate data.

Section 2-A:

Current Users Rely On HRIS To Fulfill Statutory Requirements

Key users rely on the information in HRIS to fulfill federal and state reporting requirements or to monitor how state entities are managing their human resources. Key users of HRIS include the following:

- Governor's Office, which receives Equal Employment Opportunity reports created by HRIS for the classified and legislative agencies. The Governor's Office forwards the information to the Equal Employment Opportunity Commission (EEOC). Higher education institutions report this information to the EEOC through the Texas Higher Education Coordinating Board.
- Legislative Budget Board, which uses HRIS data to provide human resource information to the Texas Legislature, the Lt. Governor, the Chairman of the Senate Finance Committee, and other government officials requesting information. This information is particularly useful during the budget appropriation process.
- Classification Office within the State Auditor's Office, which uses HRIS data to create various reports, such as the biennial recommendations for adjustments of salaries and

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recommendations for changes to the Classification Plan. The State Auditor's Office views the HRIS data as beneficial since HRIS and the Uniform Statewide Payroll System (USPS) are the only centralized automated human resource systems in the State. Together, they allow the State Auditor's Office to fulfill some of its statutory responsibilities.

- Texas Commission on Human Rights, which prepares summary reports to the Texas Legislature and federal Equal Employment Opportunity agencies based on data compiled by HRIS. The HRIS reports provide a preventive measure to ensure state agencies are in compliance with hiring laws and help prevent and/or measure possible EEO lawsuits within state agencies.
- Comptroller, which maintains the Texas Payee Information System (TPIS) to print state employee pay warrants. HRIS provides information on newly hired employees to TPIS so that warrants are printed accurately.

Section 2-B:

HRIS Will Be The Central Repository For Higher Education Payroll And Personnel Data

The Comptroller does not have documented plans for the future of HRIS. However, HRIS management and staff, programmers, and users indicate that the future of the system will be:

- To store personnel and payroll information on higher education institutions. Currently, 58 state agencies also report their personnel

data to HRIS. In the future, the state agencies will report directly to the Uniform Statewide Payroll System (USPS).

- To continue statewide reporting for both agencies and universities. HRIS staff have query capabilities to the USPS data base and will continue to provide central reporting of personnel information through queries to the HRIS and USPS data bases. As agencies report to USPS, the accuracy of the agency data will be dependent upon both the accuracy of the data submitted and the edits within USPS.

Through the implementation of HRIS, Texas will have a central repository for higher education personnel and payroll information. HRIS is currently working to ensure that all higher education institutions are properly reporting personnel and payroll information.

- The Comptroller is working with the Texas Higher Education Coordinating Board to determine whether Equal Employment Opportunity data from 63 higher education institutions can be extracted from HRIS since the institutions are already reporting to the system. (HRIS does not handle data on junior colleges. Junior college reports will still be funneled through the Texas Higher Education Coordinating Board.) Reports will be produced to determine whether HRIS can supply the data and format necessary for a biannual report for the Federal Government. This could reduce the amount of reporting required by the higher education institutions.

Issues And Recommendations

- The Comptroller is also reviewing HRIS to determine if the system can be modified to calculate full-time equivalents (FTEs) for universities. To do so, HRIS would need to capture the percent of time each employee worked. This data will come from the universities' payroll information when the HRIS Payroll subsystem is fully implemented for the higher education institutions in the fall of 1995.

Recommendation:

Management should formalize future plans for the HRIS.

Management's Response:

Comptroller of Public Accounts (HRIS)

We agree. Fiscal Management will work with Systems Development to document the HRIS vision which is to compile statewide standardized reports, such as: EEO-4 reports for the Governor's Office, minority hiring reports and standard EEO reports to the Texas Commission on Human Rights, Texas Employment Commission interface reports, quarterly reports for the State Auditor's Office, veteran workforce and hiring reports to the Veterans Commission, and other standard and ad hoc reports as they are developed. HRIS is also developing an electronic file transfer region so that agencies will be able to select and print these reports at their convenience.

Appendices

Appendix 1:

Objectives, Scope, And Methodology

The objectives of the audit were to determine the adequacy of the data in the Human Resource Information System (HRIS), to determine if the data in HRIS is accurate, and to determine if controls exist to ensure continued accuracy of HRIS data.

Evidence was obtained through a general controls review, an application review, an overall systems management review, computer assisted audit techniques, and interviews with various external HRIS users and HRIS staff.

This review was conducted in accordance with generally accepted government auditing techniques.

The work was conducted by the following members of the State Auditor's Staff:

- Patricia Perry-Williams, CISA (Project Manager)
- Carla Jennings, CISA
- David Conner
- Jarrett Oliver
- Leo J. Paterra, CPA (Audit Manager)
- Deborah Kerr, Ph.D. (Audit Director)

Appendices

Appendix 2:

Texas Turnpike Authority Letters

Appendices



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Dallas, Texas 75219
Phone 214/522-6200
Fax 214/528-4826

March 22, 1995

Leo Paterra
Office of the State Auditor
Two Commodore Plaza
206 East Ninth Street, Suite 1900
Austin, Texas 78701

Dear Mr. Paterra:

As stated in my letter of March 3, 1995, the Texas Turnpike Authority Board of Directors supports legislation presently pending that includes specific exemption of it from HRIS as well as other seemingly encompassing mandates to state agencies. Not only are these compliance requirements costly and extremely burdensome to small agencies such as TTA but they are obviously intended for those entities which receive appropriations.

If the pending legislation fails, TTA will attempt to comply with the HRIS mandate; however, since compliance will require a change in the method of record-keeping, extensive equipment and software purchases and additional personnel not budgeted for 1995, it is believed such compliance could take up to two years.

Thank you for your consideration.

A handwritten signature in cursive script that reads "James W. Griffin".

James W. Griffin
Executive Director

MEMBERS: LUTHER G. JONES, JR., CHAIRMAN, CORPUS CHRISTI • MICHAEL Y. CHOU, VICE CHAIRMAN, HOUSTON
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AN AGENCY OF THE STATE OF TEXAS

AN AUDIT OF THE
HUMAN RESOURCE INFORMATION SYSTEM

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3015 Raleigh Street • P.O. Box 190369
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March 3, 1995

Leo Paterra
Office of the State Auditor
Two Commodore Plaza
206 East Ninth Street, Suite 1900
Austin, Texas 78701

Dear Mr. Paterra:

Thank you for giving the Texas Turnpike Authority the opportunity to respond to the draft statement you faxed me February 24, 1995.

The Authority is currently trying to get relief from this and similar statutes through the 74th Legislature. The Authority understands that the definition of a state agency as written in this statute applies to us as a state agency; however, we do not believe it was the intent of the legislature to do so. The Authority falls under many statutes as written, such as the Purchasing and General Services Act, under which we would do our purchasing through General Services. However, GSC recognizes the constitutional restraints and we do not follow that statute. Similarly, the Comptroller waives compliance with the Uniform Statewide Payroll System (USPS), though we clearly are under it as written.

We believe that many of these statutes are too burdensome and don't apply effectively to us. The Authority uses no state monies. It does not and cannot under the Constitution receive appropriations. It performs its duties under a very elaborate system prescribed by Article 6674v, with its obligations contained in Trust Agreements with national banks. Historically, statutes which the Legislature believed should apply to the Authority have been specifically prescribed to it by an amendment to Art. 6674v.

Any activity which is mandated but not funded is done at the expense of the bondholders and motorists who use TTA projects. It is believed generally that statutes passed in an effort to centralize state government, that are costly to implement, and that cannot be funded from appropriations, should not apply to the Texas Turnpike Authority.

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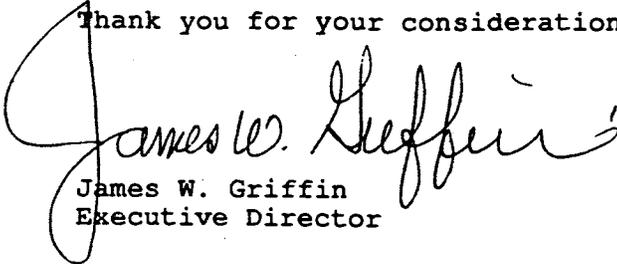
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The Texas Turnpike Authority Board of Directors has adopted a legislative program that includes seeking specific legislation exempting TTA from HRIS as well as other seemingly encompassing mandates to state agencies that are burdensome to small agencies such as TTA that do not receive appropriations.

Thank you for your consideration.

A handwritten signature in cursive script that reads "James W. Griffin". The signature is written in black ink and is positioned above the typed name and title.

James W. Griffin
Executive Director

Copies of this report have been distributed to the following:

Legislative Audit Committee

Honorable James E. "Pete" Laney, Speaker of the House, Chair
Honorable Bob Bullock, Lieutenant Governor, Vice Chair
Senator John Montford, Chair, Senate Finance Committee
Senator Kenneth Armbrister, Chair, Senate State Affairs Committee
Representative Robert Junell, Chair, House Appropriations Committee
Representative Tom Craddick, Chair, House Ways and Means Committee

Governor of Texas

Honorable George W. Bush

Legislative Budget Board

Sunset Advisory Commission

Comptroller of Public Accounts

Honorable John Sharp, Comptroller
Mr. Billy Hamilton, Deputy Comptroller
Mr. Bob Coalter, Inspector General
Mr. Art Martinez, Internal Audit
Ms. Stephanie Mueller, HRIS Director
Ms. Donna Clay, Statewide Financial Applications
Ms. Jenny Rodriguez, USPS/HRIS Statewide Support

Texas Turnpike Authority

Mr. James W. Griffin, Executive Director

State Bar of Texas

Mr. Antonio Alvarado, Executive Director