Inter-Departmental Communication

DATE: July 18, 2005

TO: Wayne Cauthen, City Manager

FROM: Mark Funkhouser, City Auditor

SUBJECT: ERP – Acquisition Testing

This memorandum is part of our concurrent review of the city's ERP implementation. The objective of this memo is to ensure that the city has:

- Defined its requirements for testing the PeopleSoft Financial and Human Resources packages prior to their purchase, and
- Effectively carried out the test and acceptance procedures to verify the system purchased meets the city's needs.

We searched for acquisition testing guidance, reviewed related documents prepared between May 2004 and April 2005, and interviewed the city's ERP project manager, and Maximus project staff.

Summary

The city generally defined testing procedures in the contract. The city and Maximus conducted the required tests. While some problems, not discovered through testing, have been identified after the system went live, the city and Maximus staff worked together to correct these problems. As the contract is a deliverables-based contract, the city's acceptance procedure seems to be working to ensure that the system meets the city's needs before the city makes the final payment for the system.

Issues and Observations

The city generally defined testing procedures in the contract.

Testing provides the basis for making decisions on whether to accept contract deliverables – i.e. products defined by the contract, such as reports or other documented work that Maximus delivers for each milestone of the product. For testing to be effective, it must be addressed relatively early in the acquisition so it can be properly included in planning. Test plans provide testing procedures and the evaluation criteria to assess results of the testing.

The Government Accountability Office (GAO) recommends that initial testing plans be established in the pre-solicitation phase and that test requirements be included in the contract. GAO also recommends that test plans include testing types, testing locations, a realistic testing schedule, resource requirements, testing materials, and training testing personnel.

The city generally defined testing procedures in its contract with Maximus, Inc. The contract requires that a series of tests be performed prior to the "dress rehearsal" of the formal implementation. The contract requires that Maximus work with the city to develop a system and performance test plan, an acceptance test plan, and acceptance criteria. The contract also requires Maximus execute the system and performance test plan and correct any deficiencies. The contract states that Maximus should work with the city to validate the test results and monitor the system performance. The contract requires the city to execute the acceptance test plan with assistance from Maximus. The acceptance test is to validate all functions deemed mandatory for acceptance of the system.

Extensive testing did not identify all problems.

The city and Maximus conducted the testing required by the contract prior to the system going live.

- **Functional and business process testing.** The city tested general system functionality as well as each functional requirement. The city and Maximus designed a test scenario for each functional requirement and then developed test scripts representing the transactions the city would implement with the system. The city's project team executed each test script and compared the testing results with the anticipated results.

- **User acceptance testing.** This testing verifies whether the system can successfully complete all business processes that the city required for the system. The city's key users of the system performed this testing according to the testing scripts.

- **Interface and conversion testing.** The city tested the interfaces and conversions between different components of the system according to the test scripts.

- **Security testing.** The city tested the effectiveness of security rules, such as how well the system allows or prohibits access to information by different users.

The city found some problems with the system which were not identified through the testing. Maximus and city staff are working to solve these problems. For example, one problem is that payroll information was not posting to the correct general ledger accounts. This problem was not discovered through testing. Instead, it was

discovered in March, following the system going live. Finance Department staff reported on May 16, 2005 that the problem has been corrected.

City's acceptance procedure seems to be working.

The city's acceptance procedure should help ensure that the system meets the city's needs before the city makes final payment on the system. The city manager defined the governance and oversight of the project. The city's project manager is responsible for coordinating the approval of all deliverables in the contract. The finance director is responsible for approving the deliverables directly associated with the financial and payroll modules. The human resources director is responsible for approving those deliverables directly affecting the human resources modules. The city's chief information officer is responsible for approving all other deliverables.

The contract between the city and Maximus defined the payment terms. The payment is to be made in installments based on the city's acceptance of the deliverables provided by Maximus within each phase of system development. The contract included deliverables related to testing, such as a system test plan, payroll parallel testing, security testing, and acceptance testing.

The city's project team, as well as key users, conducted the required tests and recorded the test results. Maximus received the test results and solved any identified problems. It then prepared and submitted the related documentation to the city's project manager after city staff retested the corrected functions. The city's project manager reviewed the documentation and required revision or additional work when necessary. When he was satisfied with each deliverable, the project manager would recommend to the appropriate person (chief information officer, finance director, or human resources director) to accept the deliverable. The chief information officer is the final sign-off person.

The city's acceptance procedure seems to be working as the payments made have been based on the accepted deliverables. According to the city's project manager, as of April 22, 2005, the city has paid 58 percent of the project cost while Maximus has finished 97 percent of the work specified in the contract.

cc: Gail Roper, Chief Information Officer