

# **Audit Report**



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## **“Audit of the Fleet Division’s FASTER System Application Controls”**

Report #0325

September 8, 2003

### **Executive Summary**

This audit of the Fleet Division’s FASTER system application was conducted to examine selected application controls (processing and output) and related general controls in the recently upgraded FASTER system, an asset management application utilized by the City’s Fleet Division (Fleet).

We concluded the following:

1. Application controls tested in the FASTER system, with limited exceptions noted in this report, provide for authorized, accurate, and complete processing of transactions. In addition, we concluded that with the recent changes made to the billing interface program and reconciliation process that there are adequate controls to ensure that the data transmitted from the FASTER system is accurately received in the Financials System.

Some improvements that can be made over application controls include:

- evaluate the system settings to determine whether they are adequate to meet Fleet business process needs; and obtaining or developing reports to assist management in identifying transaction exceptions for staff to investigate and resolve; and
  - work with the vendor to ensure that all FASTER system reports are able to be produced as expected.
2. Selected general controls related to the FASTER system can be improved in

Information Systems Services (ISS) and Fleet, including:

- periodically re-assess the appropriateness of users’ access capabilities related to job responsibilities and change security accordingly;
- evaluate the feasibility of requiring user passwords for mechanics;
- develop and implement software change management procedures at Fleet; and
- develop a backup and restoration policy for the FASTER system and conduct periodic tests to ensure that the FASTER system is adequately backed up and able to be restored.

### **Scope, Objectives, and Methodology**

The scope of this audit included a review of selected software application controls and related general controls within the newly upgraded FASTER system, an asset management application utilized by the City’s Fleet. Fieldwork took place during March through July 2003.

Our audit objectives included:

1. determining whether the application controls in the FASTER system provide for authorized, accurate, and complete processing of transactions from processing to transmission and output of information; and
2. evaluating selected general controls related to the FASTER system, including: the appropriateness of user security, software

change management, and adequacy of backup and restoration processes.

The scope of this audit is limited in that this audit did not include the input process and related input controls, instead focusing on the processing and output of data. In addition, we did not include the FASTER Fuel Module since Fleet had not implemented this module.

To address the above objectives, we:

- reviewed software documentation identifying and prioritizing application functionality, features, and setup requirements, as to their associated risks to Fleet;
- conducted testing of selected application controls, user security, and reports (based on the above prioritization);
- interviewed staff from Fleet and Information Systems Services (ISS) to verify testing results and determine operating procedures;
- reviewed and tested the reconciliation process of the data transmitted from the FASTER system to the City's PeopleSoft Financial System; and
- reviewed any additional related supporting documentation available.

These audit procedures were conducted in accordance with Generally Accepted Government Auditing Standards and Standards for the Professional Practice of Internal Auditing as applicable.

**Background**

The Fleet Division (Fleet) of the Public Works Department currently reports directly to the Assistant City Manager, Development and Transportation Services. (Prior to September 2002, Fleet reported to the Public Works Department Director.) Fleet acquires City vehicles and heavy equipment and provides routine repair and preventive maintenance. Fleet also maintains inventories and issues parts, fuel, and oil for the City's fleet and coordinates warranty and manufacturers recall repairs with local dealerships.

Fleet utilizes the FASTER software application, an automated recordkeeping system, to manage

their operations. FASTER consists of multiple modules, including Assets (vehicle information and history), Parts (purchases, issuances and inventory), Work Orders (recording repair labor and parts costs for billing), Fuel (purchases, issuances and inventory), and Reports (pre-designed for management's use).

In recent Audit Report #0303, "Fleet Parts Operations" (issued December 2002), our office recommended that Fleet upgrade to the most current version of the FASTER system and implement internal controls within the system. The software upgrade included various features that were needed to address selected missing controls available within the installed version of FASTER. Our recommendation was not only to upgrade to the newer software but also to review and implement the controls that were available. In February 2003, Fleet obtained assistance from ISS, within the Department of Management and Administration, to conduct testing and install the most current version of FASTER (4.48.63).

In addition, the interim Fleet Superintendent hired a business systems analyst to administer the FASTER system. He established work teams of Fleet staff to review the available features and controls and recommend changes in Fleet practices and procedures and to train other Fleet staff in the revised procedures.

**Testing Results, Issues, and Recommendations**

To test the application controls in the FASTER system, we reviewed the available FASTER documentation and selected for testing those controls and features that were important to Fleet. We then conducted testing in a FASTER test environment to ensure that each control worked as intended. To test the related general controls, we interviewed key staff, reviewed relevant documentation, and examined user access capabilities and job responsibilities.

The testing results, associated issues, and recommendations are provided under the main headings of application controls and general controls. Specific areas include: system settings; functionality of controls and features; system interfaces and reconciliation of the transmitted data; accuracy and completeness of

reports; user security; and business procedures related to software change management and backup and restoration processes.

## **Application Controls**

### **System Settings**

When the FASTER system was implemented, system-wide table settings and codes were defined and established in the System Settings Module. A major benefit of such system-wide settings is the ability to limit erroneous data entry by setting pre-determined values and/or formats, default values for most common entries, and edit checks for entries within set parameters. When settings are wrong, however, it will impact data throughout the system. There are 57 such settings in the FASTER system. Some examples include:

- password requirements for mechanics;
- default billing code;
- defined part markup and fuel markup amounts;
- defined depreciation method and inventory period; and
- pre-determined purchase order maximum limits, price variations, and maximum meter readings.

Of the 57 system settings evaluated, we noted seven (7) settings that were not being fully utilized that could potentially provide additional controls within the system in regard to data integrity and validity. These settings were related to:

- limiting the number of days that closed work orders can be re-opened;
- setting expenditure dollar limits by account or purchase order;
- setting maximum limits for meter readings (i.e., limit the number of miles or hours since the last meter reading); and
- not requiring mechanics to use passwords.

Through additional testing, we also noted one control setting that limits the number of meters that can be replaced at one time was not working as intended. This was due to a system

setting that was not set up correctly. Subsequently, Fleet staff corrected this setting and retested it to ensure that it was working properly.

As noted above, some controls available through system settings are not being fully utilized that could potentially enhance data integrity and validity. In the absence of some of these potential controls, Fleet management has implemented manual processes to provide additional oversight.

We recommend that management review and evaluate the FASTER system settings to determine whether they meet business processes, provide adequate controls over Fleet, and could replace some of the manual oversight processes.

### **Functionality of Controls and Features**

We reviewed system documentation regarding functionality and features and identified 34 critical control items on which to conduct detail-testing procedures. To test these functions, we worked in a FASTER test environment established by ISS and Fleet and entered data and conducted transactions similar to those that would be conducted in regular business operations. Of the 34 control items tested:

- 31 controls were working as intended;
- Two (2) instances involving three (3) controls were not working properly. First, one (1) multiplier setup control in the Parts module did not work as intended. Staff determined that they would not utilize it. Second, there were two (2) meter replacement controls that did not work as intended allowing multiple meters to be replaced on the same vehicle on the same work order. These two settings were related to an incorrect system setting, and together were ineffective. Fleet staff corrected the meter replacement controls by changing the system setting and related table codes and tested the changes to ensure that the two (2) controls worked properly.

Overall, we concluded that the critical application functions utilized by Fleet were performing as expected.

We recommend that Fleet notify the vendor that the multiplier setup does not work as intended.

#### System Interfaces and Reconciliation of Transmitted Data

In the prior Audit Report #0303, "Fleet Parts Operations," we noted that specific information related to inventory transactions was not included in the Interface program that transmitted data from the FASTER system to the Financials system. To date, the Interface program has not been revised to include this information. Instead, as a compensating measure, inquire-only access has been granted to selected Accounting Services staff so that they can monitor such transactions.

When data is transmitted between systems, it is prudent that procedures be conducted to ensure that what is sent from one system is received in the second system intact and correct. Since we examined the Interface programs in the prior audit, we focused our audit procedures on the reconciliation process of the data being transmitted between the FASTER system and the Financials system. There are three interface programs between these two systems, including vouchers, billing, and Tallahassee Memorial Hospital fuel transactions. Accounting Services has written procedures for reconciling the data transmitted between the FASTER and Financials systems.

During our fieldwork, we reviewed and tested the reconciliation process and determined that Accounting Services staff was conducting adequate reconciliation procedures for two of the three interface transmissions (billing and Tallahassee Memorial Hospital fuel). For the third interface transmission (vouchers), Accounting Services staff was not verifying that the data received from the FASTER system was properly uploaded into the Financials system. Subsequent to fieldwork, Accounting Services staff revised the procedures and developed the needed query to include this step in verifying the Interface transmissions.

In addition, we noted that there was a slight difference (less than \$0.40) in the two most recent billing transmissions between what was sent from FASTER system and received in the Financials system. ISS staff determined that it was due to a rounding calculation in one of the

data extraction programs and the calculation was corrected.

With the correction made to the billing interface programs and the additional step added in the reconciliation process, we believe that there is an adequate reconciliation process in place to ensure that the data transmitted from the FASTER system is received in the Financials system intact and correct.

#### Reports (Output)

FASTER reports are used by various parties, including Fleet section supervisors and managers, and City department directors and staff, to evaluate operations in Fleet. Reports should represent accurately what is in the FASTER system. Report controls include: report title, page numbers, processing date, report period date, and control totals and counts. In general, the report should be accurate, complete, and properly identified and organized.

There are 69 pre-defined reports available in the FASTER system. We selected 11 reports (16%) to test to ensure that the information provided on the report was accurate and complete based on the data available in the FASTER application. After producing the report in the FASTER system, we utilized Microsoft Access to extract data from the FASTER databases to verify that the key report data was correct and complete based upon the data that is currently in the FASTER system.

As noted in the prior Audit Report #0303, "Fleet Parts Operations," "There are several areas in the FASTER system for which the data is not accurate and/or complete, including: work orders and receipts have been deleted; vehicle mileage is incorrect and fuel inventory and unit cost is incorrect." Taking this into consideration, the accuracy of a report was determined by ensuring that the data in the FASTER system was correctly reflected on the report. Of the 11 reports tested, eight (8) were accurate and complete.

For the remaining three (3) reports, we were unable to test them because we were not able to produce the reports from the FASTER system. Staff determined that this was due to a

bug in the system and should be corrected by the vendor.

Without adequate reports, management is unable to adequately monitor day-to-day operations through the FASTER system. Without key reports available, management cannot identify transaction exceptions to be resolved. We recommend that management review the FASTER reports to identify those reports that will assist them in monitoring activities in the FASTER system, adequately test these reports to determine if they are working properly, and work with the vendor to correct any reports that do not work properly.

**General Controls Related to the FASTER System**

**User Security**

In applications, user security defines the specific functions an individual user can perform, what data they can access, and what reports they can extract. In the prior Audit Report #0303 "Fleet Parts Operations," instances of fraud were made possible largely due to the improper user access capabilities of one person, in that the person could order, approve, receive, issue, and record parts transactions into the FASTER system.

We tested all 60 users in the FASTER system and noted that since December 2002 the interim Fleet Superintendent and staff had made improvements to greatly reduce the risks associated with improper user security. We did, however, note some additional potential security weaknesses, specifically:

- Six (6) users were assigned access capabilities (add, change, and/or delete) related to parts, equipment, and/or work orders that were outside their assigned job responsibilities. Per Fleet Management, this was most likely the result of re-organizing employees' roles and responsibilities, and related user security, during the last few months.
- 19 generic user IDs are shared among the mechanics to access the network and the FASTER system. Generic user IDs combined with the lack of passwords increase the risk that there is not individual

accountability for the work recorded on work orders. While management feels this is important for business operations, it remains a risk in the system since individual accountability is lost.

In addition, we also noted during our testing that even though we had inquire-only access into the FASTER application, we were able to change data in the FASTER database when accessing the database directly using Microsoft Access (i.e., "through the back door").

Details regarding the specific user weaknesses and database weaknesses identified were provided to Fleet and ISS staff, as appropriate. Staff from both departments took quick action to analyze and correct the user access issues.

Key duties and responsibilities should be divided among Fleet employees, including user access capabilities in the FASTER system in order to reduce the risk of error or fraud. In addition, the use of individual user IDs and passwords provide accountability for who performed what functions.

We recommend that Fleet management periodically evaluate and adjust users' access capabilities for appropriateness and re-evaluate the decision to use generic IDs without passwords for mechanics.

**Software Change Management**

Before modifications to an application system in production occur, a process should be followed that allows for developing the change in an environment other than production (development environment), then tested by users (test environment), approved by users, and then moved into production by someone not involved in the change process.

Fleet is responsible for maintaining the FASTER application, while ISS is responsible for maintaining the hardware and network operations associated with the FASTER system. Currently, there are not adequate controls in place to ensure that the changes made to the FASTER application are properly designed, tested, and approved prior to implementation. In addition, there is a lack of segregation of duties when the business systems analyst designs the change, tests the change, and then moves the change into production.

Due to problems identified in the prior audit, Fleet has been working to make changes to the FASTER system to incorporate available controls to assist management in better managing Fleet. Such changes include: updating the FASTER version, adding modules, and changing setup tables.

While we commend Fleet management for working to implement better controls in the FASTER system, we are concerned that without an effective method of controlling changes to production applications, changes could be implemented that either do not meet the business's needs or expectations or do not adhere to standards. In other words, an unauthorized or erroneous change could cause more damage than no change.

We recommend that ISS work with Fleet to develop adequate software change management procedures and then Fleet implement such procedures. These procedures should address management control (method for requesting, authorizing, prioritizing, scheduling, and communicating changes to others), segregation of duties (who initiates, authorizes, designs, tests, and implements changes), and documentation (to provide an effective change control trail).

Backup and Restoration

As Fleet depends more upon the FASTER system in their day-to-day operations, it becomes important that provisions are made to ensure that the application and data are available. One part of the provisions would be to provide adequate backup and restoration of the FASTER application and data.

Management should understand the backup and restoration capabilities so they can plan accordingly. For example, if the system is critical to the City's overall operations, there may be provisions to restore that system within 24 to 48 hours. On the other hand, while the system may be critical to a specific department's operations, it may not be critical to the City's overall operations. Accordingly, there may be provisions to have backups made with the expectation that the system could be restored after the City's network had been restored, however long that took. Then, no

matter how long it may take, the department would most likely have an expectation that their application and data could be restored to the point in time it was last available.

At this time, there is no written policy of what backup and restoration provisions are expected for the FASTER system. ISS conducts backups of all servers on the network on a regular schedule, including the server where the FASTER application and data are stored. However, there are not written procedures as to what is expected to be backed up, how often, and the process for restoration.

Without a policy to document backup and restoration expectations and periodic testing to ensure that the restoration can be conducted successfully, management may not be assured that the FASTER system will be able to be restored when expected.

We recommend that Fleet work with ISS staff to document the backup and restoration process.

**Conclusion**

Overall, we concluded that:

1. Application controls tested in the FASTER system, with limited exceptions noted in this report, provide for authorized, accurate, and complete processing of transactions. In addition, we concluded that with the recent changes made to the billing interface program and reconciliation process that there are adequate controls to ensure that the data transmitted from the FASTER system is accurately received in the Financials System.

Some improvements that can be made over application controls include:

- evaluate the system settings to determine whether they are adequate to meet Fleet business process needs; and obtaining or developing reports to assist management in identifying transaction exceptions for staff to investigate and resolve; and
- work with the vendor to ensure that all FASTER system reports are able to be produced as expected.

2. Selected general controls related to the FASTER system can be improved in ISS and Fleet, including:

- periodically re-assess the appropriateness of users' access capabilities related to job responsibilities and change security accordingly;
- evaluate the feasibility of requiring user passwords for mechanics;
- develop and implement software change management procedures at Fleet; and
- develop a backup and restoration policy for the FASTER system and conduct periodic tests to ensure that the FASTER system is adequately backed up and able to be restored.

We would like to thank the Fleet, ISS, and Accounting Services staff and management for their cooperation and assistance provided during this audit.

### Appointed Official Response

#### City Manager Response:

Strengthening controls and reducing risks at Fleet Management are primary to the goals of City Administration. The Fleet Management system, FASTER, is central to tracking and monitoring those controls and risks.

This audit report documents the cooperative effort to research and develop improvements to this system. Significant improvements have already been accomplished. Monitoring activities outside the electronic program further enhance the controls and reduce the risks.

Copies of this Audit Report #0325 (project #0309) may be obtained from the City Auditor's web site (<http://talgov.com/citytlh/auditing/index.html>) or via request by telephone (850 / 891-8397), by FAX (850 / 891-0912), by mail or in person (City Auditor, 300 S. Adams Street, Mail Box A-22, Tallahassee, FL 32301-1731), or by e-mail ([dooleym@talgov.com](mailto:dooleym@talgov.com)).

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<b>Action Plan</b>		
<b>Action Steps</b>	<b>Responsible Employee</b>	<b>Target Date</b>
<b>A. System Settings</b>		
1. Review and evaluate the FASTER system settings to determine whether they meet business processes and provide adequate controls over Fleet.	Terry Lowe, Fleet Todd Land, Fleet	May 31, 2004
<b>B. Functionality of Controls and Features</b>		
1. Notify the vendor that the multiplier setup does not work as intended.	Terry Lowe, Fleet Todd Land, Fleet	May 31, 2004
<b>C. Reports</b>		
1. Review the FASTER reports to identify those reports that will assist management in monitoring activities in the FASTER system.	Terry Lowe, Fleet Todd Land, Fleet	May 31, 2004
2. Test those reports in step D.1. to ensure they are working properly, and report those that are not working as intended to the vendor.	Terry Lowe, Fleet Todd Land, Fleet	May 31, 2004
3. Obtain or develop reports to assist management in identifying transaction exceptions for staff to investigate and resolve.	Terry Lowe, Fleet Todd Land, Fleet	May 31, 2004
<b>D. User Security</b>		
1. Periodically evaluate and adjust users' access capabilities for appropriateness.	Terry Lowe, Fleet Todd Land, Fleet	May 31, 2004
2. Review and evaluate the decision to utilize generic IDs without passwords for mechanics.	Terry Lowe, Fleet Todd Land, Fleet	May 31, 2004
<b>E. Software Change Management</b>		
1. ISS should work with Fleet to develop software change management procedures. Such procedures should address management control (method for requesting, authorizing, prioritizing, scheduling, and communicating changes to others), segregation of duties (who initiates, authorizes, designs, tests, and implements changes), and documentation (to provide an effective change control trail).	Park Malloy, ISS Tanya O'Neill, ISS	October 31, 2003
2. Fleet should adopt and implement the software change management procedures for the FASTER system.	Terry Lowe, Fleet Todd Land, Fleet	November 1, 2003
<b>F. Backup and Restoration</b>		
1. Document the backup and restoration expectations.	Park Malloy, ISS Tanya O'Neill, ISS	August 29, 2003
2. Periodically conduct restoration tests to ensure that the FASTER system can be restored as needed.	Park Malloy, ISS Tanya O'Neill, ISS	September 30, 2003